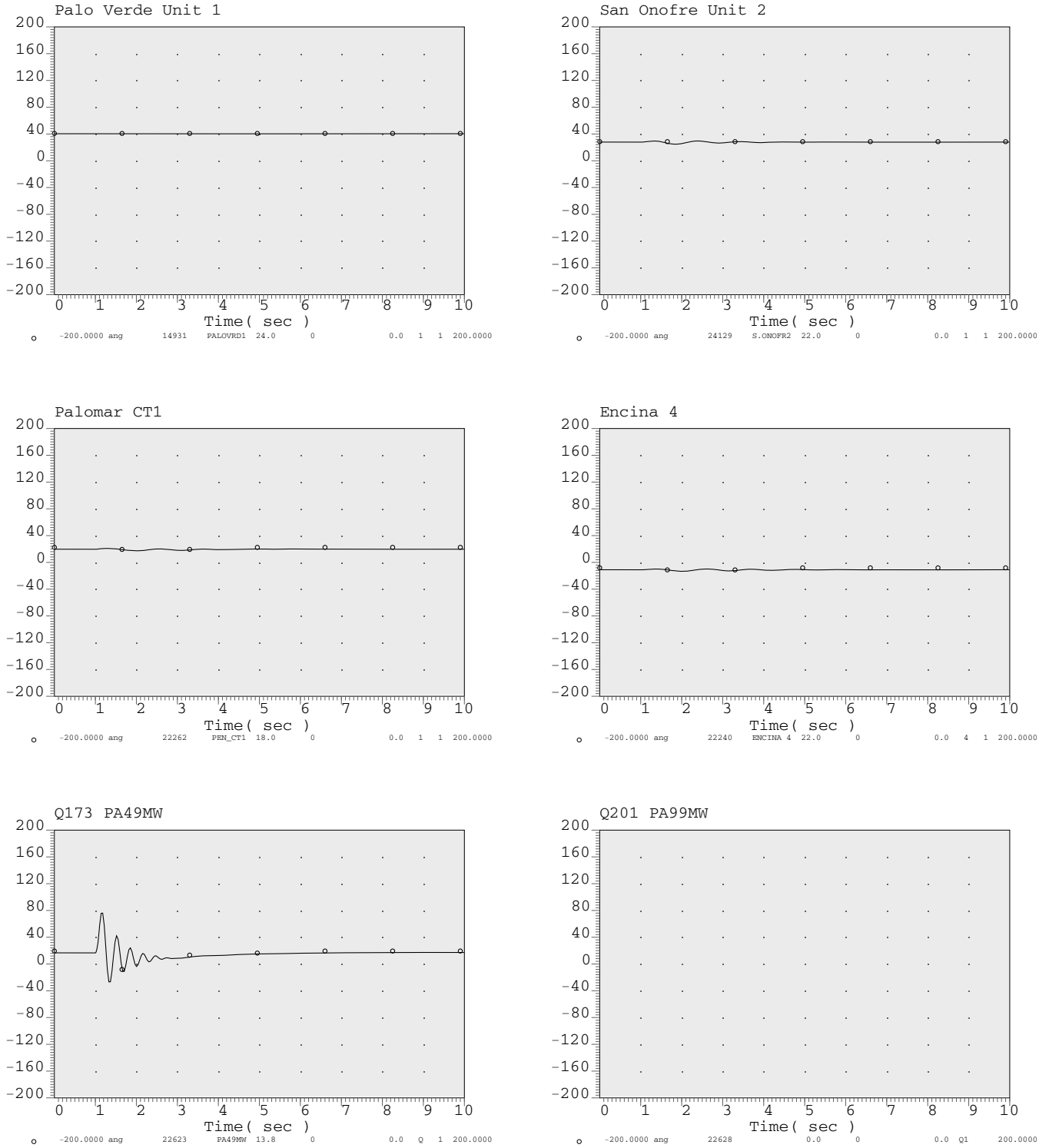
Appendix J

Revised Transient Stability Plots

Simulation Case Descriptions

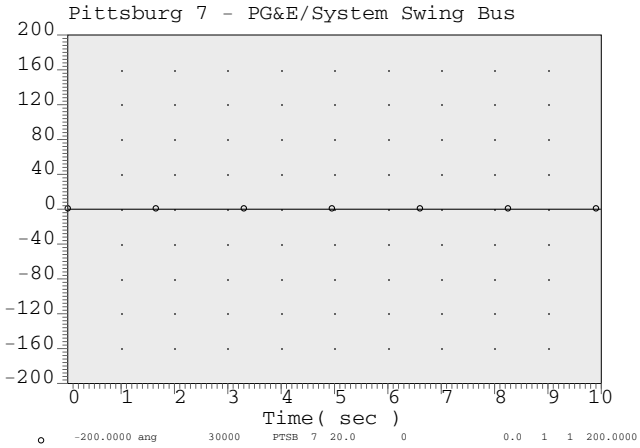
Case Name	Description
08hs-q201-pre	2008 Heavy Summer Commercial Operation Date Pre-Project Case
08hs-q201-pst	2008 Heavy Summer Commercial Operation Date Post-Project Case
08lw-q201-pre	2008-09 Light Winter Commercial Operation Date Pre-Project Case
08lw-q201-pst	2008-09 Light Winter Commercial Operation Date Post-Project Case
08hs-q201-pre-woq173	2008 Heavy Summer Commercial Operation Date Pre-Project Case without Q173
08hs-q201-pst-woq173	2008 Heavy Summer Commercial Operation Date Post-Project Case without Q173
08lw-q201-pre-woq173	2008-09 Light Winter Commercial Operation Date Pre-Project Case without Q173
08lw-q201-pst-woq173	2008-09 Light Winter Commercial Operation Date Post-Project Case without Q173

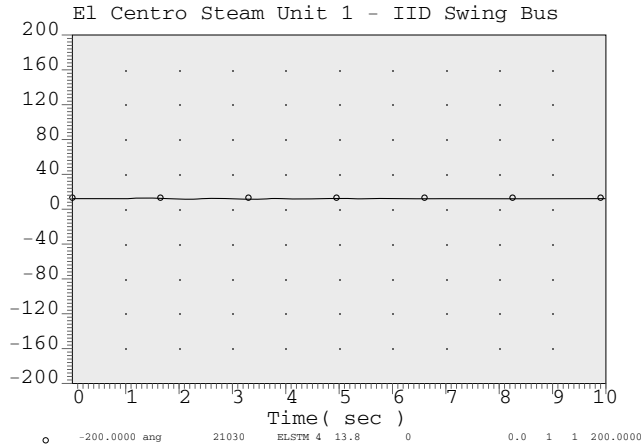
Relative Rotor Angle

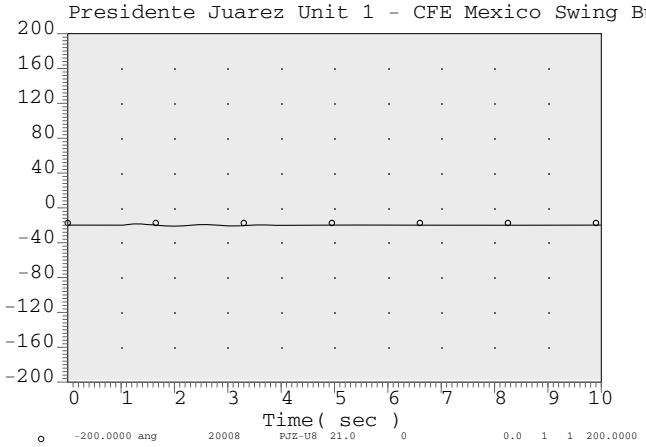


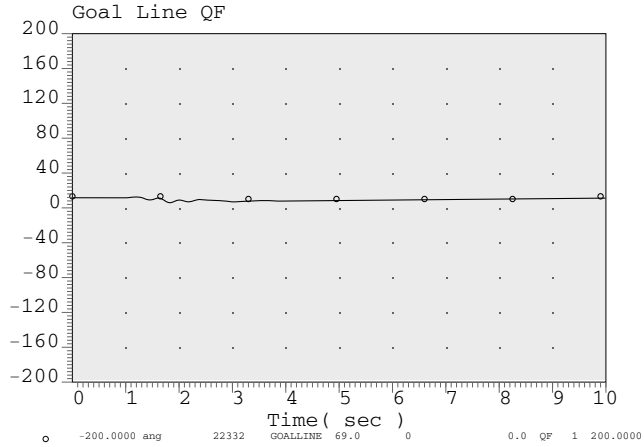
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

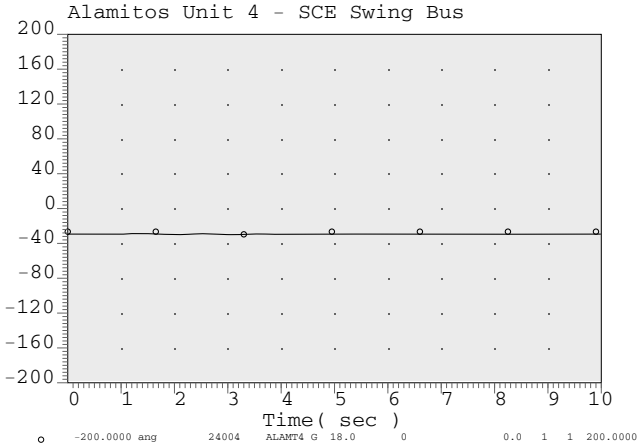
Relative Rotor Angle

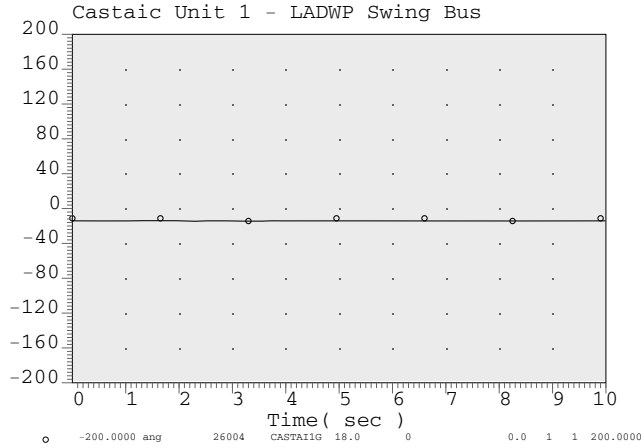






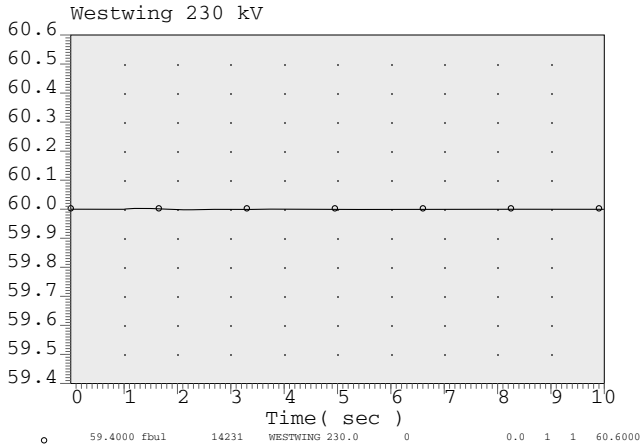


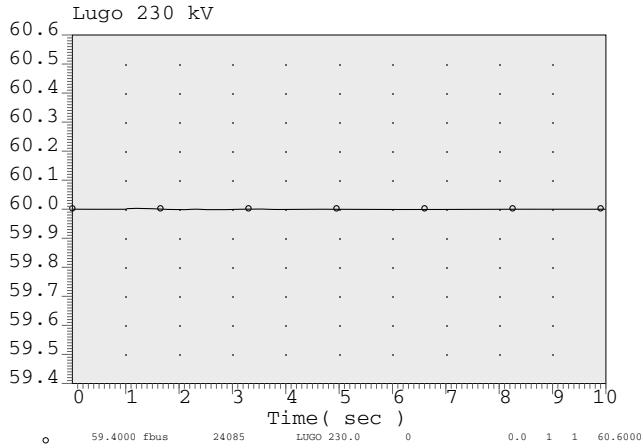


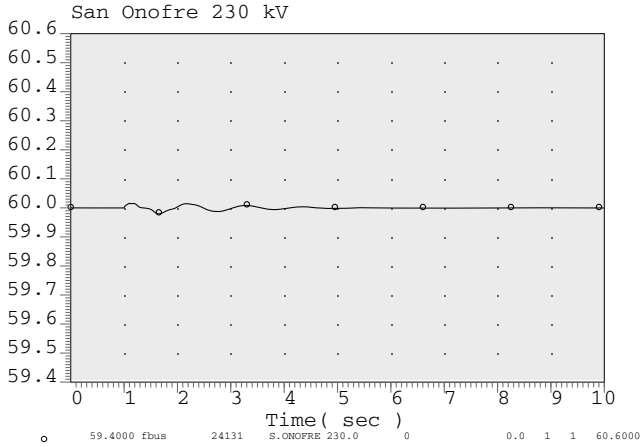


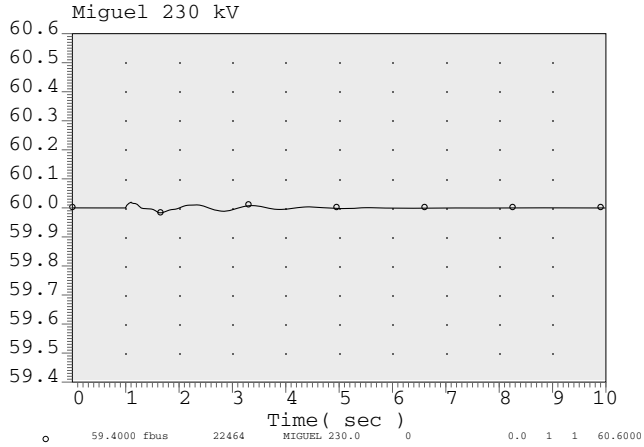
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

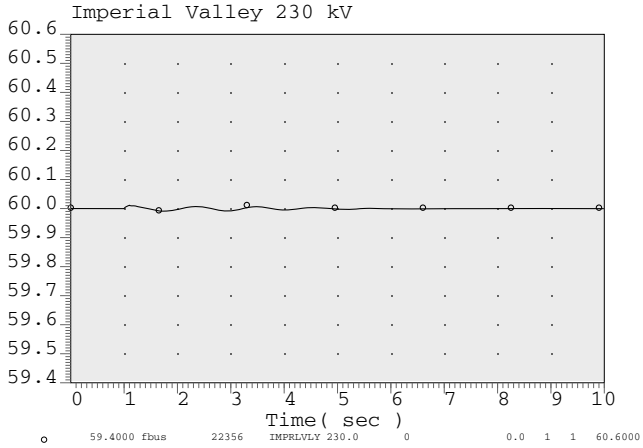
Bus Frequency

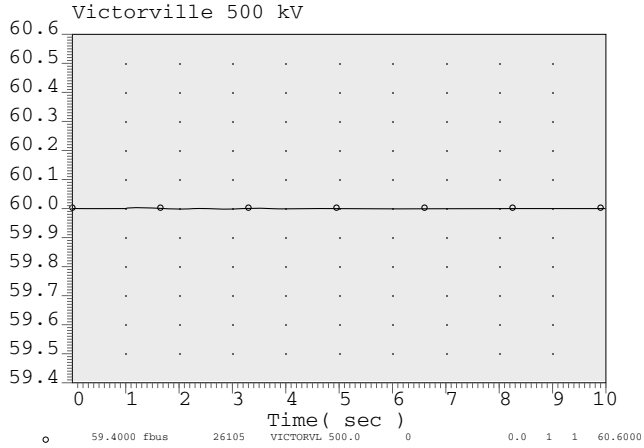






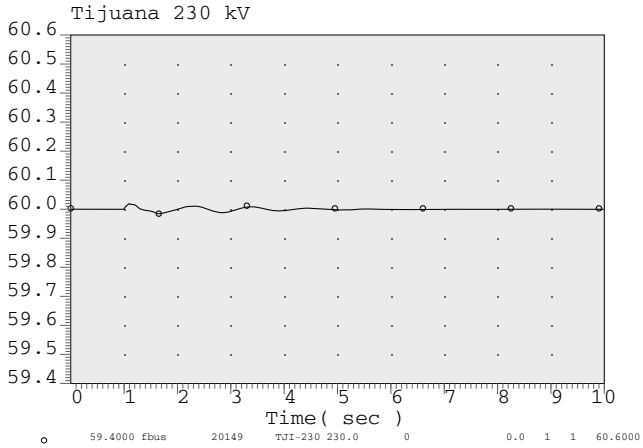


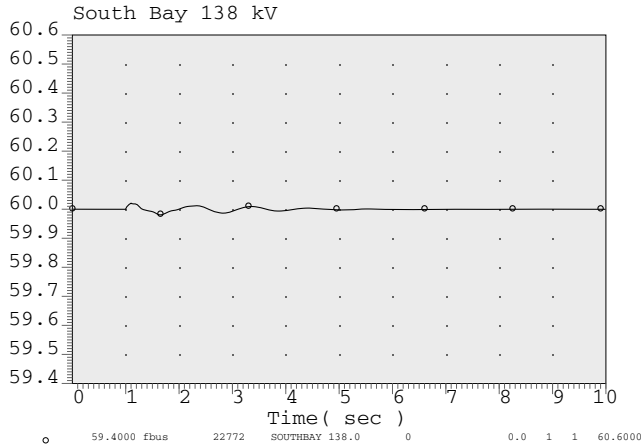


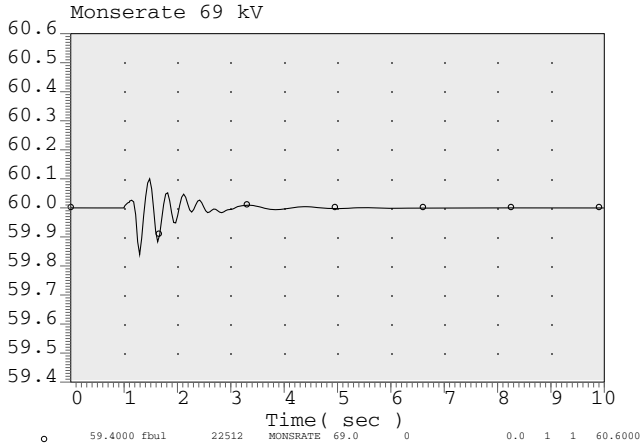


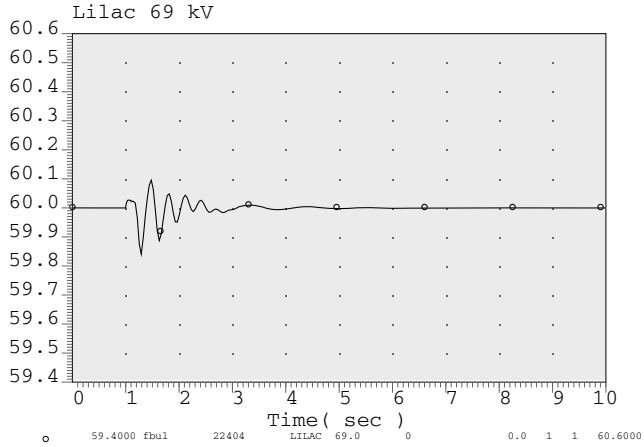
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

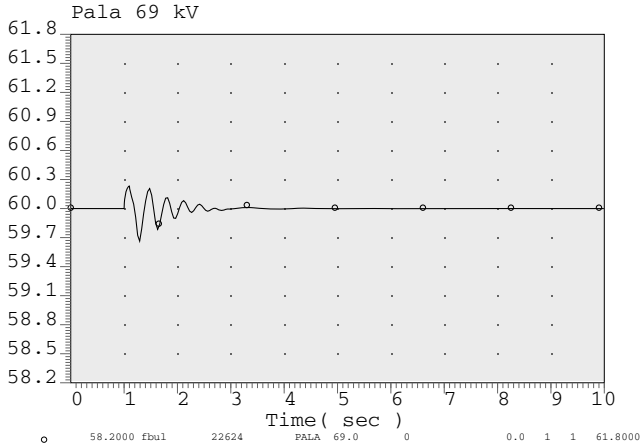
Bus Frequency

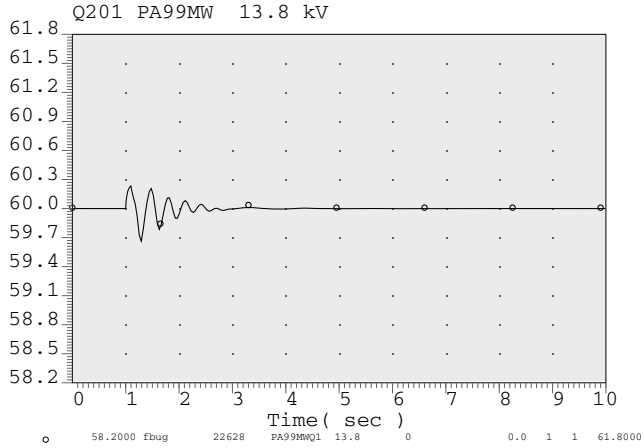






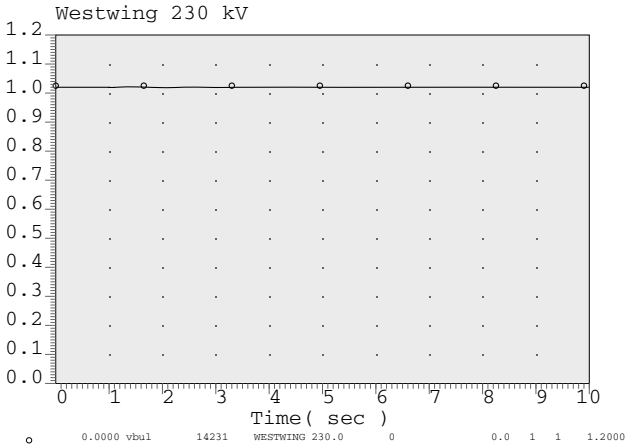


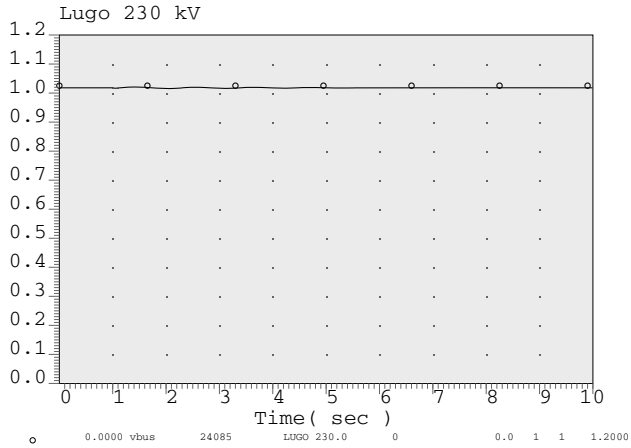


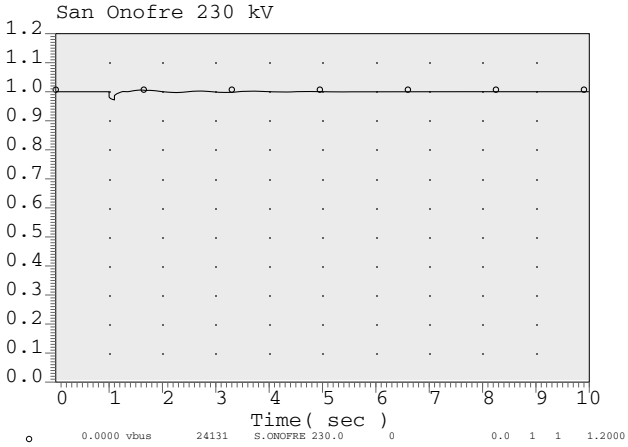


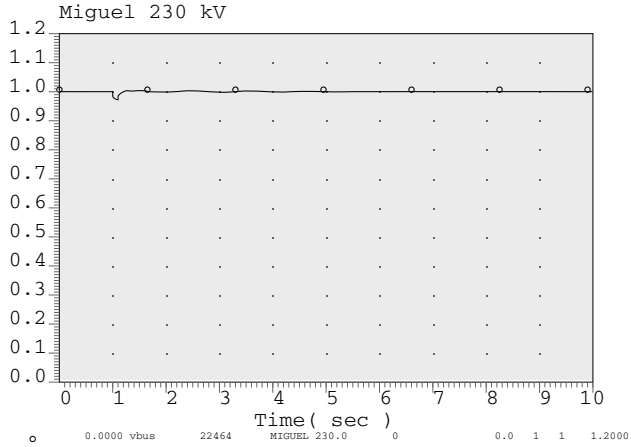
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

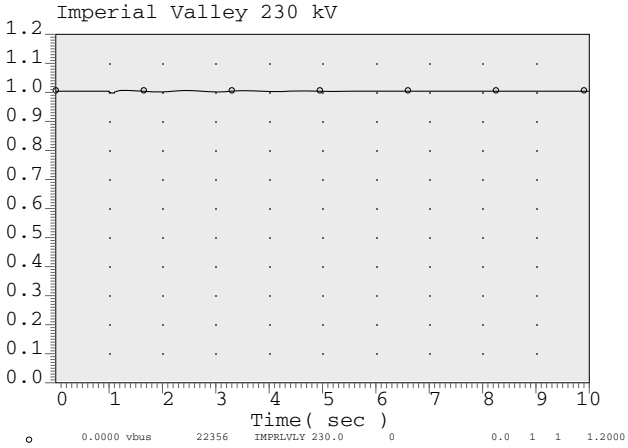
Bus Voltage

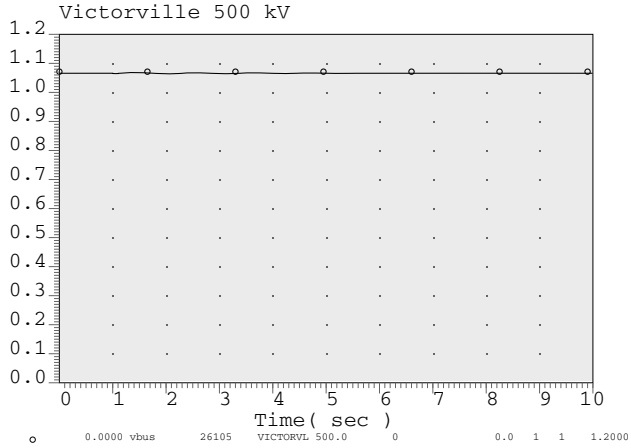






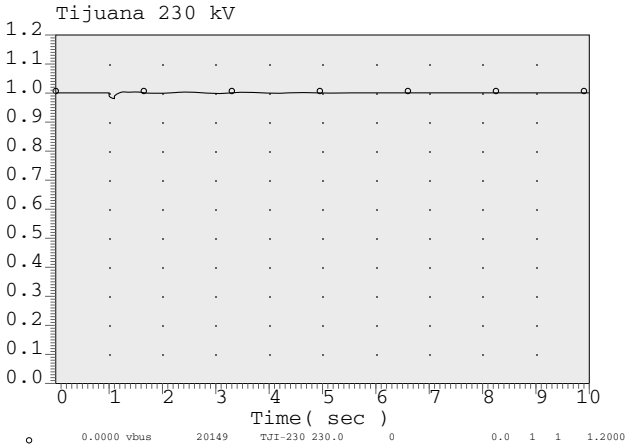


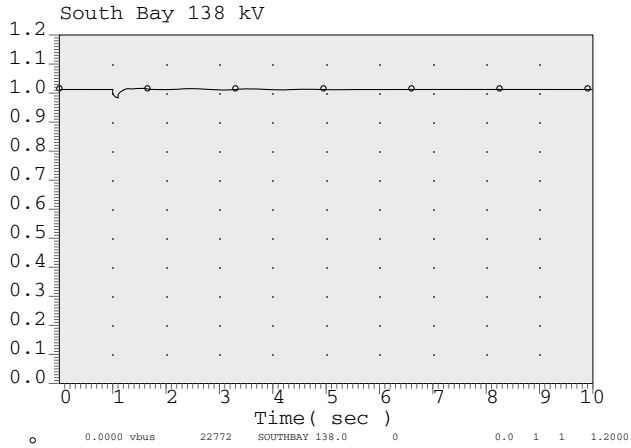


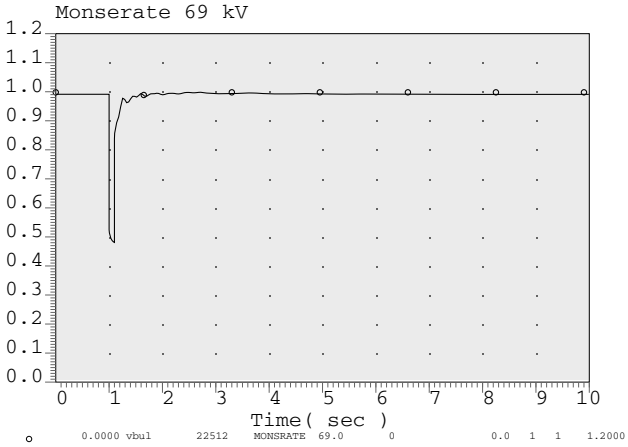


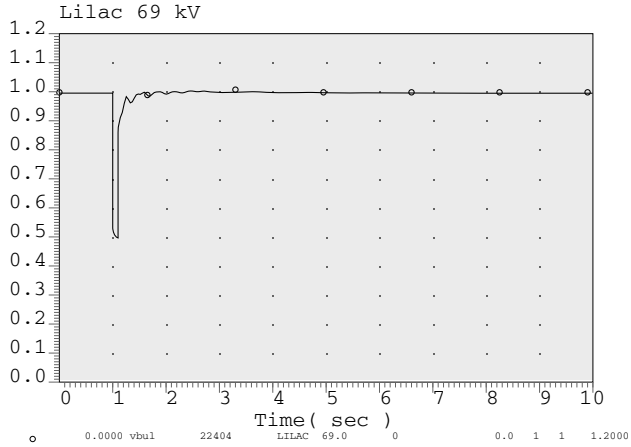
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

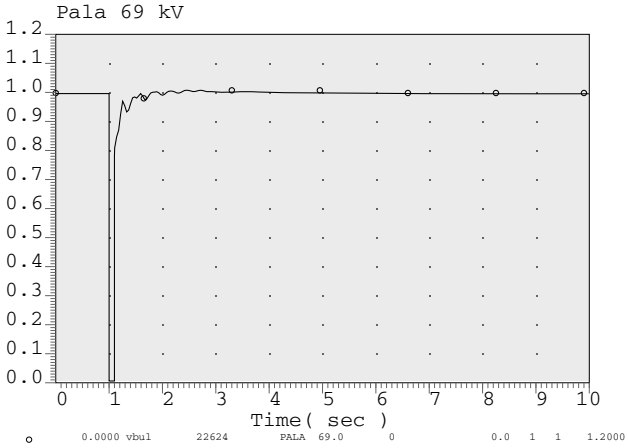
Bus Voltage

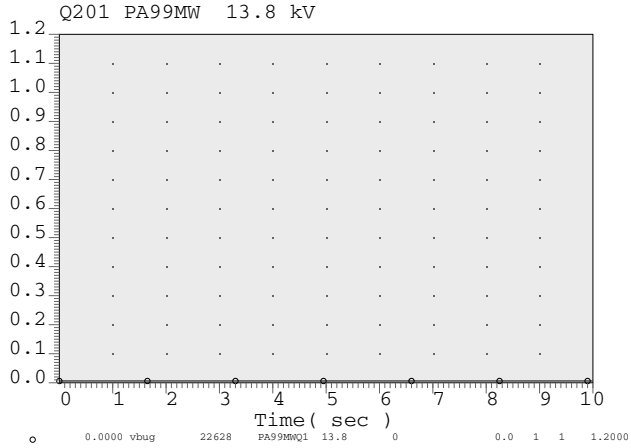






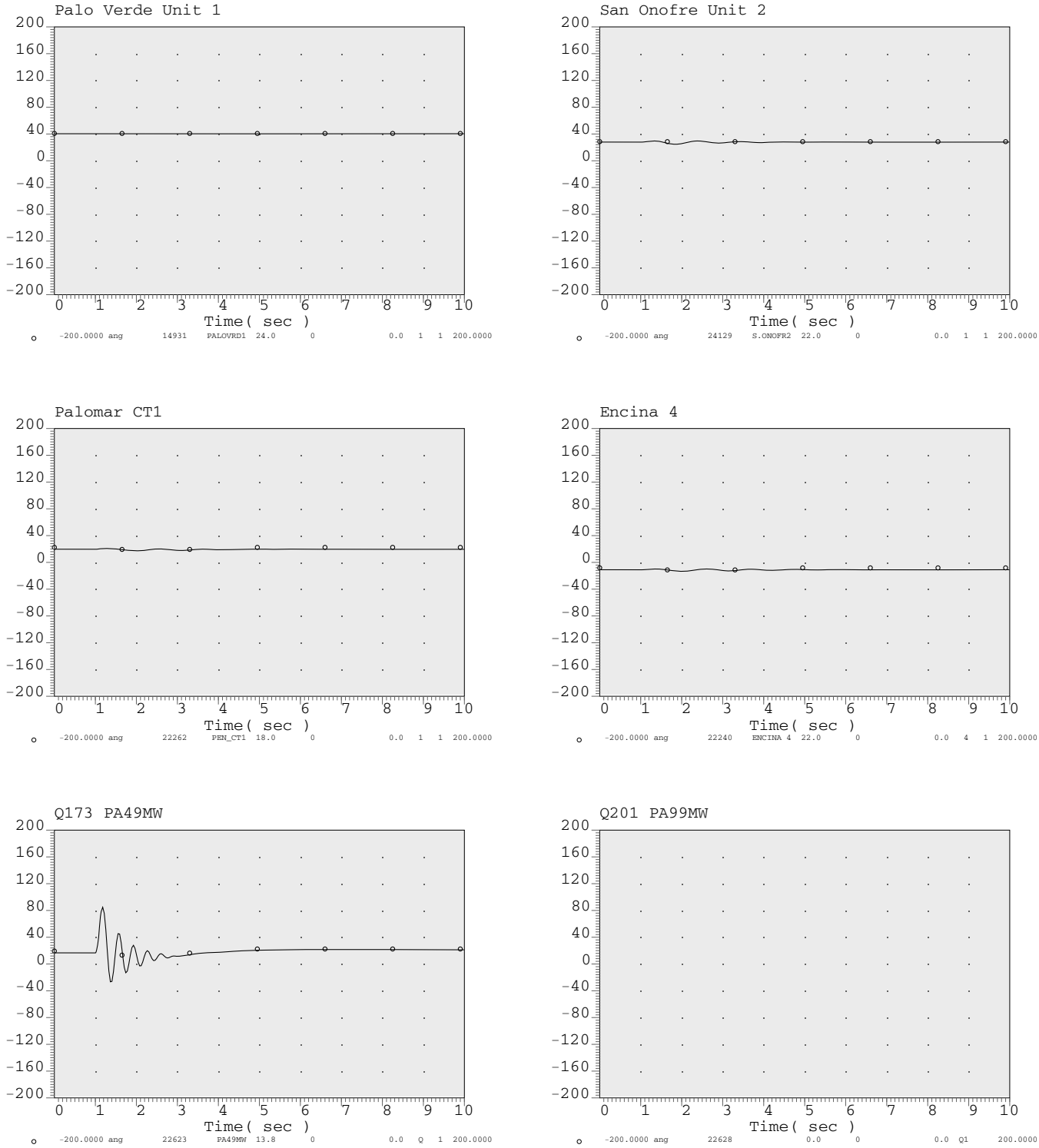






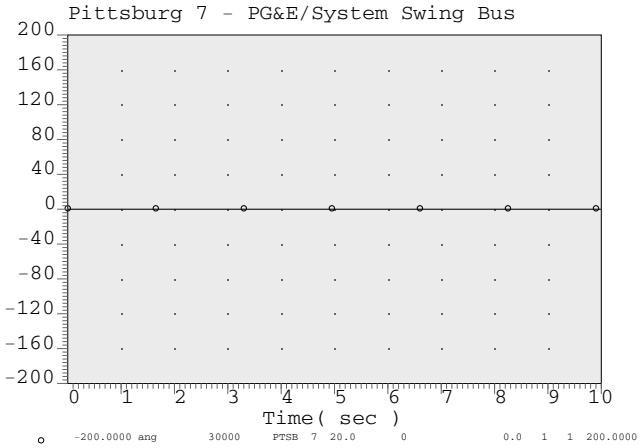
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

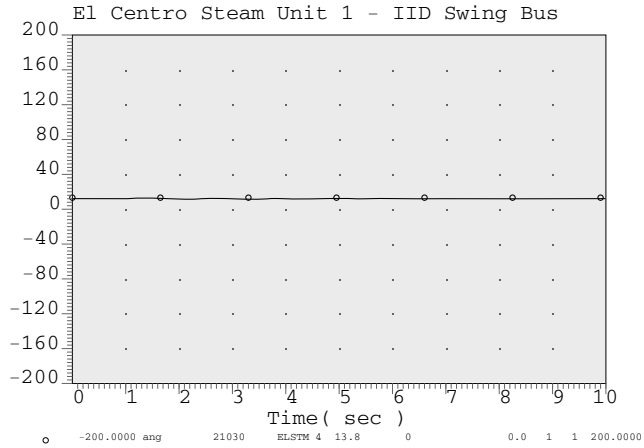
Relative Rotor Angle

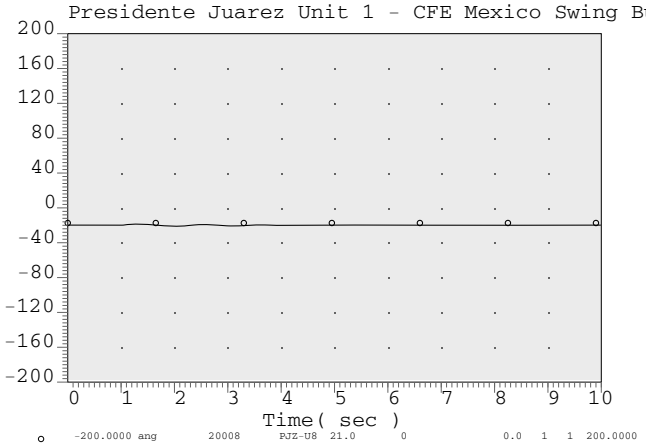


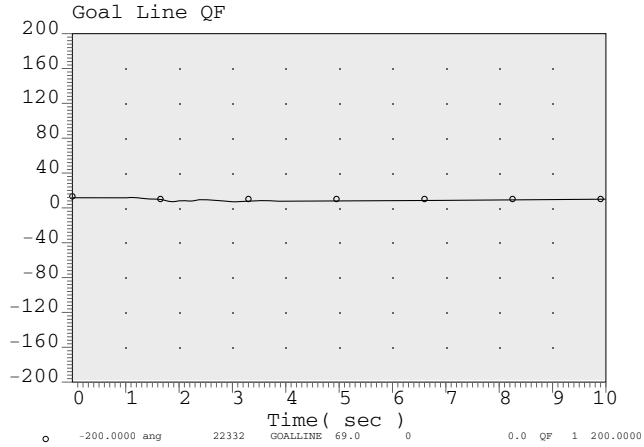
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

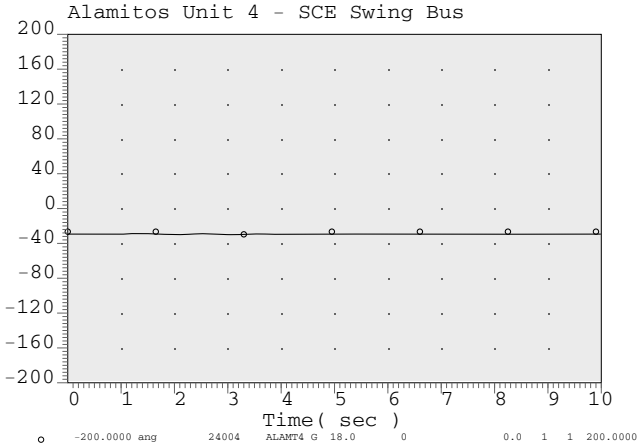
Relative Rotor Angle

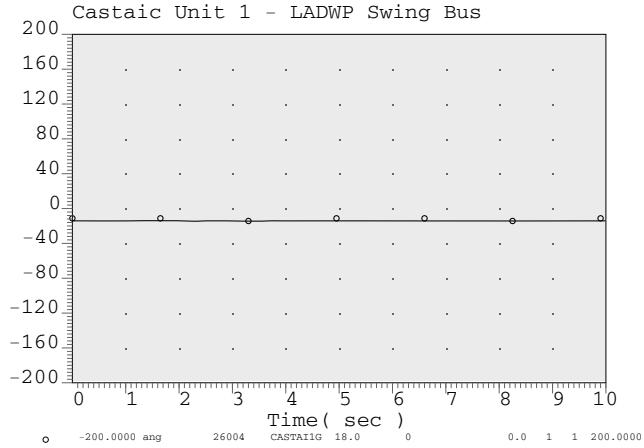






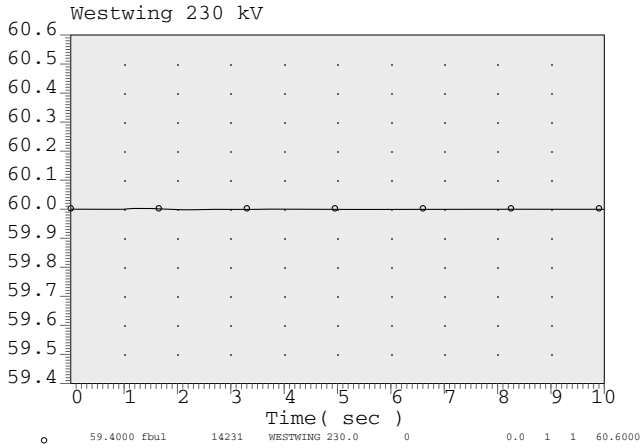


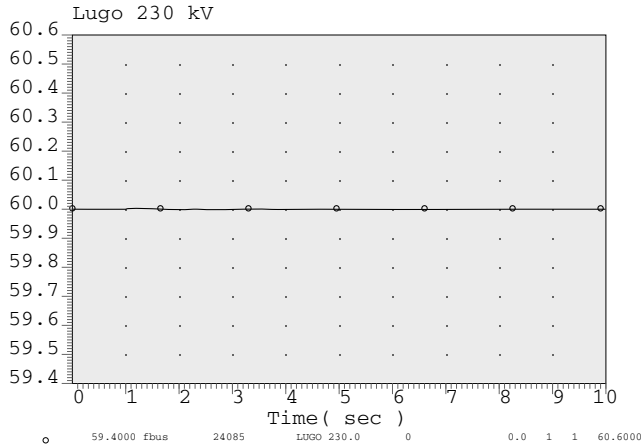


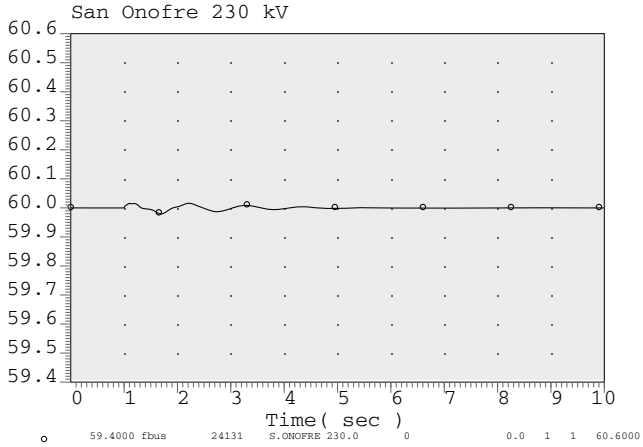


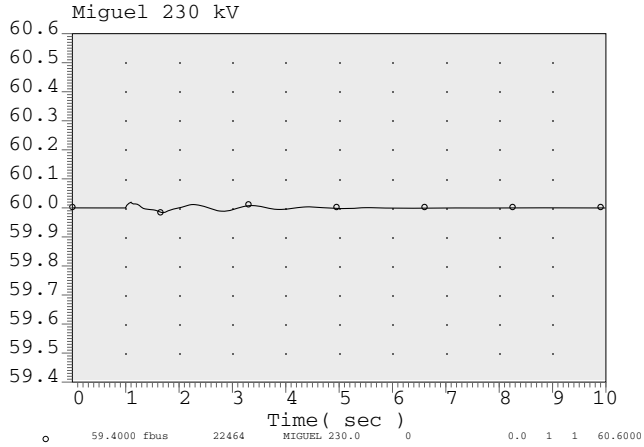
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

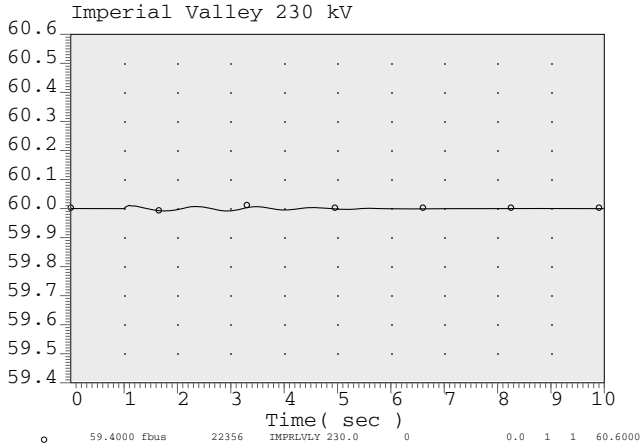
Bus Frequency

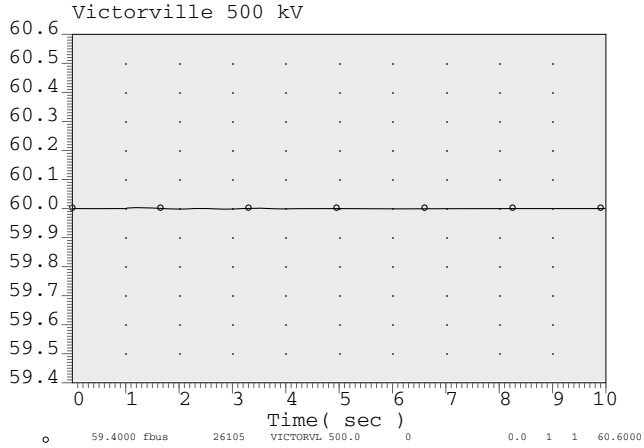






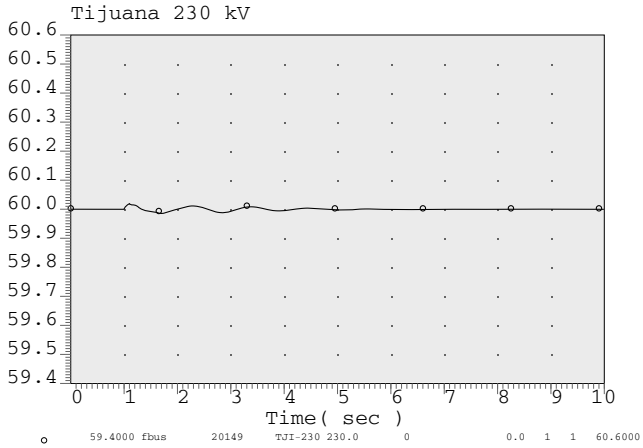


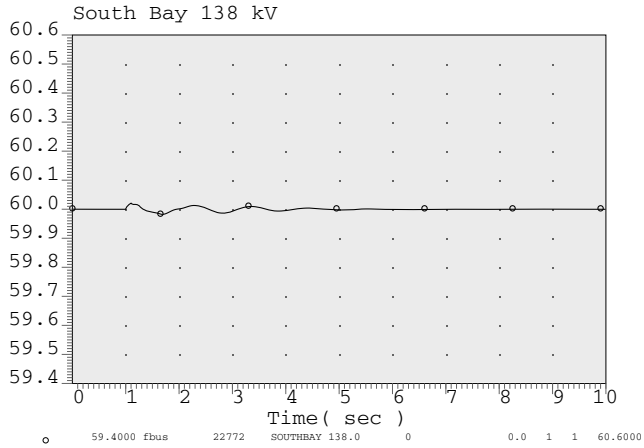


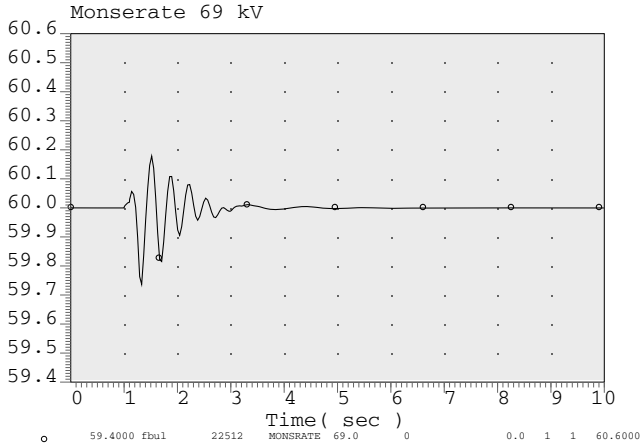


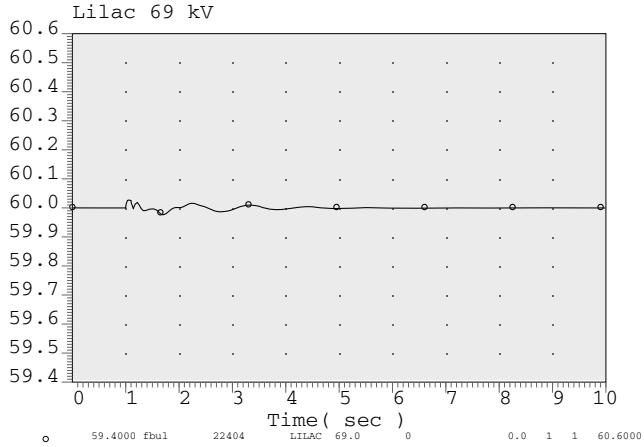
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

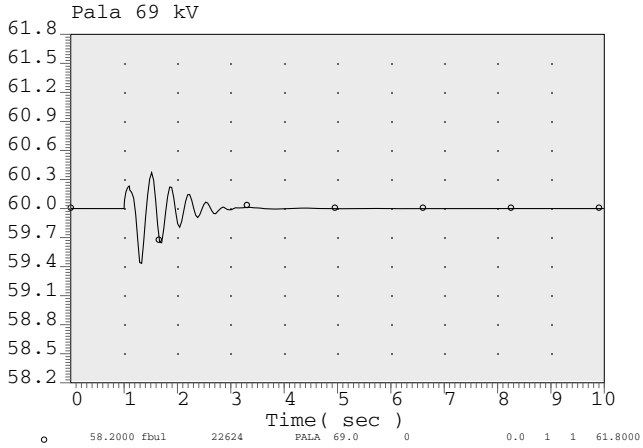
Bus Frequency

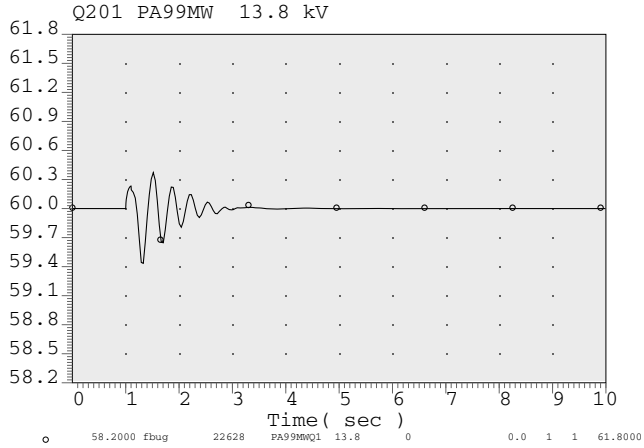






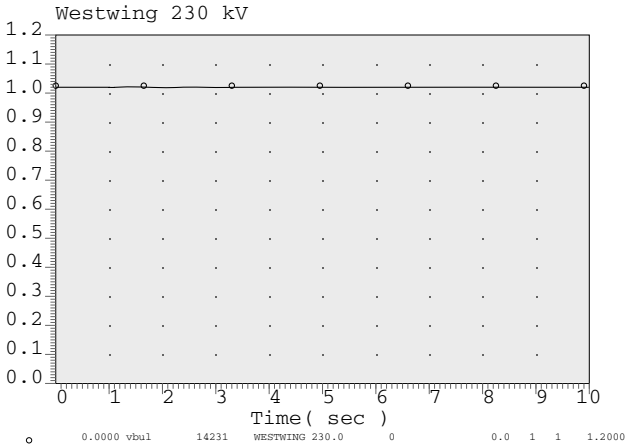


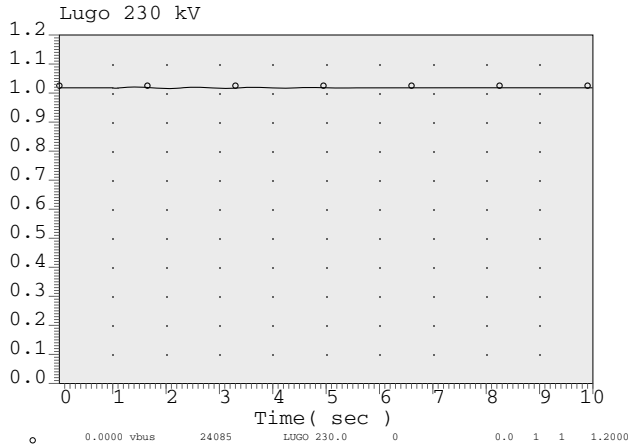


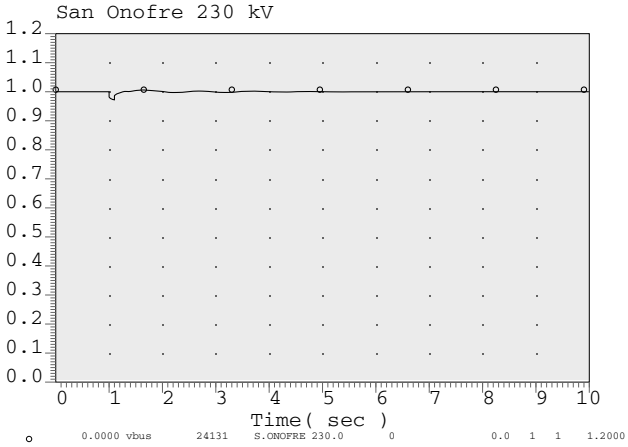


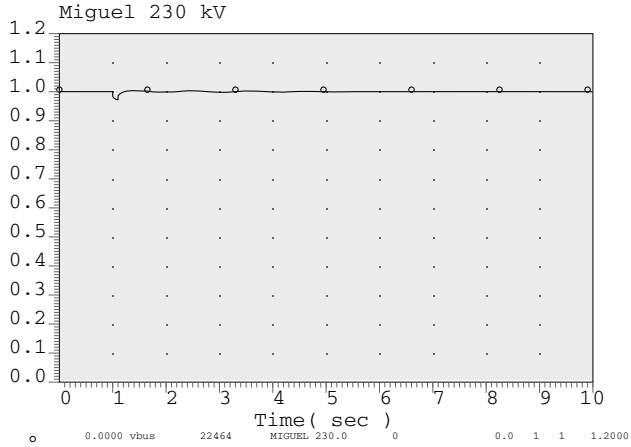
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

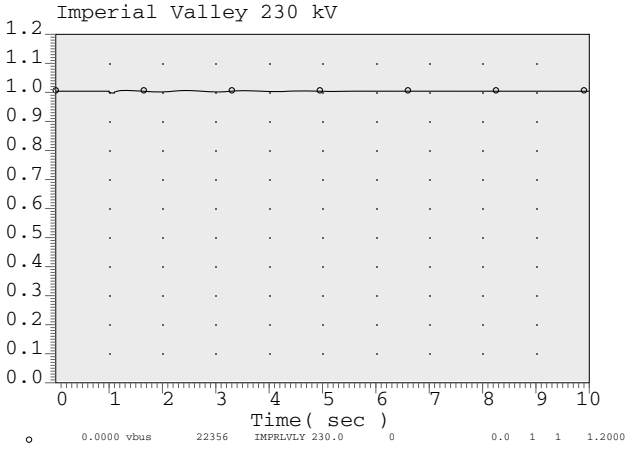
Bus Voltage

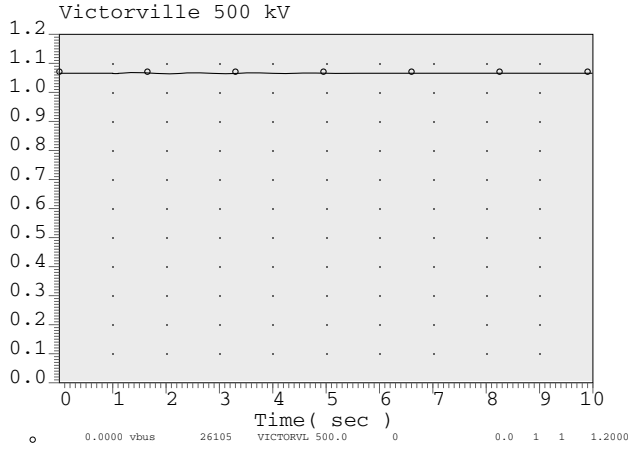






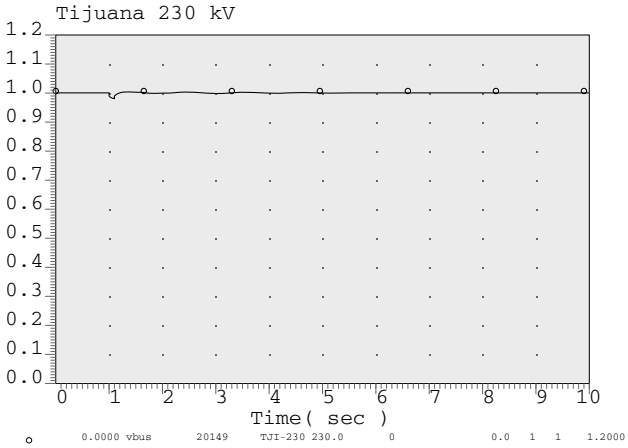


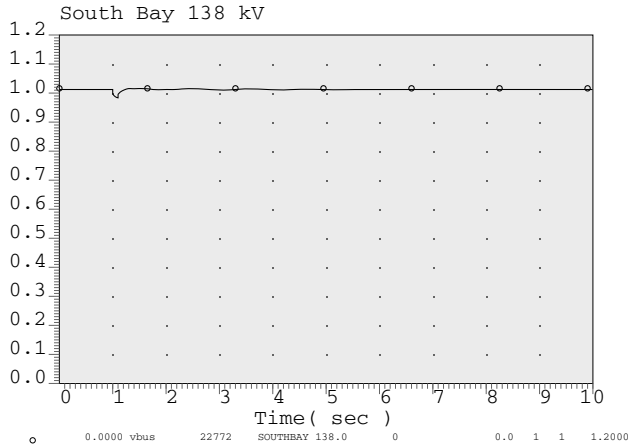


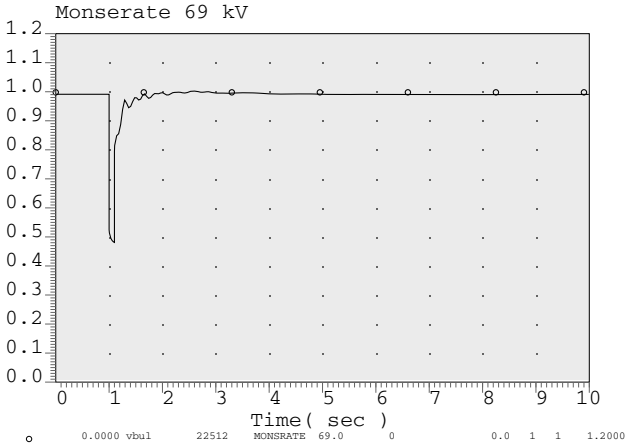


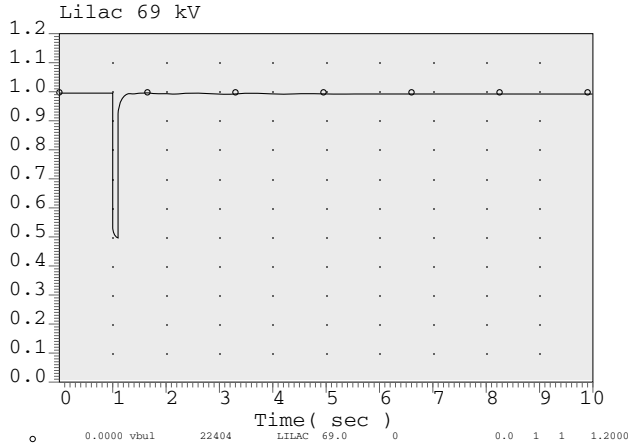
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

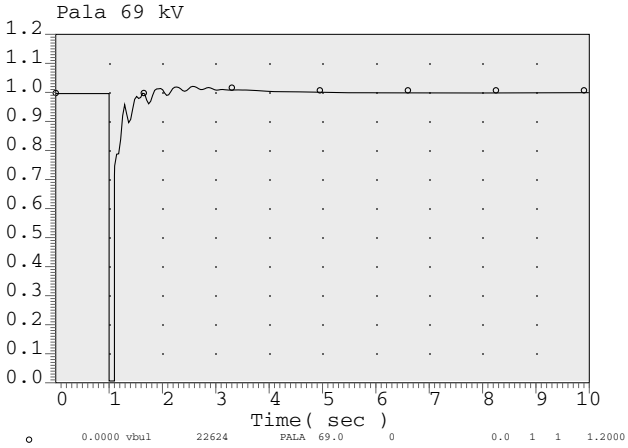
Bus Voltage

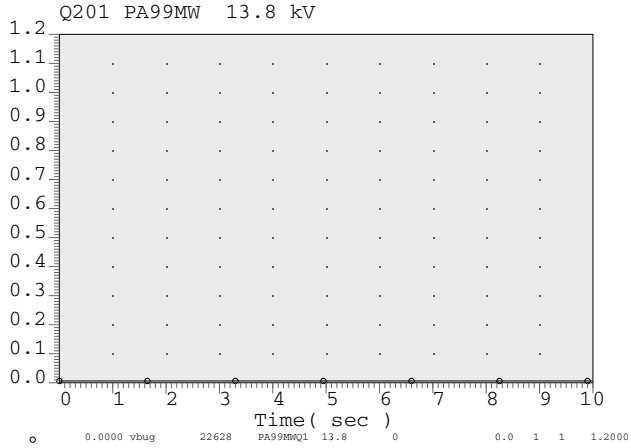






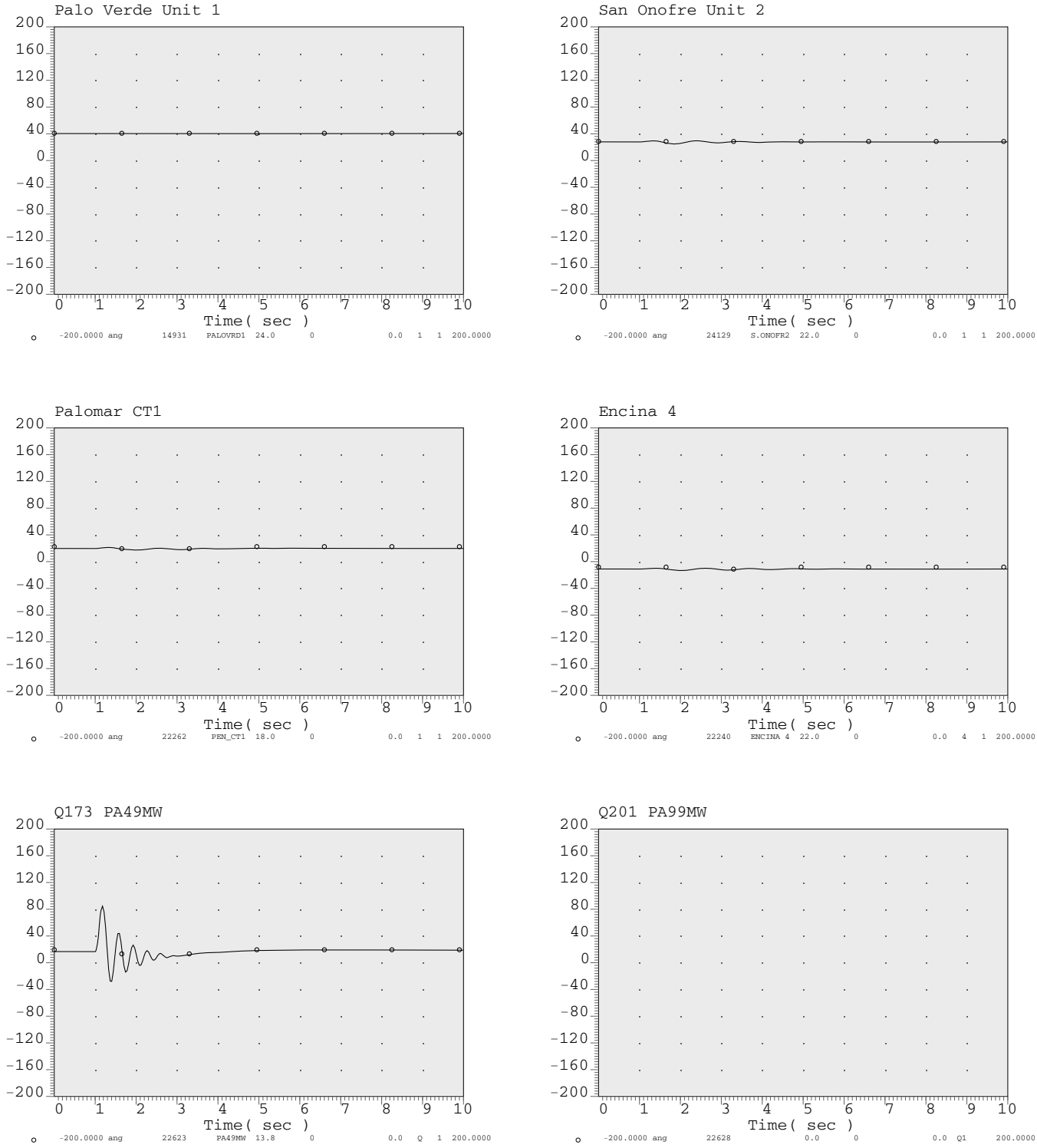






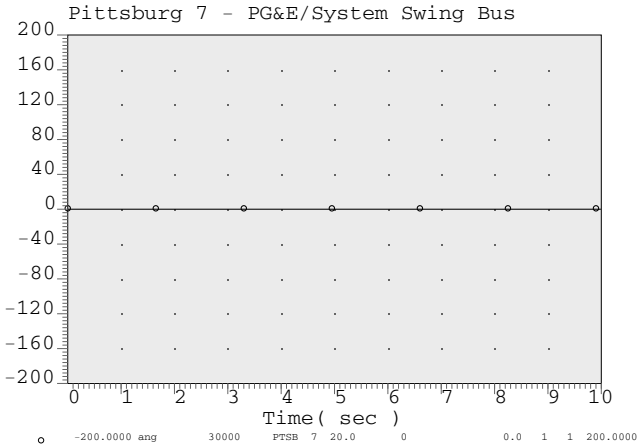
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

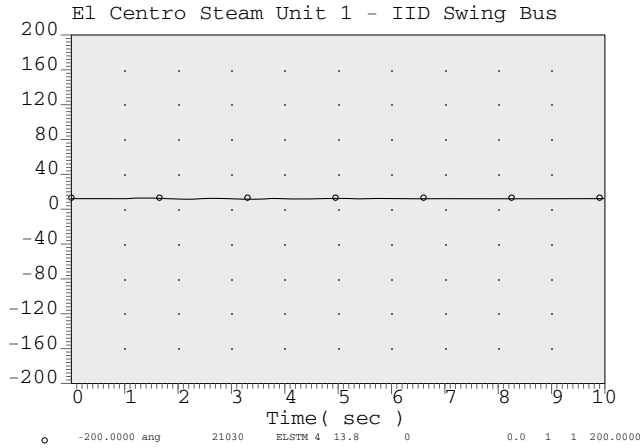
Relative Rotor Angle

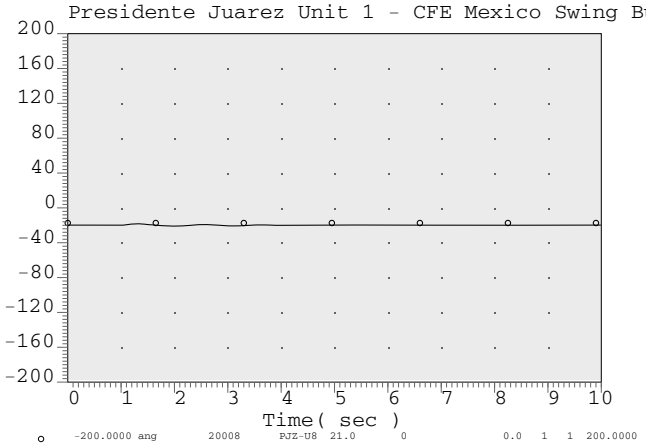


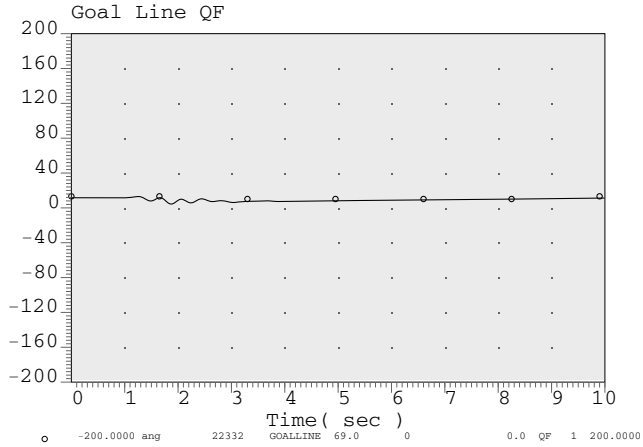
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

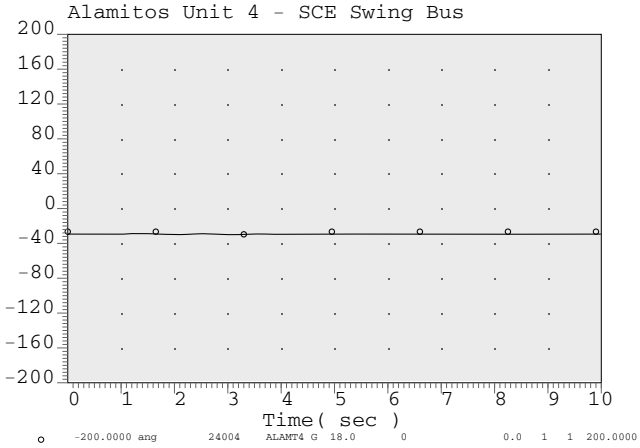
Relative Rotor Angle

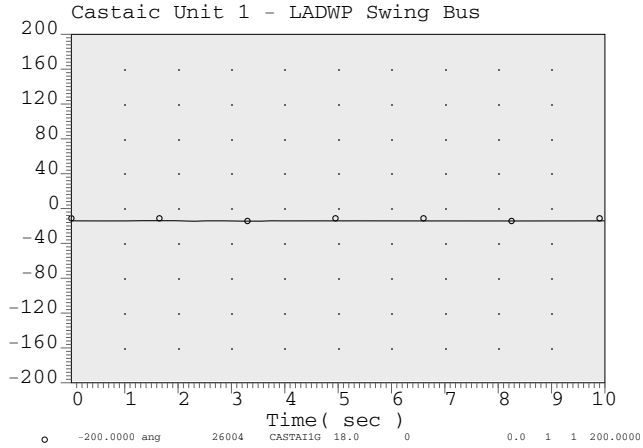






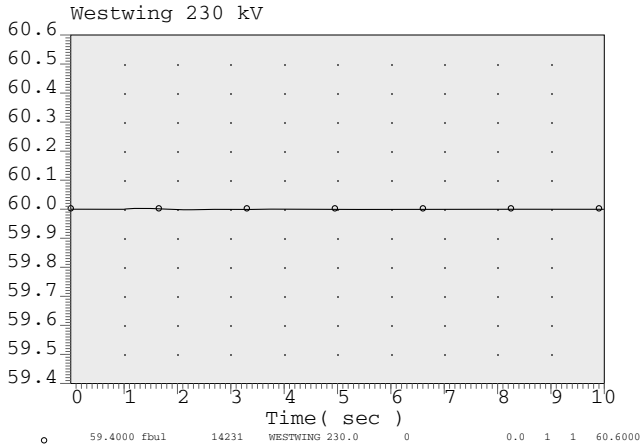


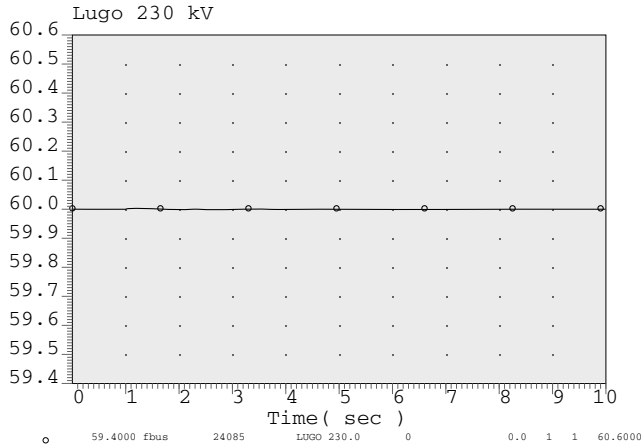


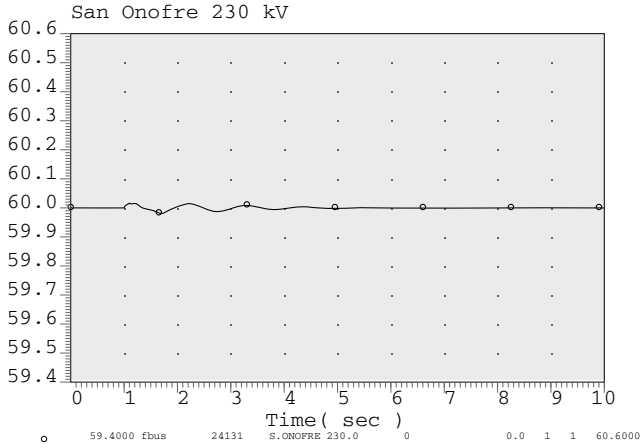


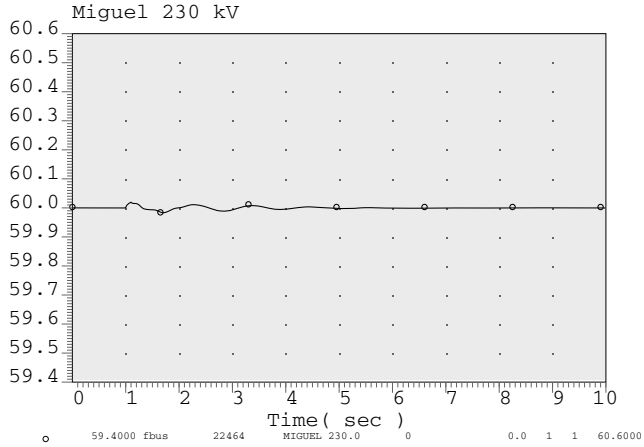
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

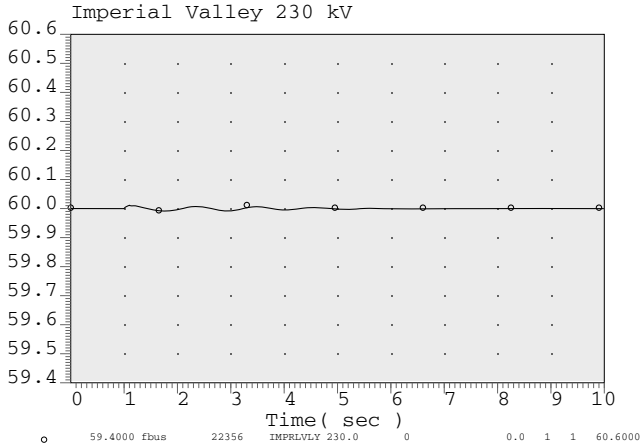
Bus Frequency

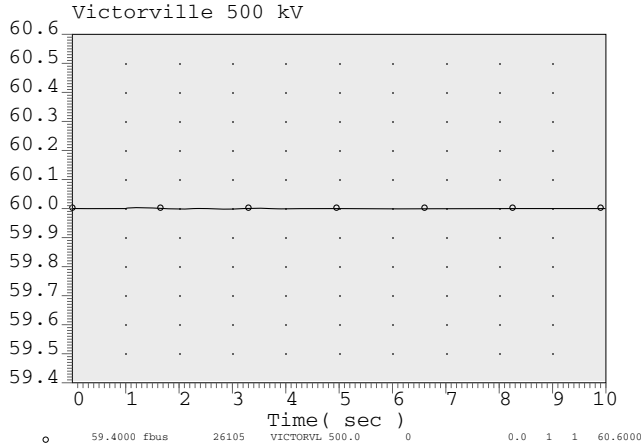






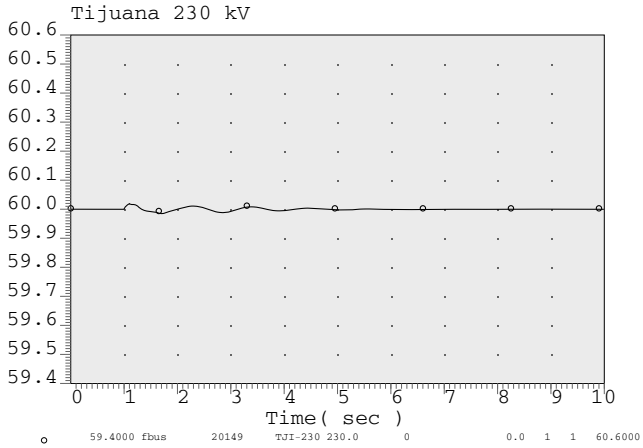


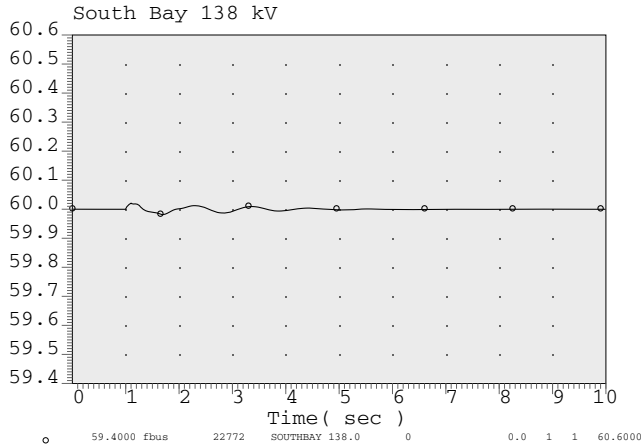


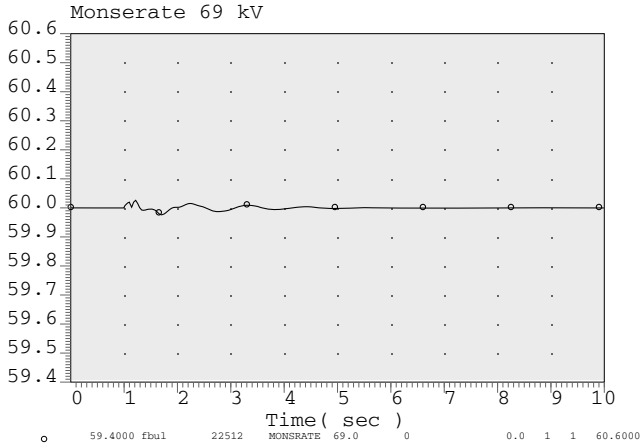


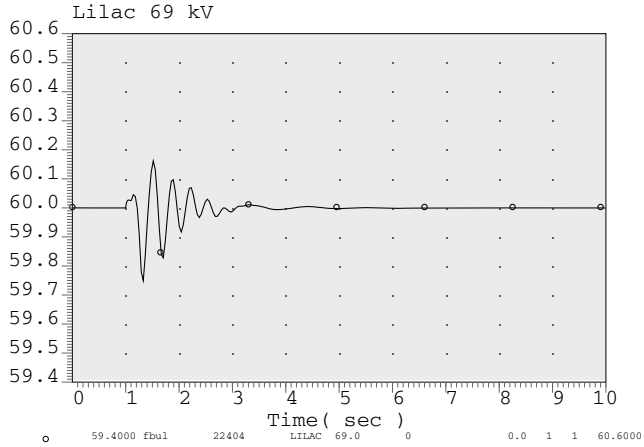
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

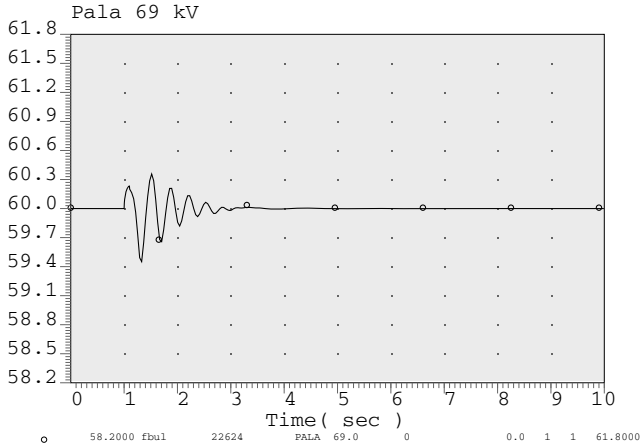
Bus Frequency

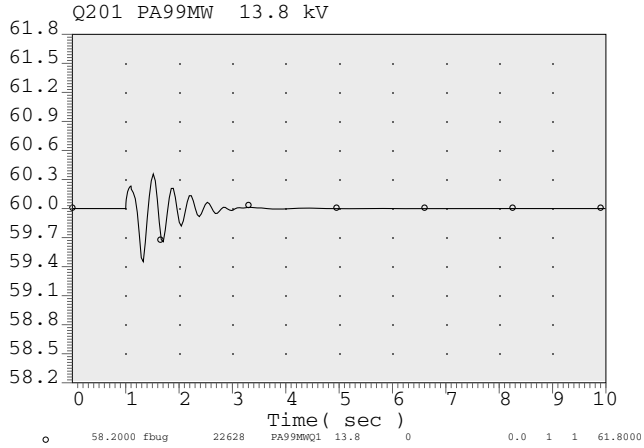






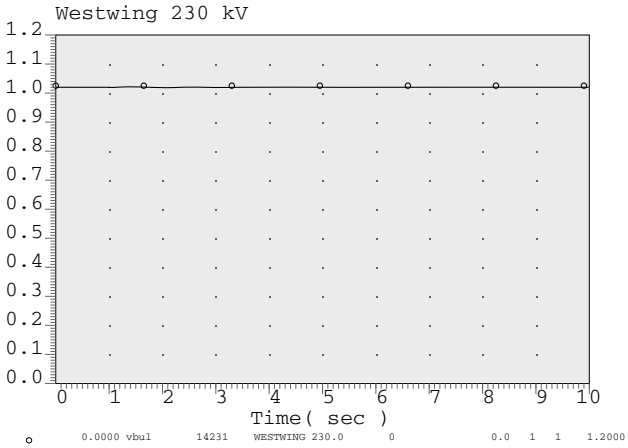


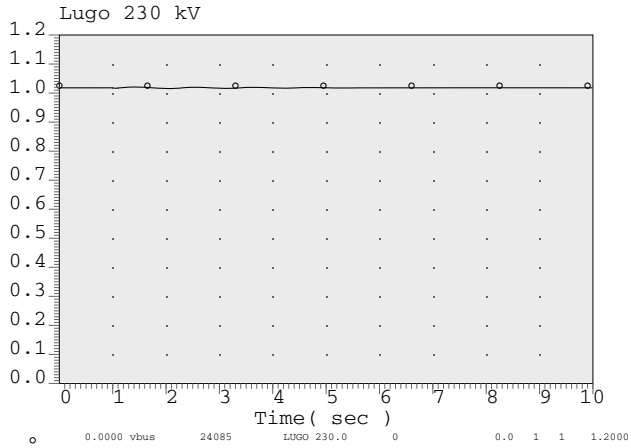


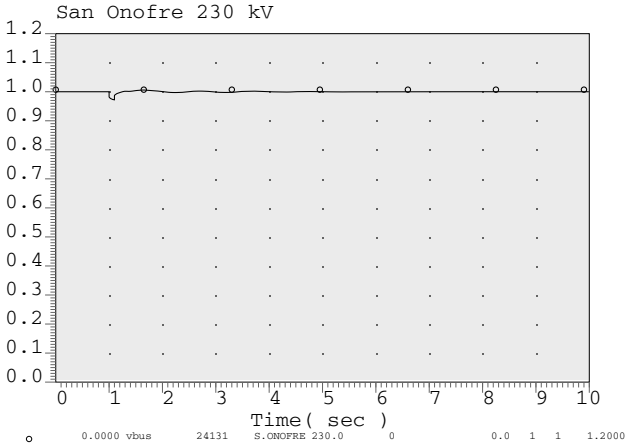


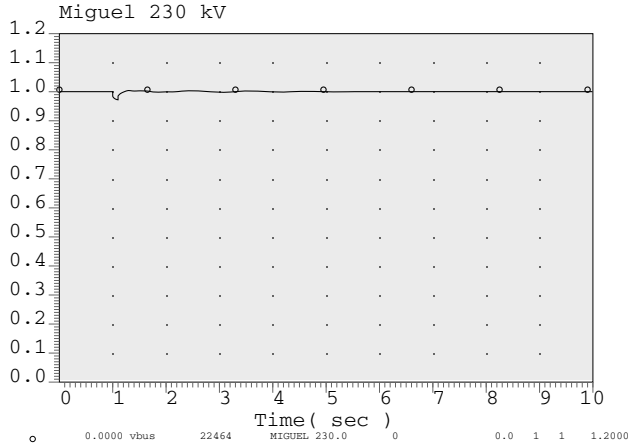
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

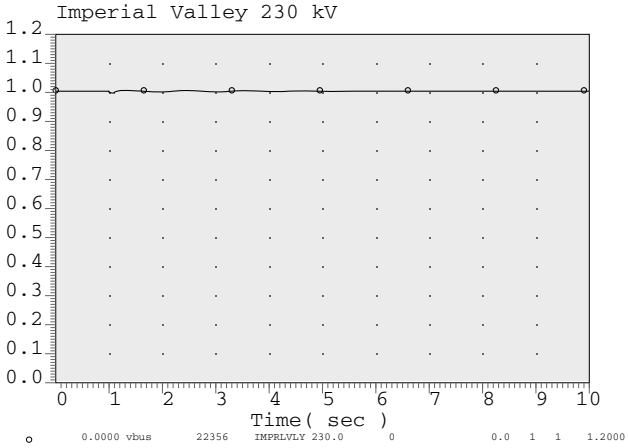
Bus Voltage

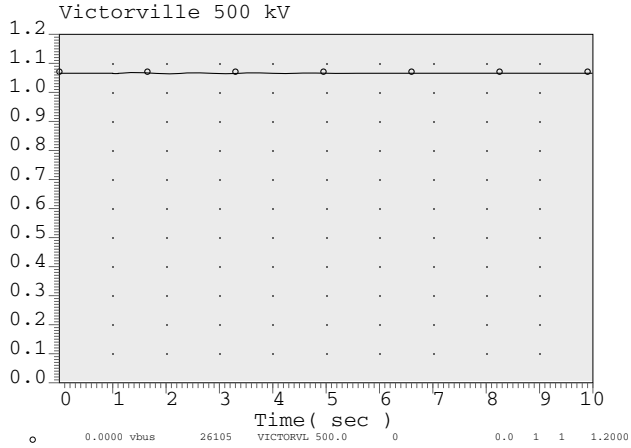






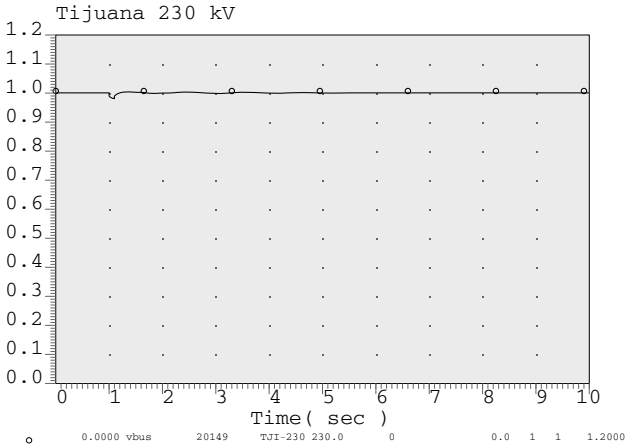


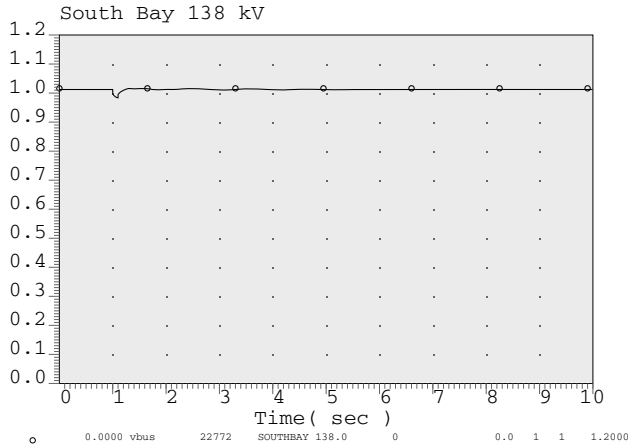


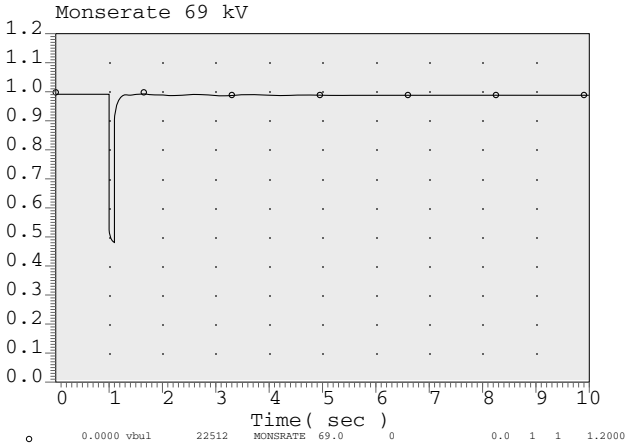


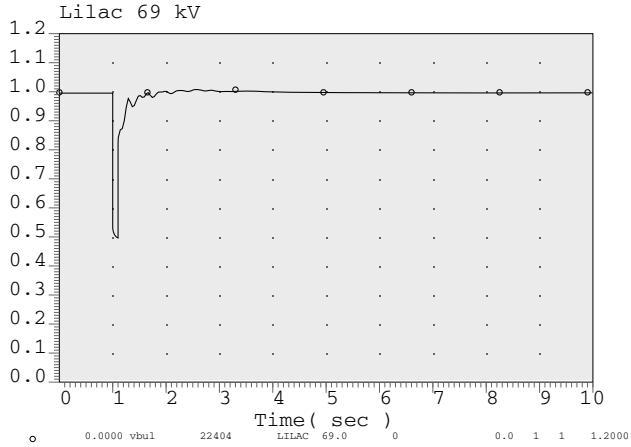
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

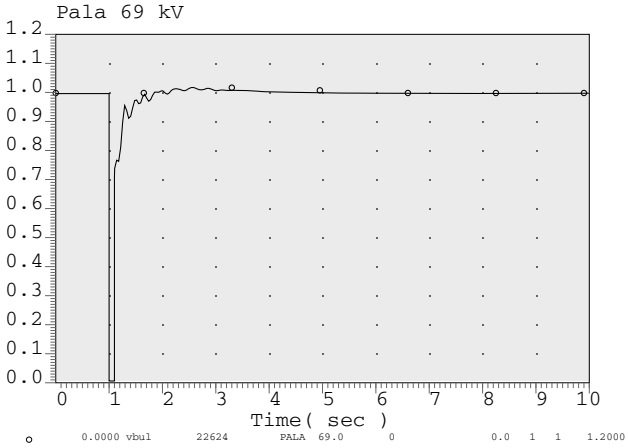
Bus Voltage

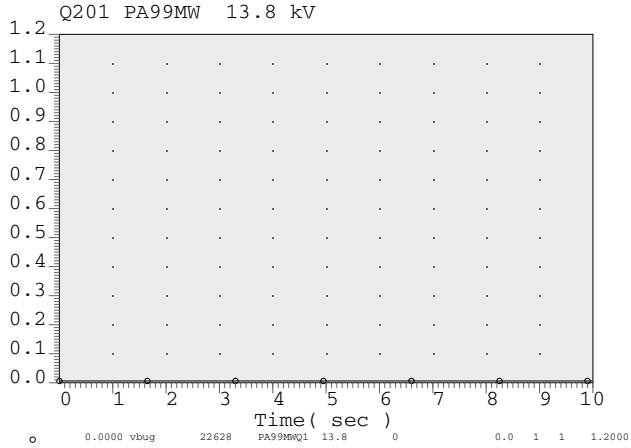






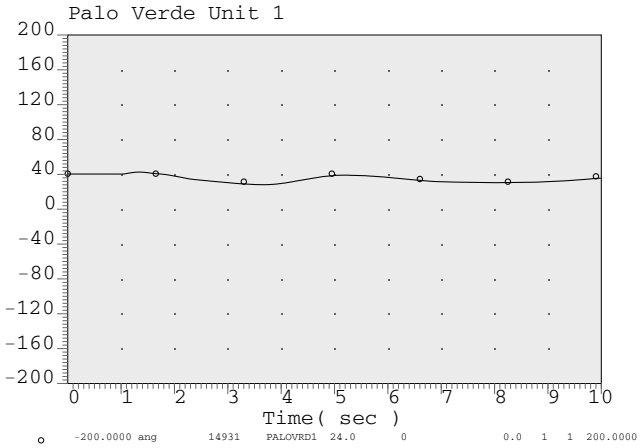


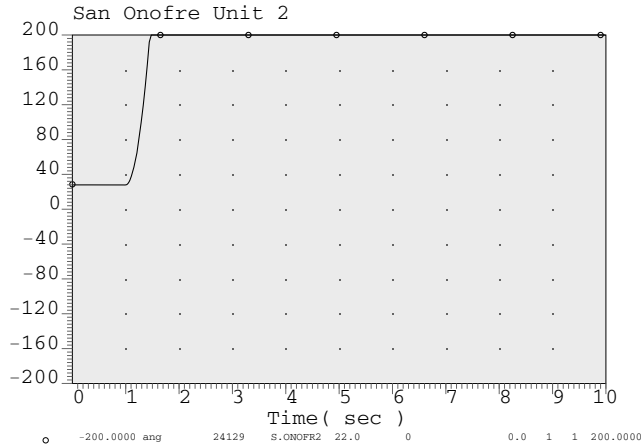


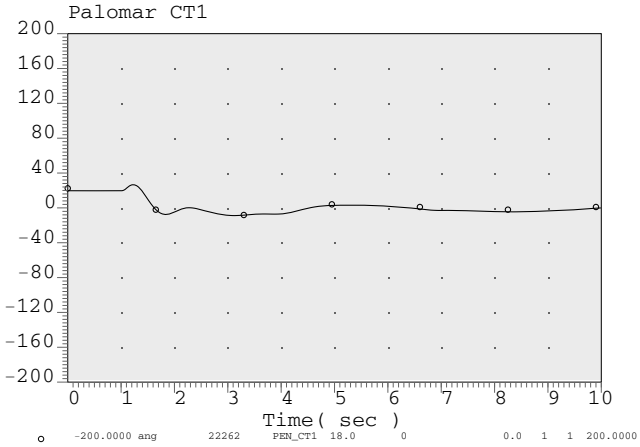


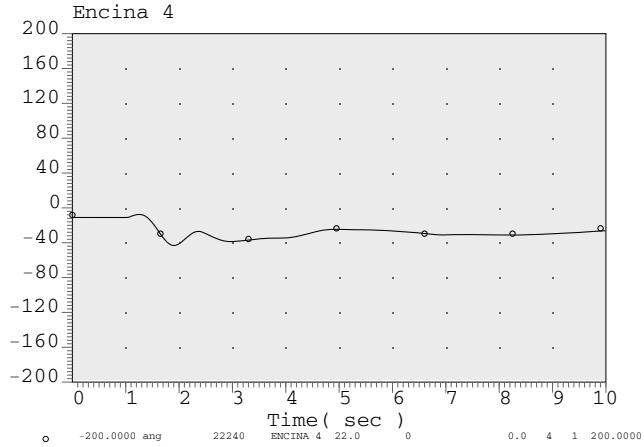
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

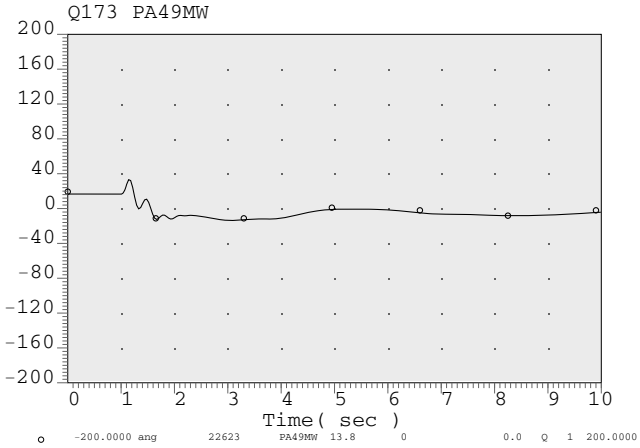
Relative Rotor Angle

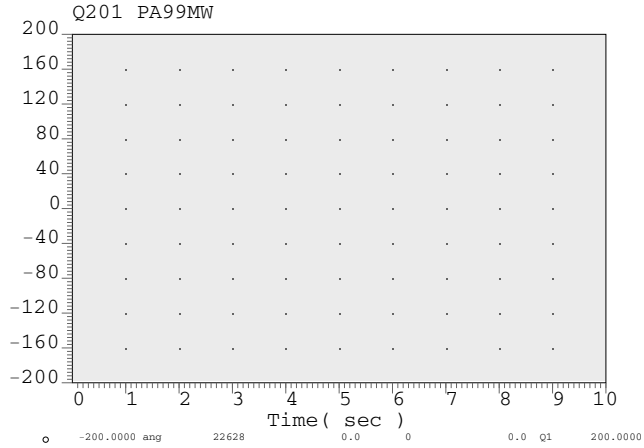






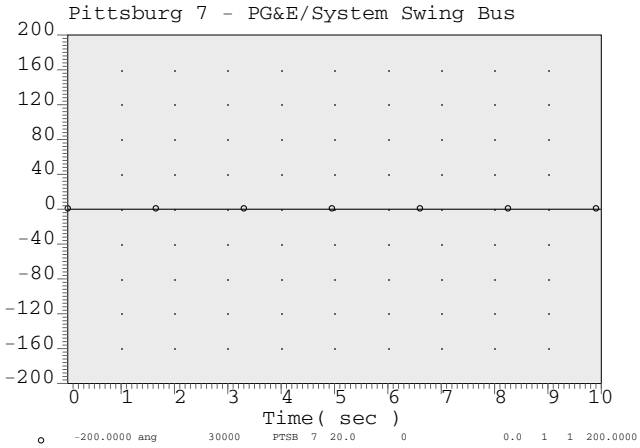


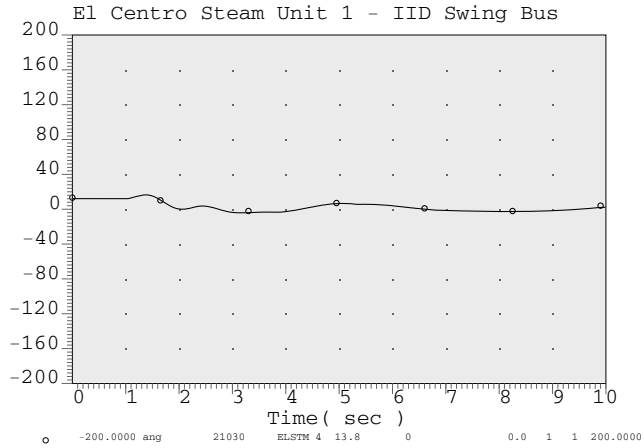


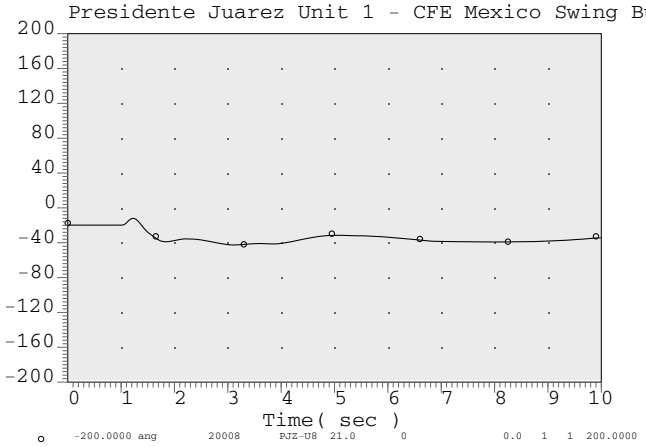


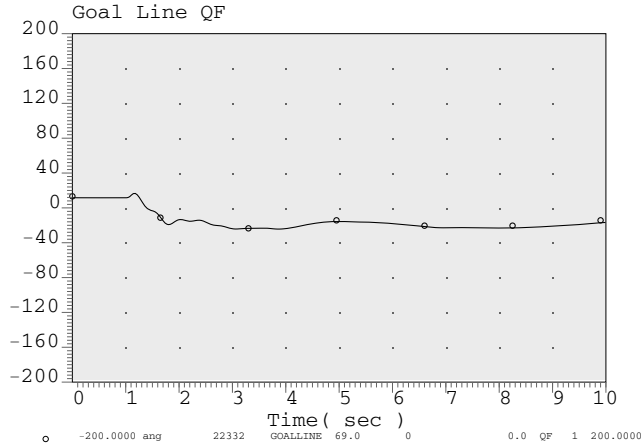
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

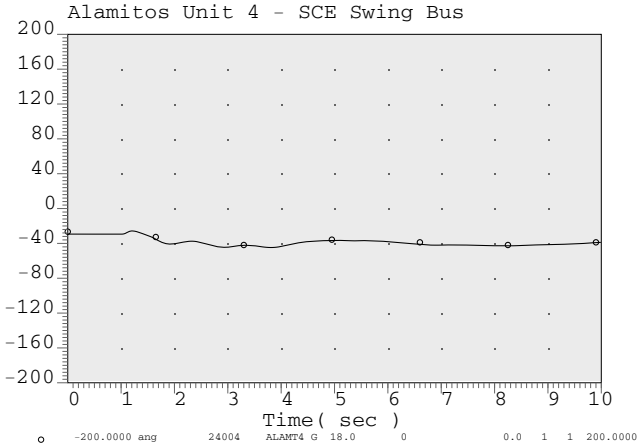
Relative Rotor Angle

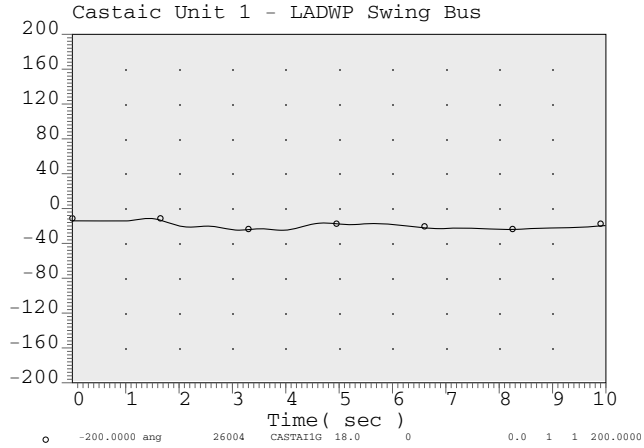






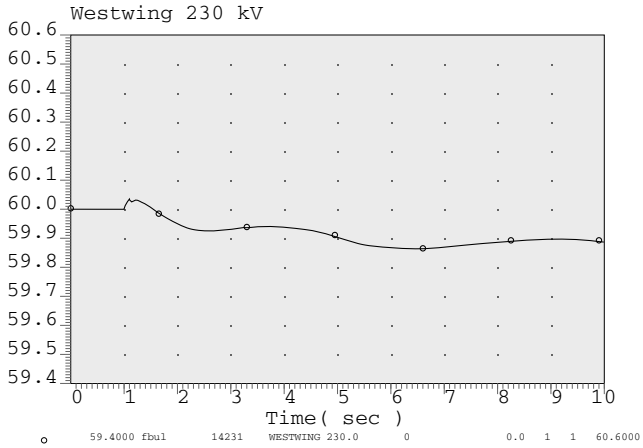


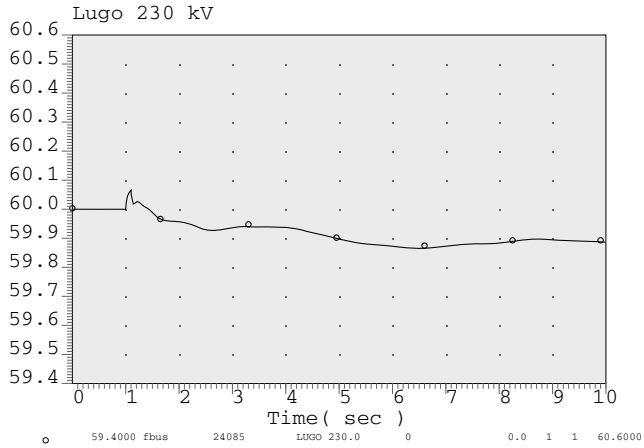


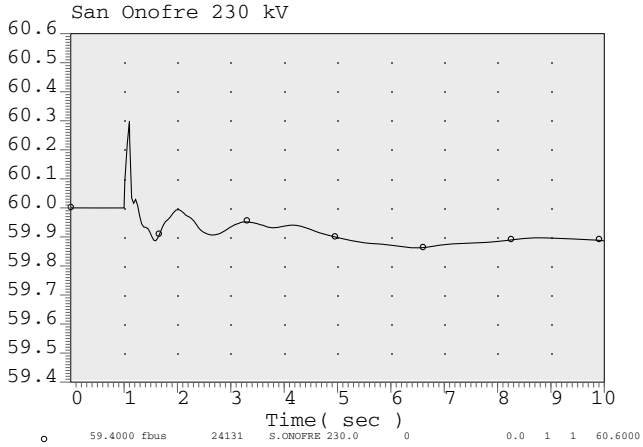


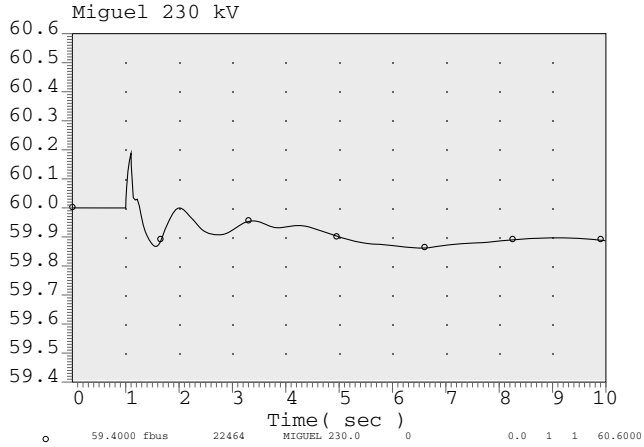
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

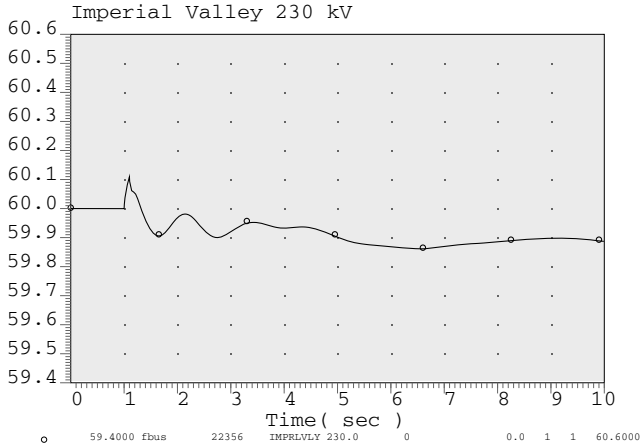
Bus Frequency

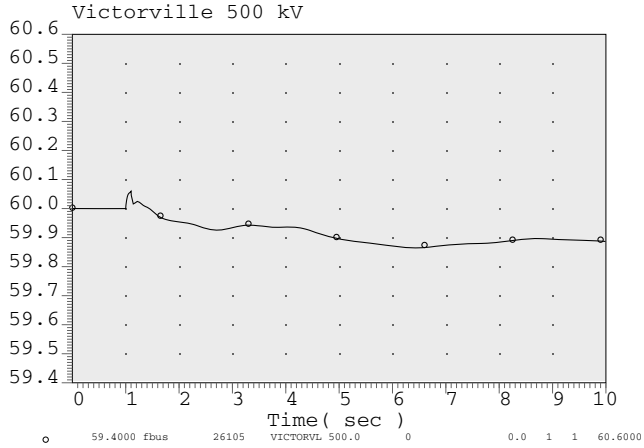






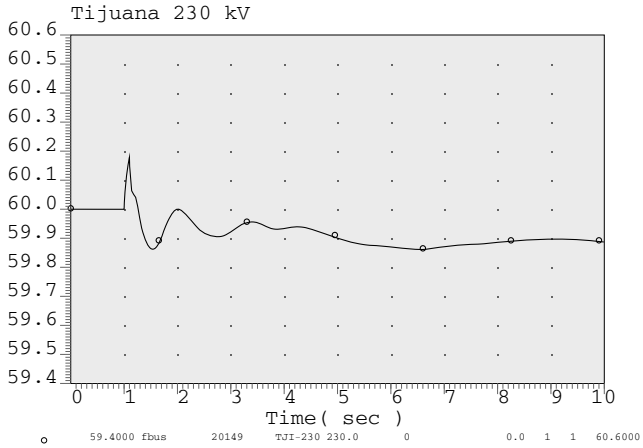


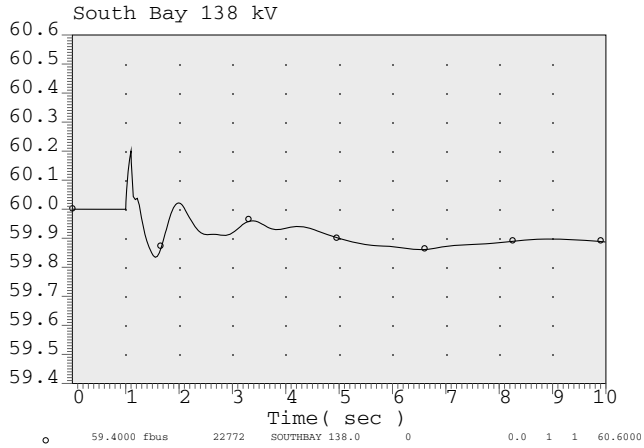


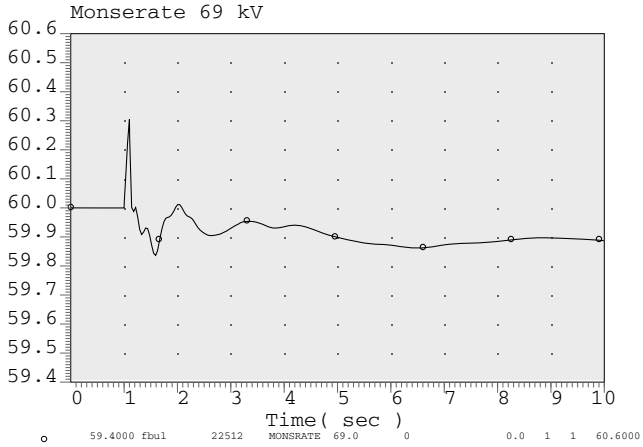


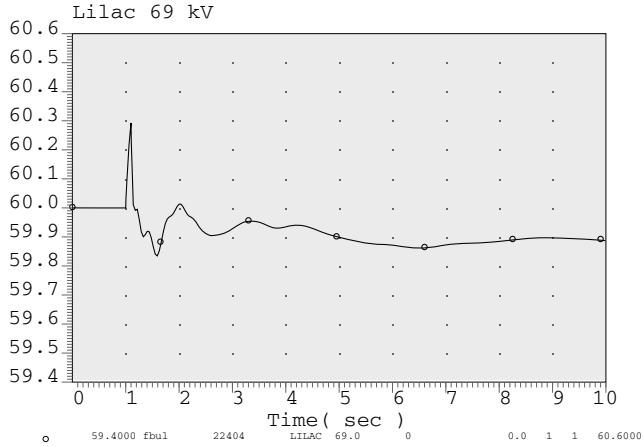
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

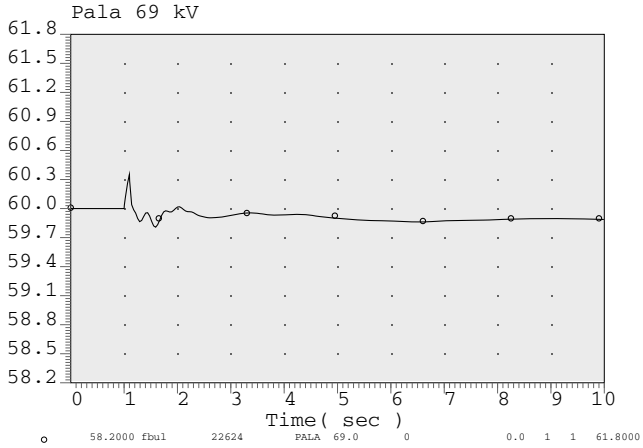
Bus Frequency

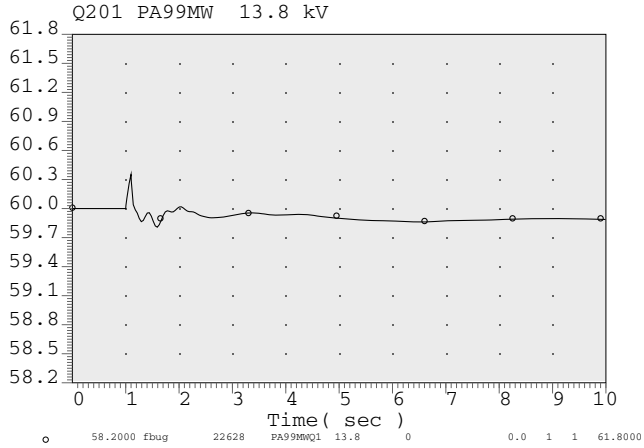






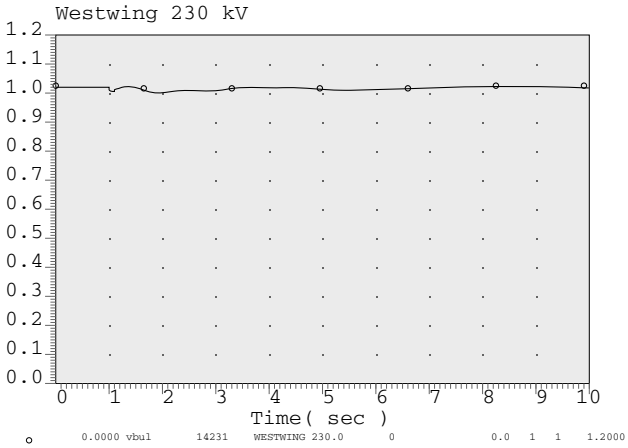


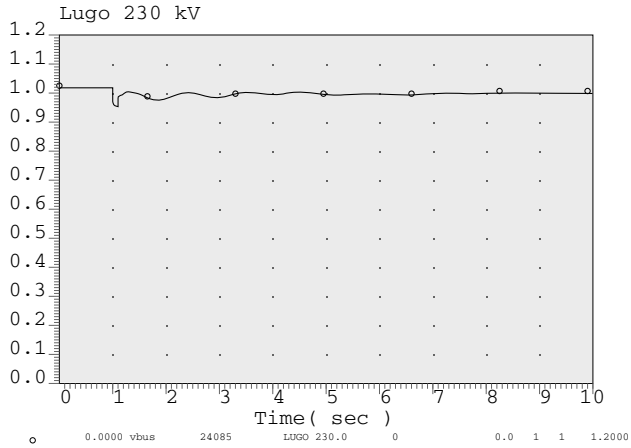


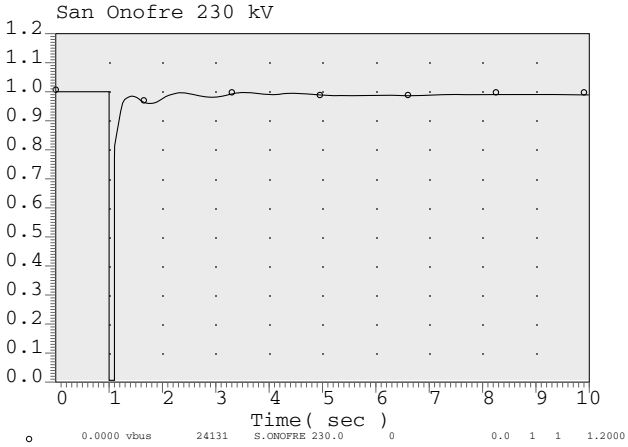


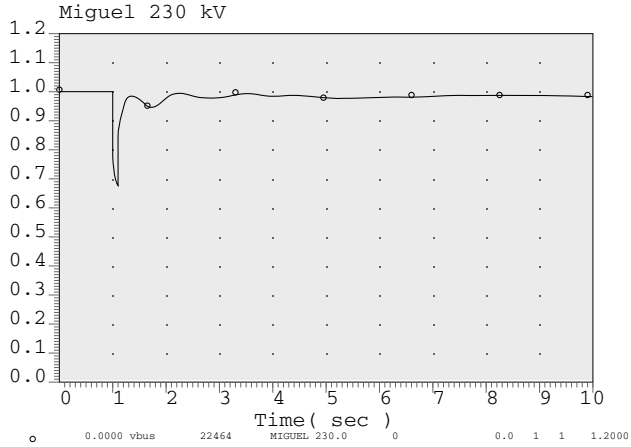
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

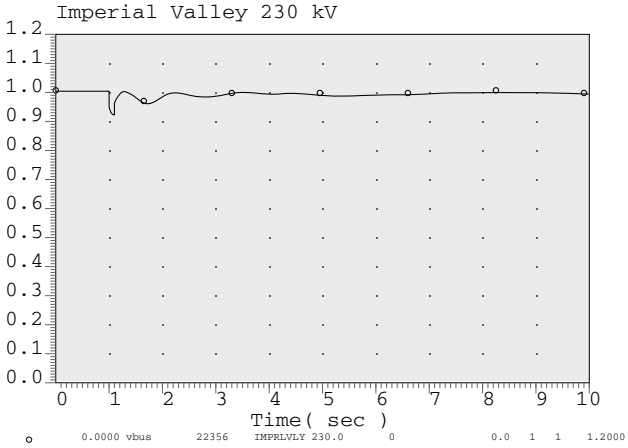
Bus Voltage

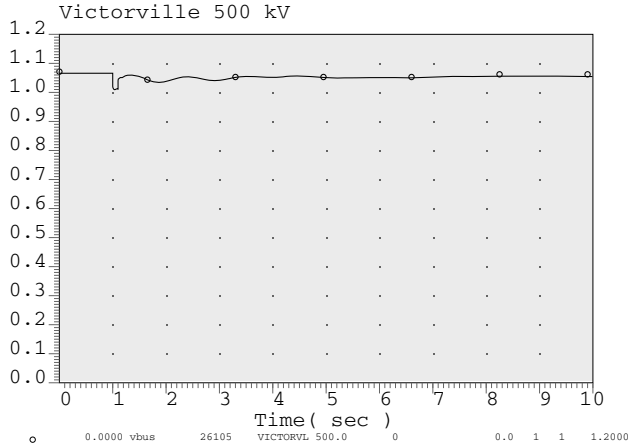






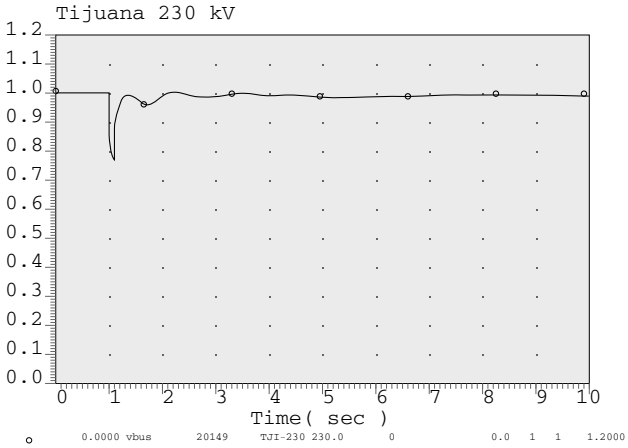


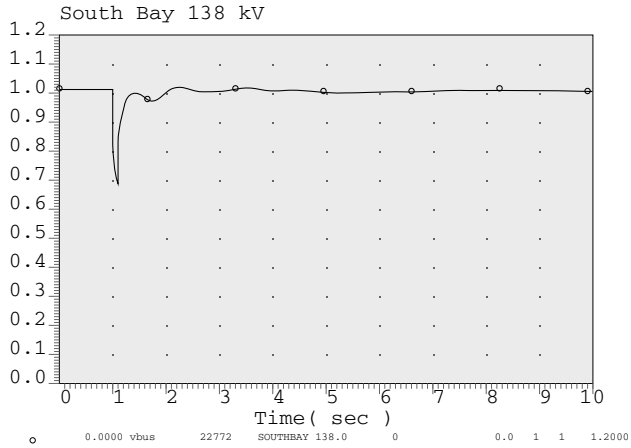


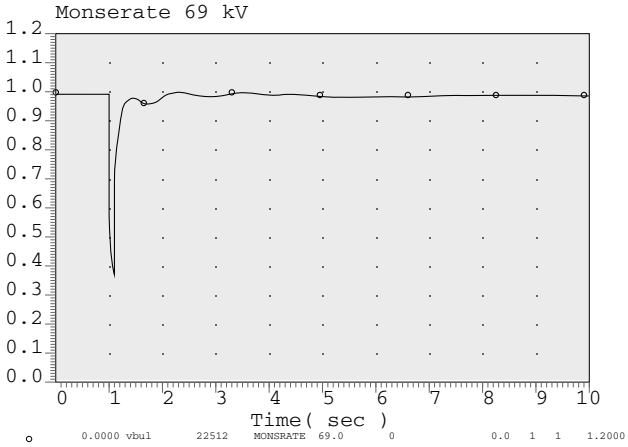


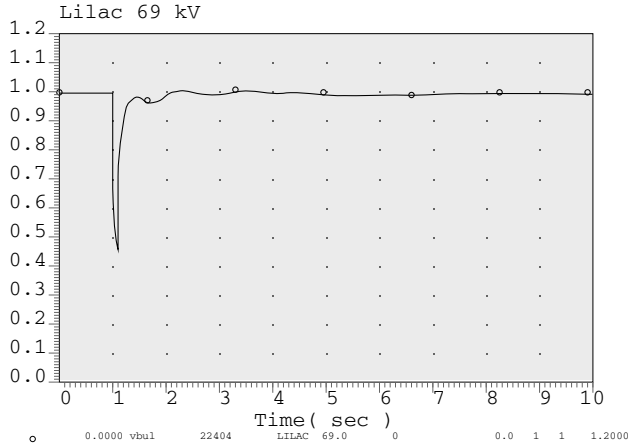
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

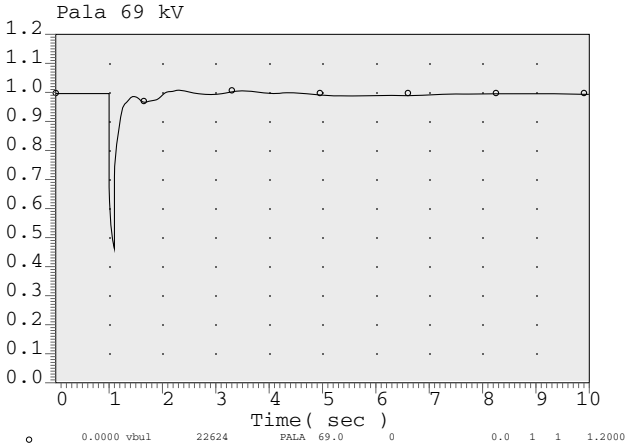
Bus Voltage

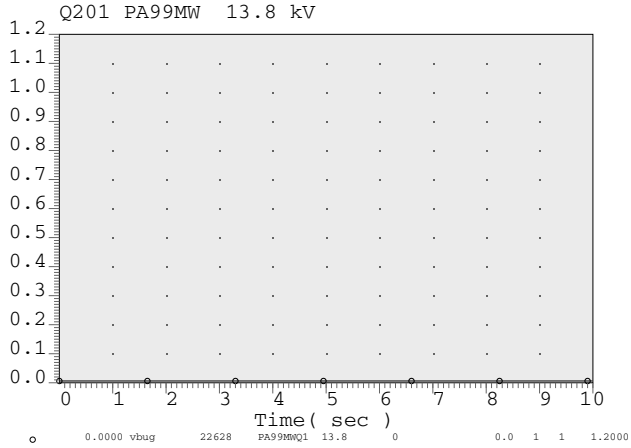






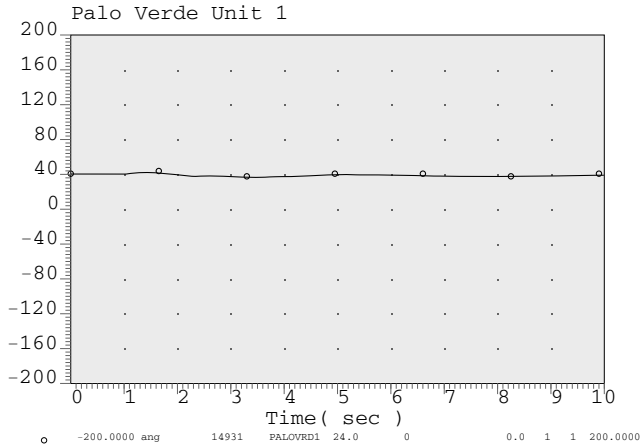


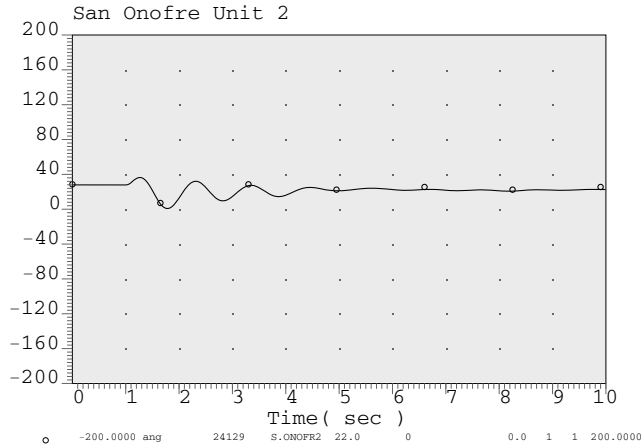


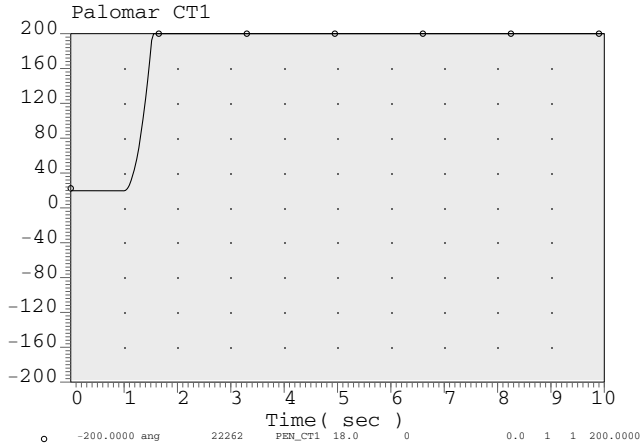


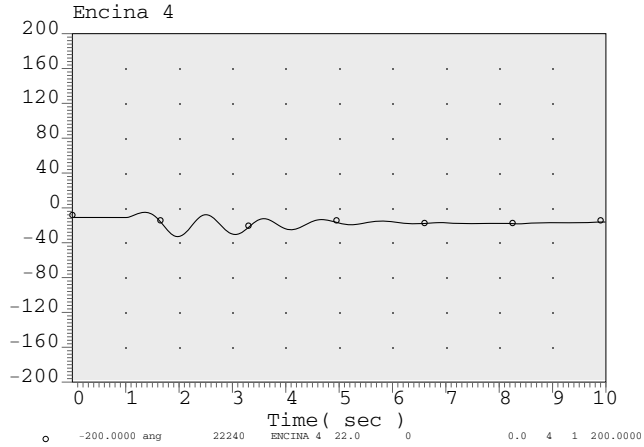
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

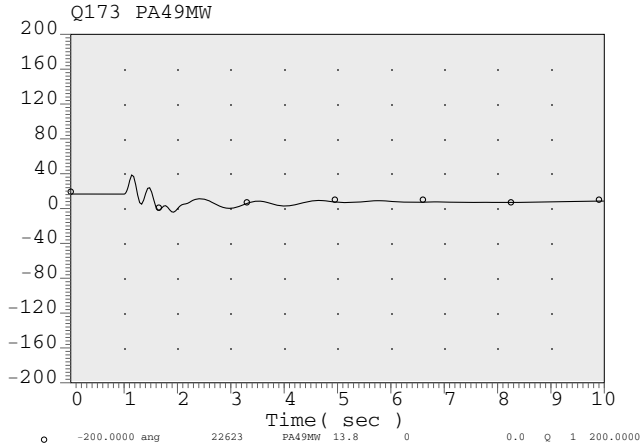
Relative Rotor Angle

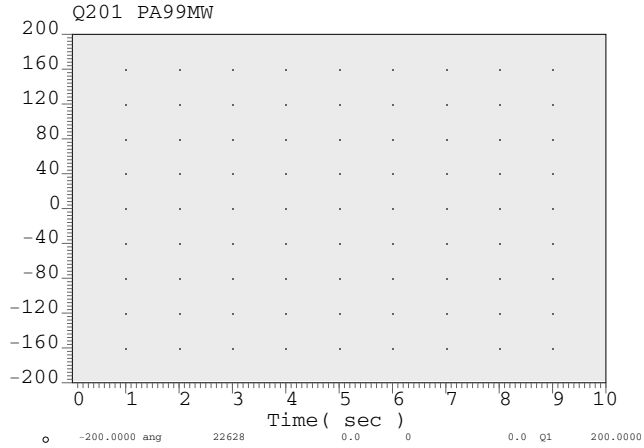






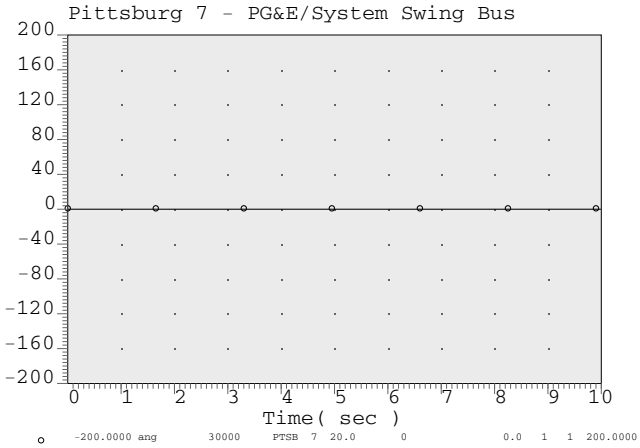


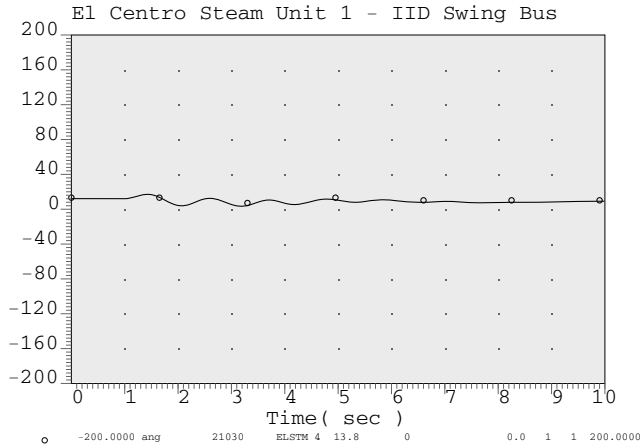


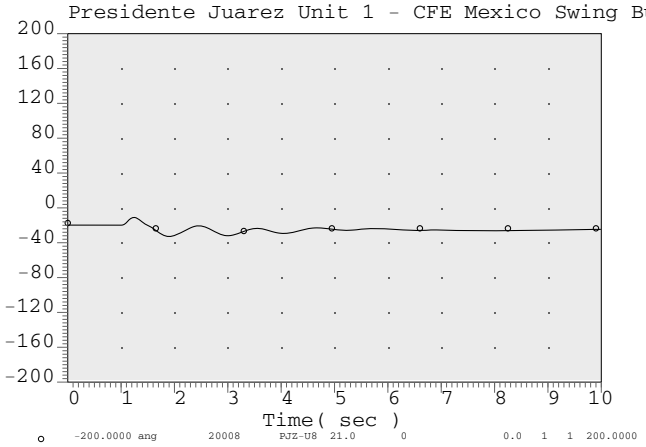


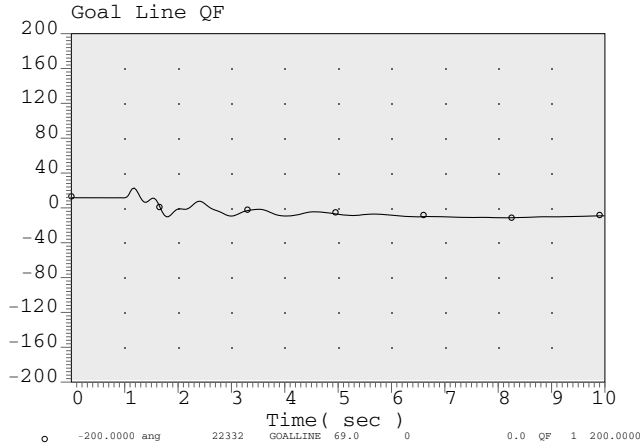
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

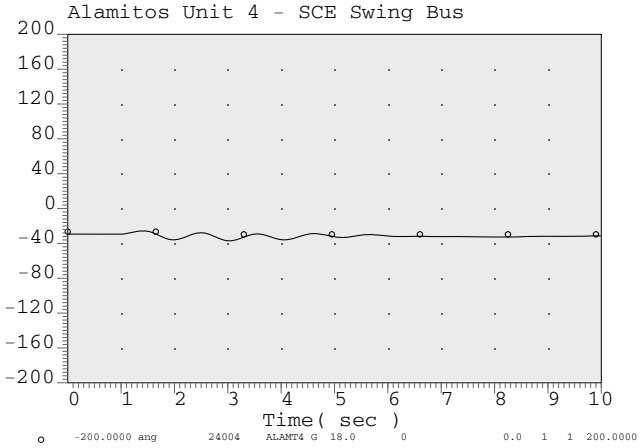
Relative Rotor Angle

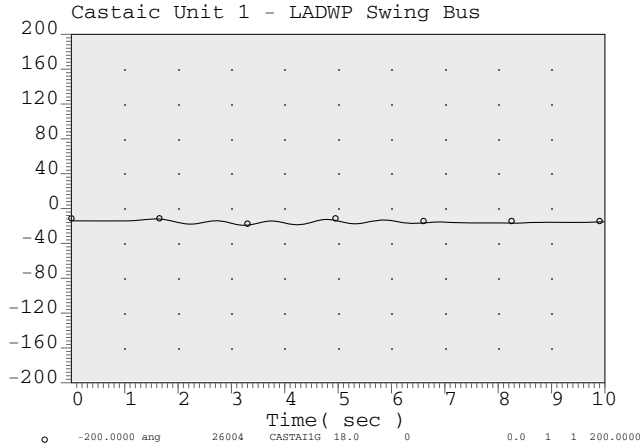






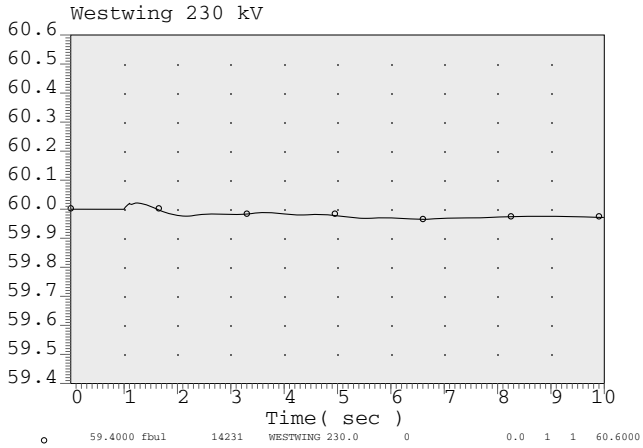


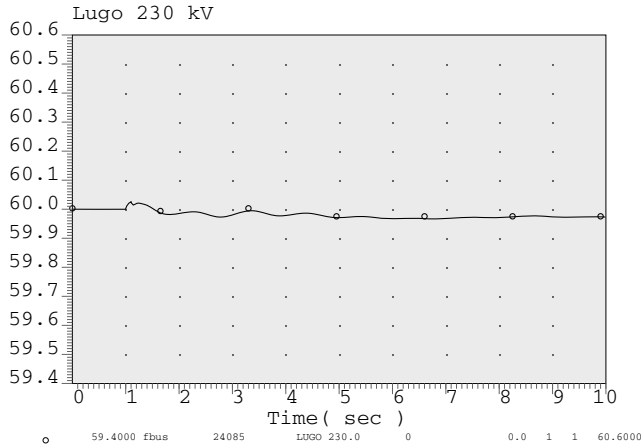


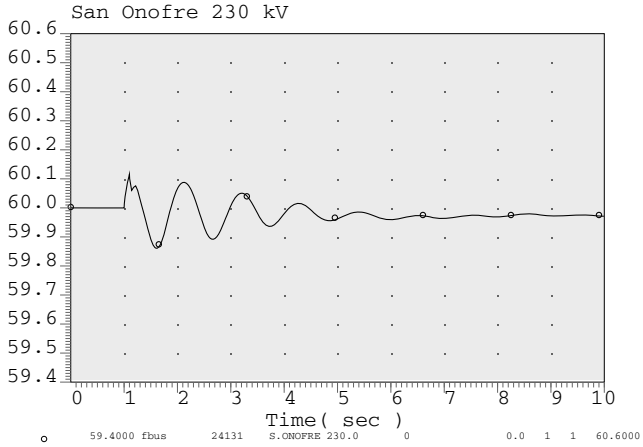


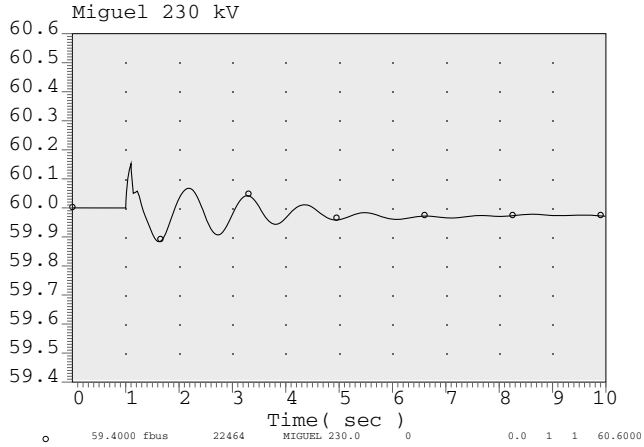
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

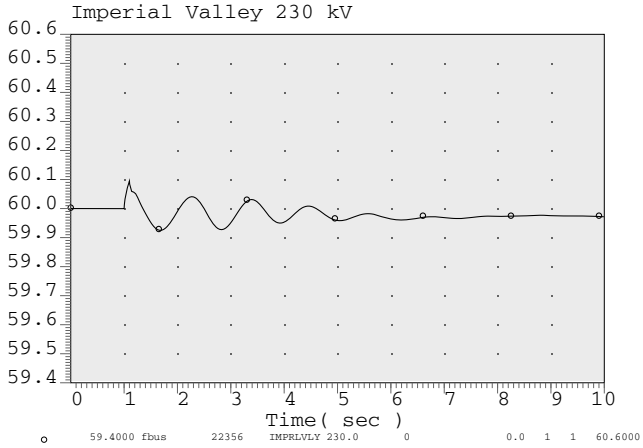
Bus Frequency

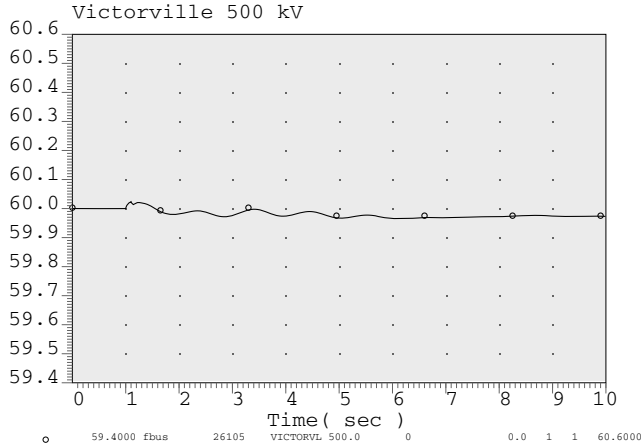






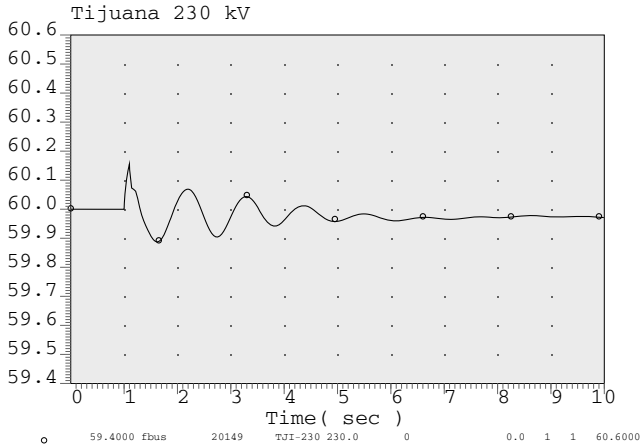


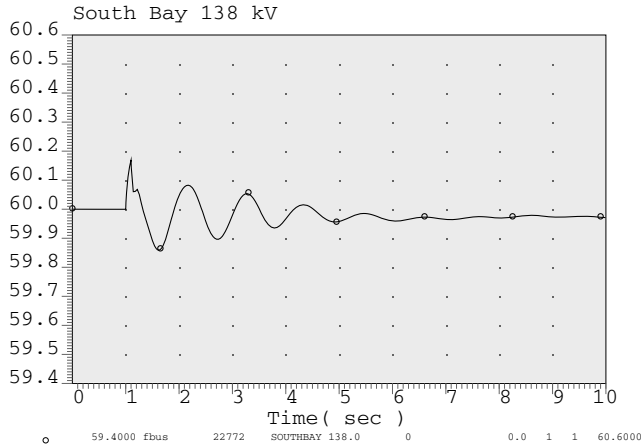


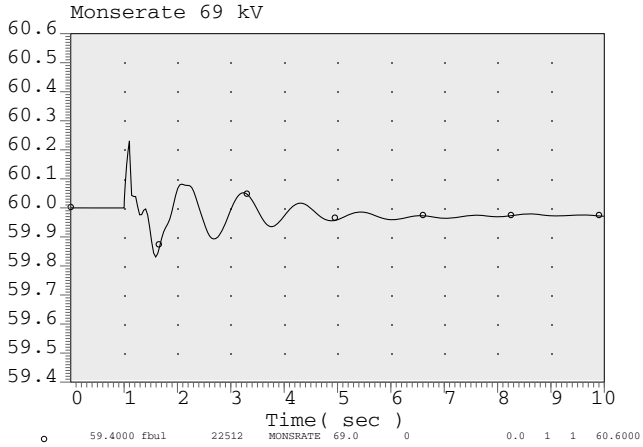


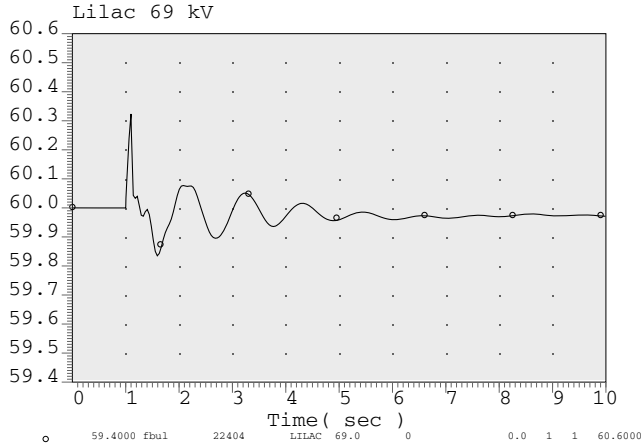
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

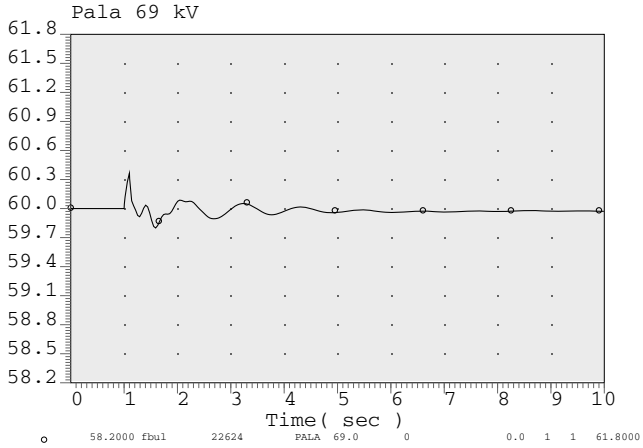
Bus Frequency

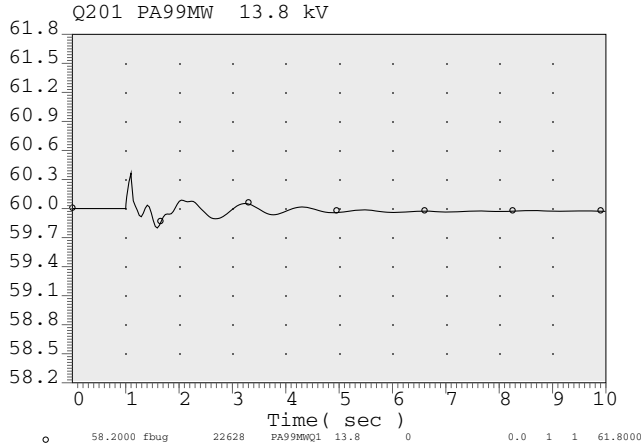






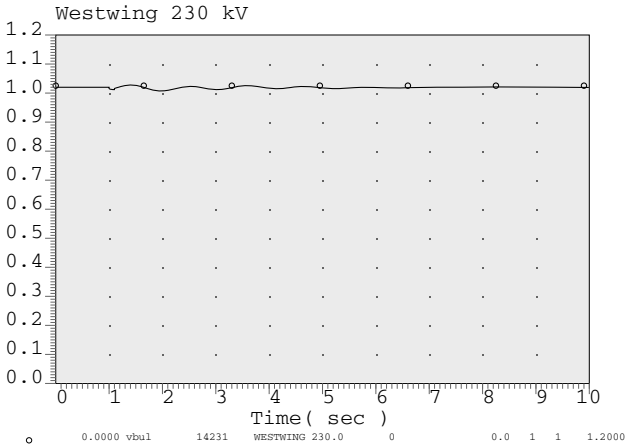


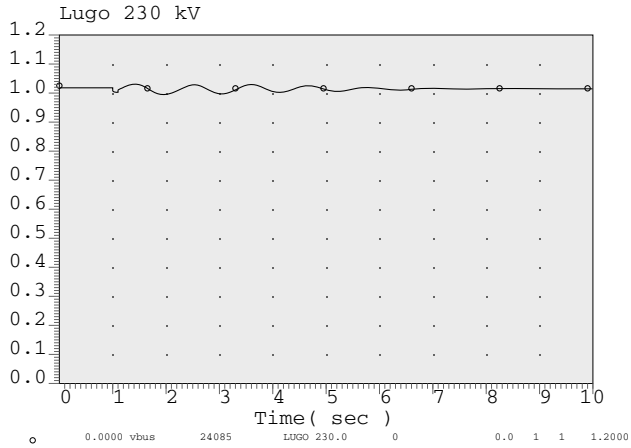


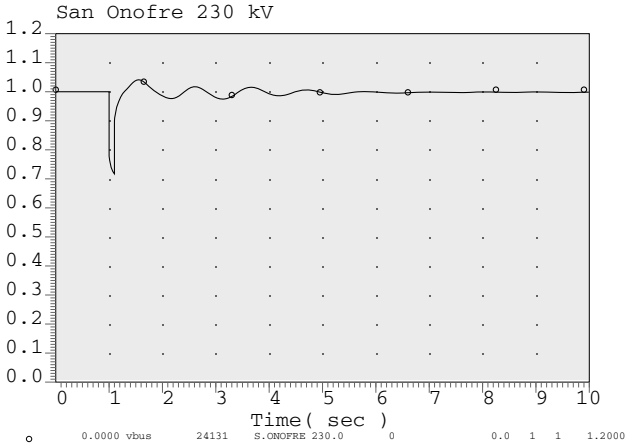


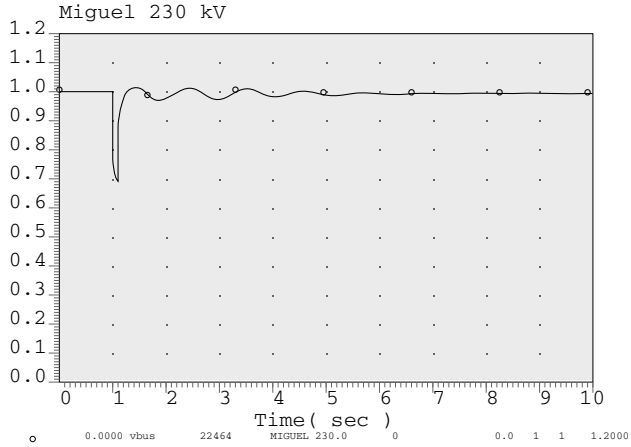
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

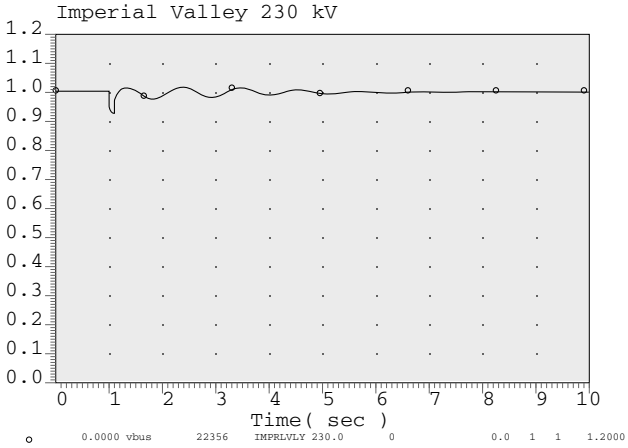
Bus Voltage

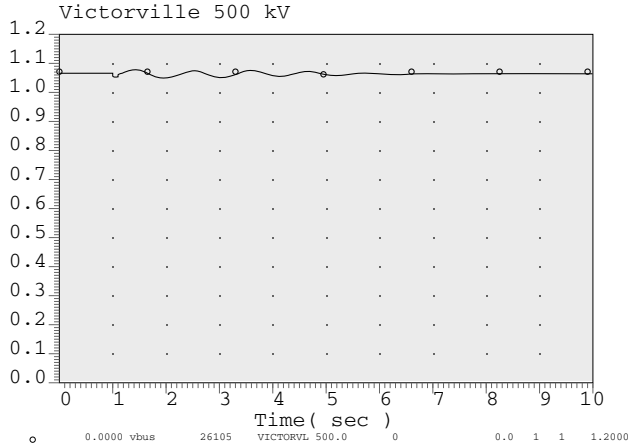






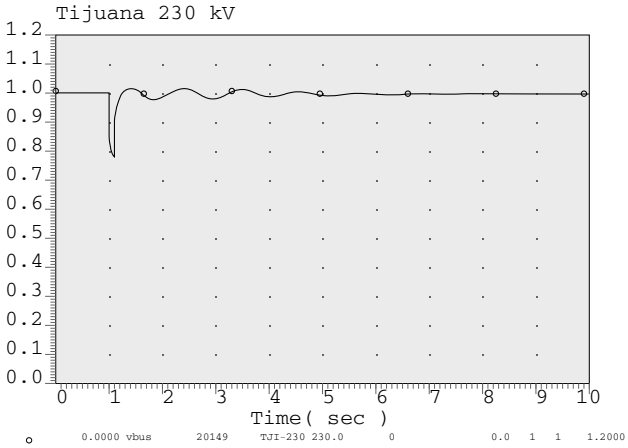


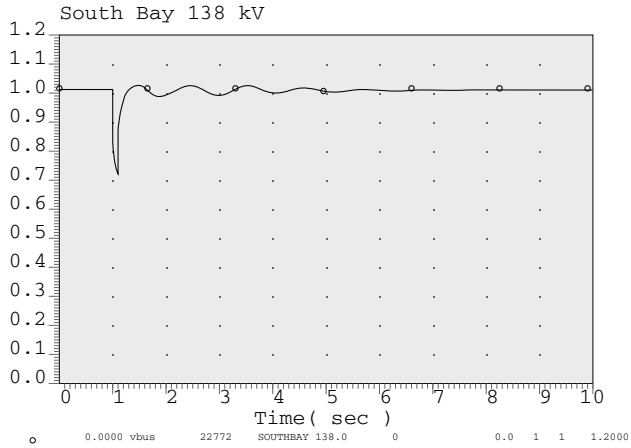


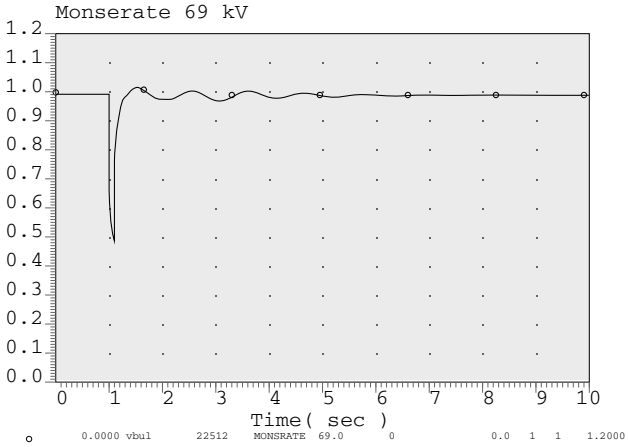


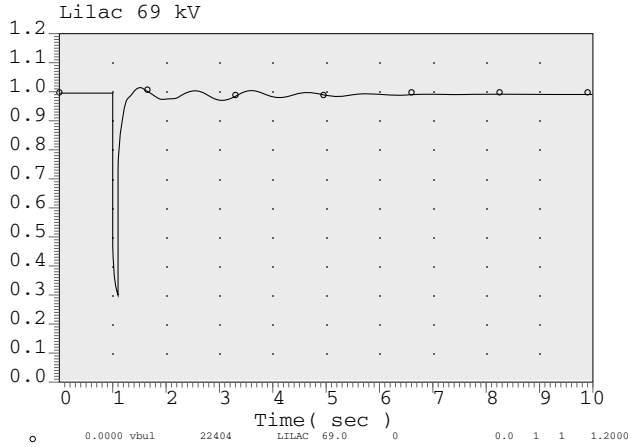
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

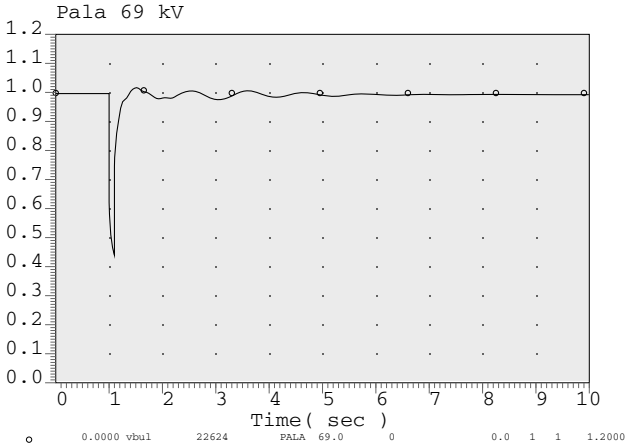
Bus Voltage

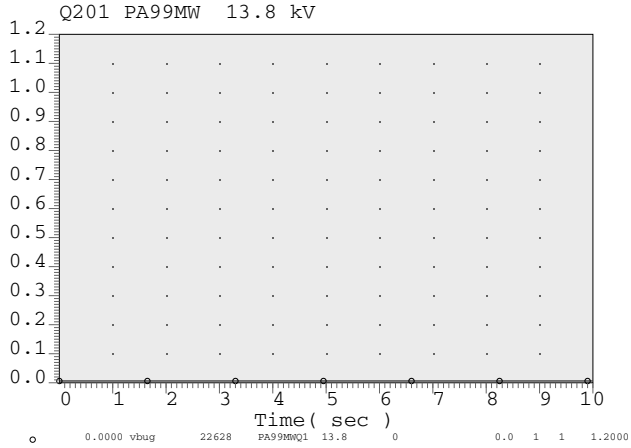






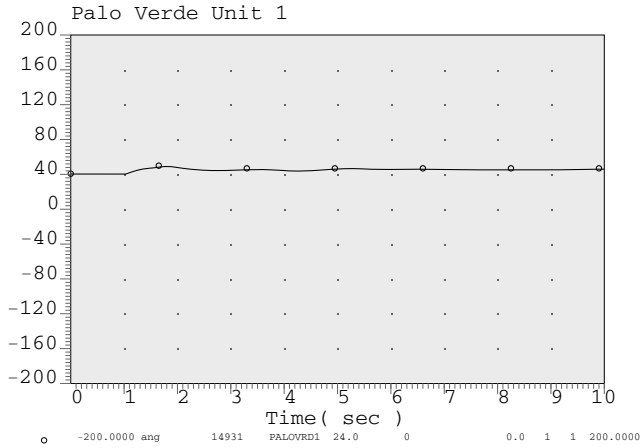


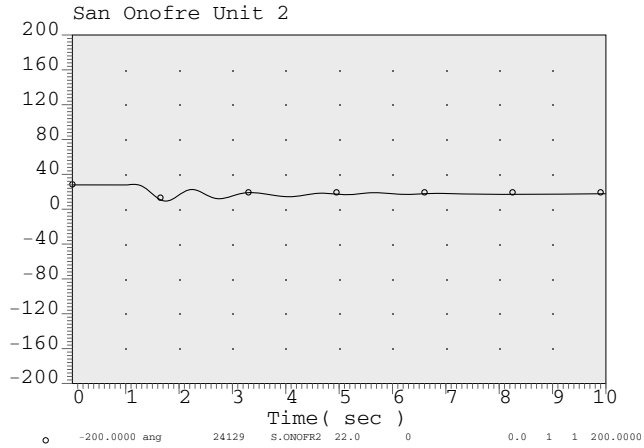


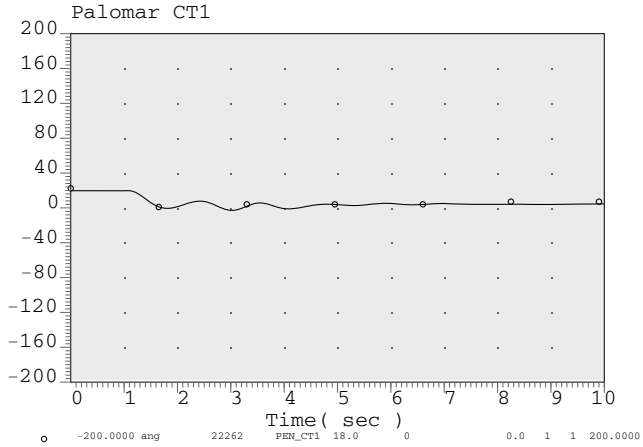


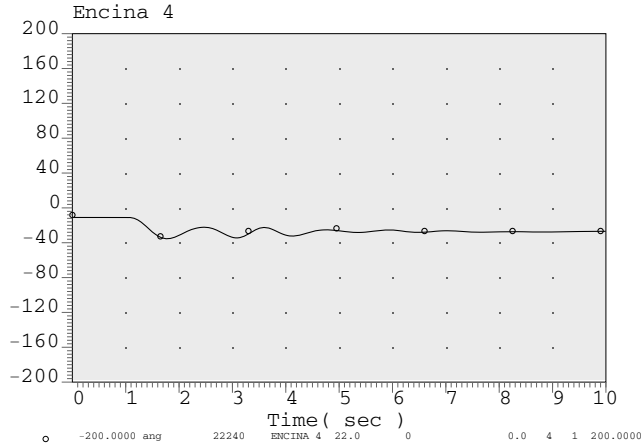
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

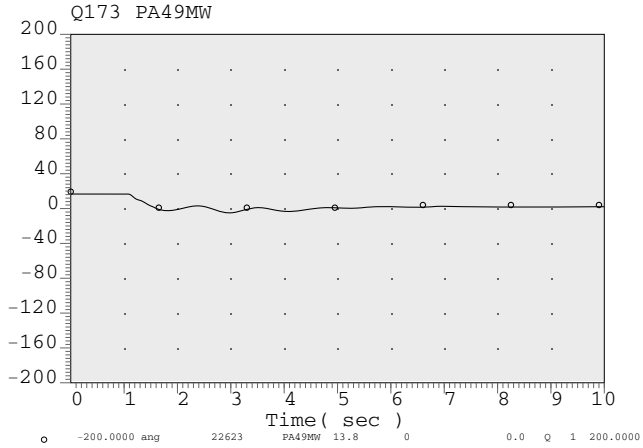
Relative Rotor Angle

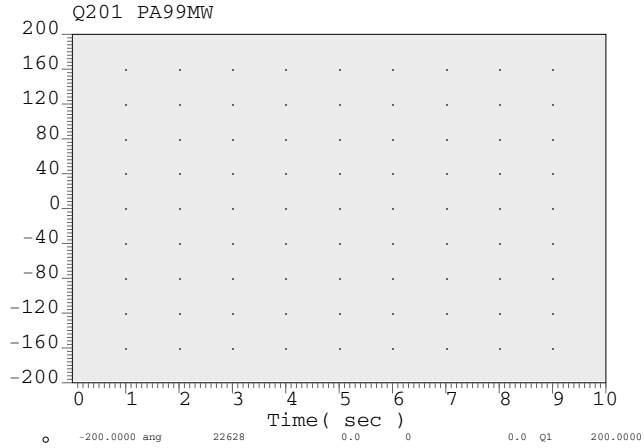






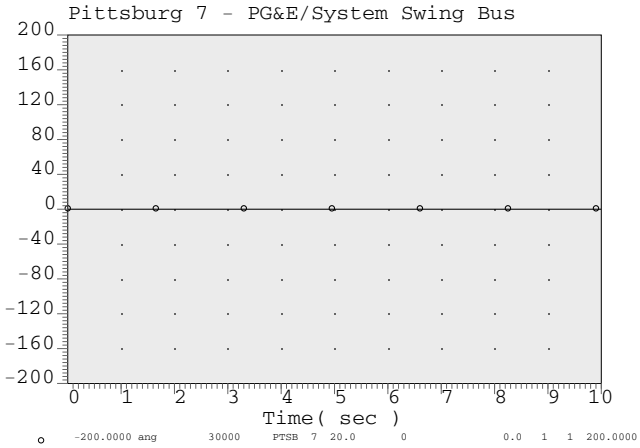


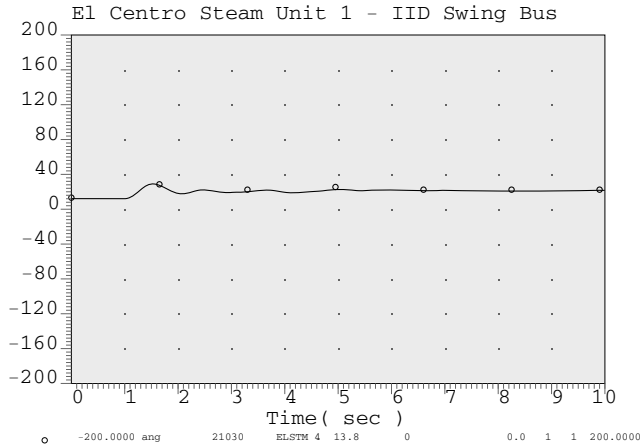


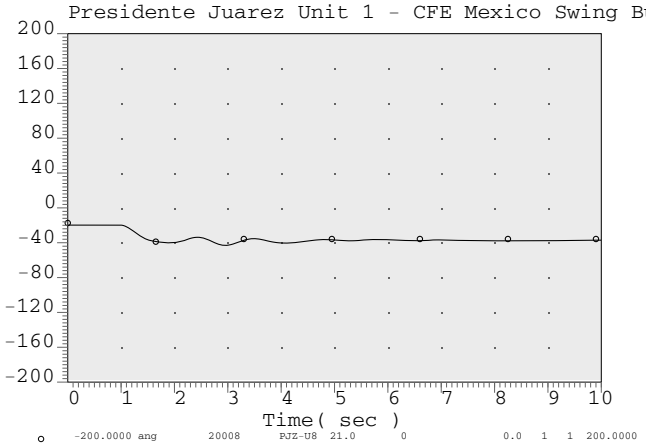


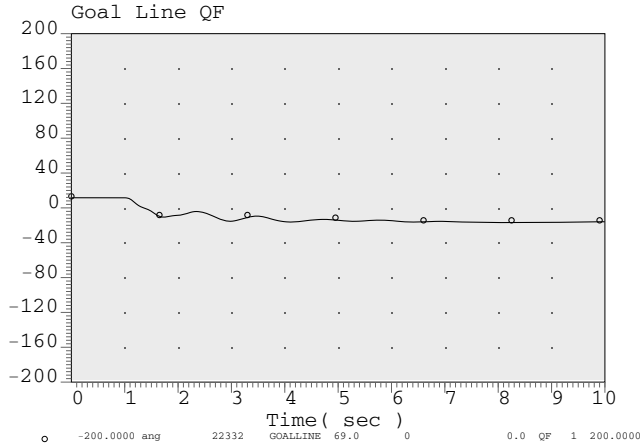
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

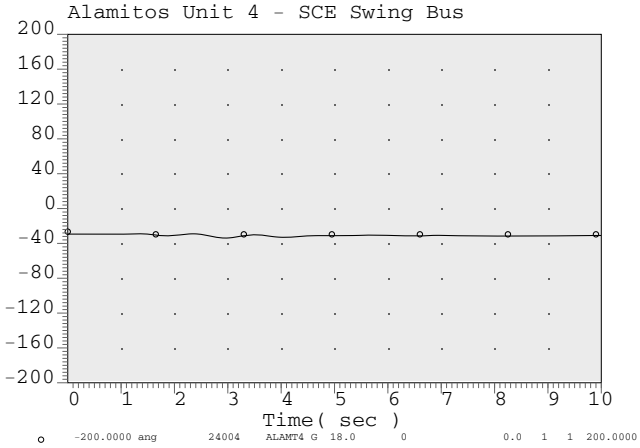
Relative Rotor Angle

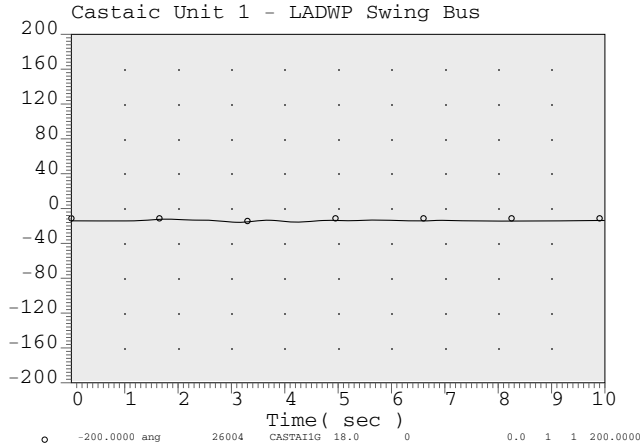






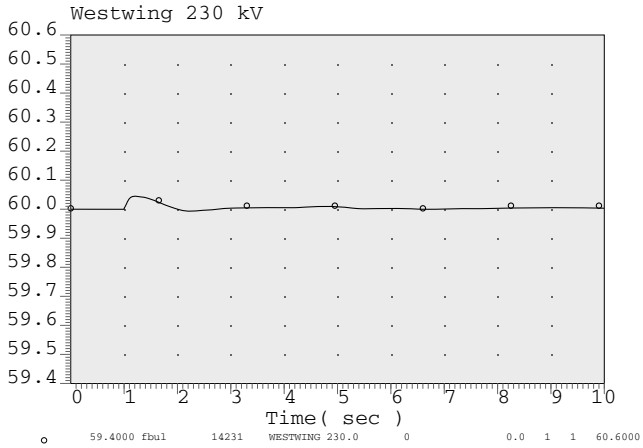


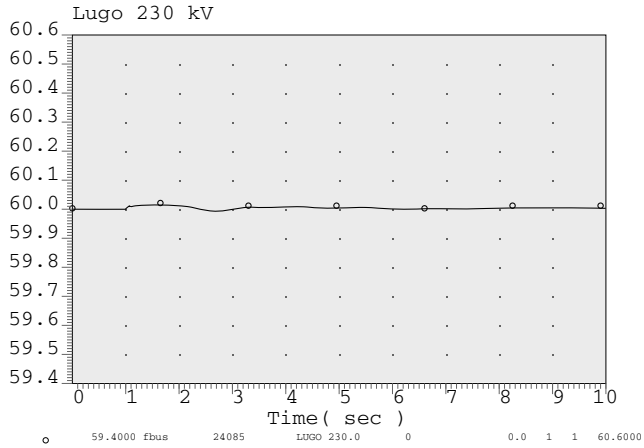


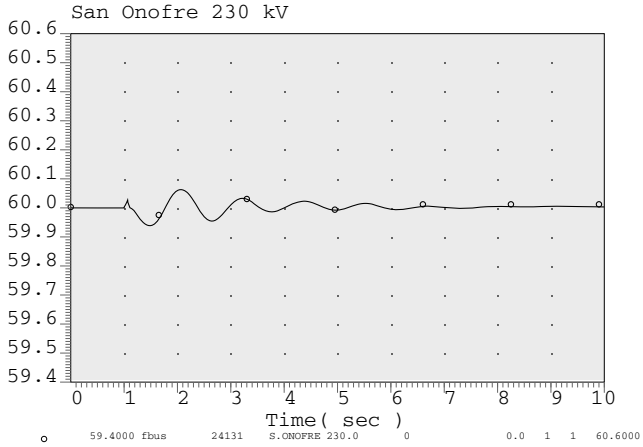


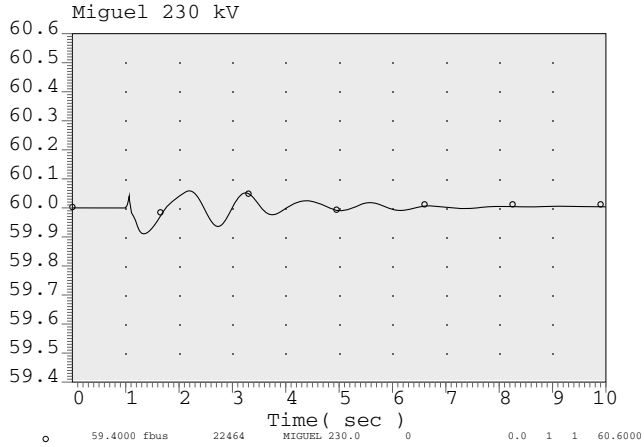
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

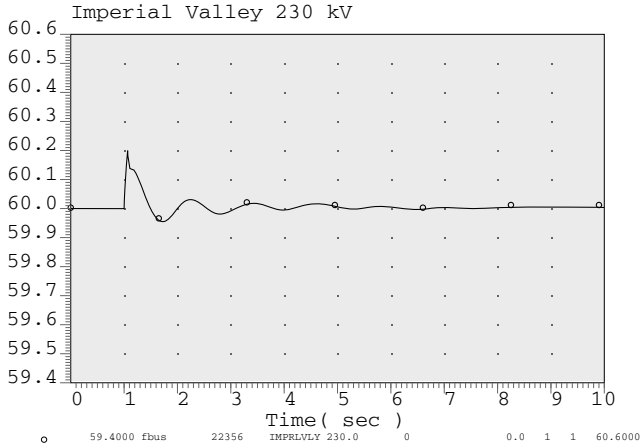
Bus Frequency

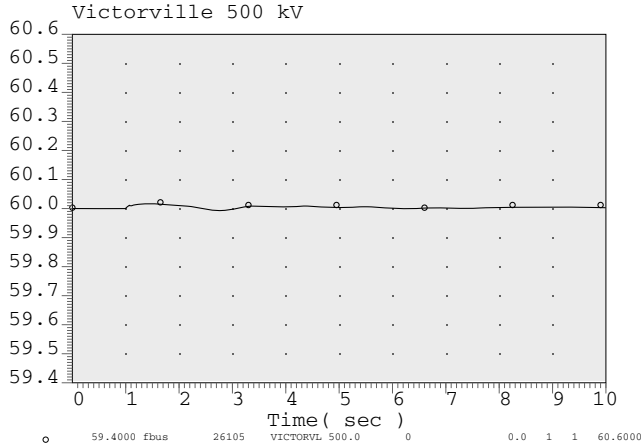






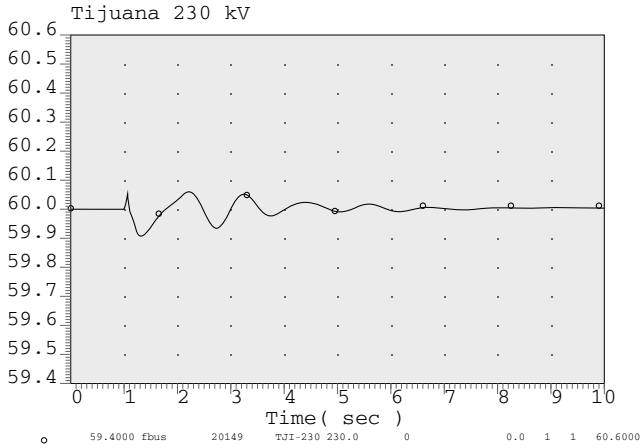


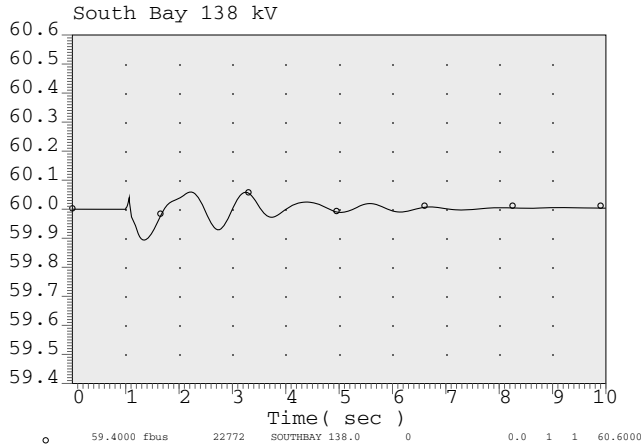


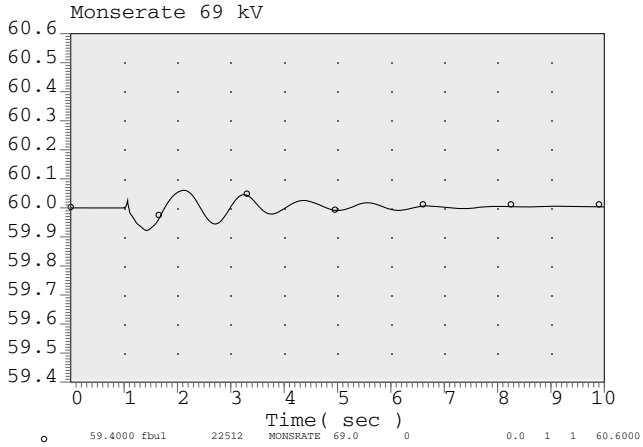


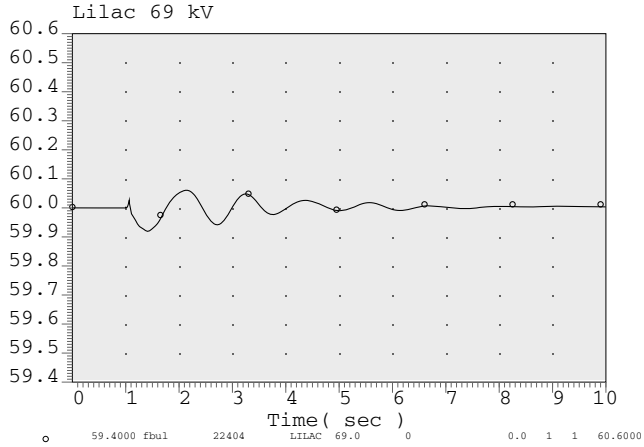
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

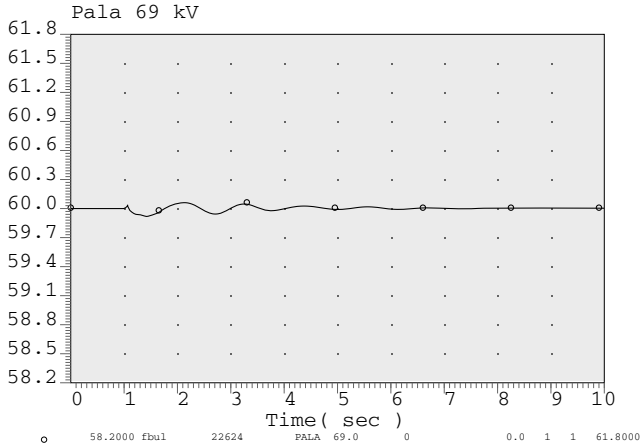
Bus Frequency

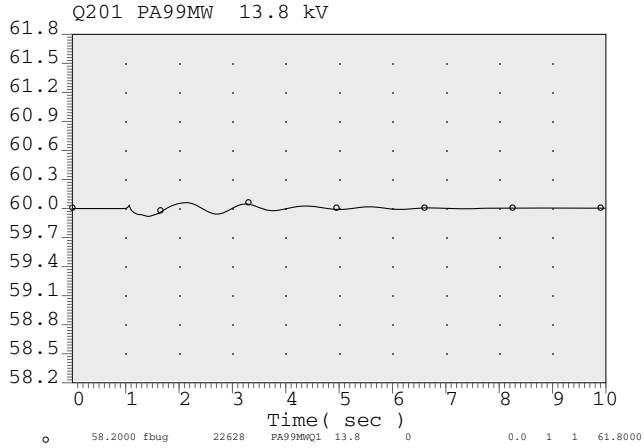






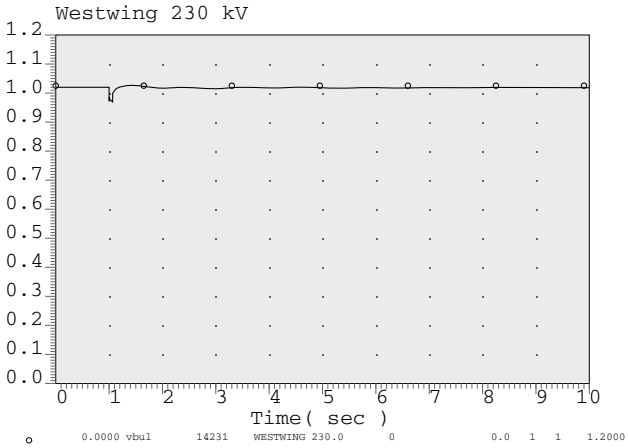


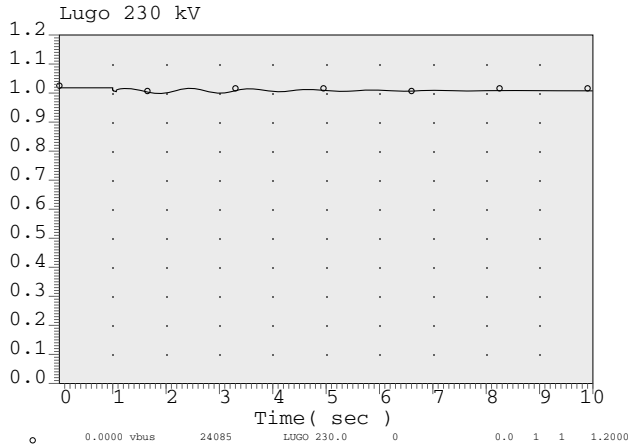


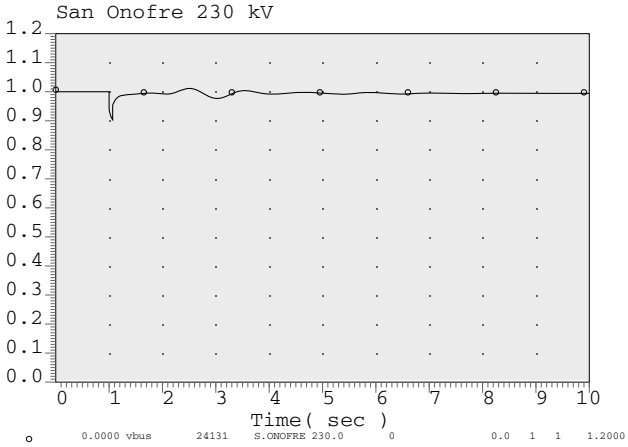


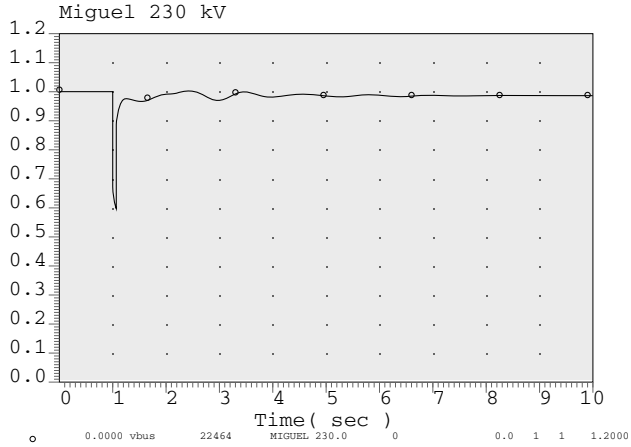
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

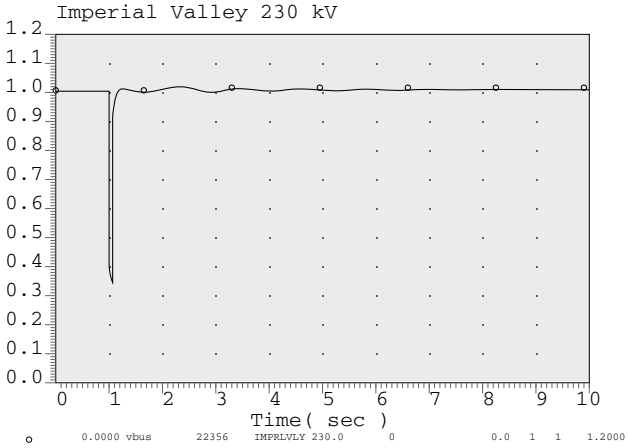
Bus Voltage

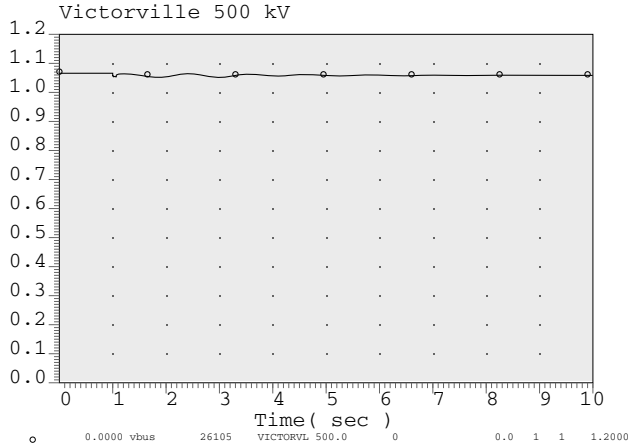






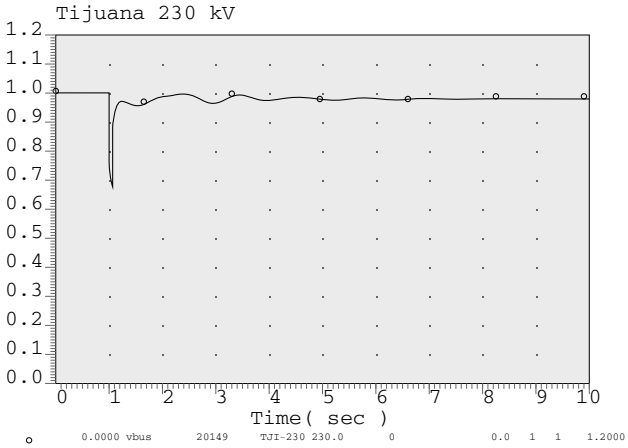


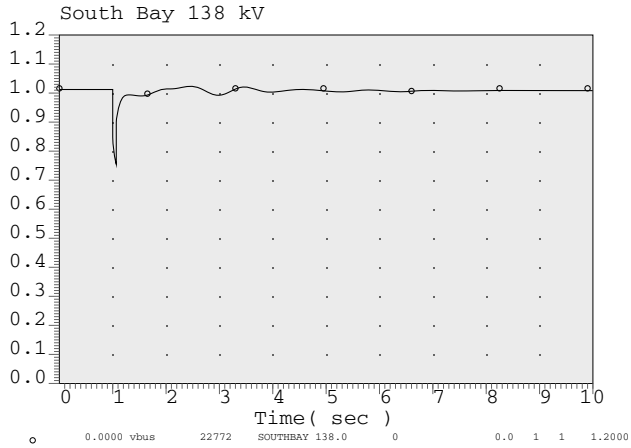


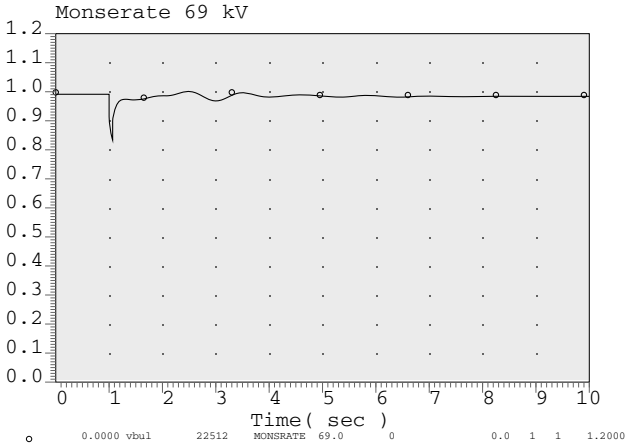


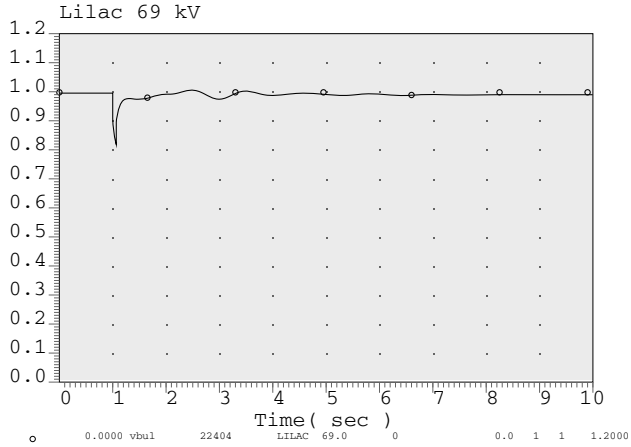
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

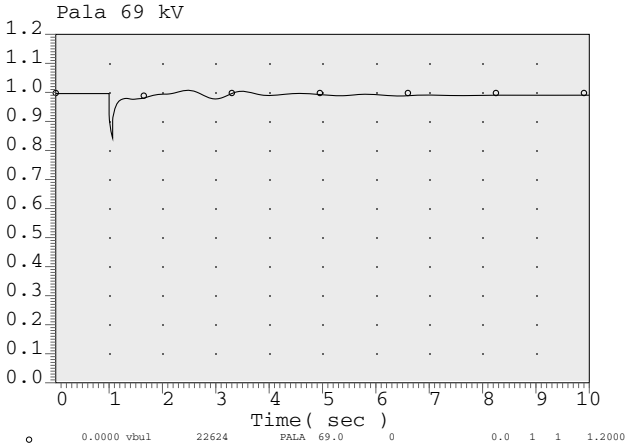
Bus Voltage

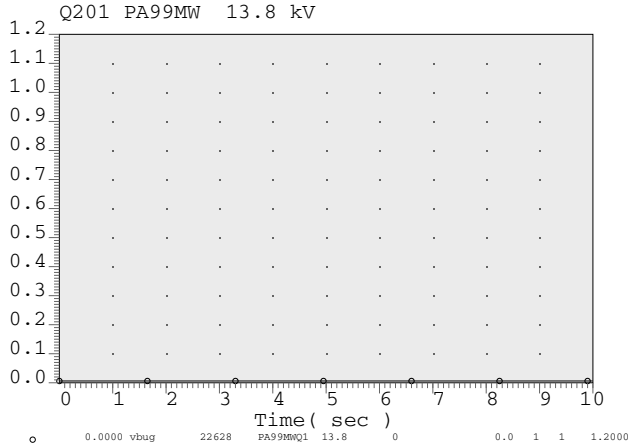






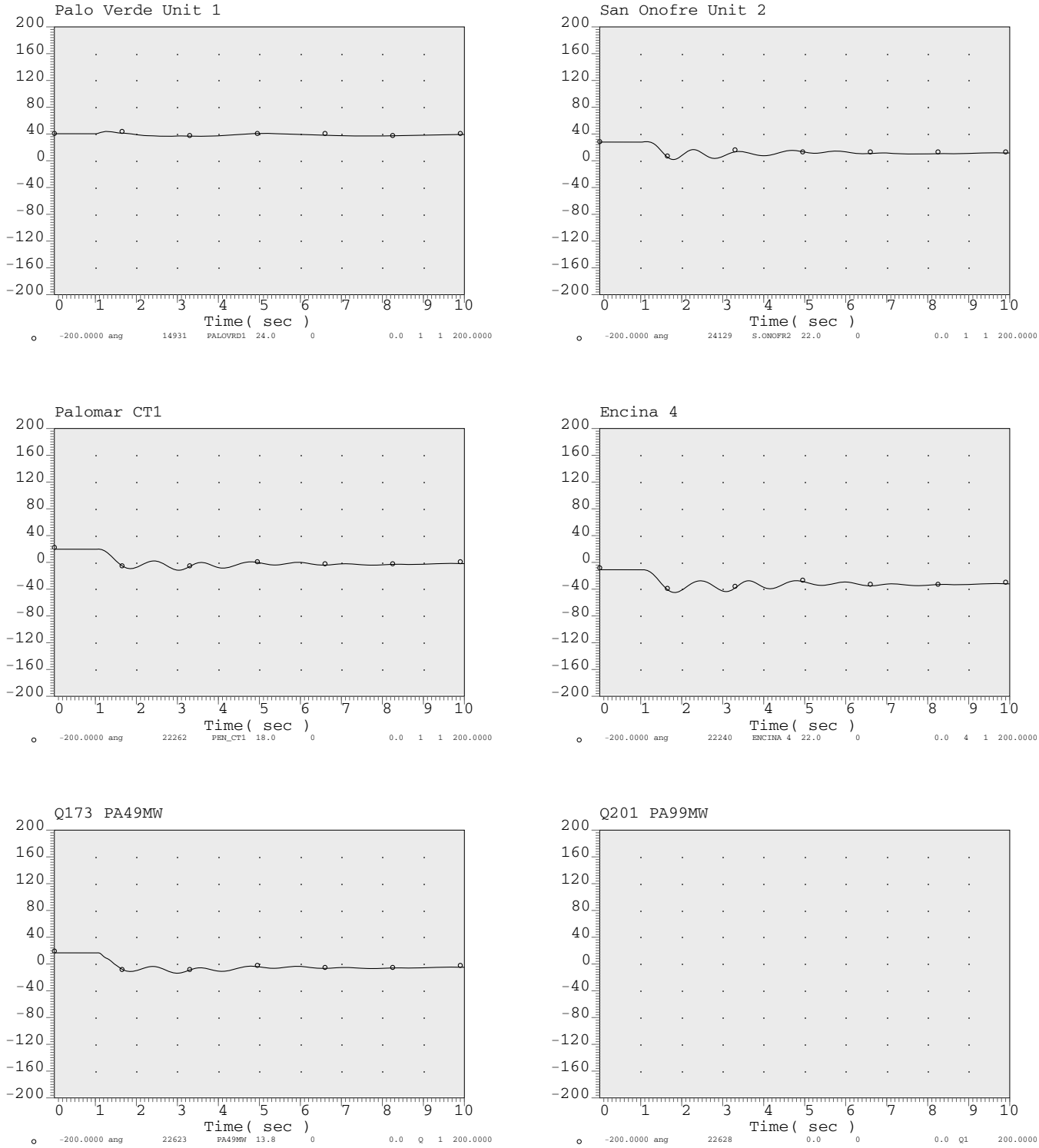






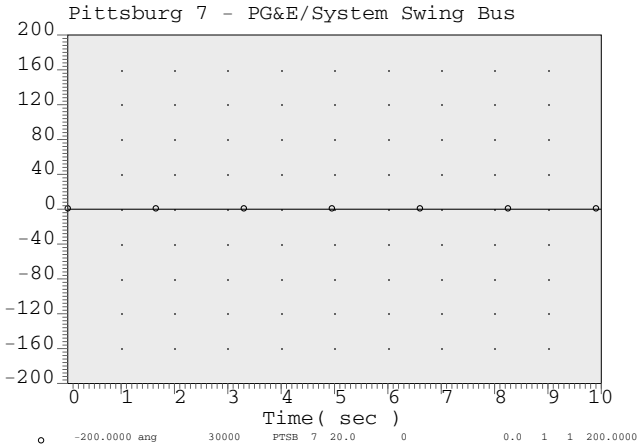
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

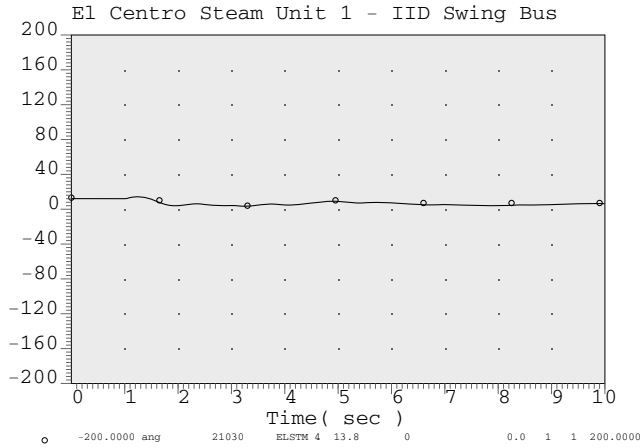
Relative Rotor Angle

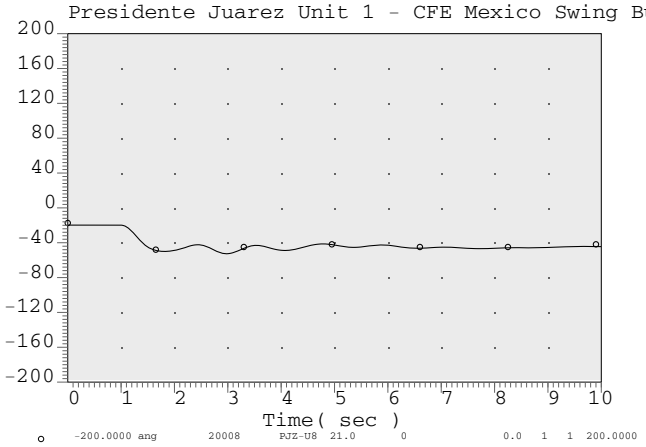


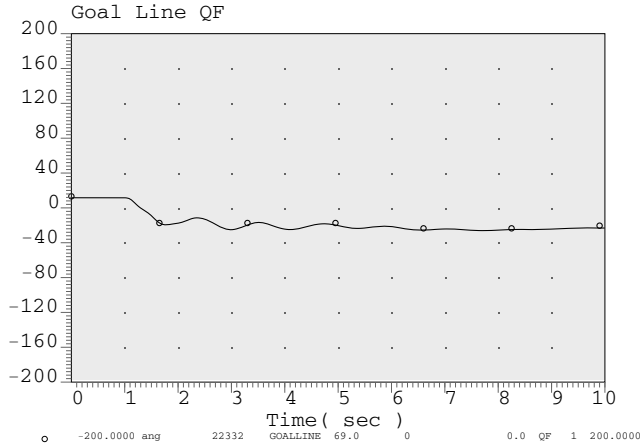
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

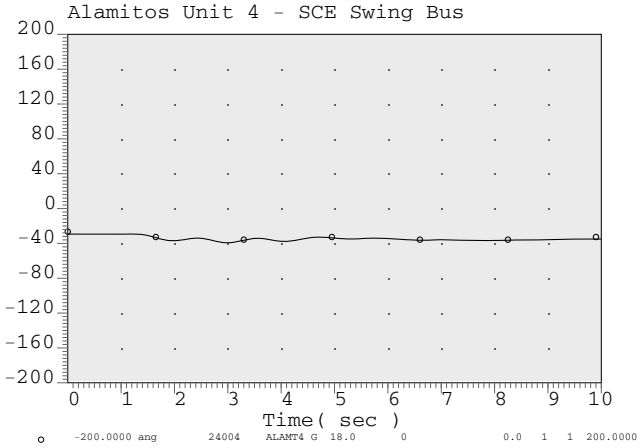
Relative Rotor Angle

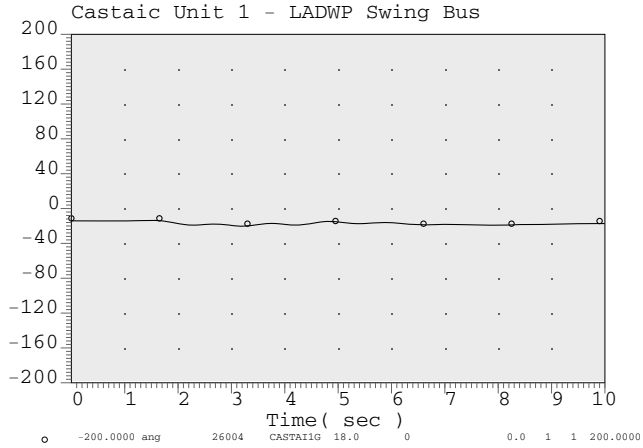






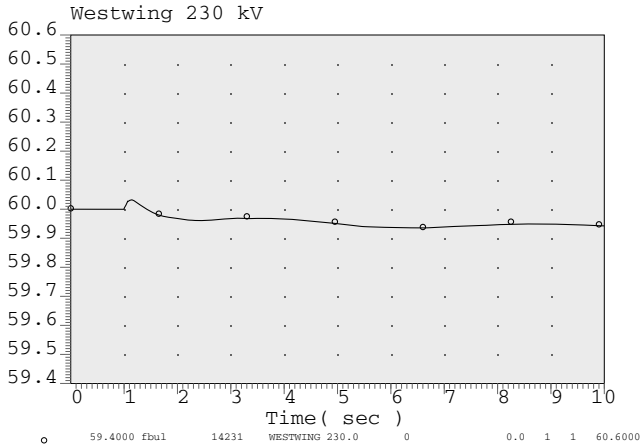


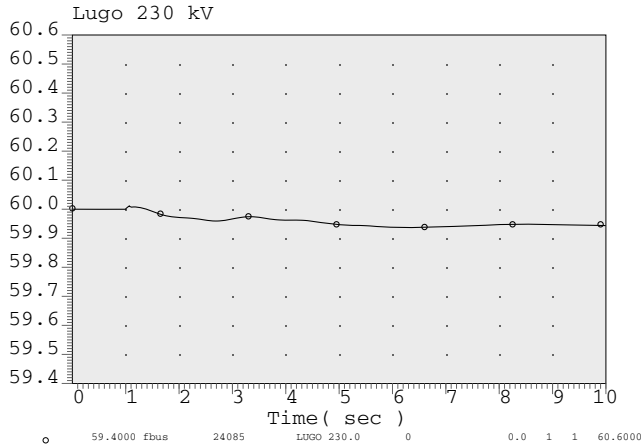


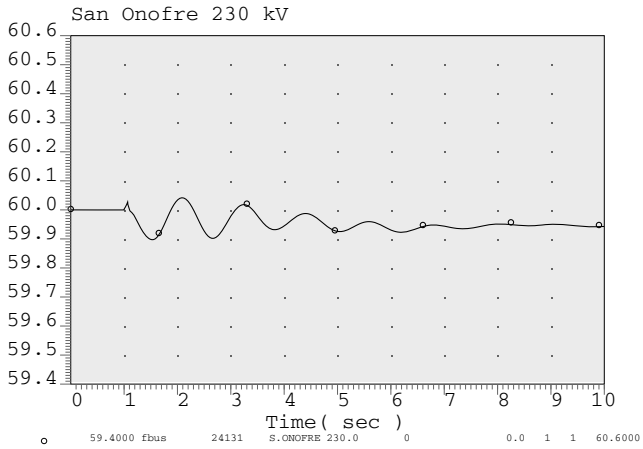


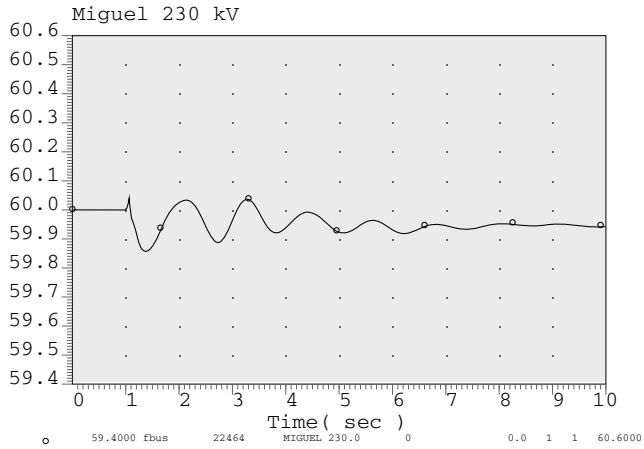
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

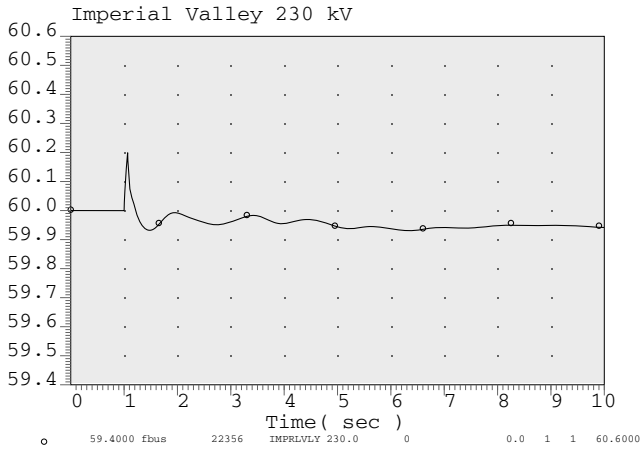
Bus Frequency

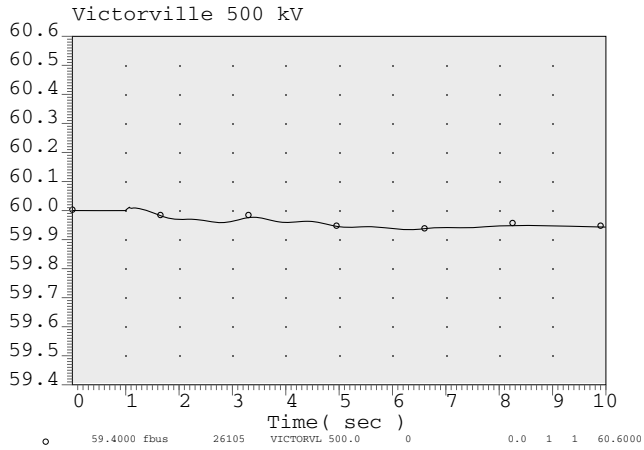






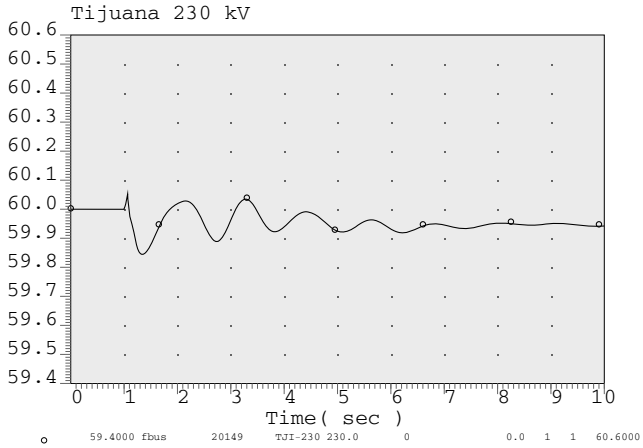


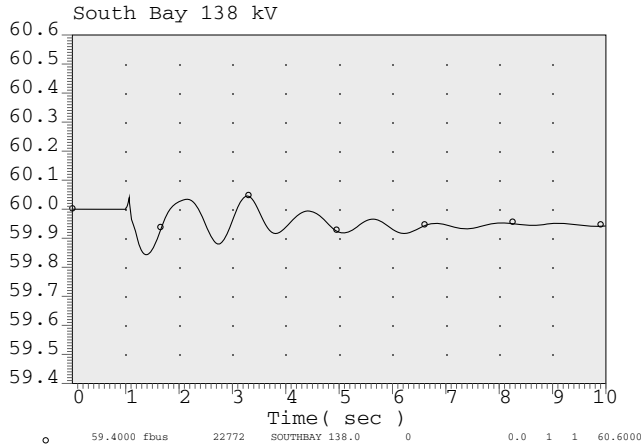


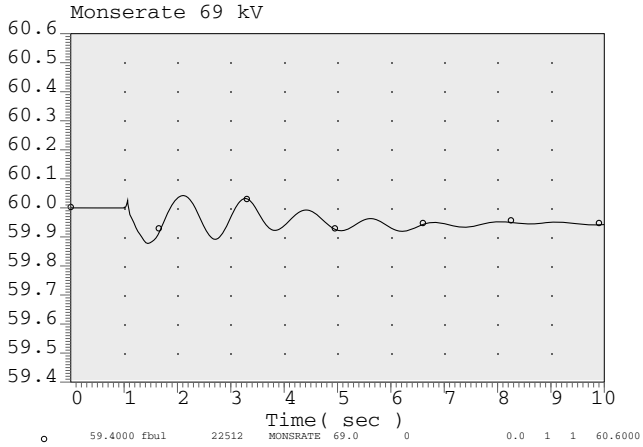


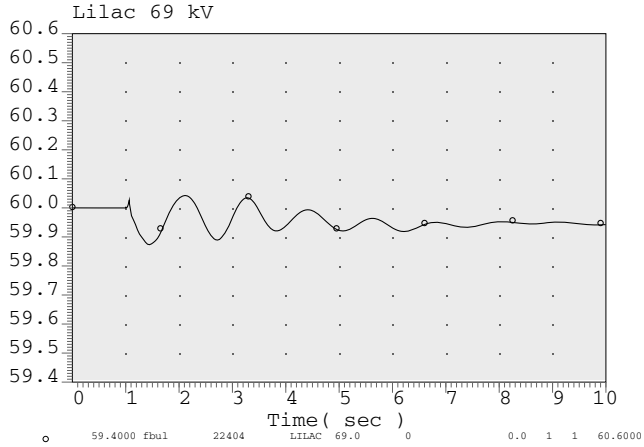
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

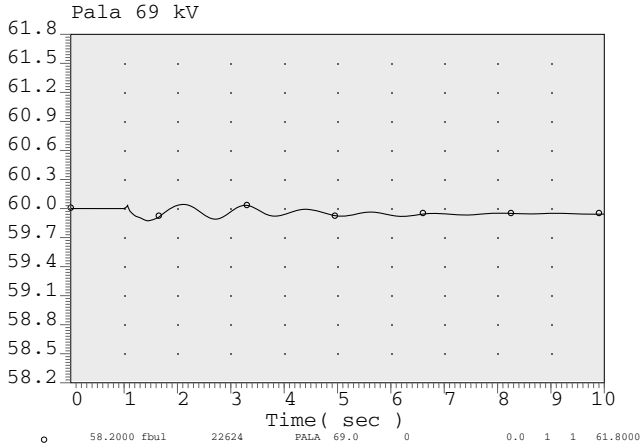
Bus Frequency

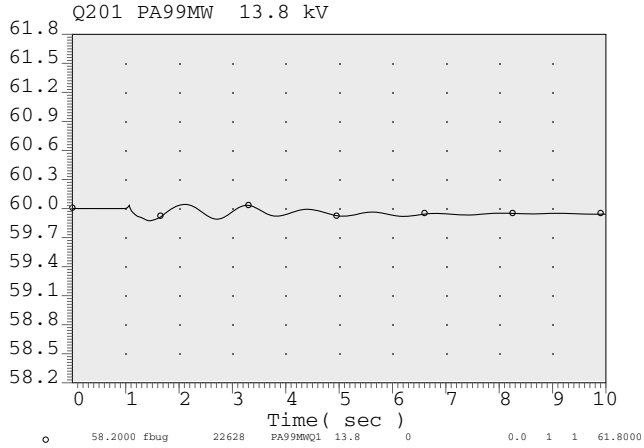






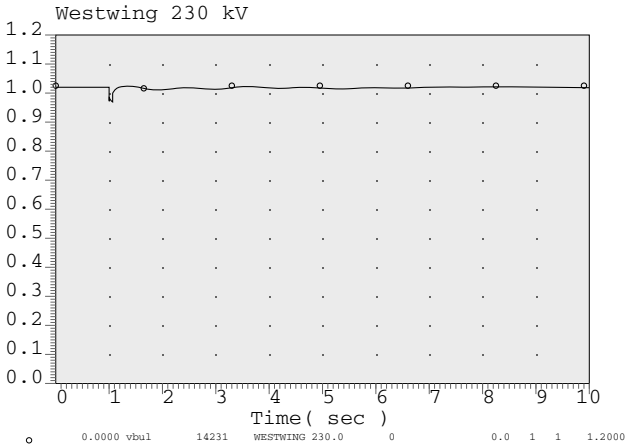


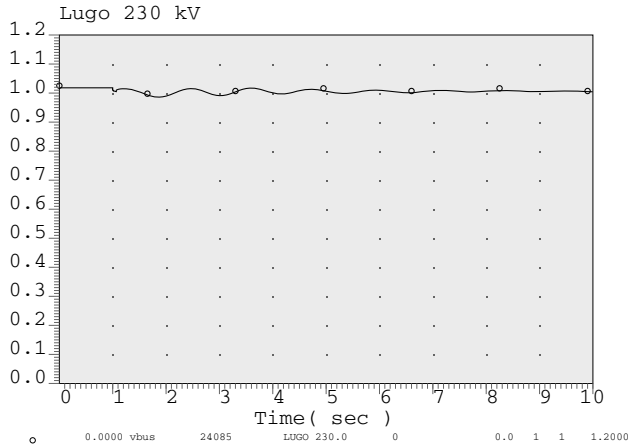


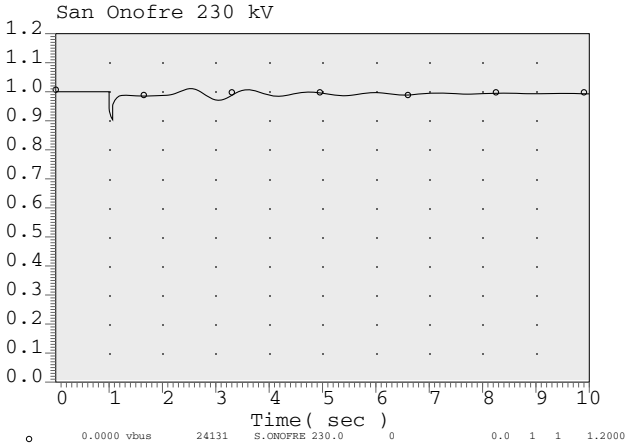


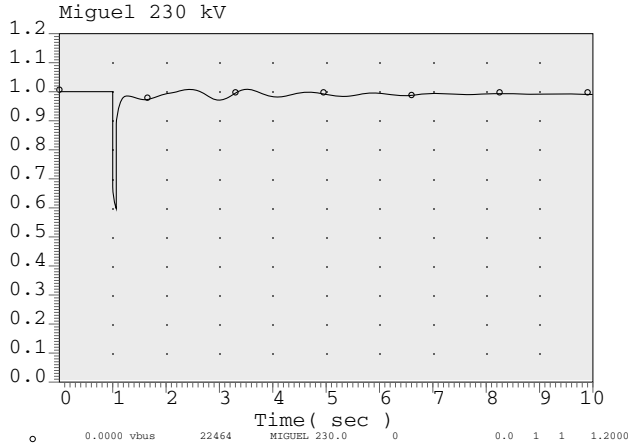
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

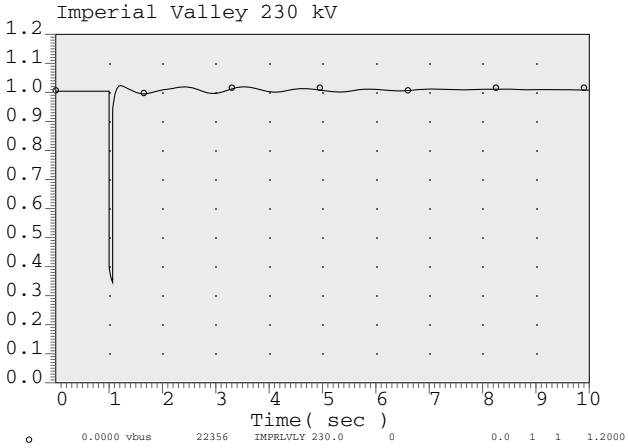
Bus Voltage

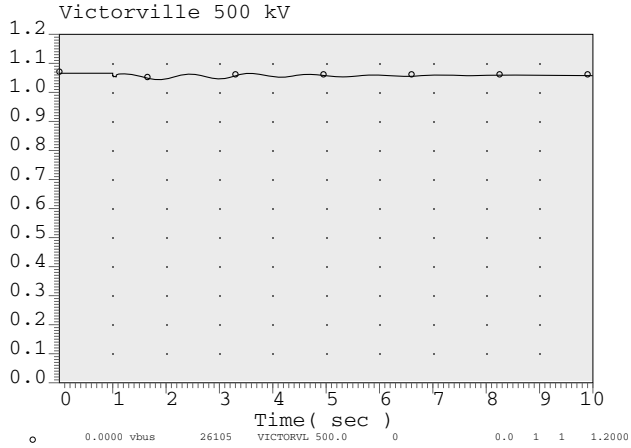






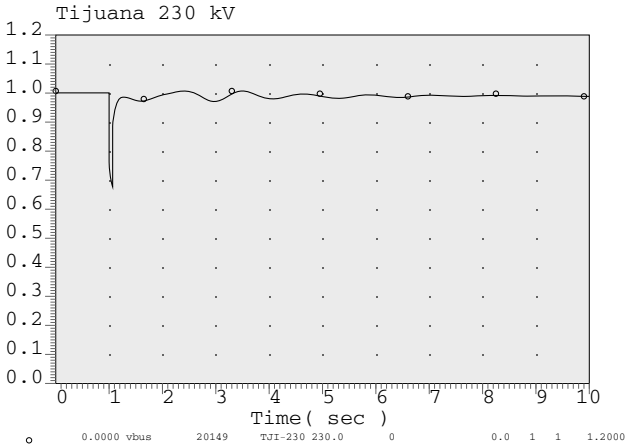


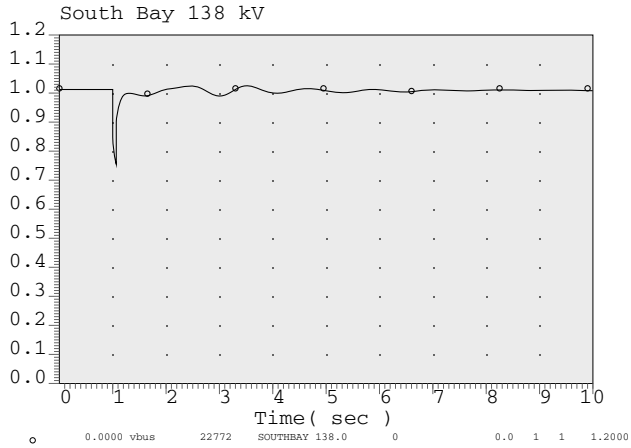


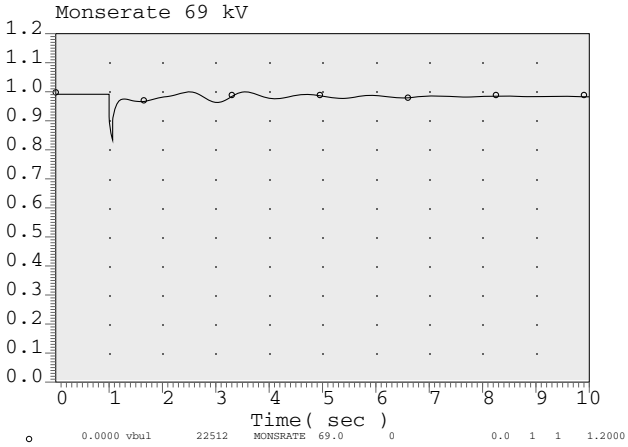


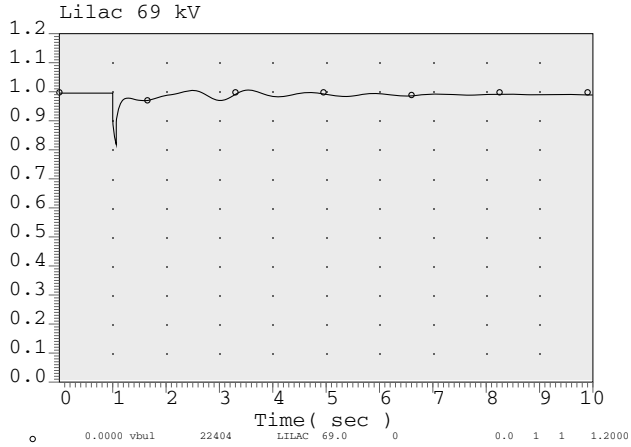
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

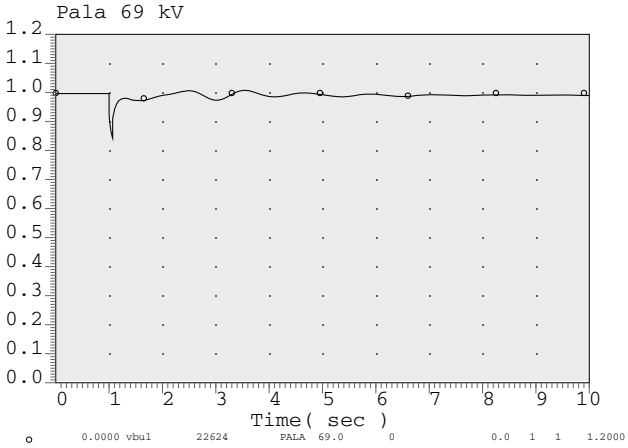
Bus Voltage

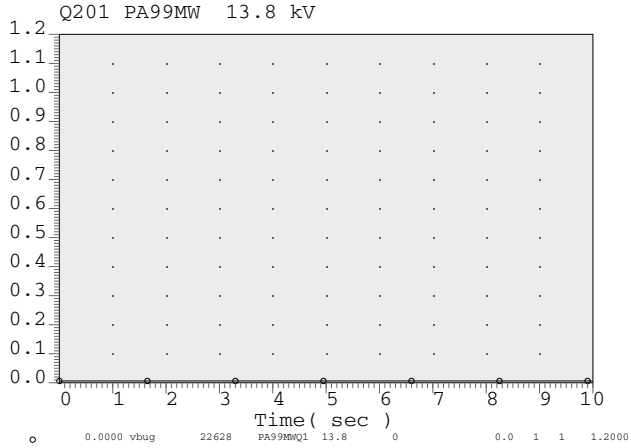






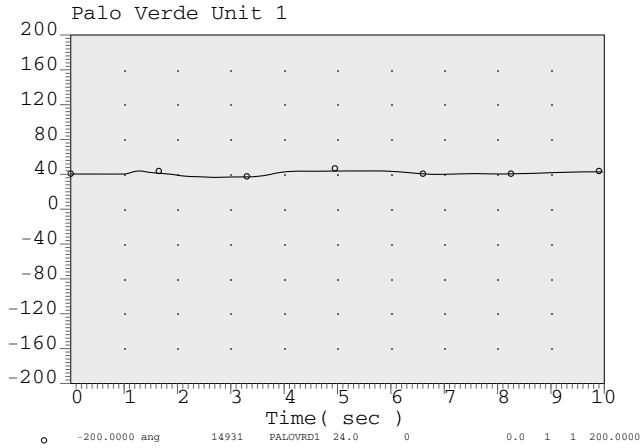


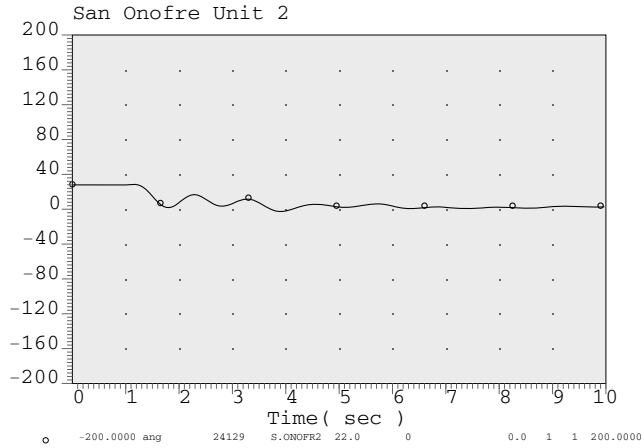


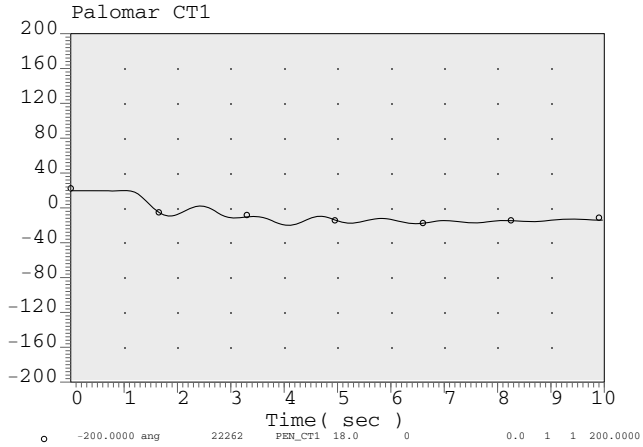


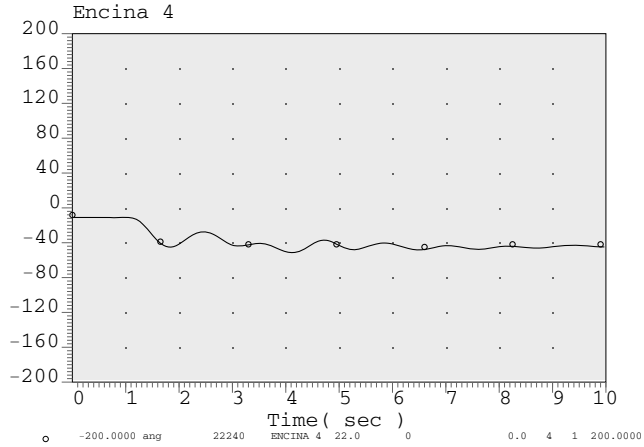
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

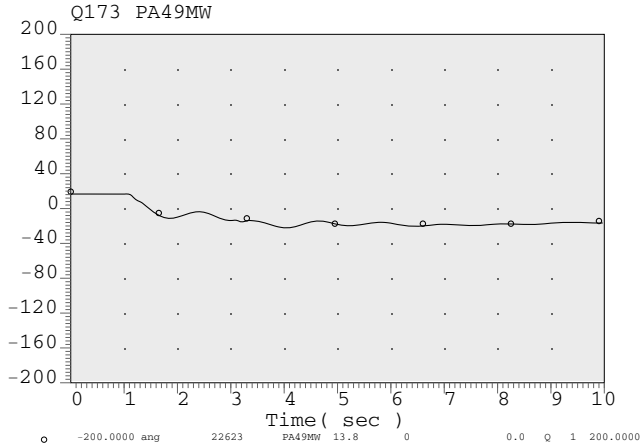
Relative Rotor Angle

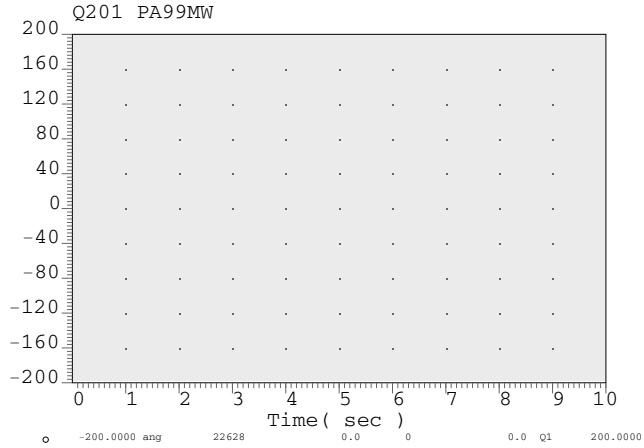






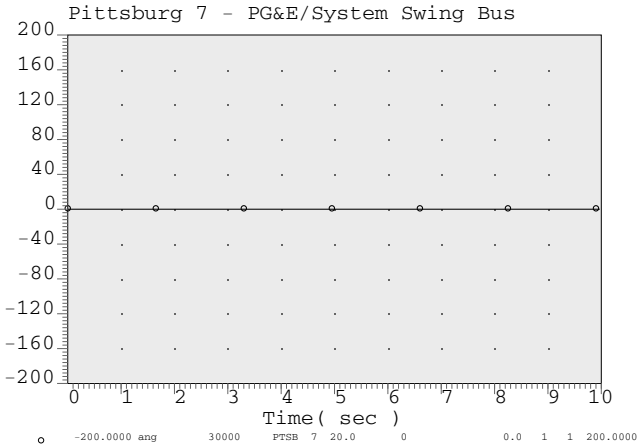


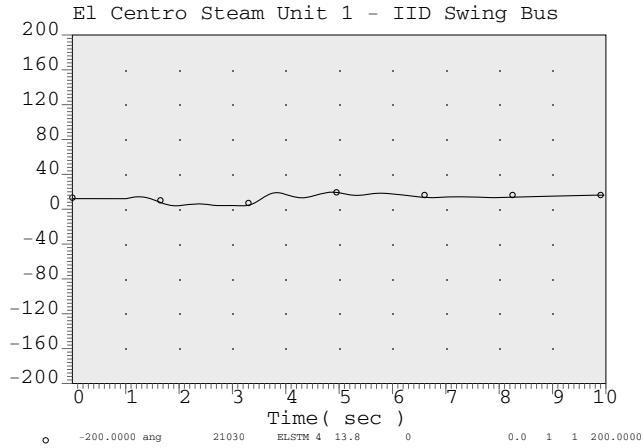


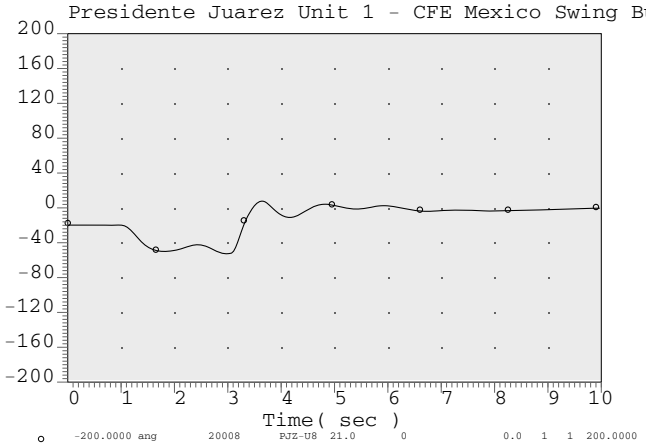


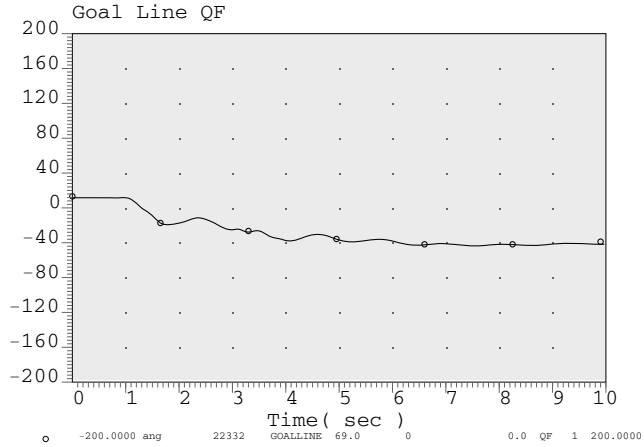
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

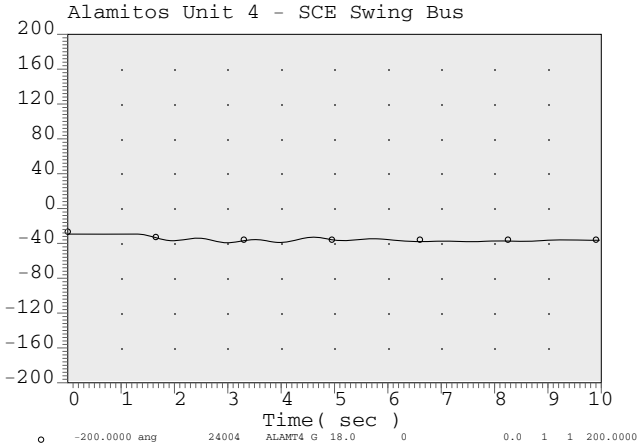
Relative Rotor Angle

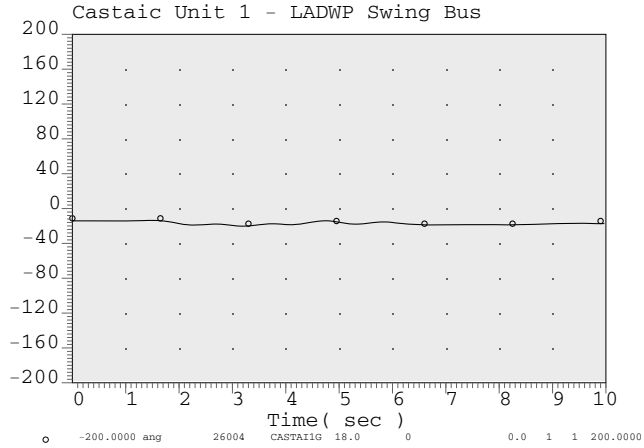






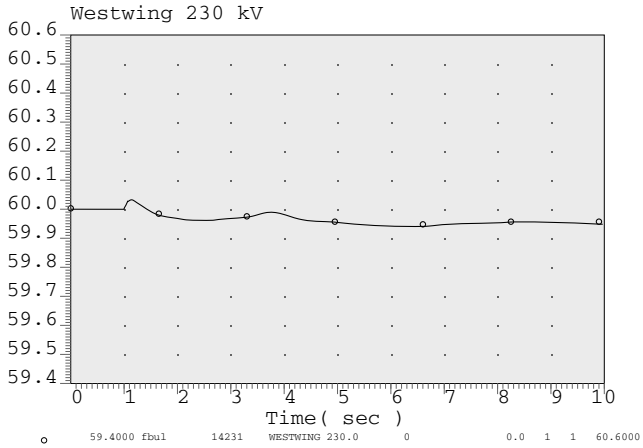


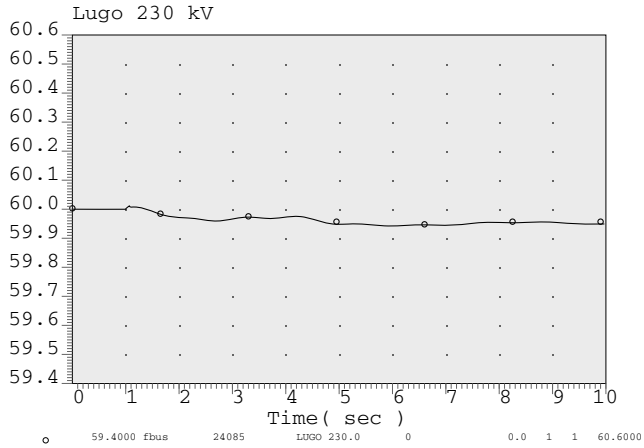


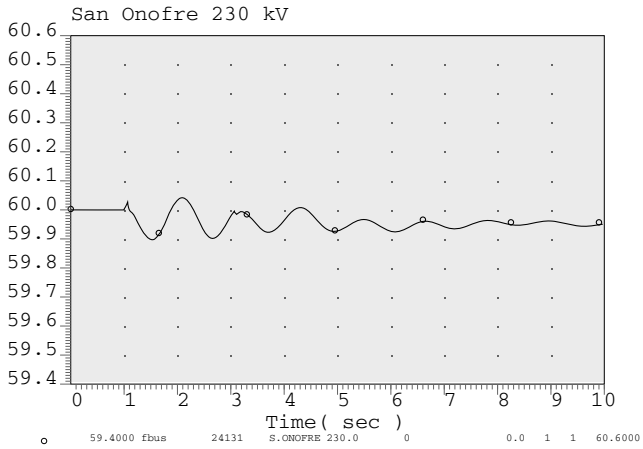


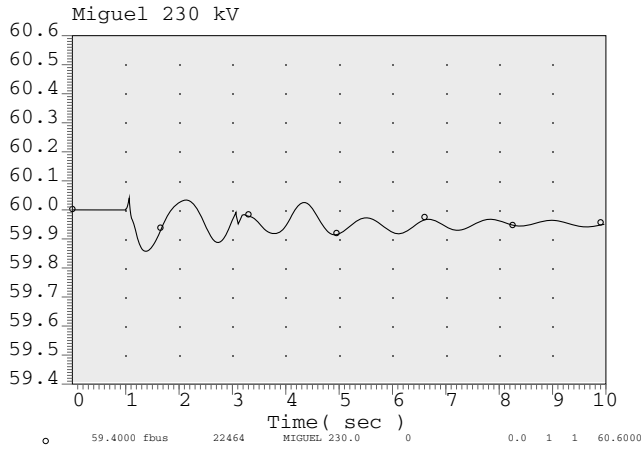
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

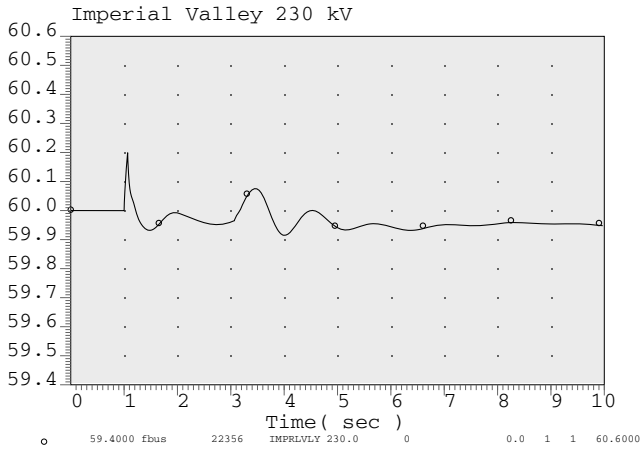
Bus Frequency

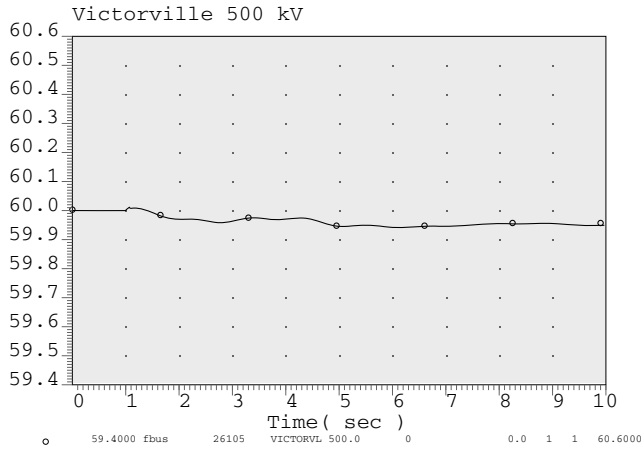






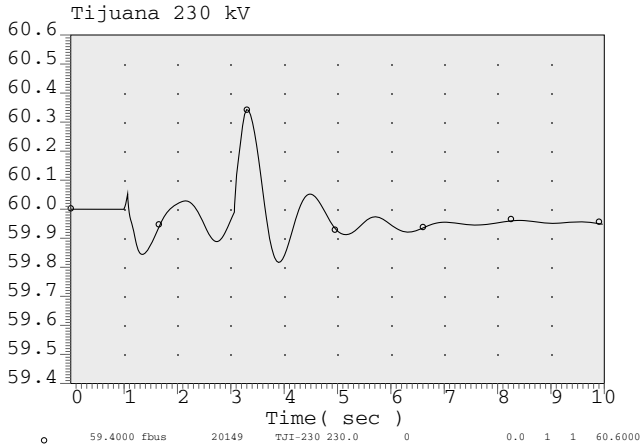


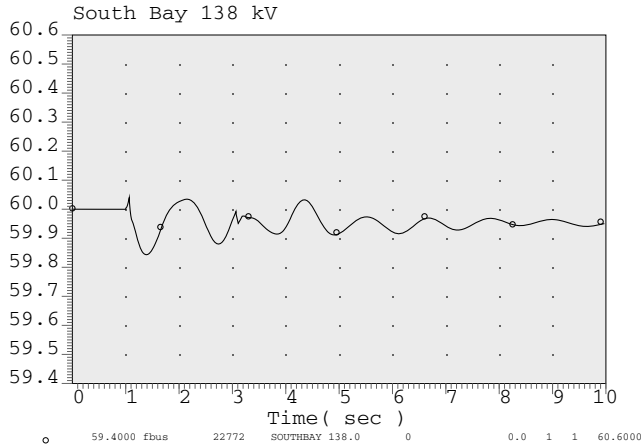


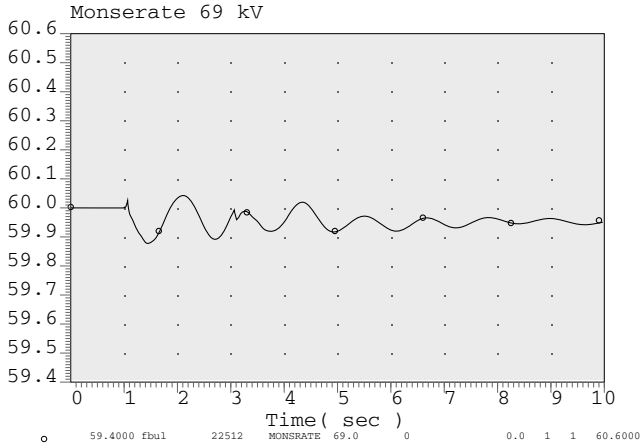


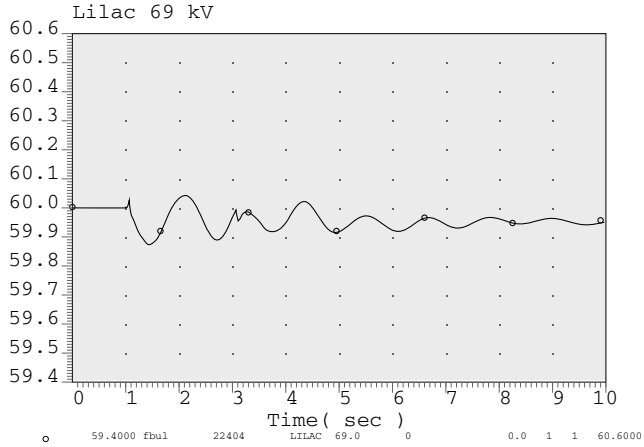
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

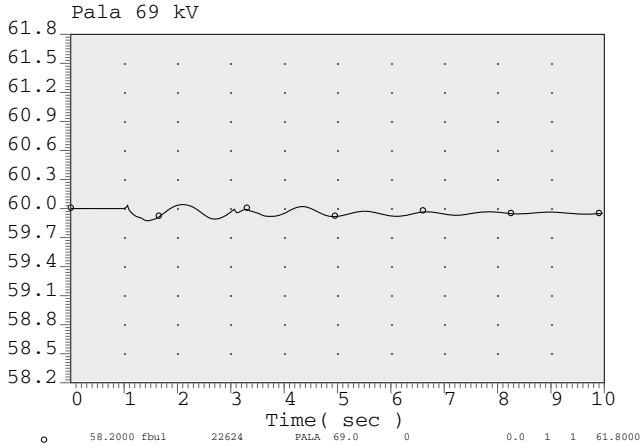
Bus Frequency

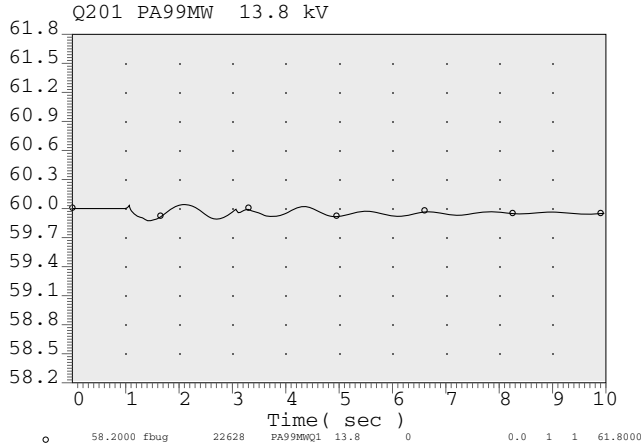






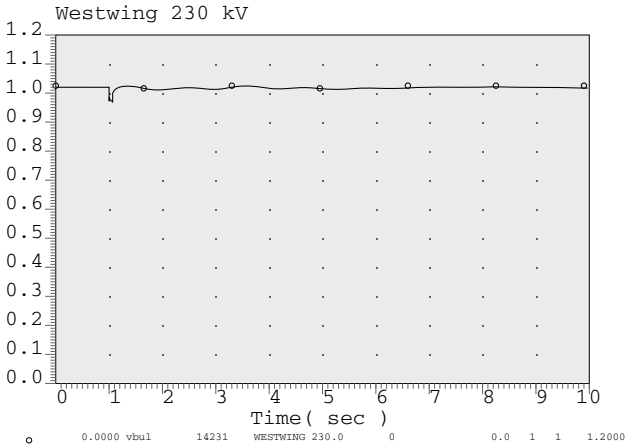


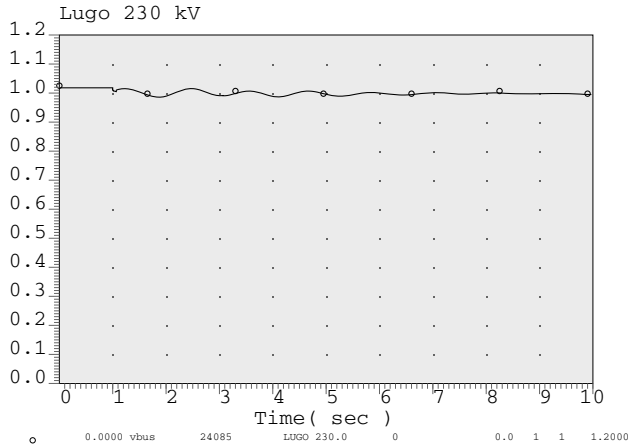


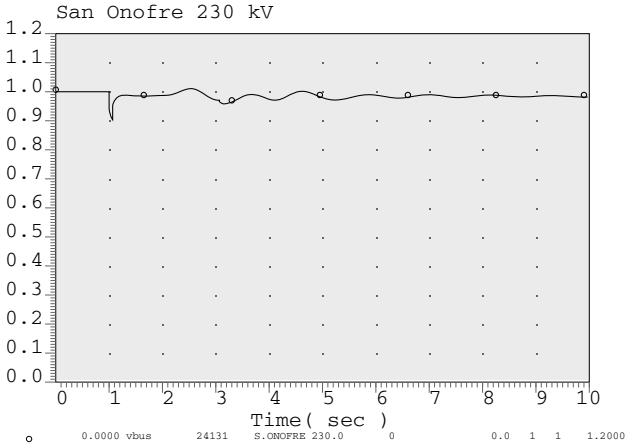


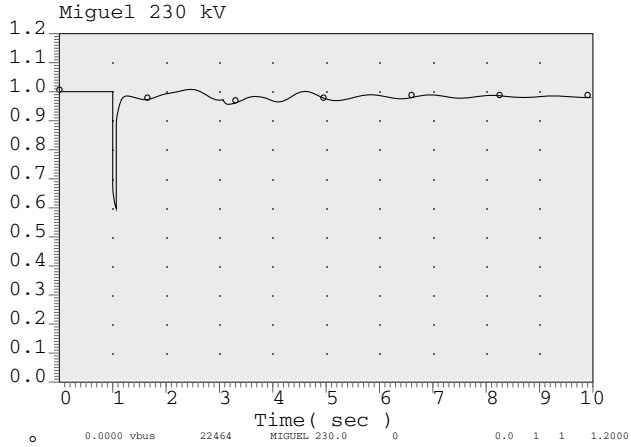
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

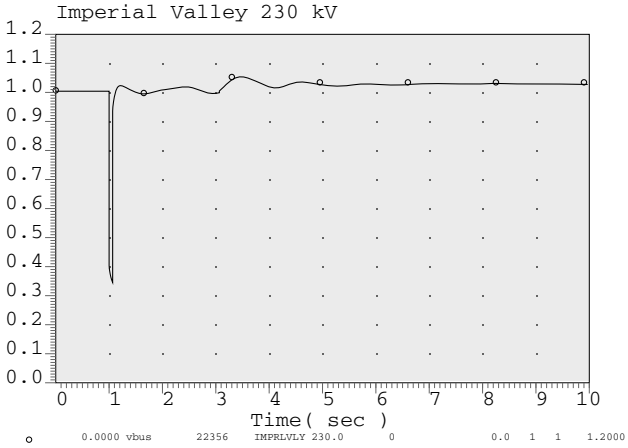
Bus Voltage

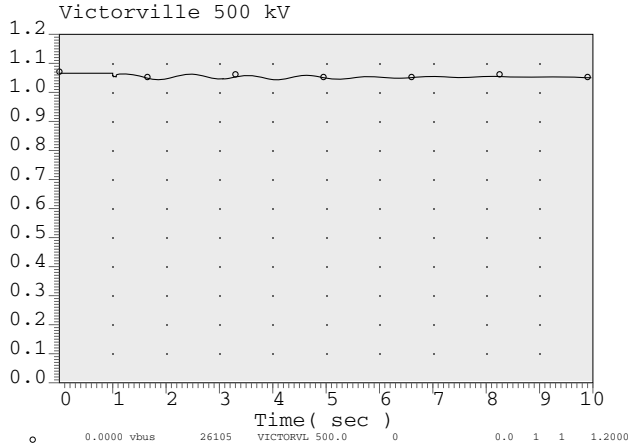






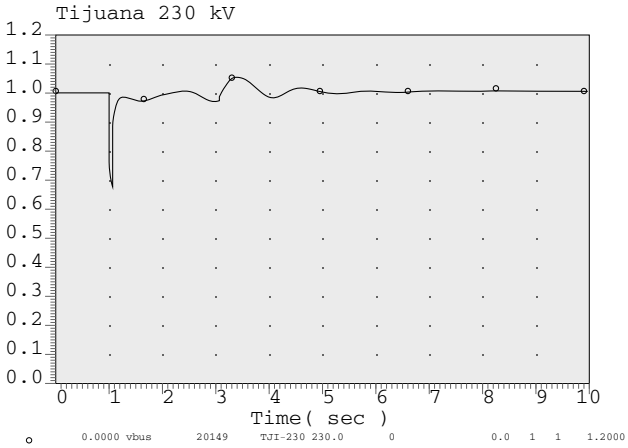


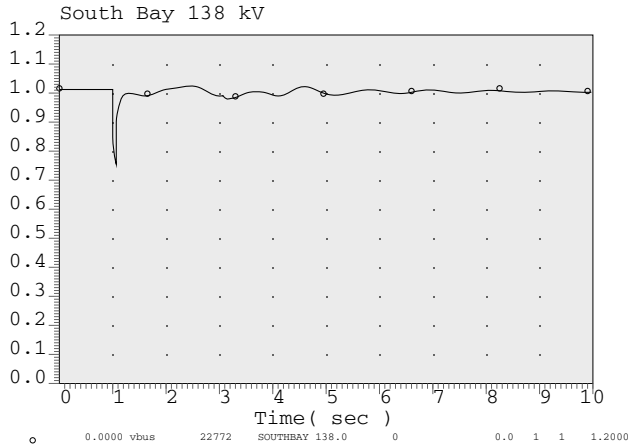


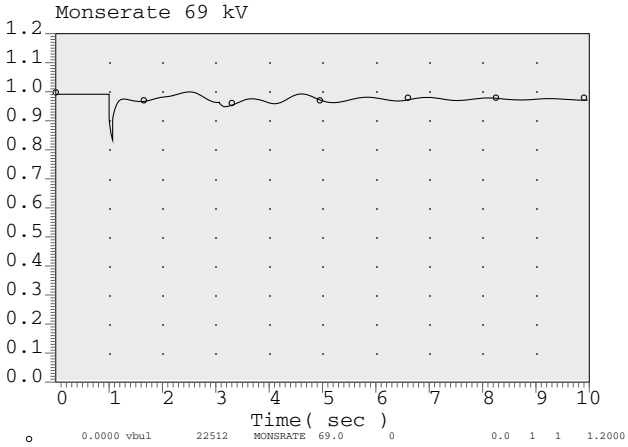


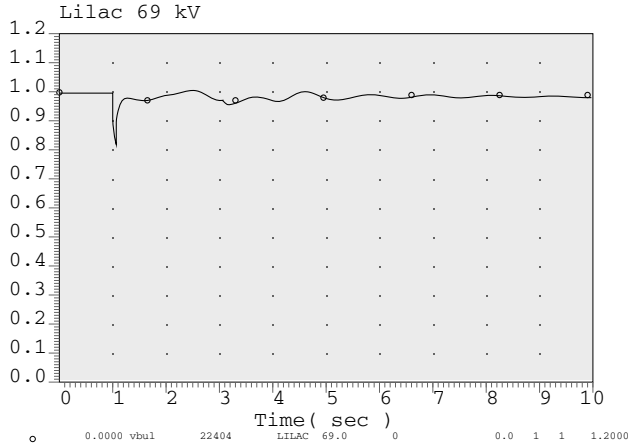
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

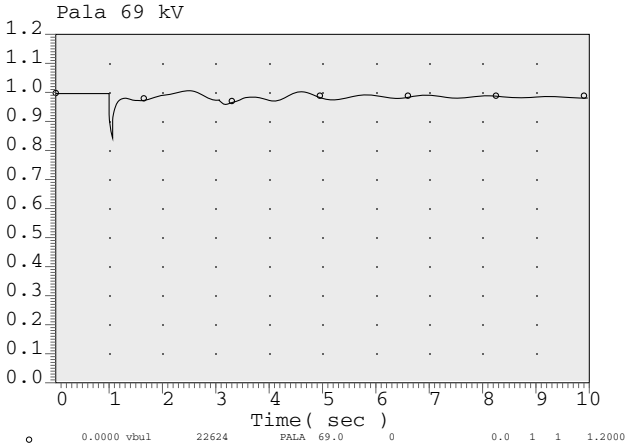
Bus Voltage

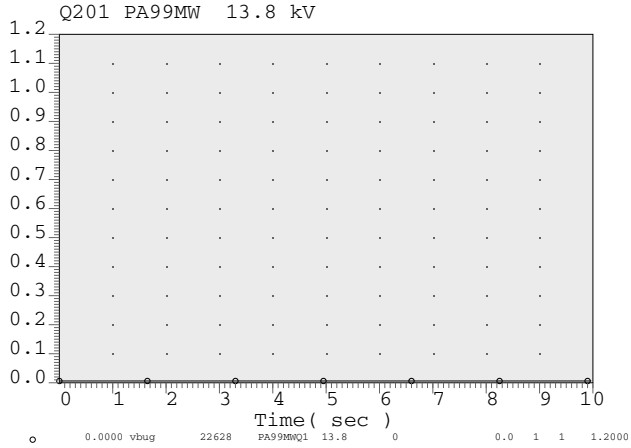






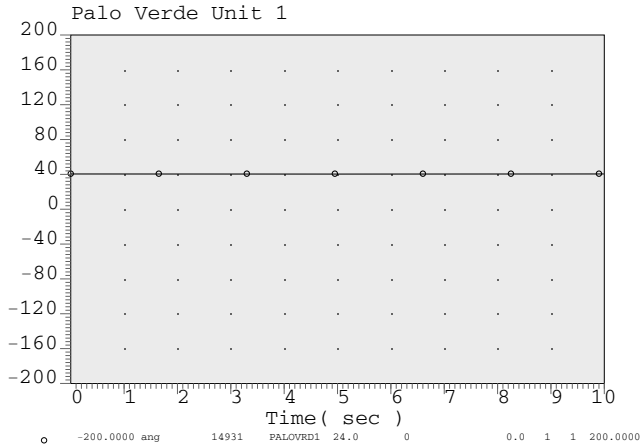


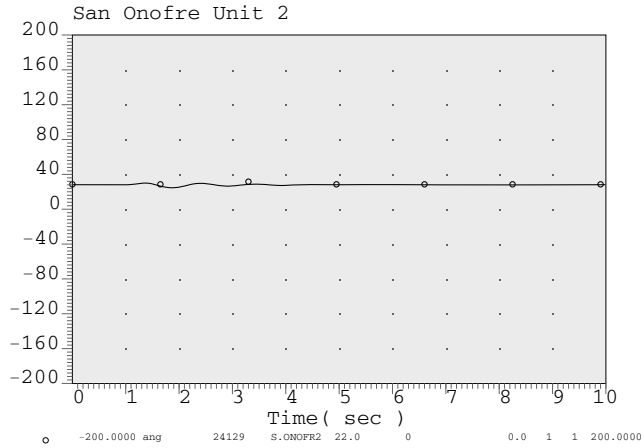


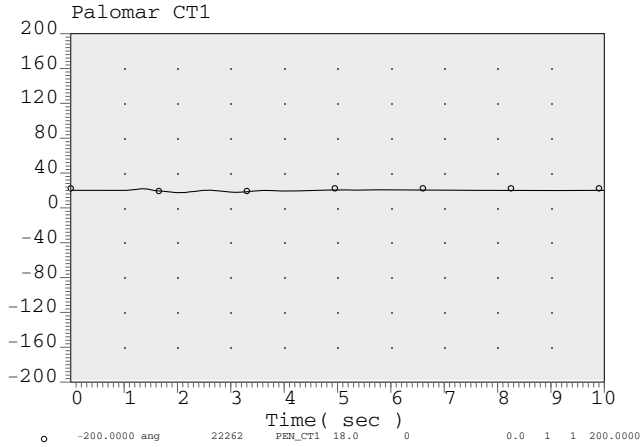


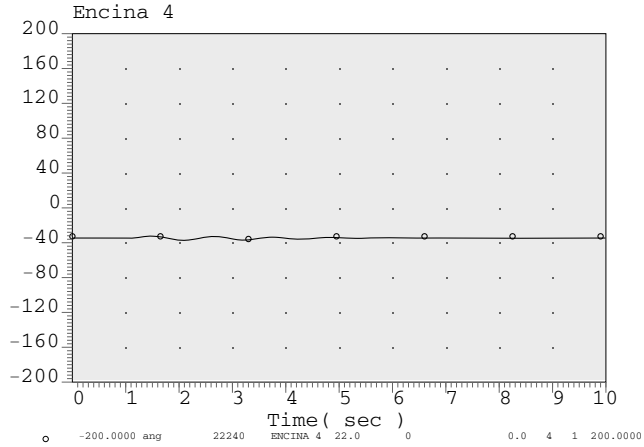
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

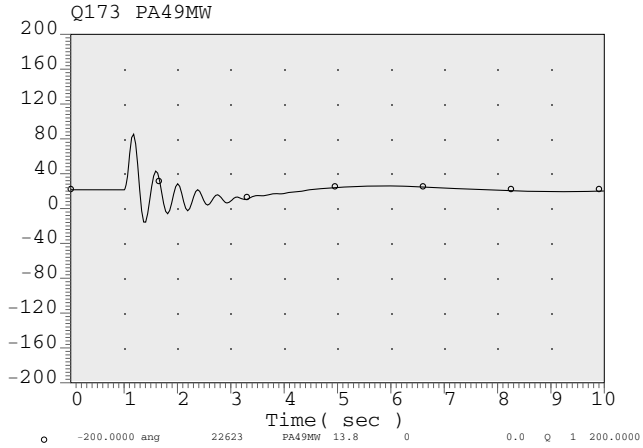
Relative Rotor Angle

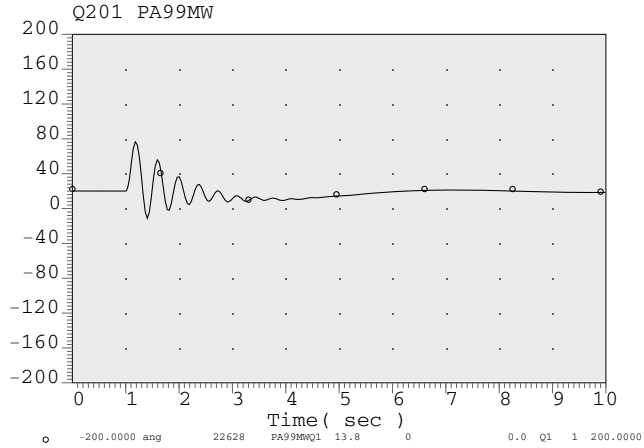






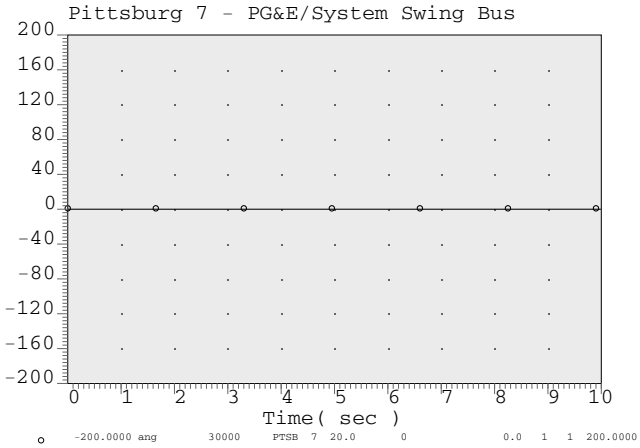


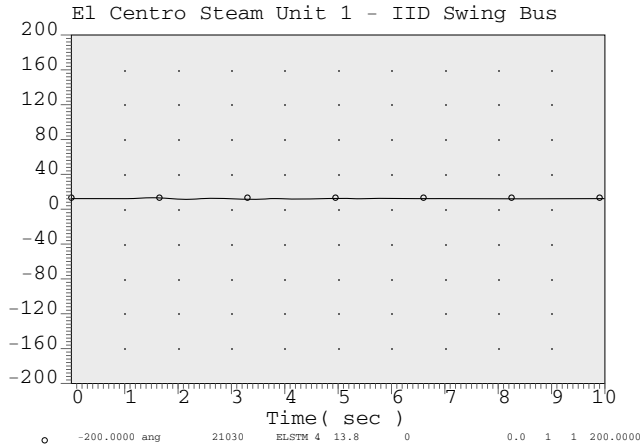


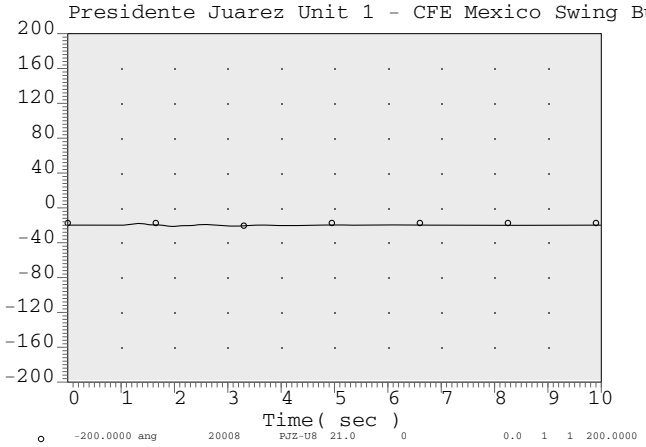


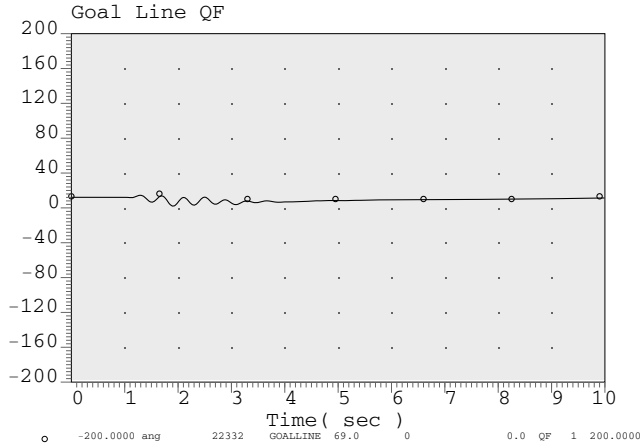
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

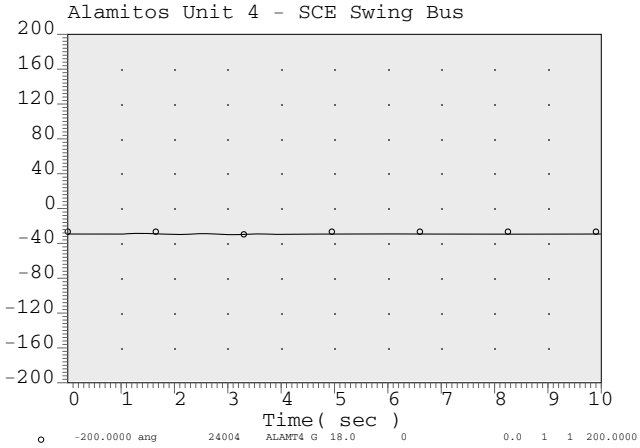
Relative Rotor Angle

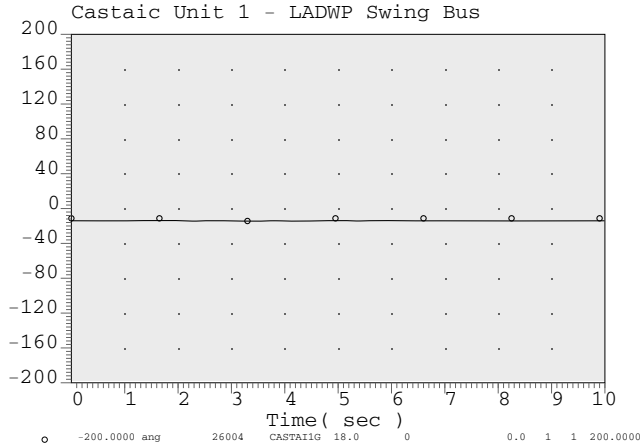






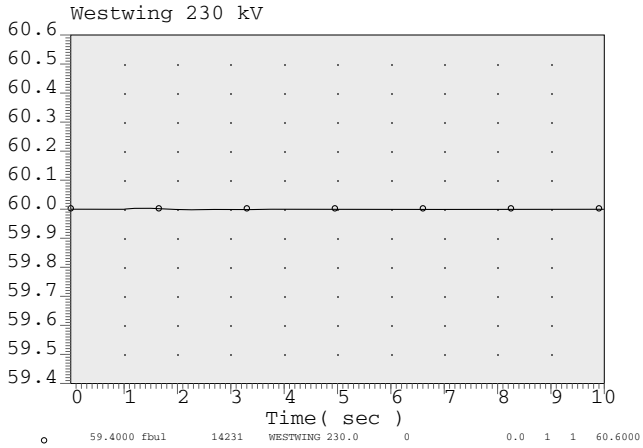


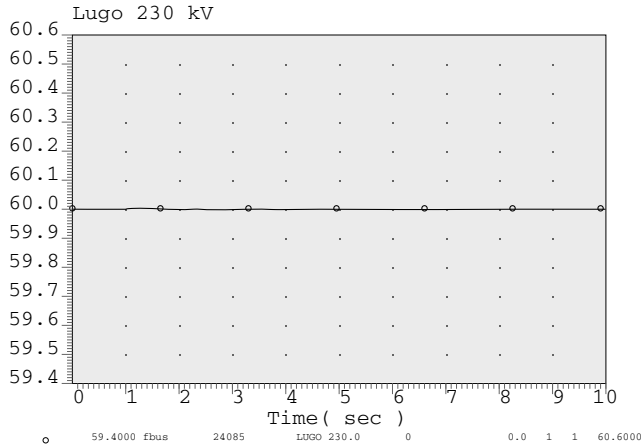


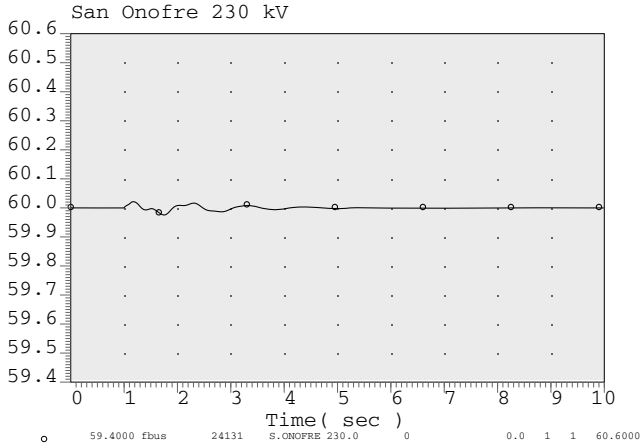


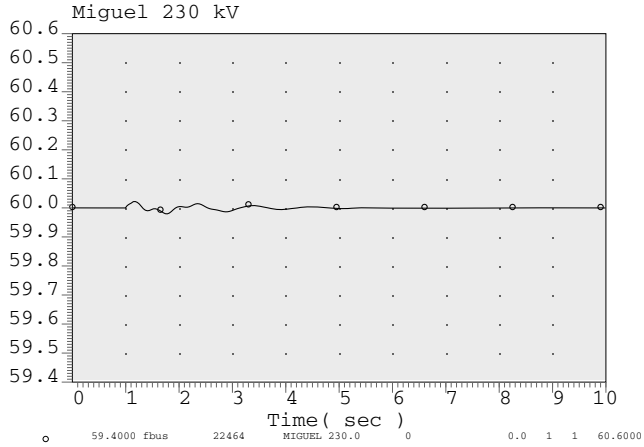
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

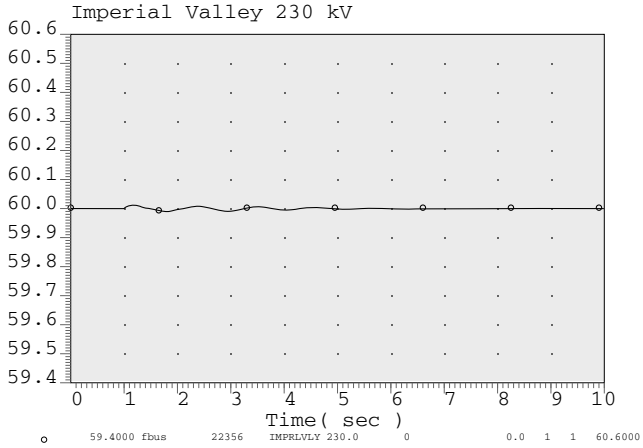
Bus Frequency

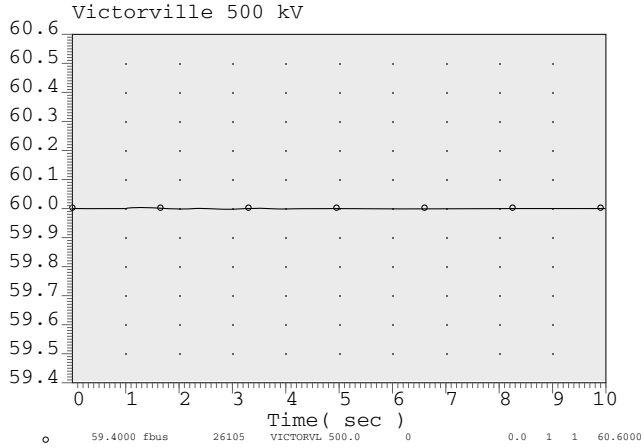






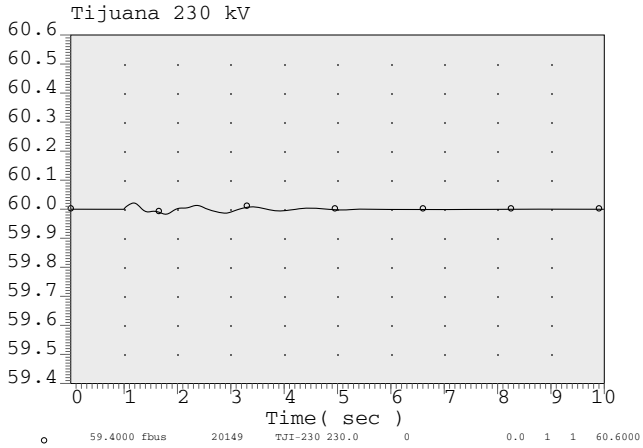


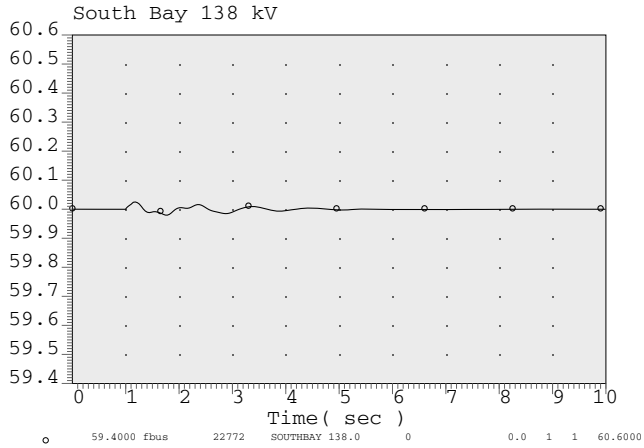


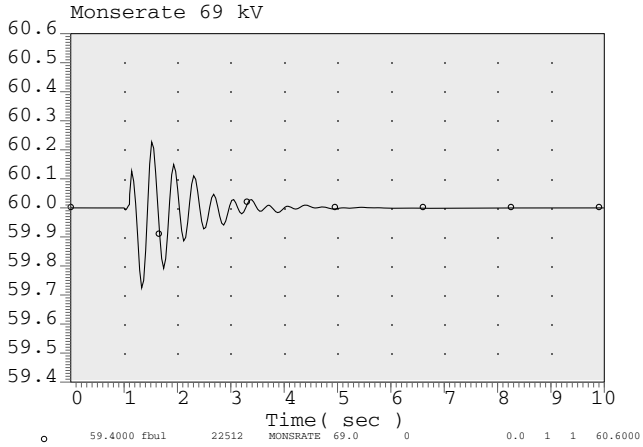


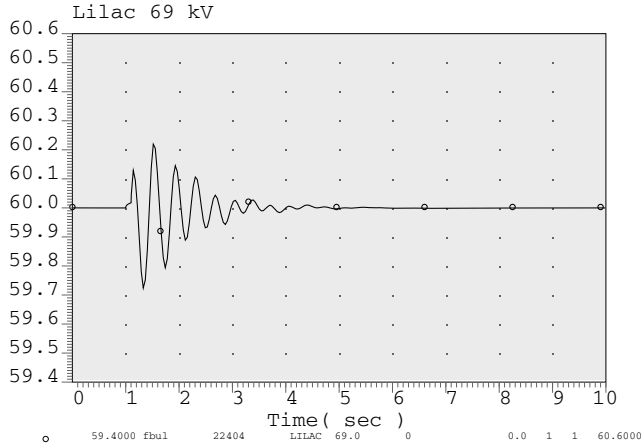
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

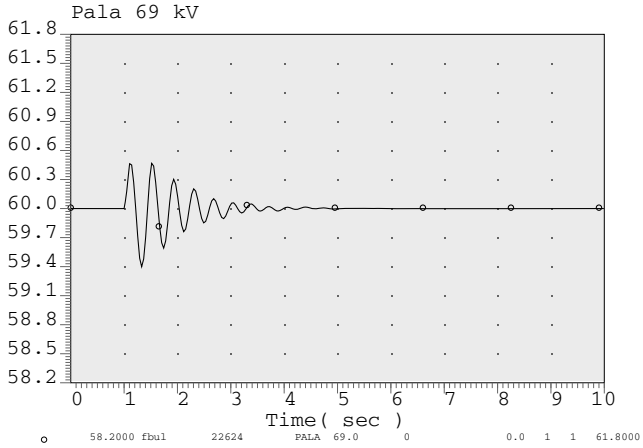
Bus Frequency

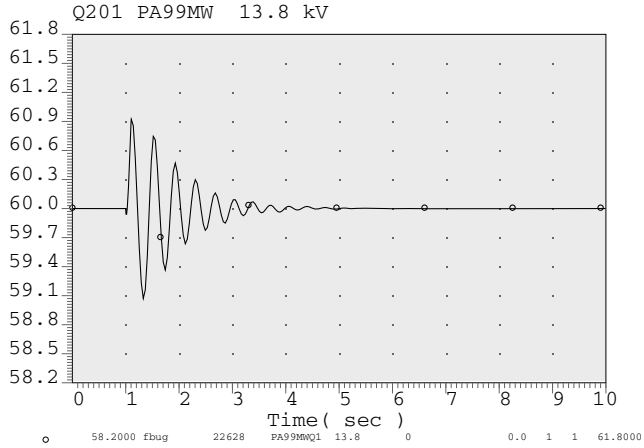






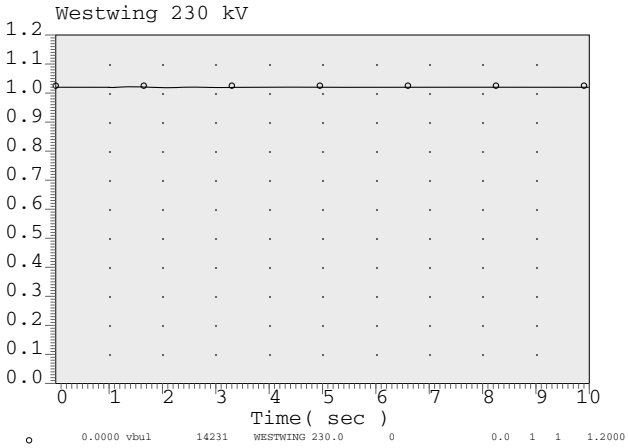


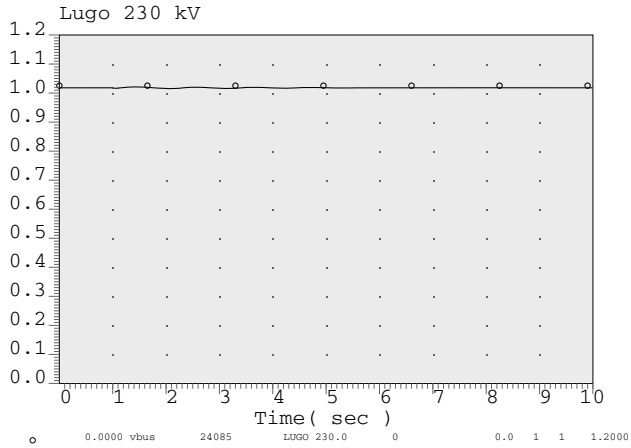


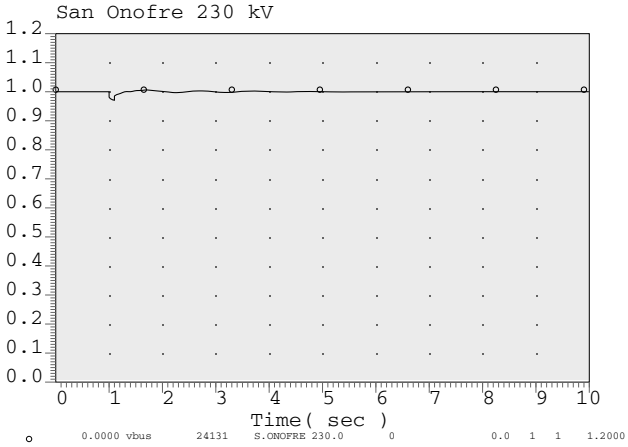


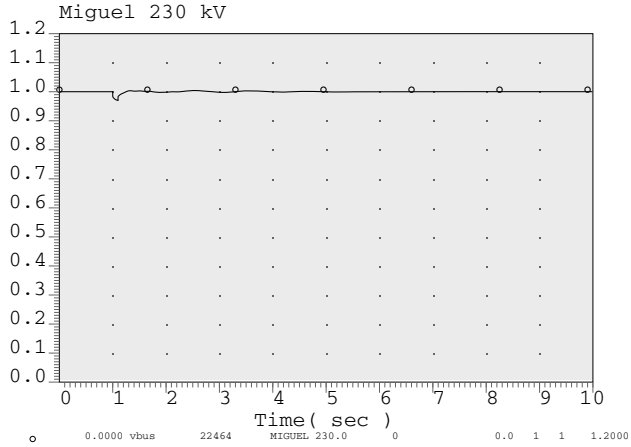
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

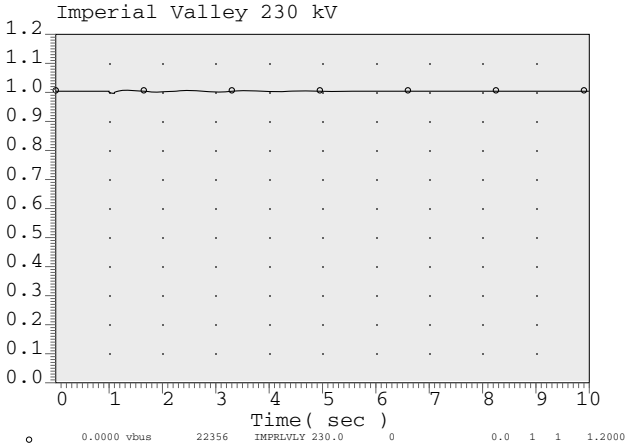
Bus Voltage

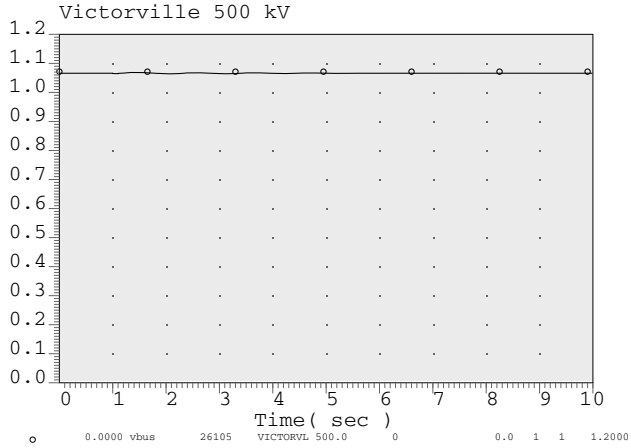






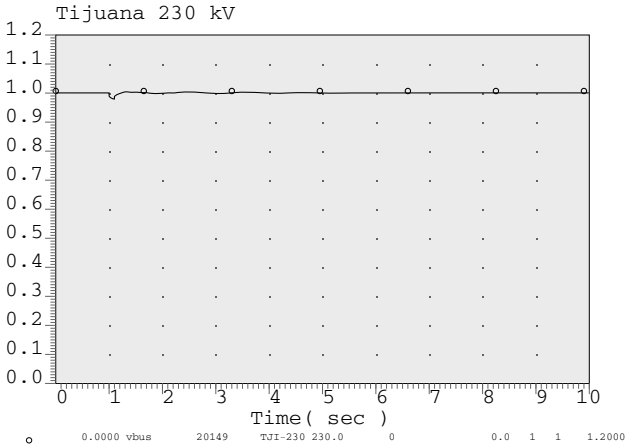


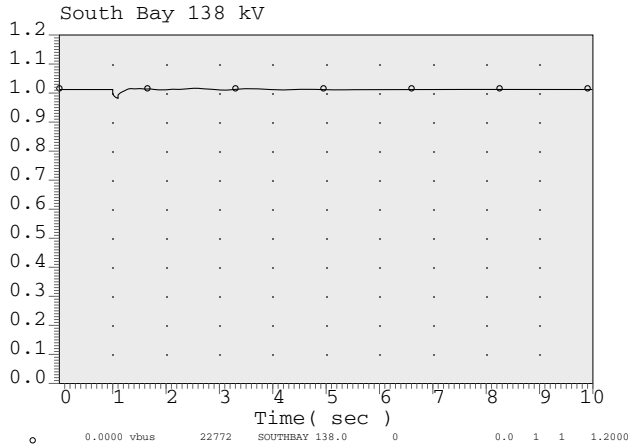


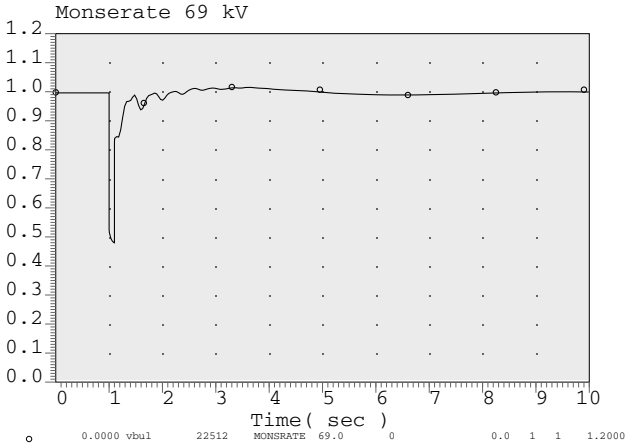


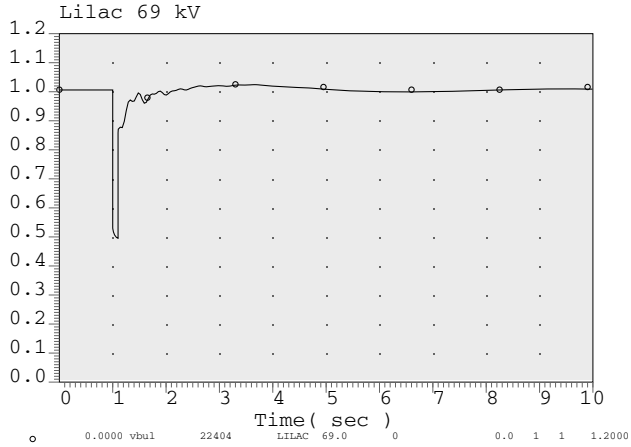
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

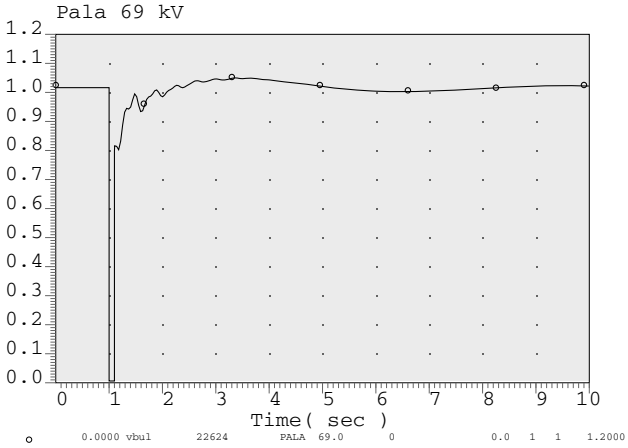
Bus Voltage

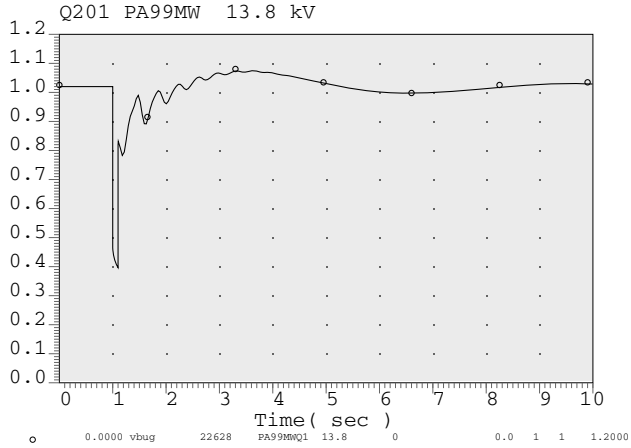






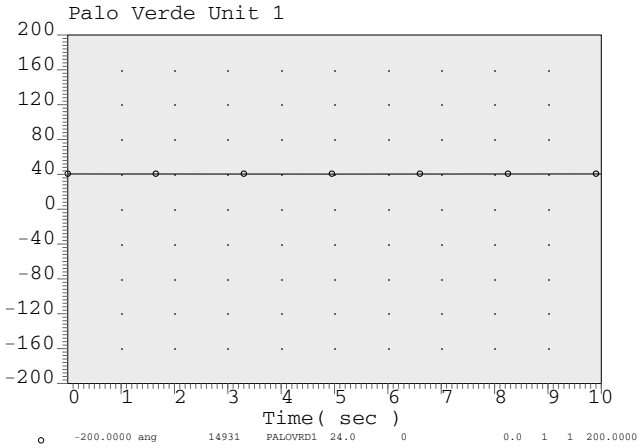


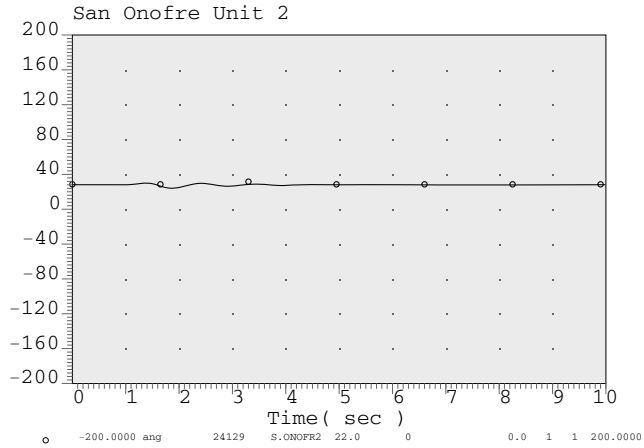


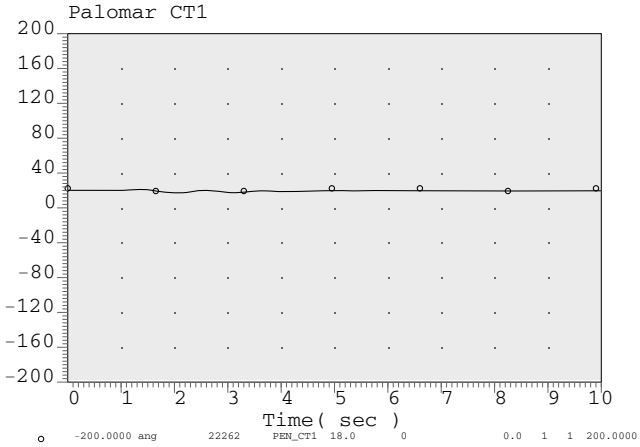


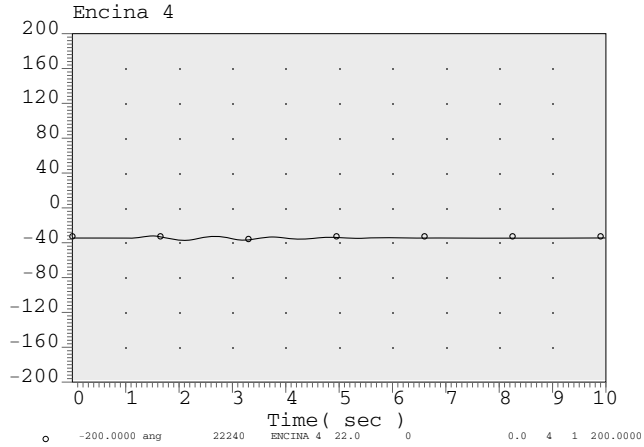
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

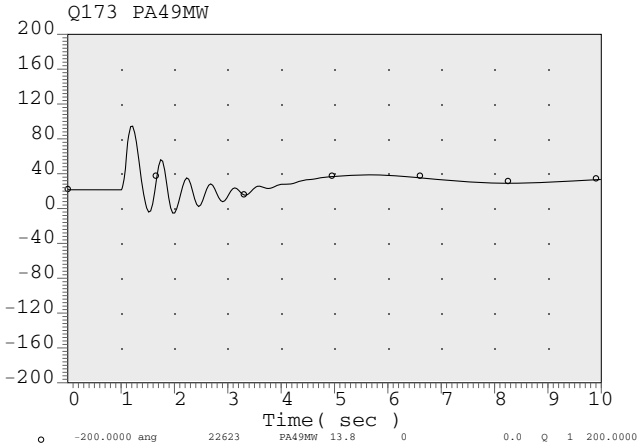
Relative Rotor Angle

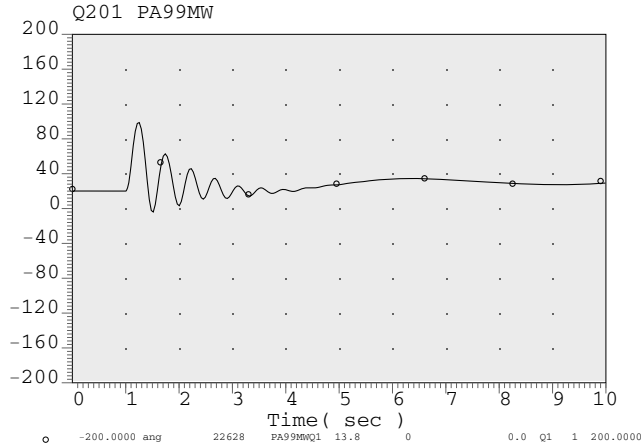






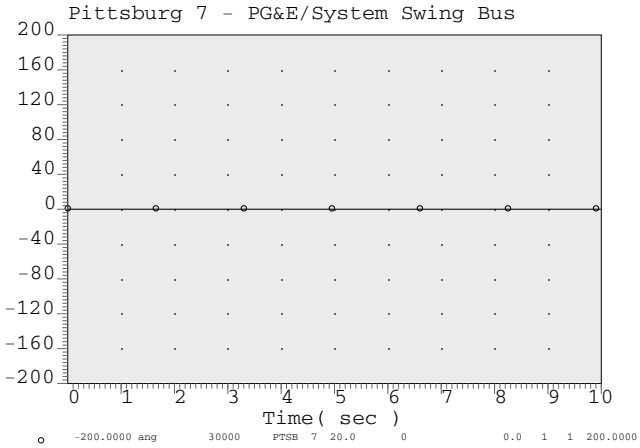


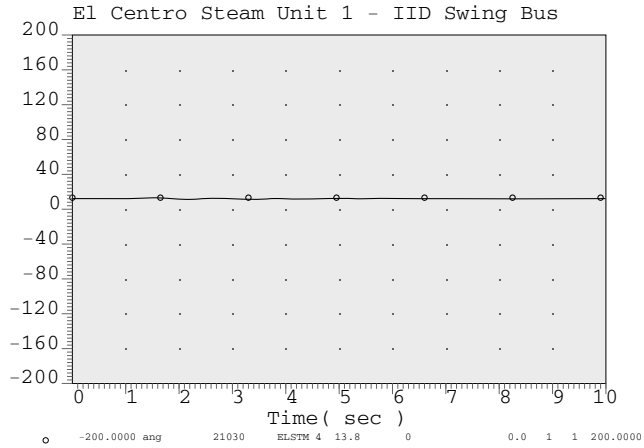


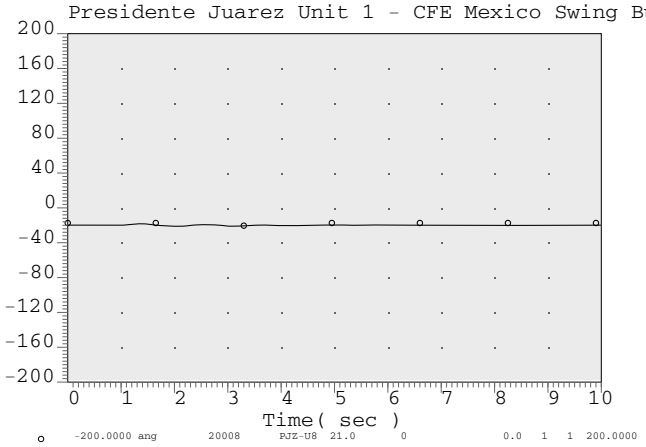


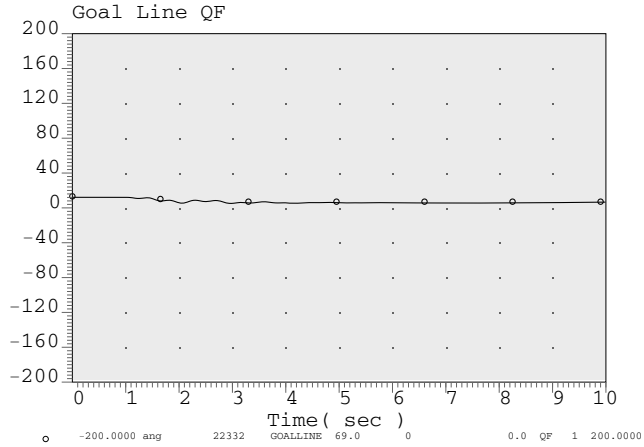
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

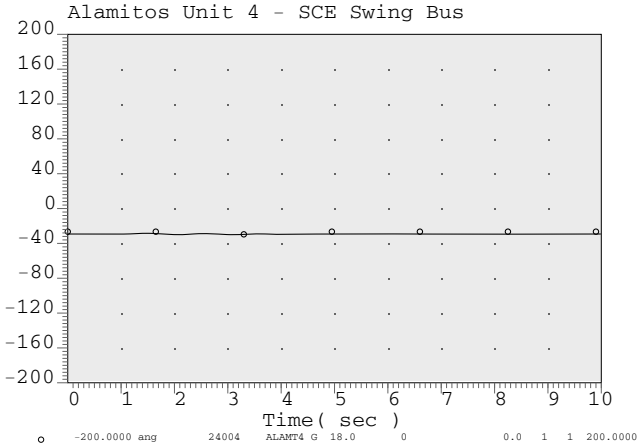
Relative Rotor Angle

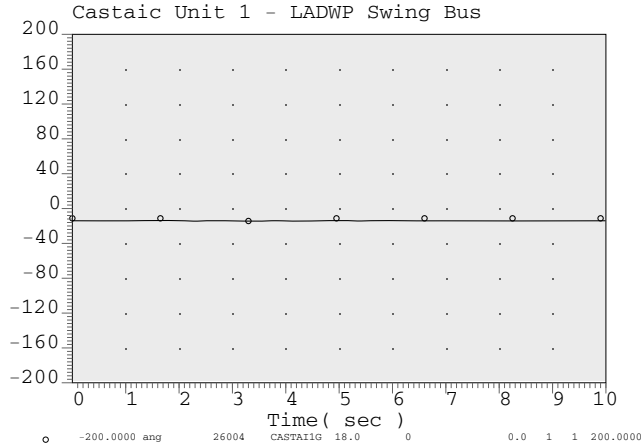






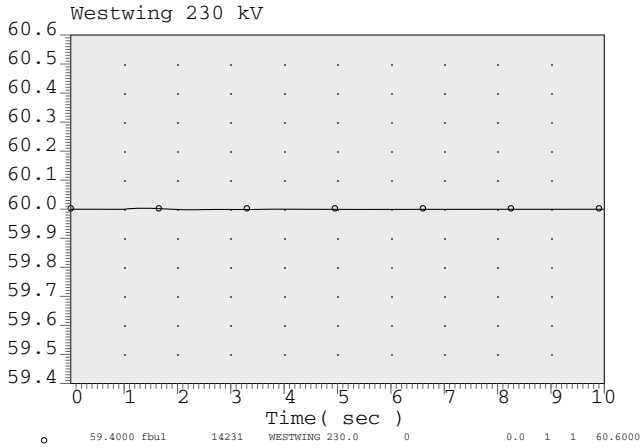


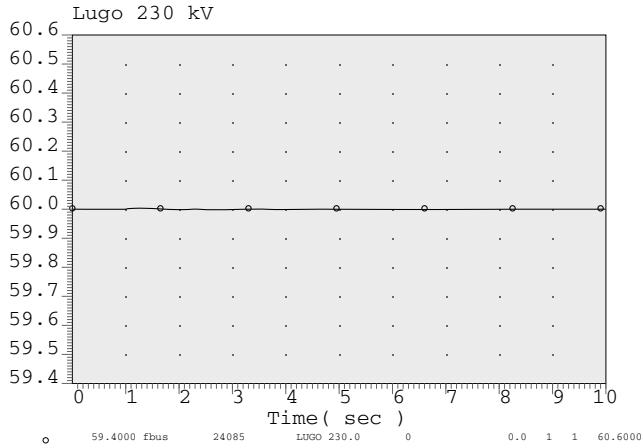


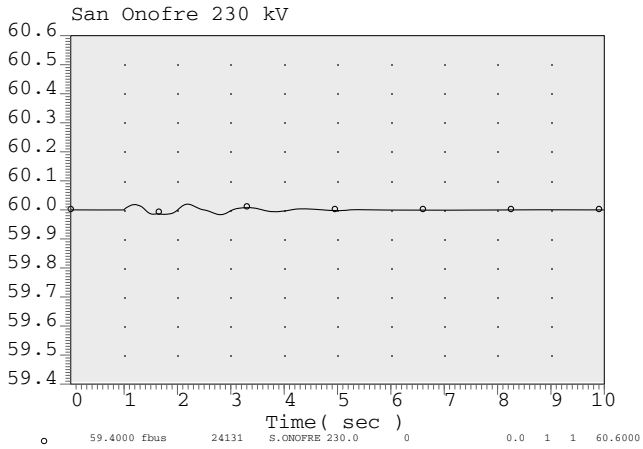


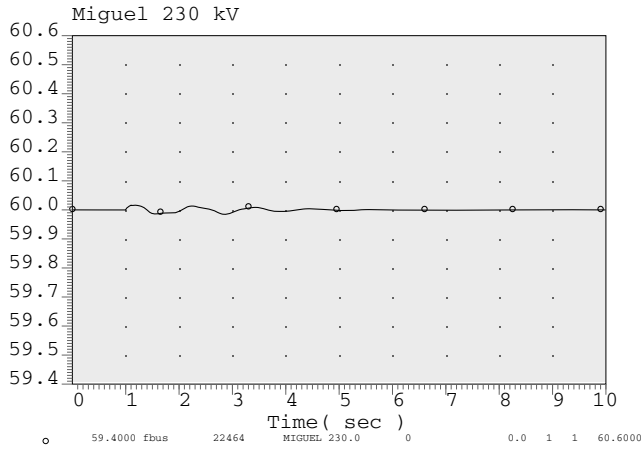
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

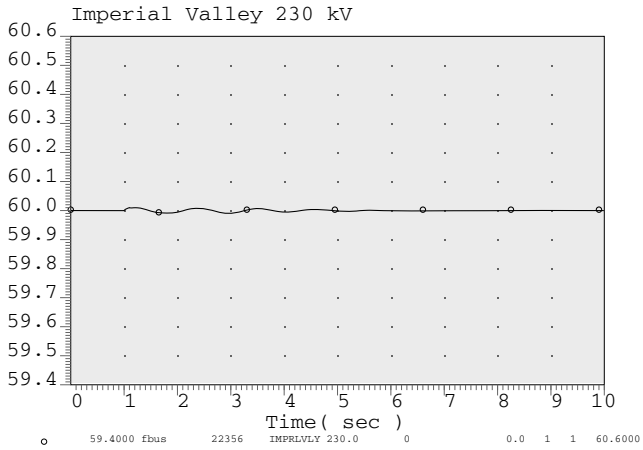
Bus Frequency

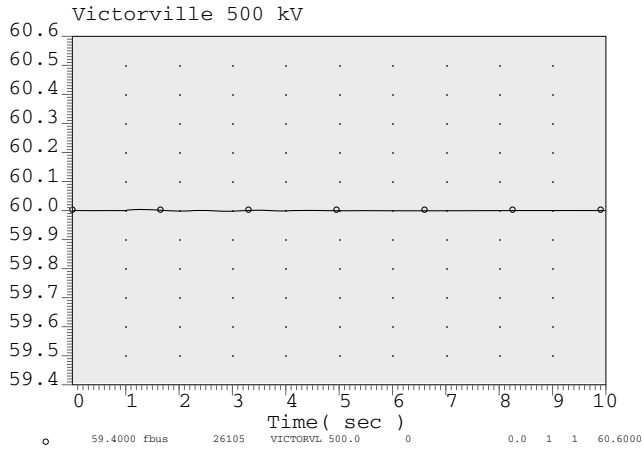






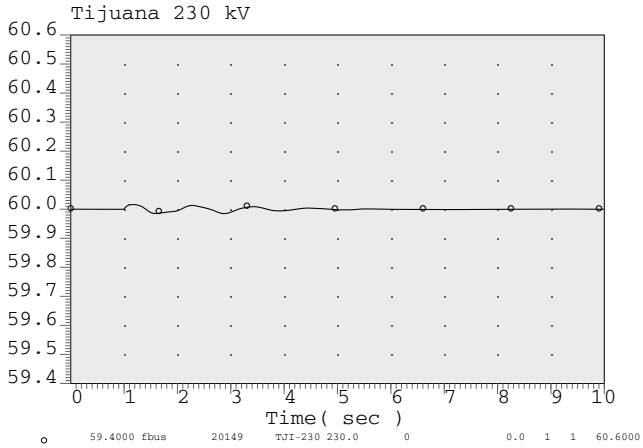


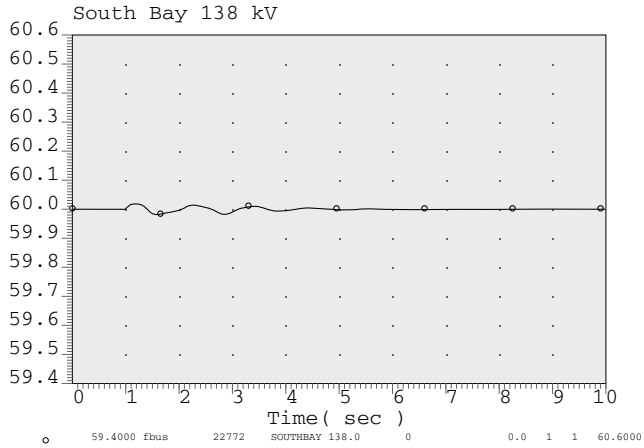


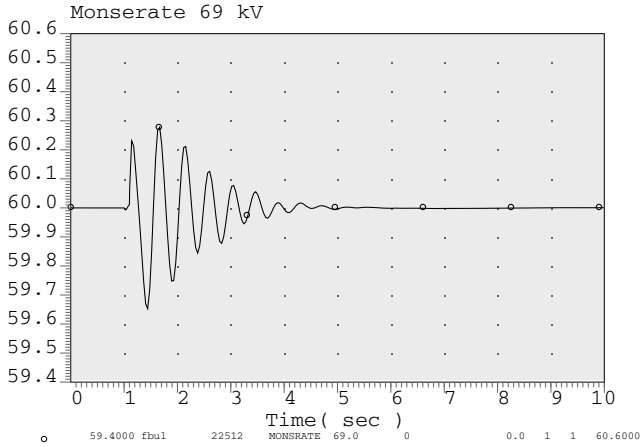


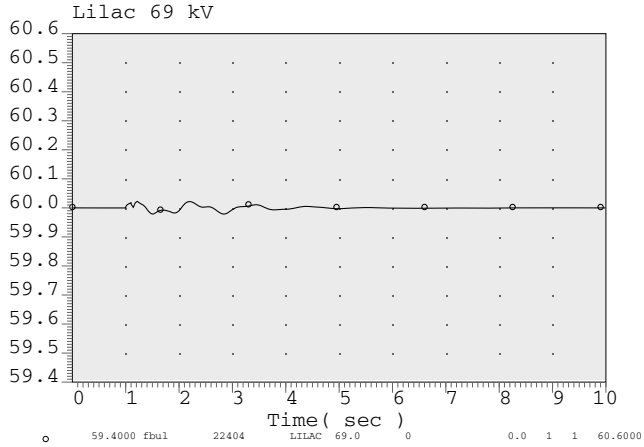
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

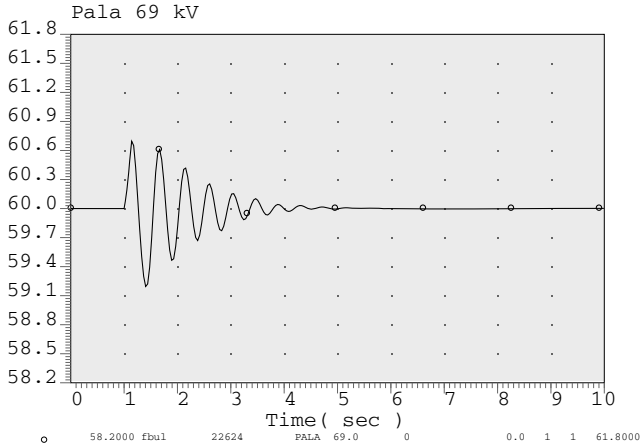
Bus Frequency

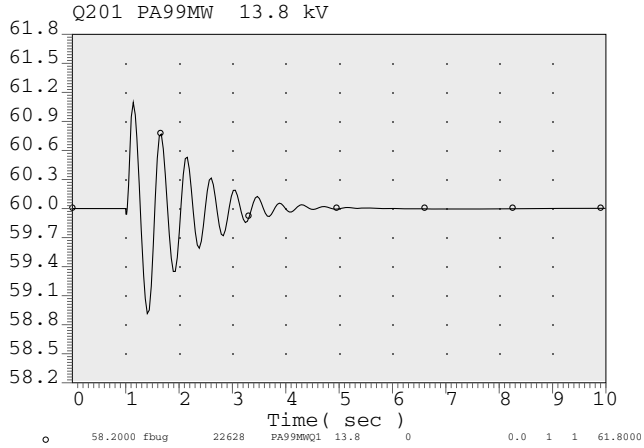






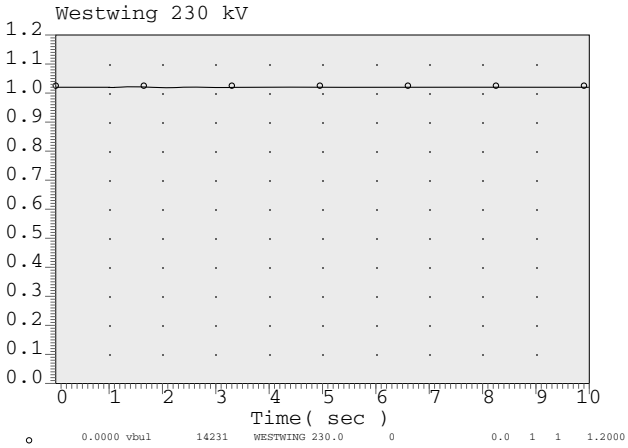


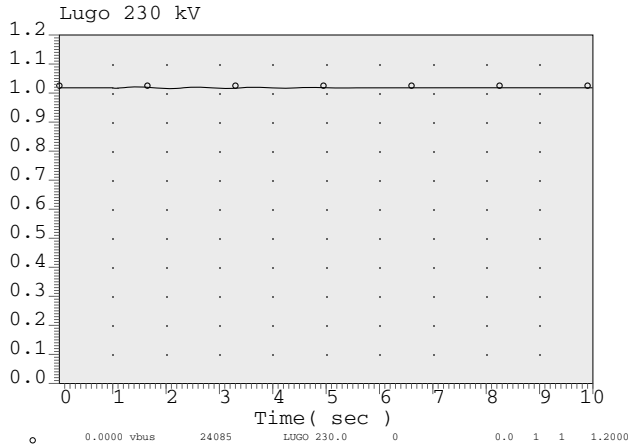


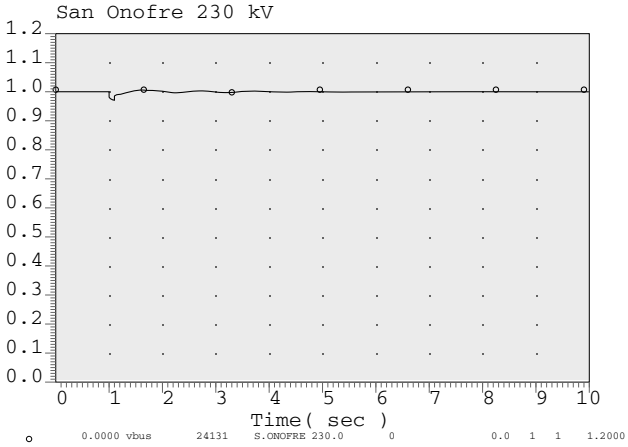


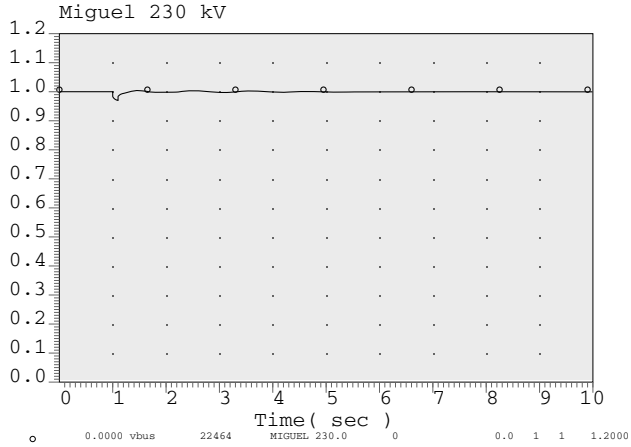
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

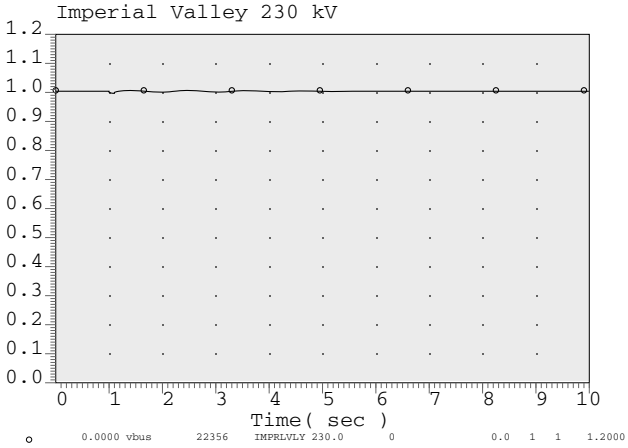
Bus Voltage

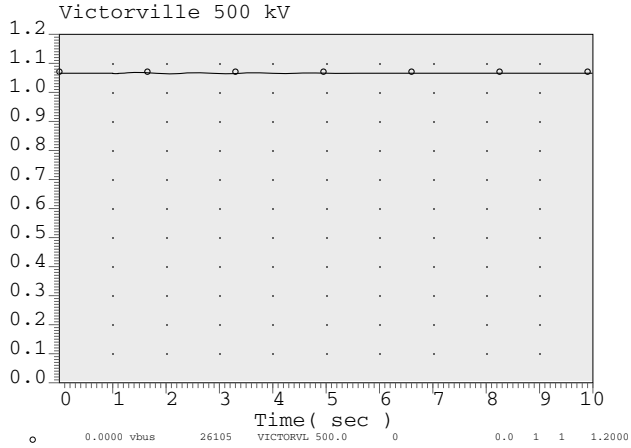






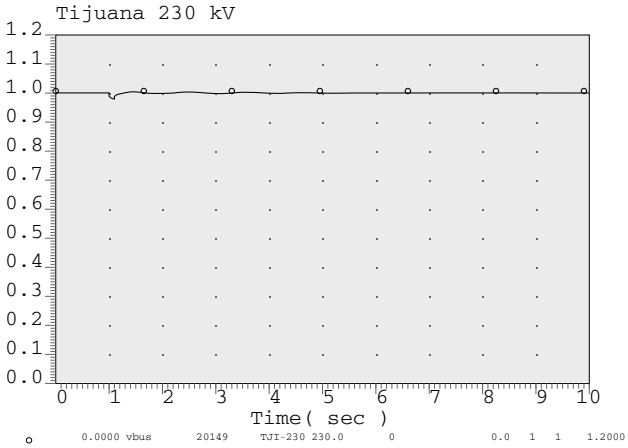


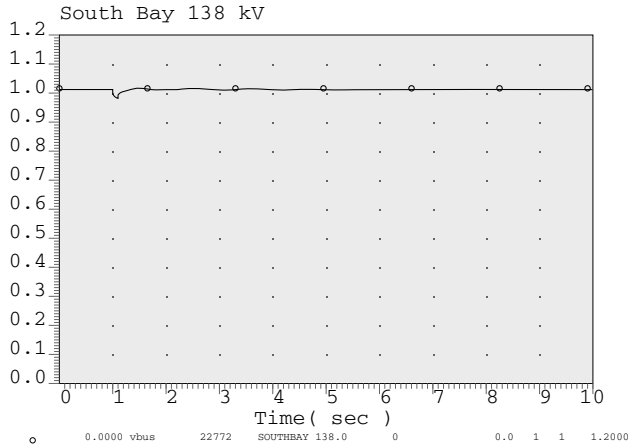


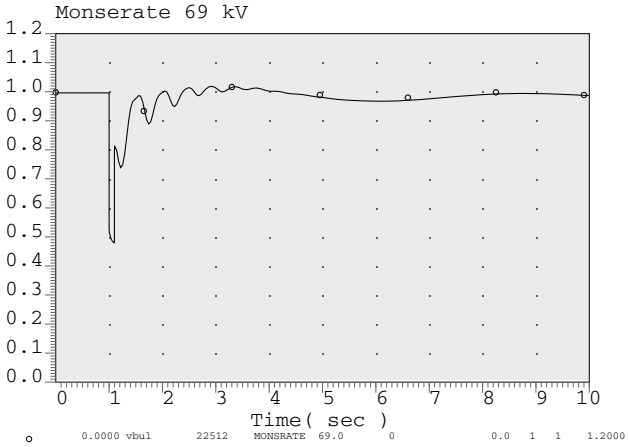


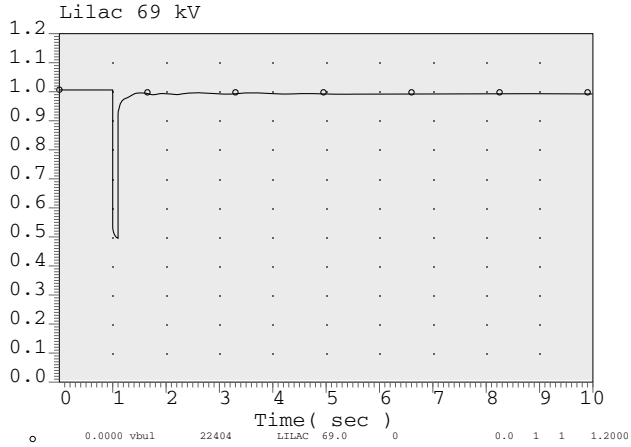
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

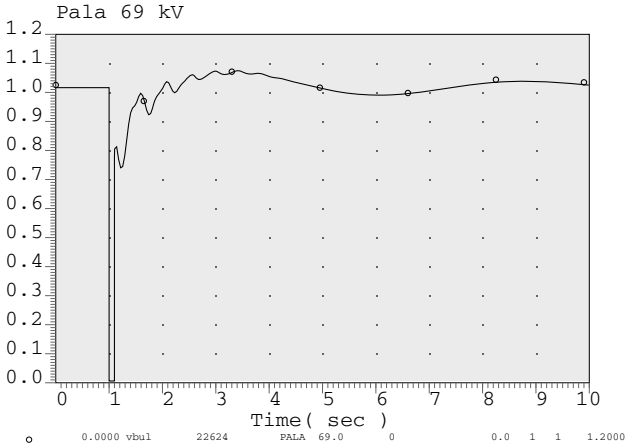
Bus Voltage

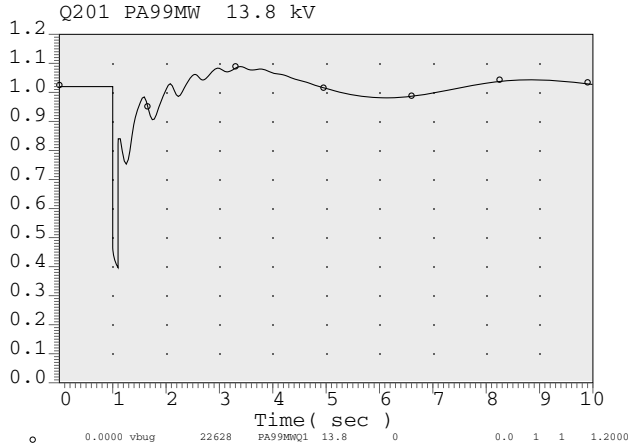






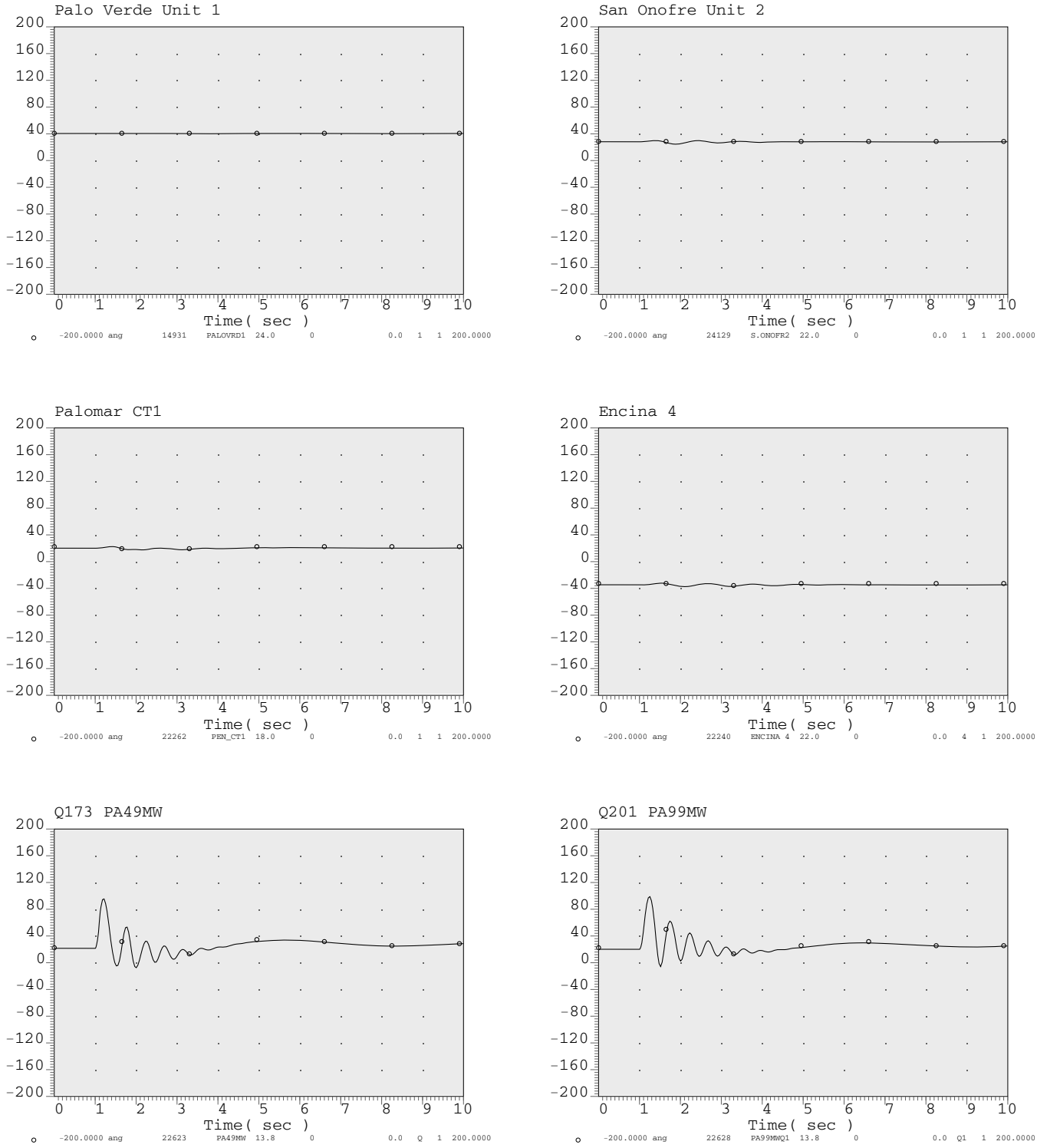






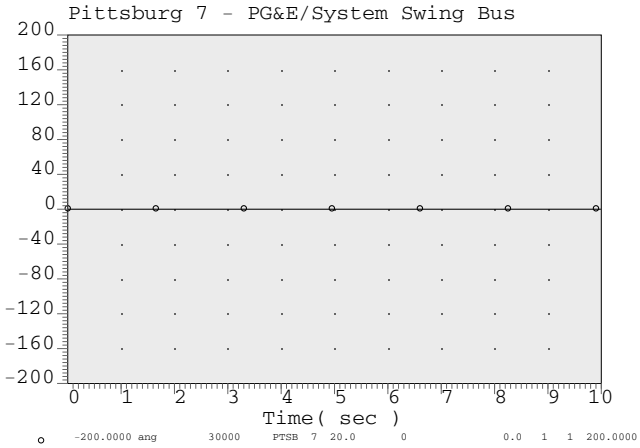
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

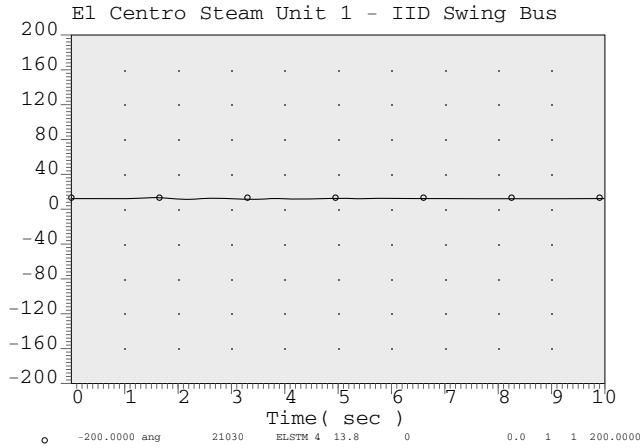
Relative Rotor Angle

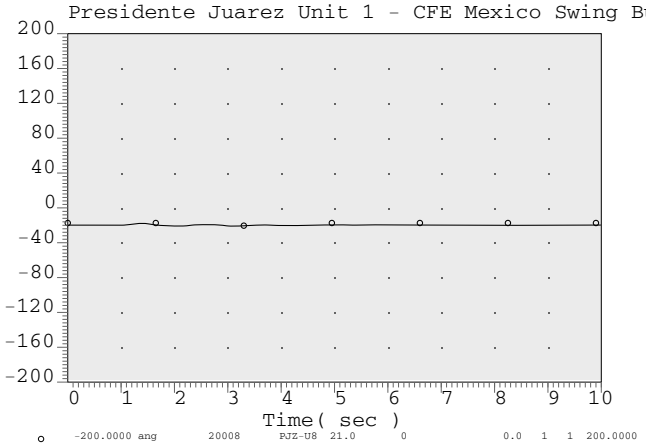


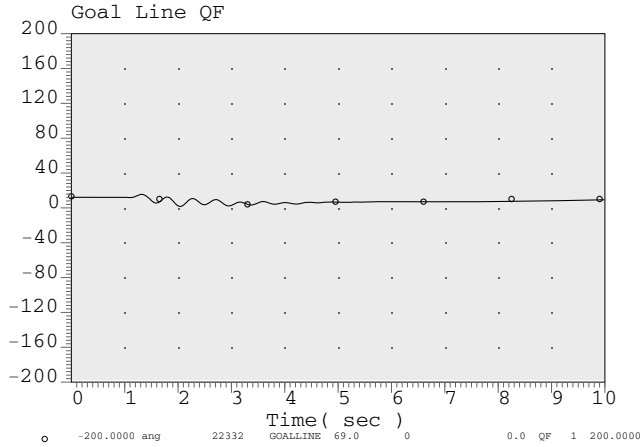
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

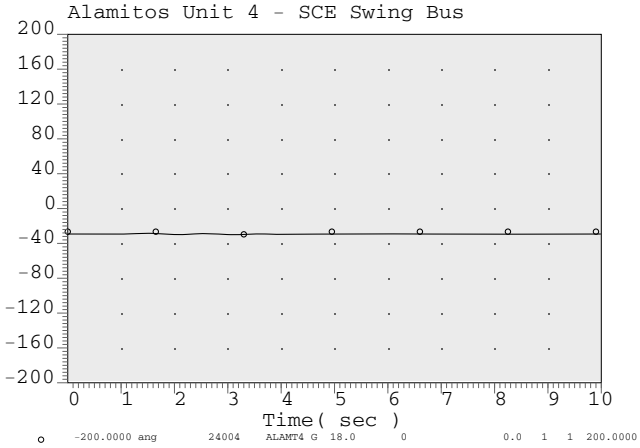
Relative Rotor Angle

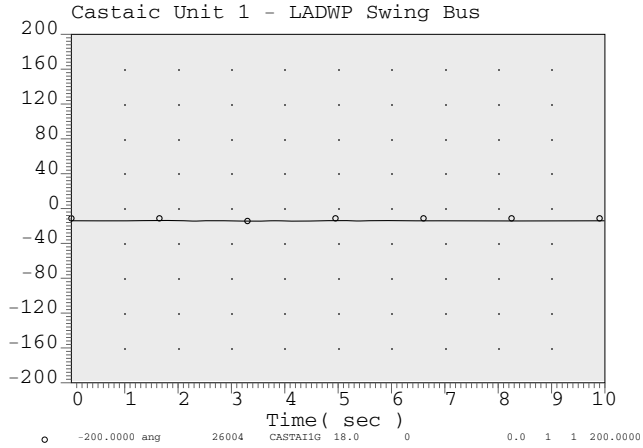






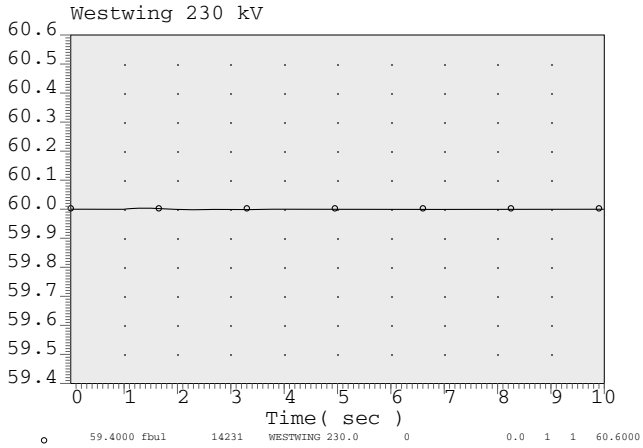


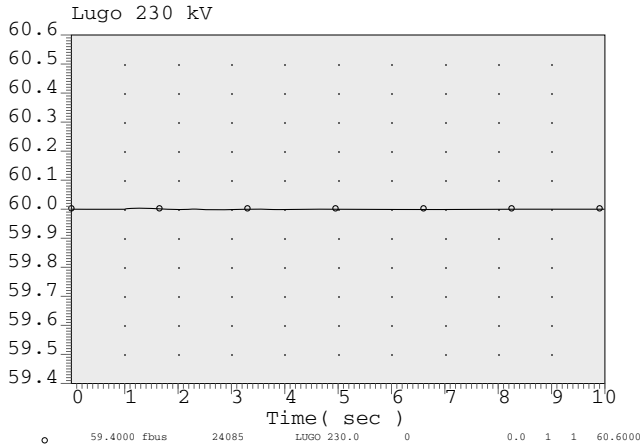


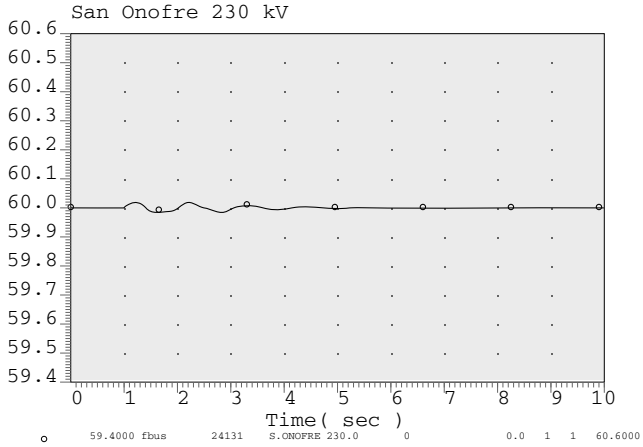


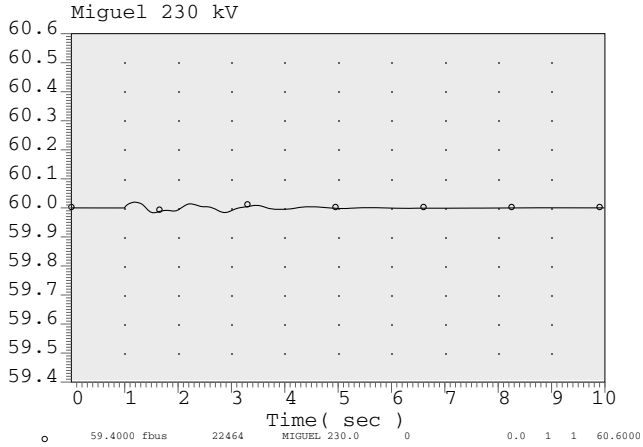
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

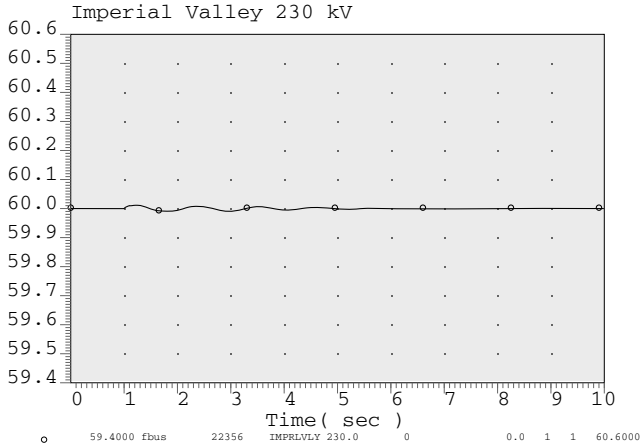
Bus Frequency

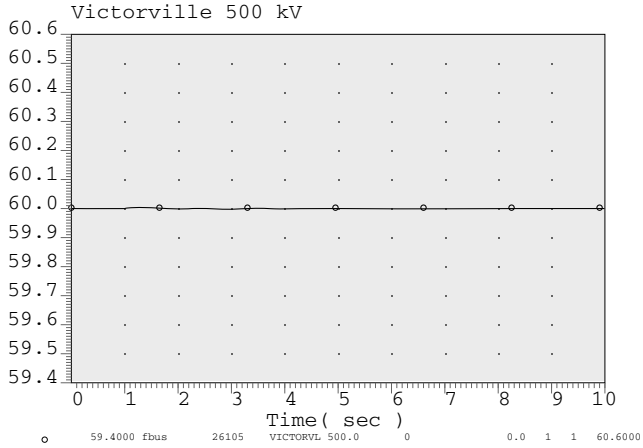






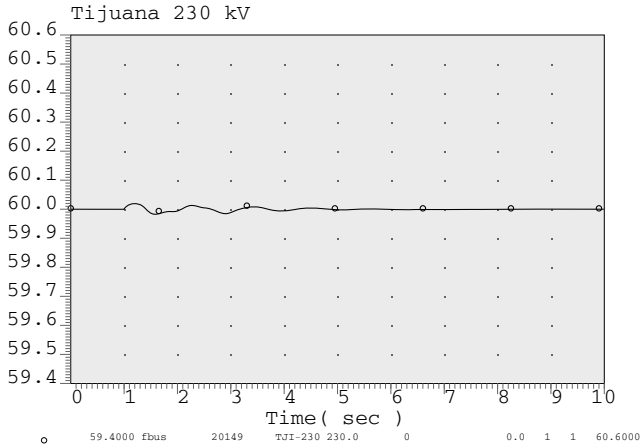


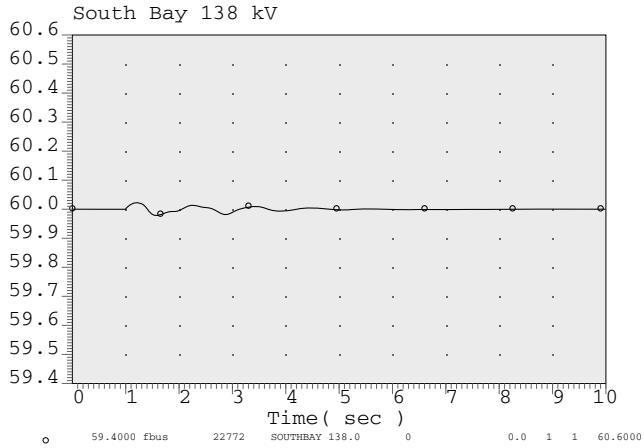


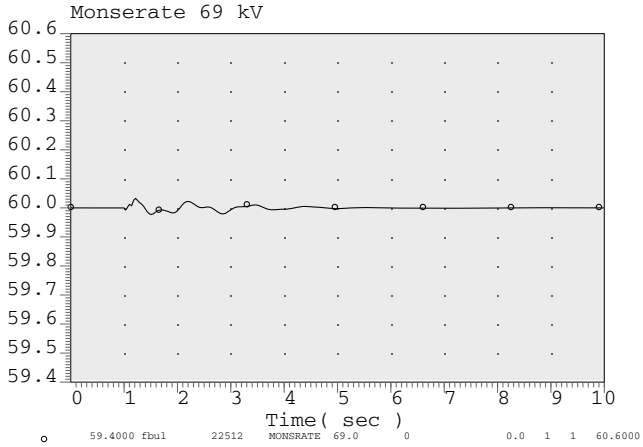


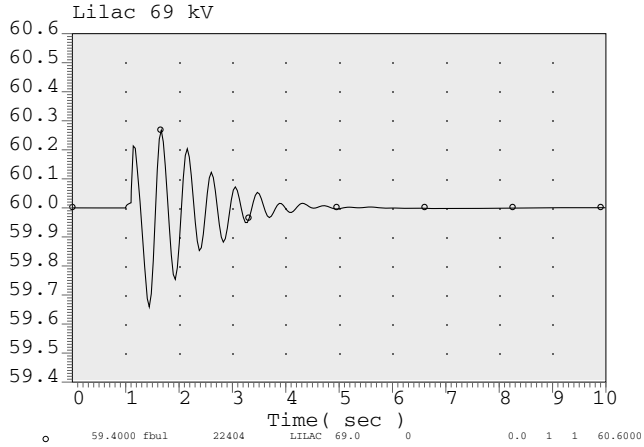
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

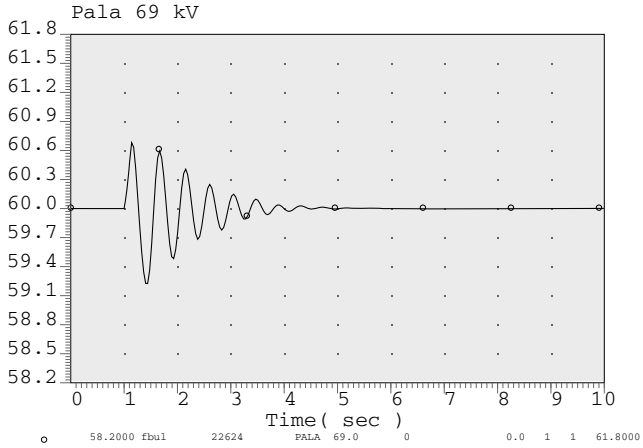
Bus Frequency

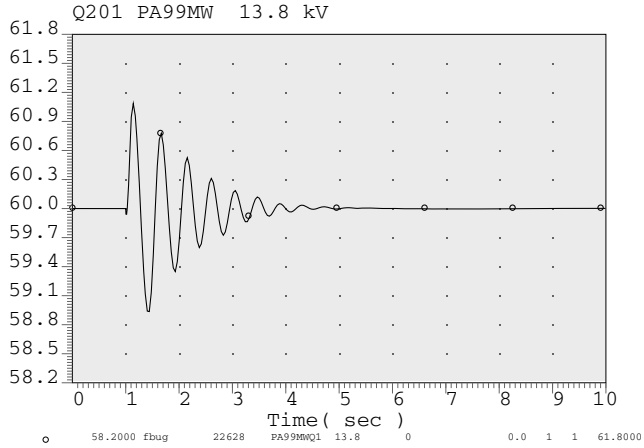






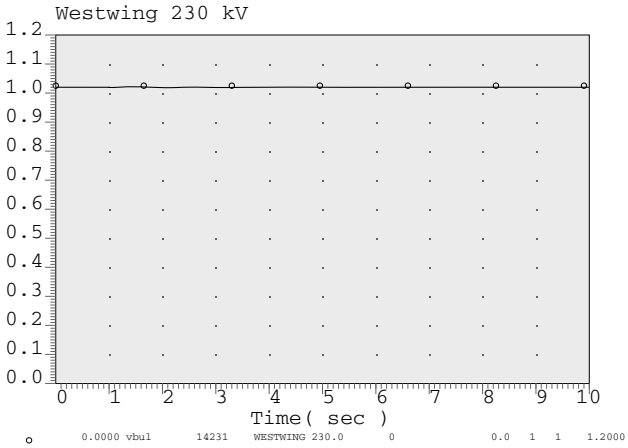


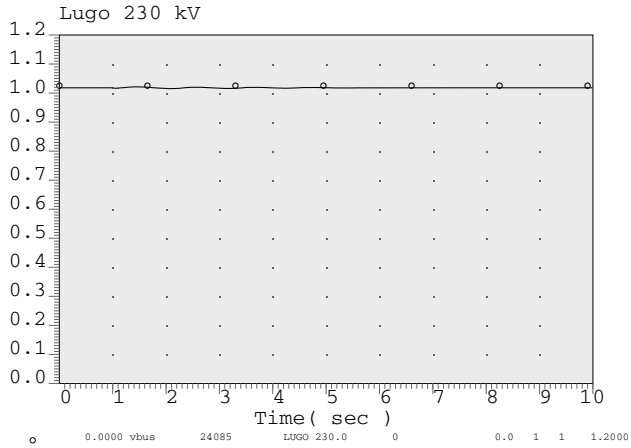


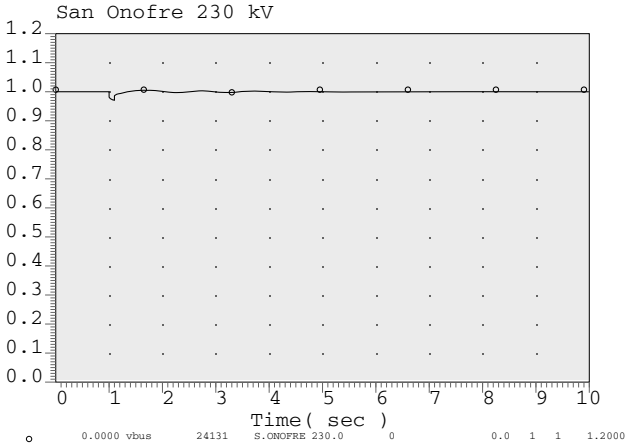


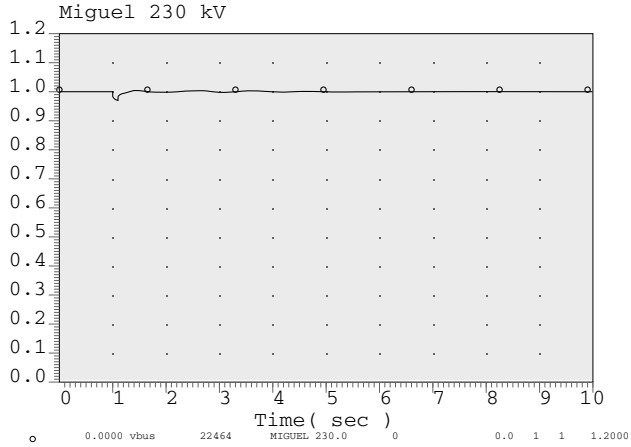
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

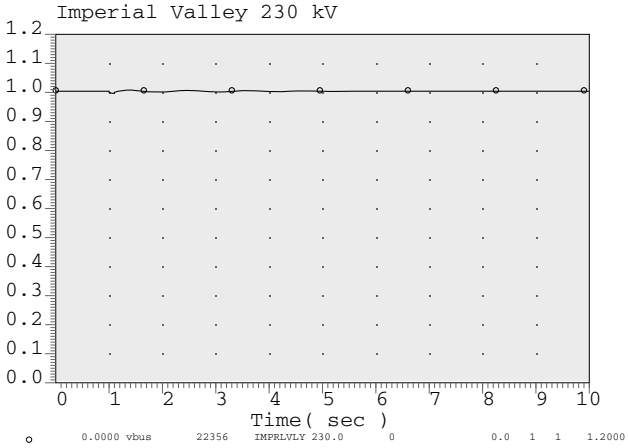
Bus Voltage

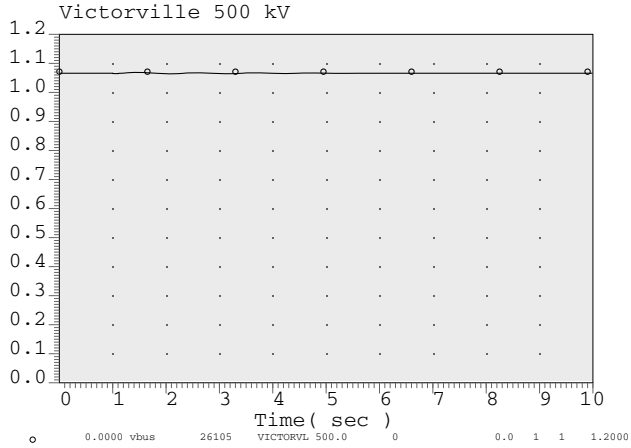






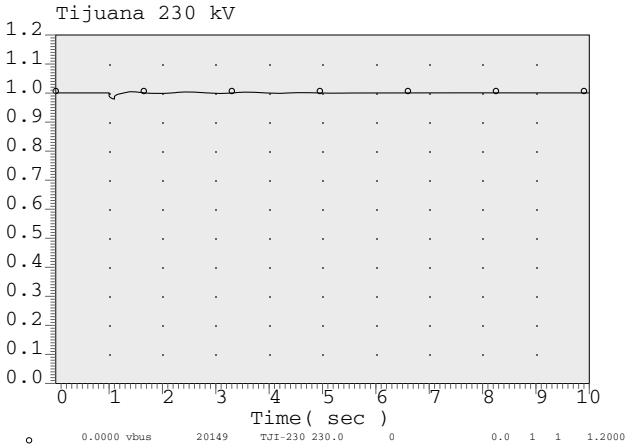


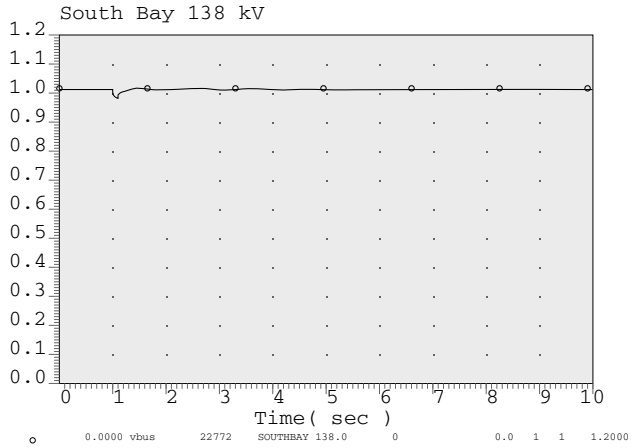


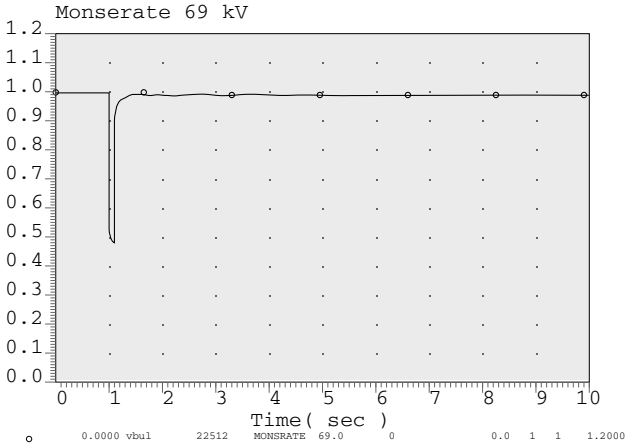


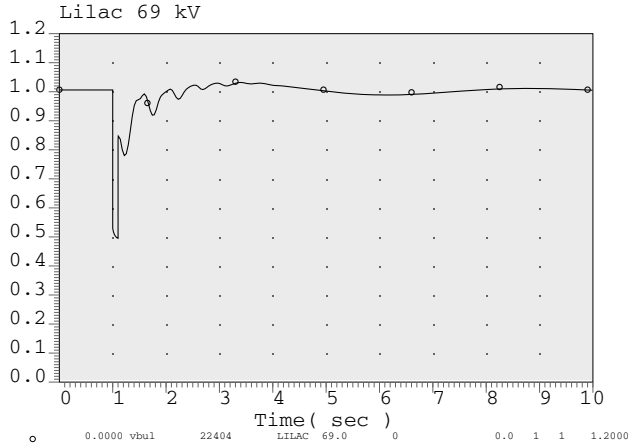
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

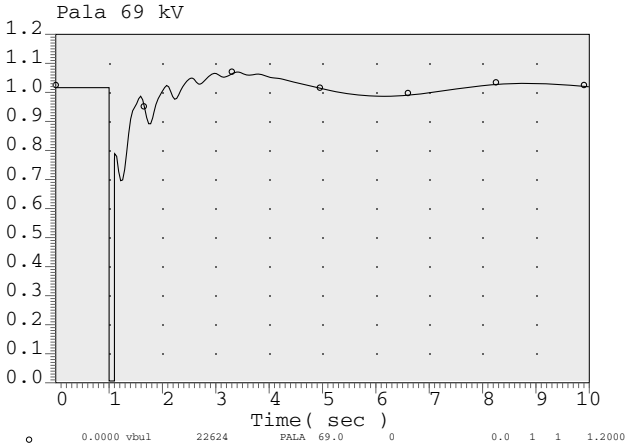
Bus Voltage

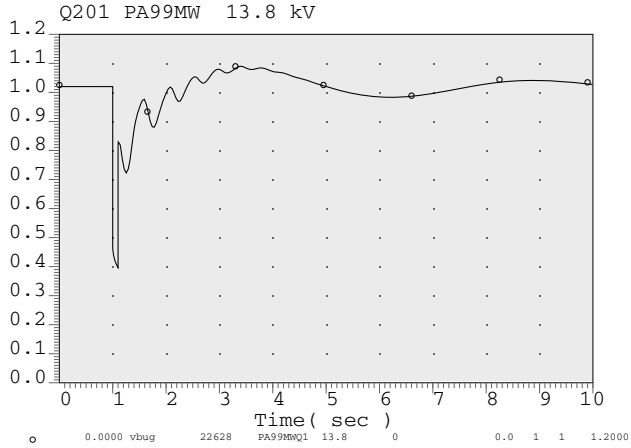






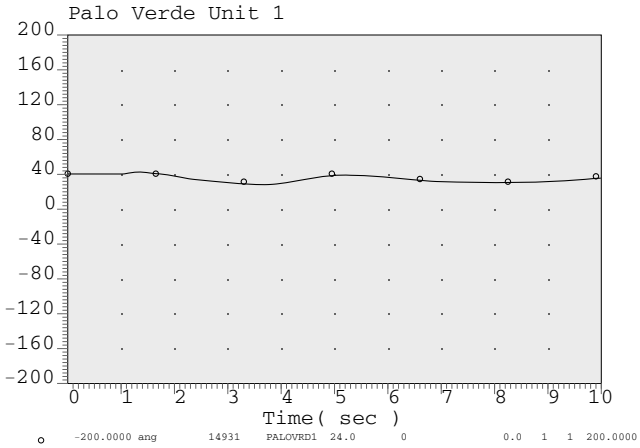


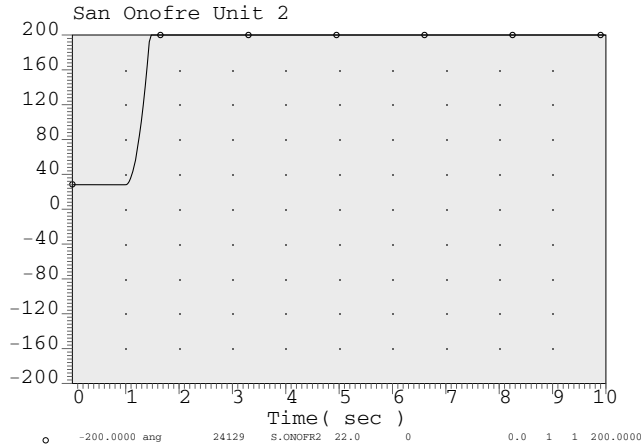


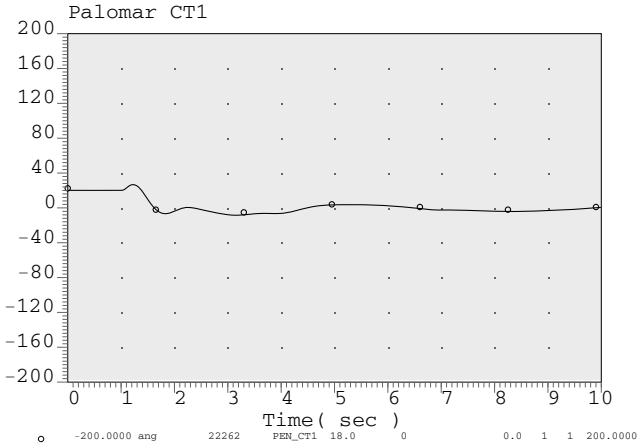


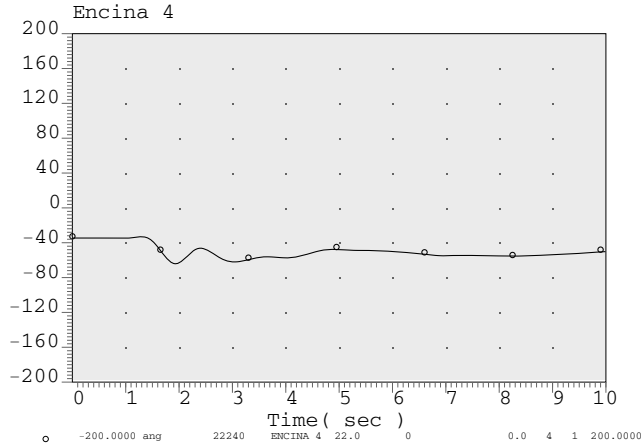
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

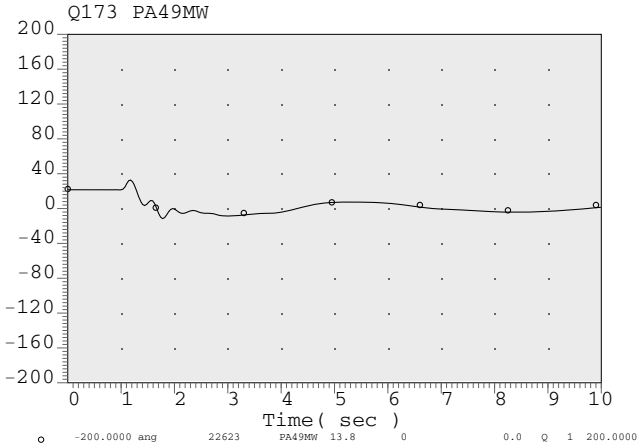
Relative Rotor Angle

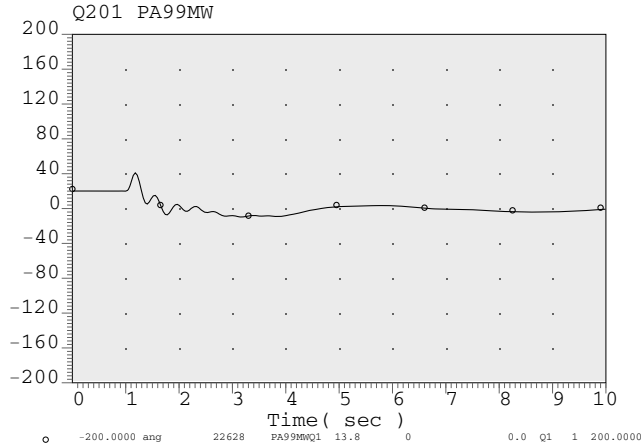






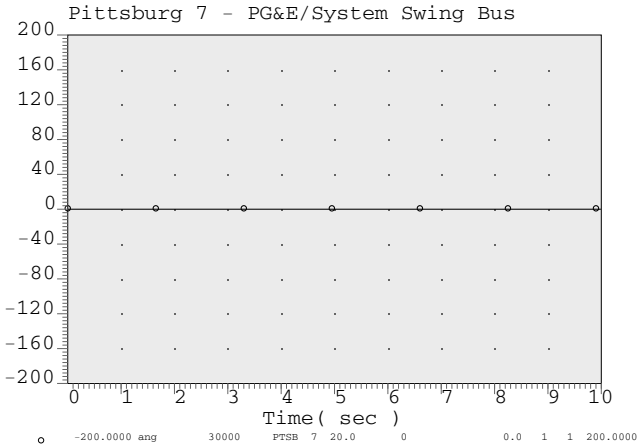


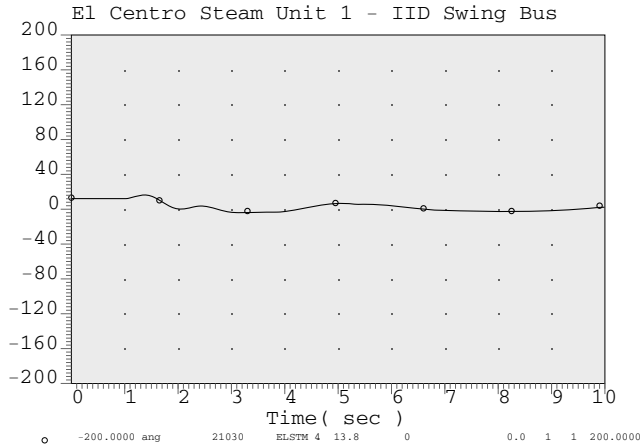


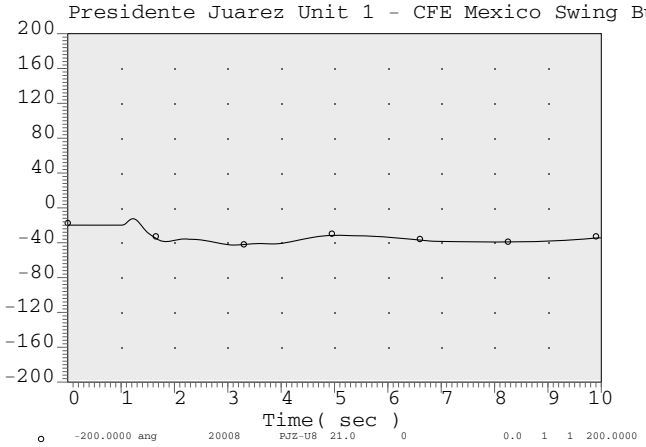


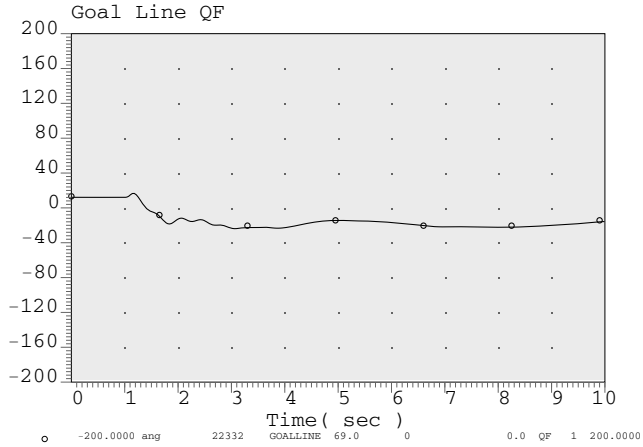
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

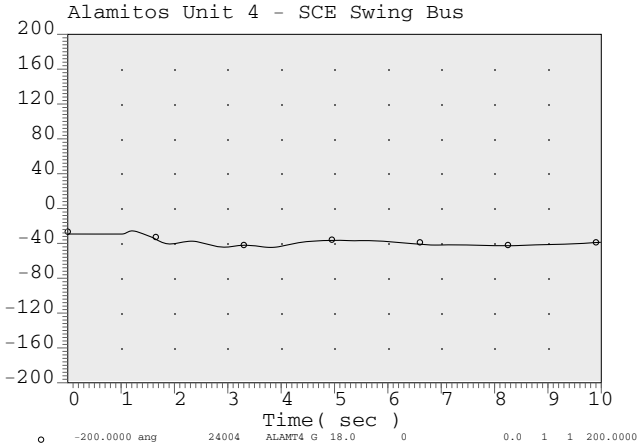
Relative Rotor Angle

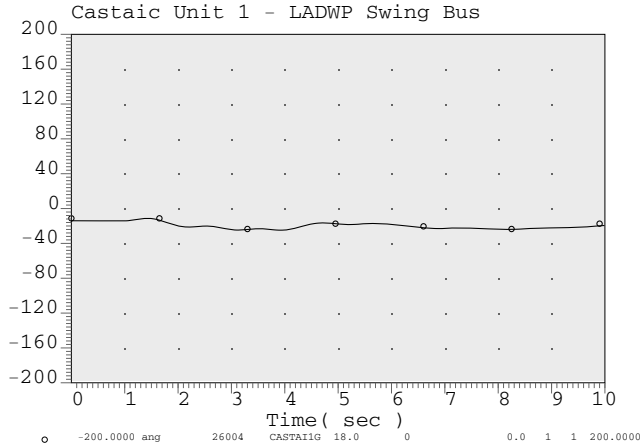






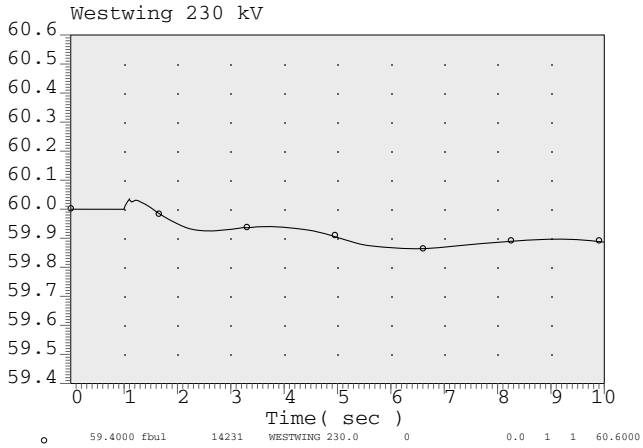


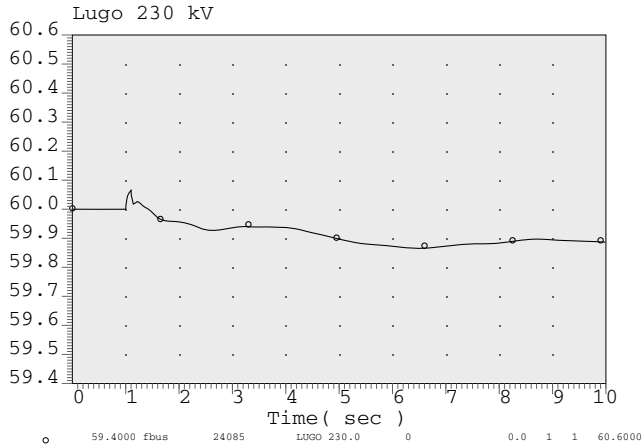


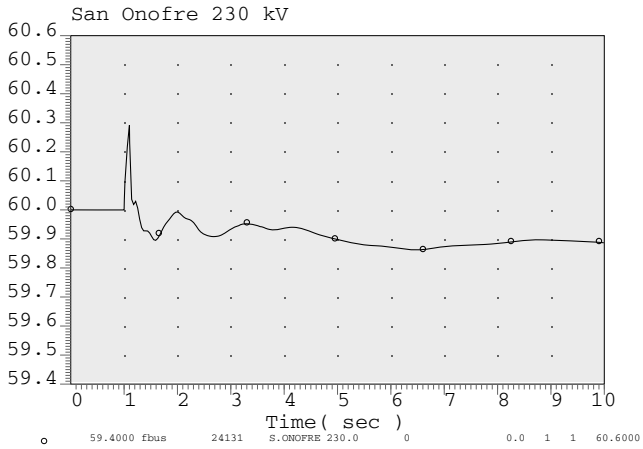


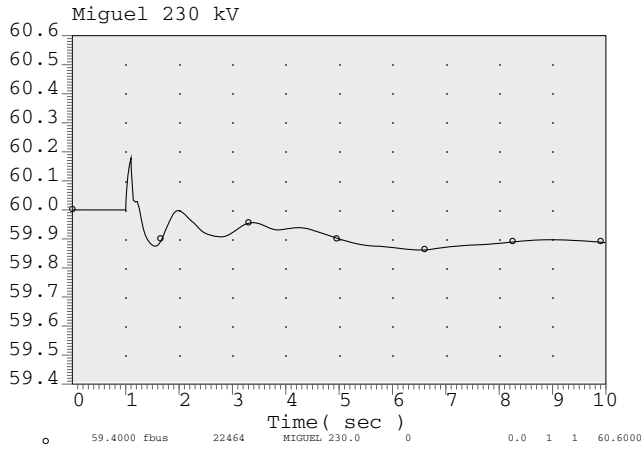
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

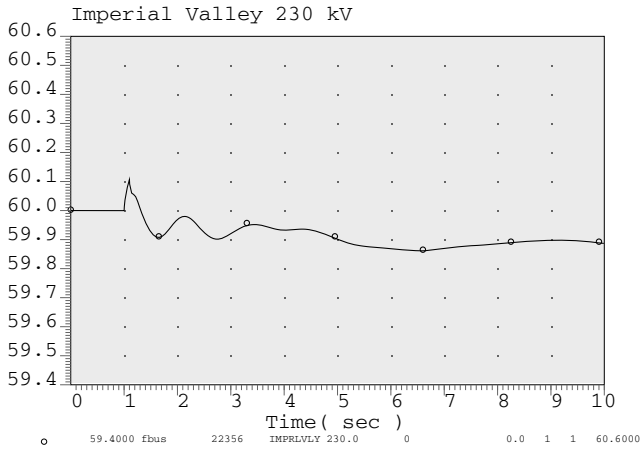
Bus Frequency

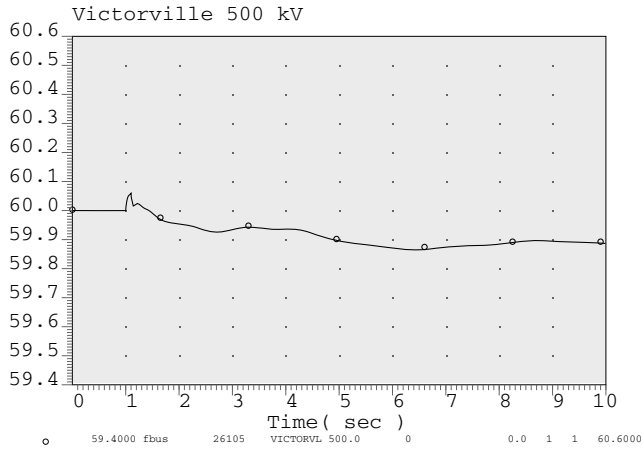






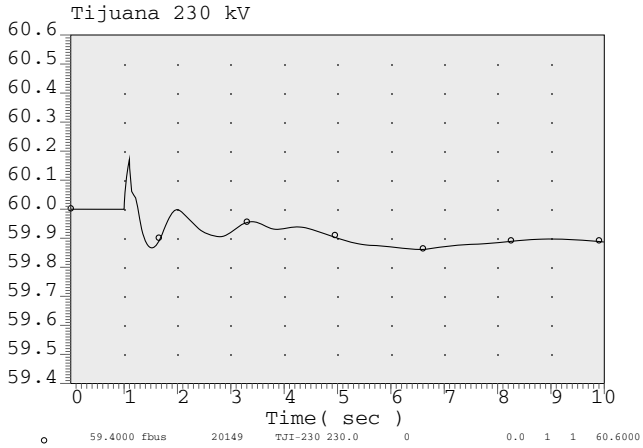


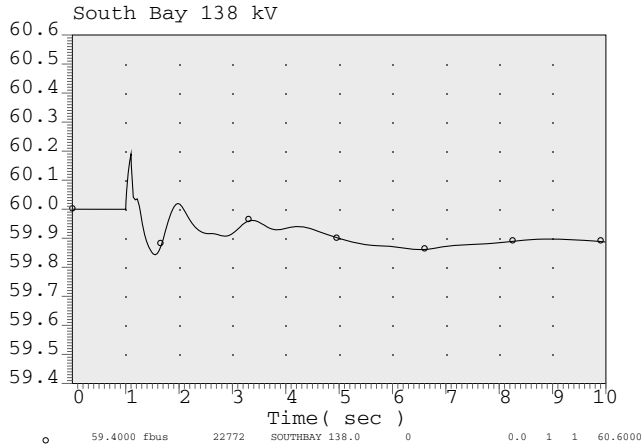


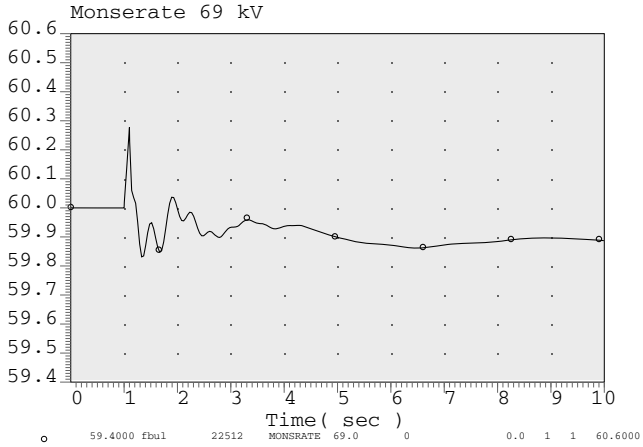


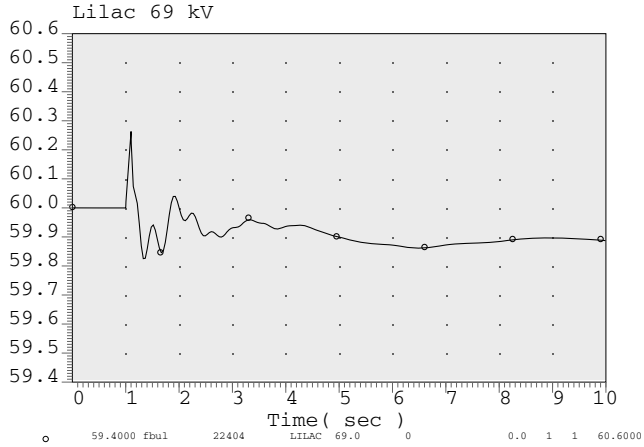
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

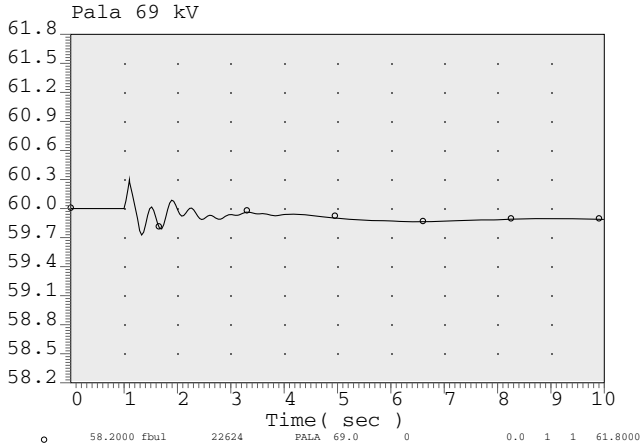
Bus Frequency

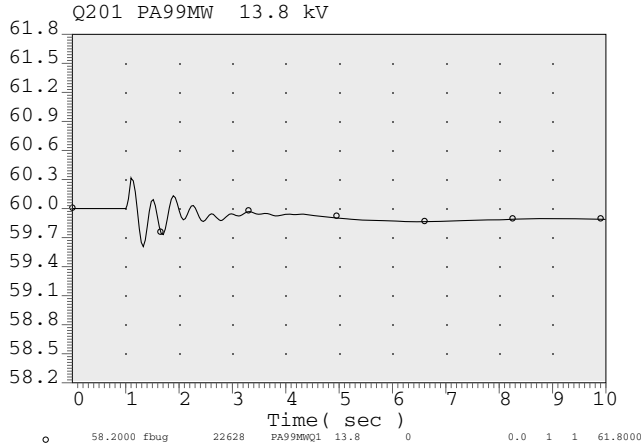






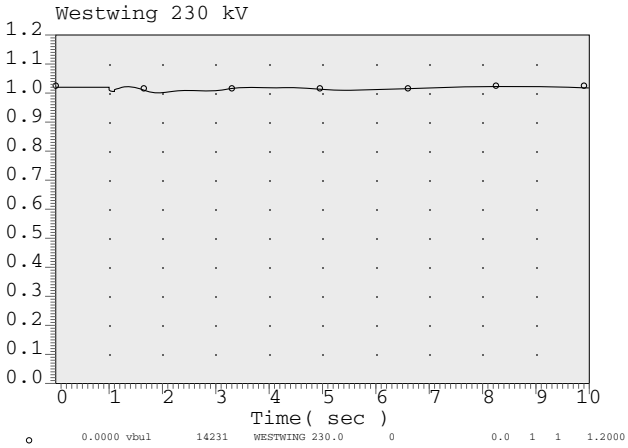


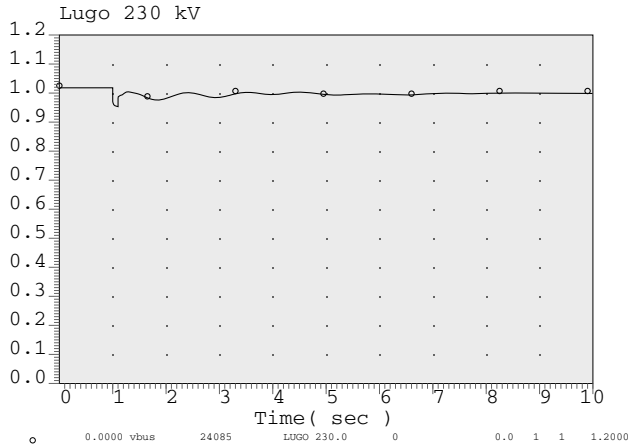


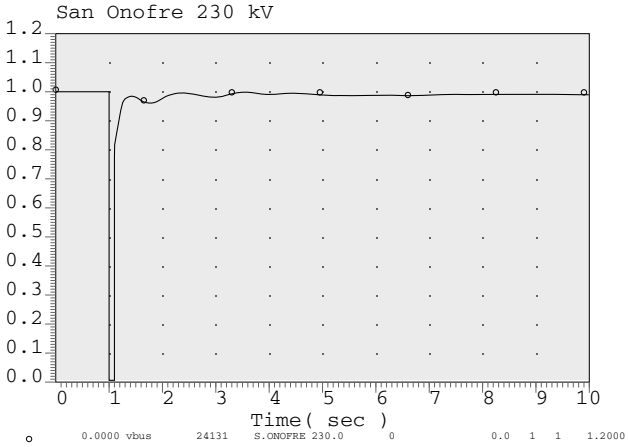


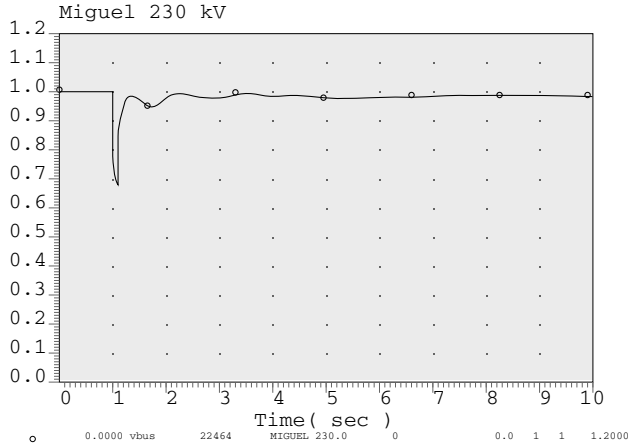
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

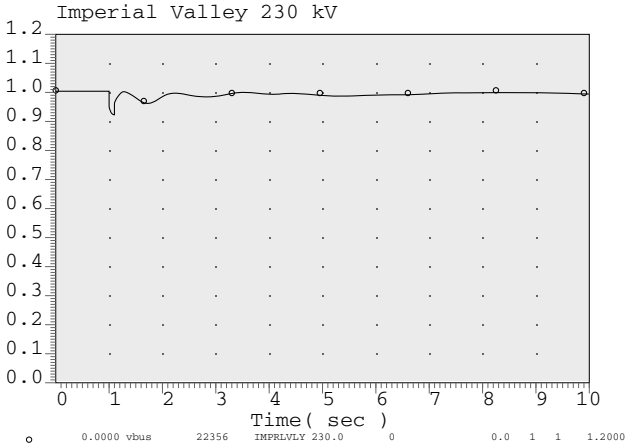
Bus Voltage

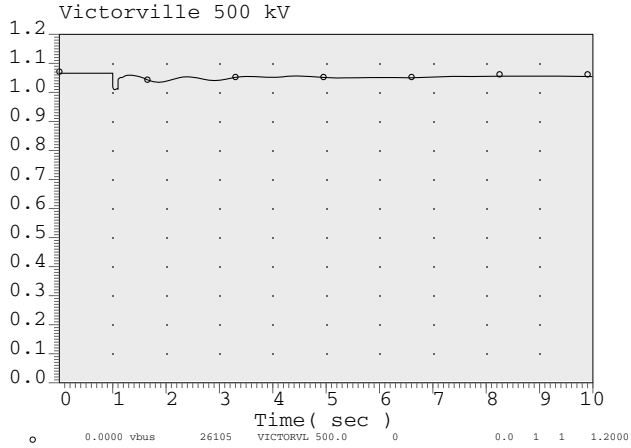






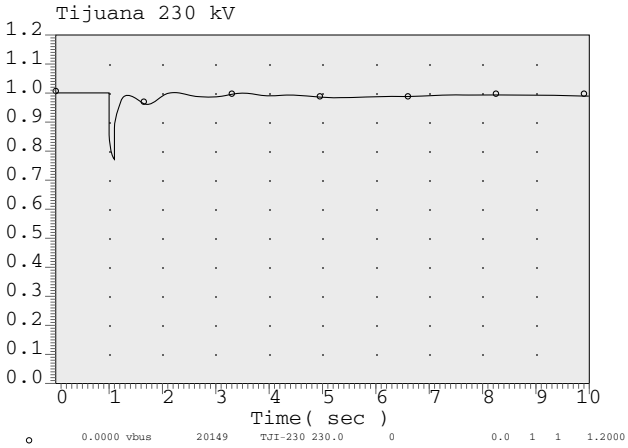


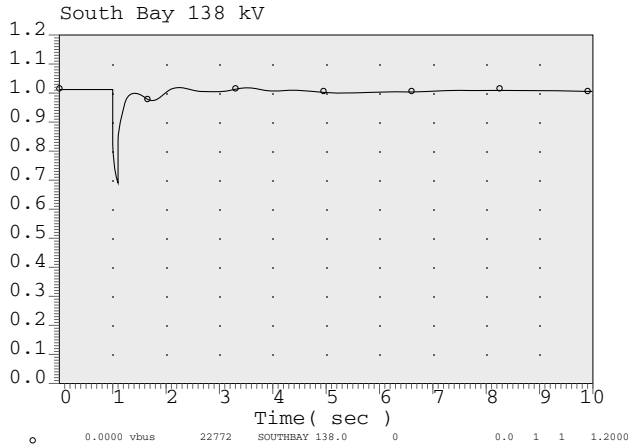


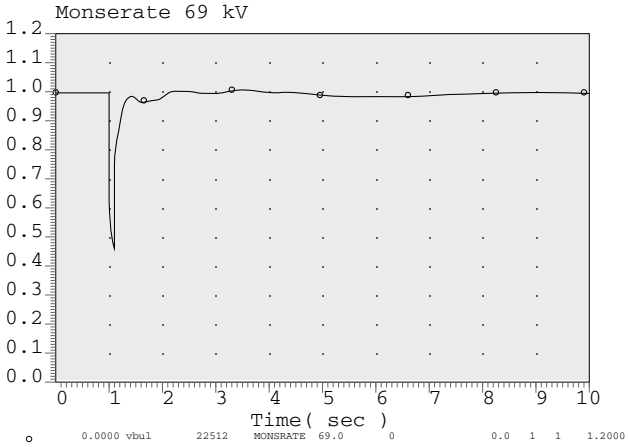


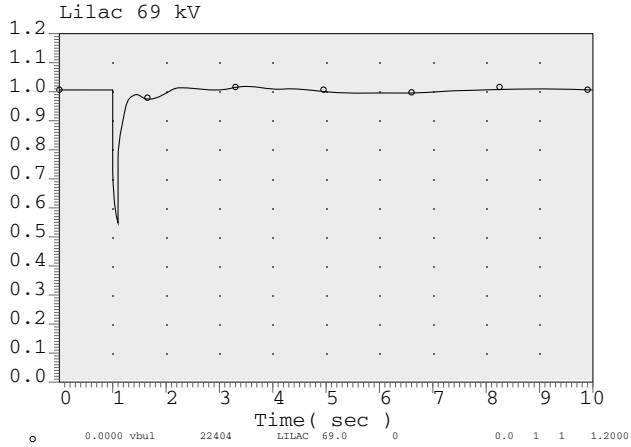
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

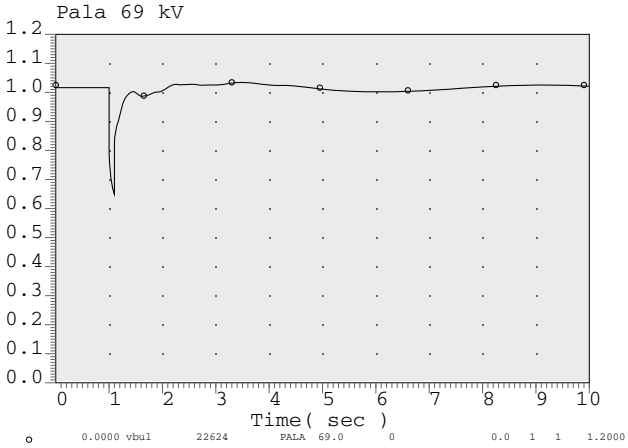
Bus Voltage

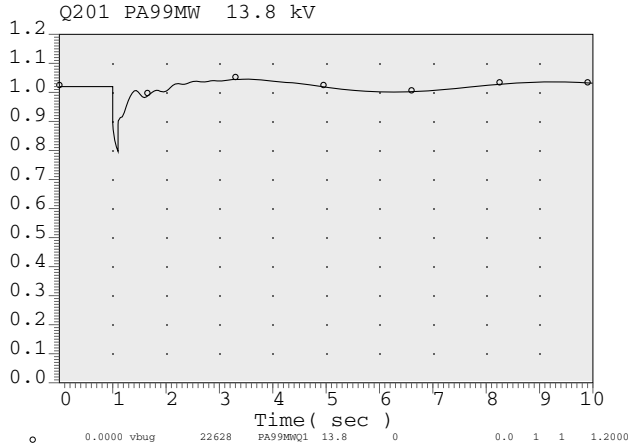






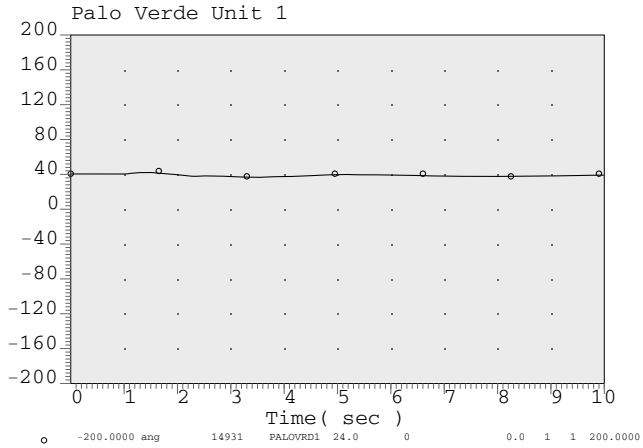


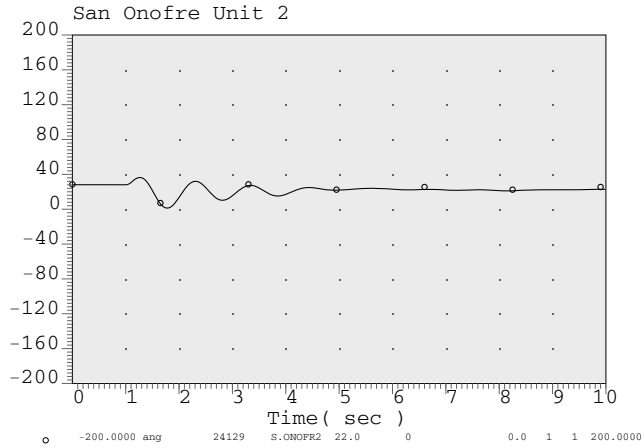


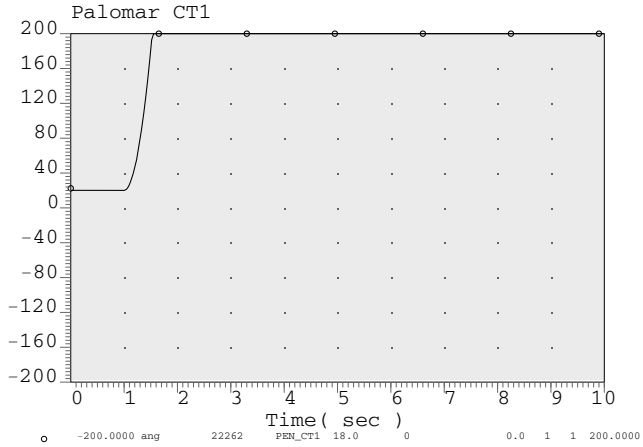


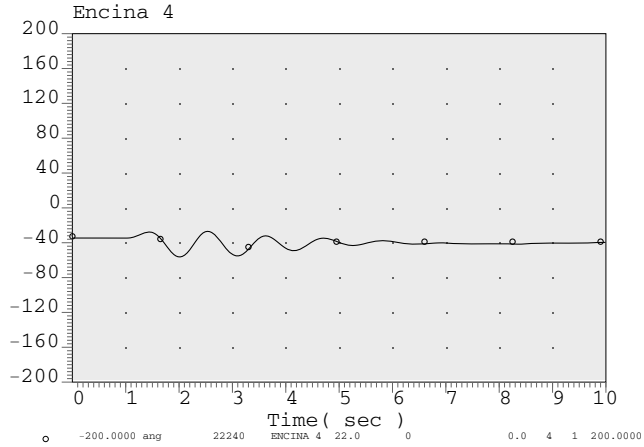
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

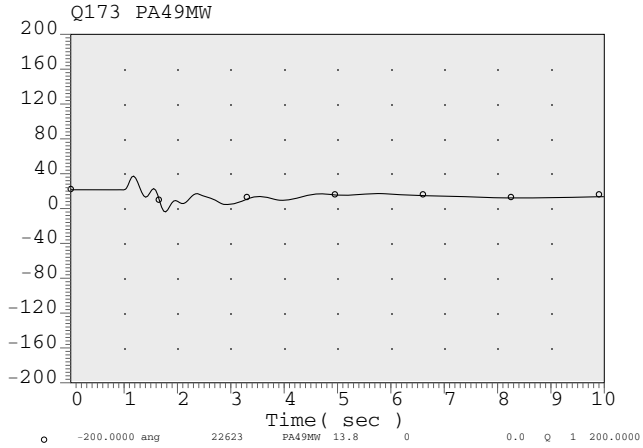
Relative Rotor Angle

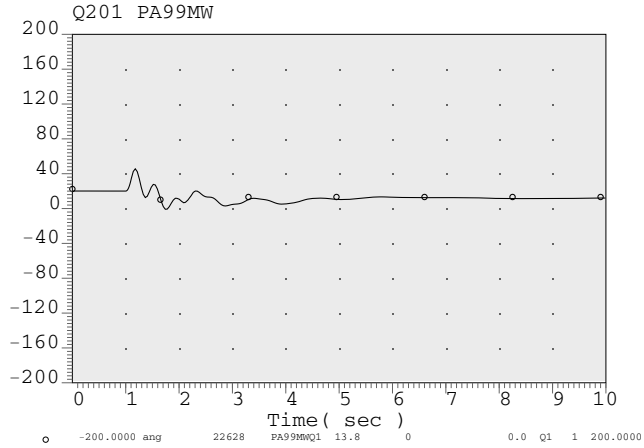






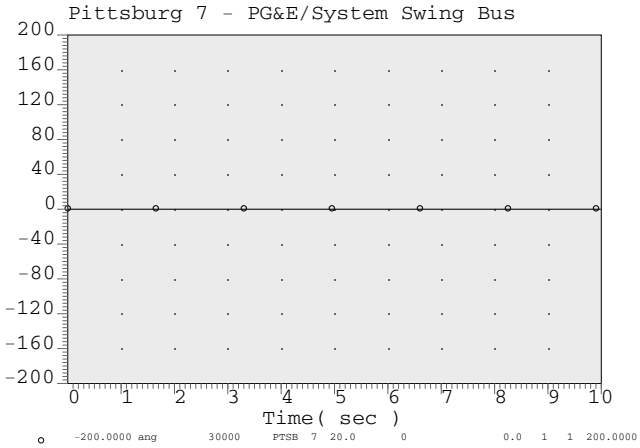


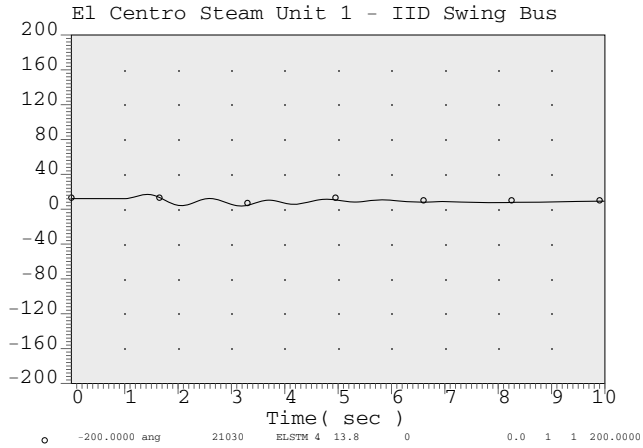


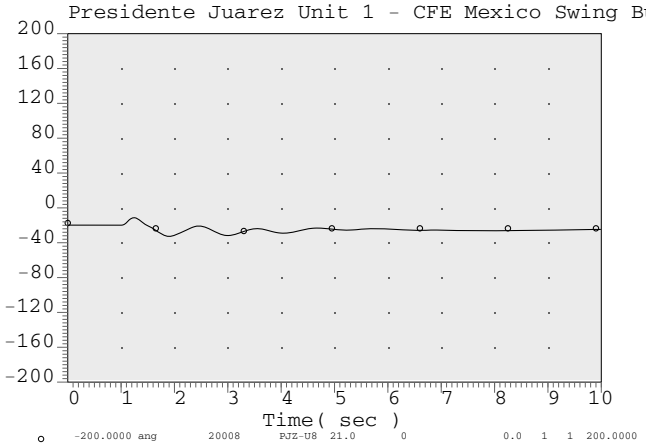


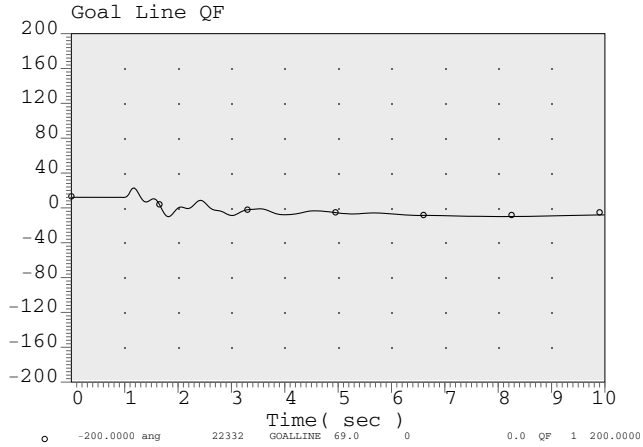
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

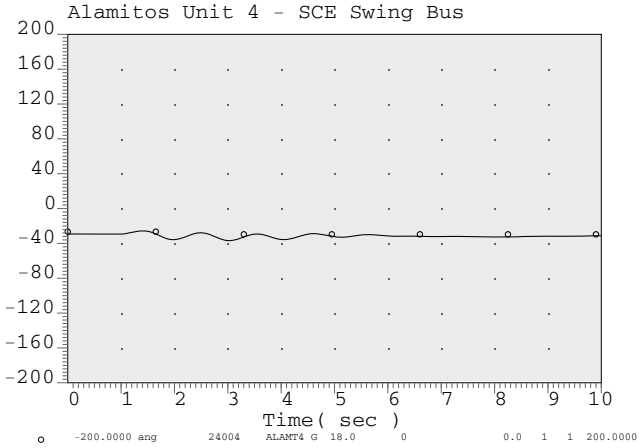
Relative Rotor Angle

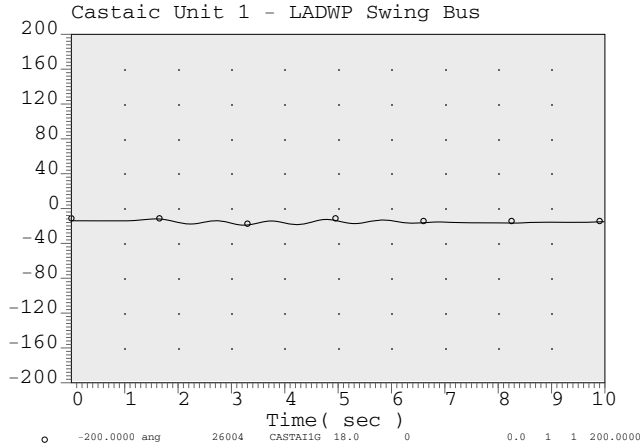






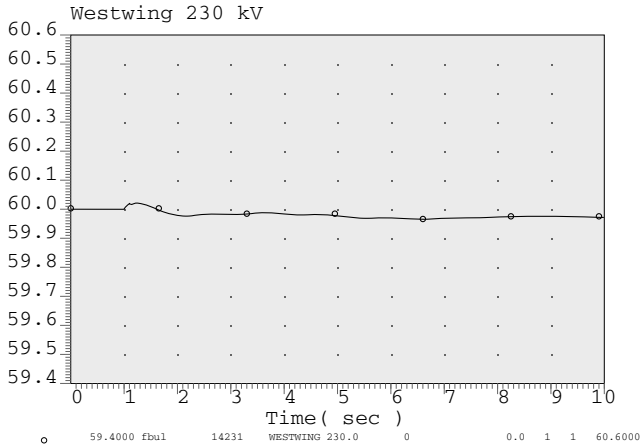


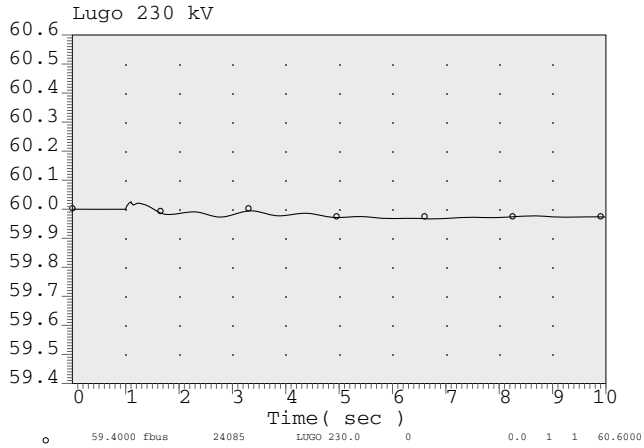


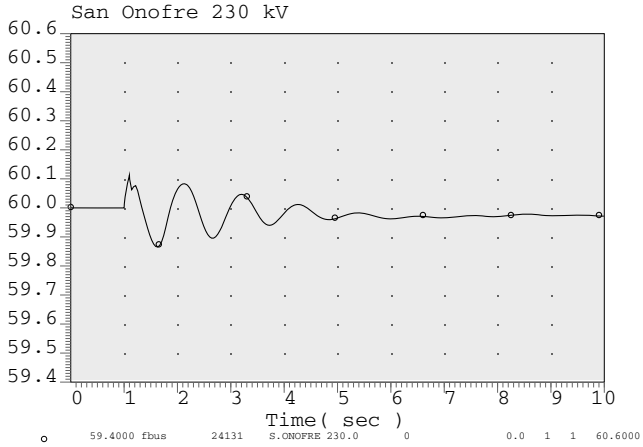


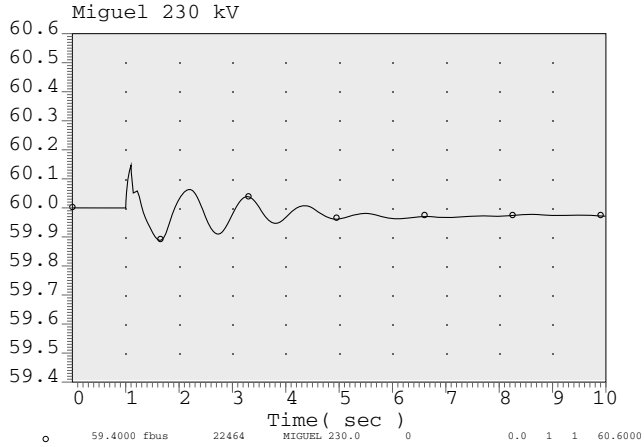
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

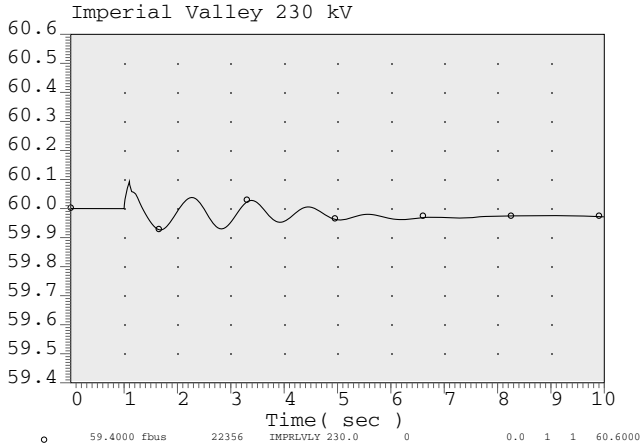
Bus Frequency

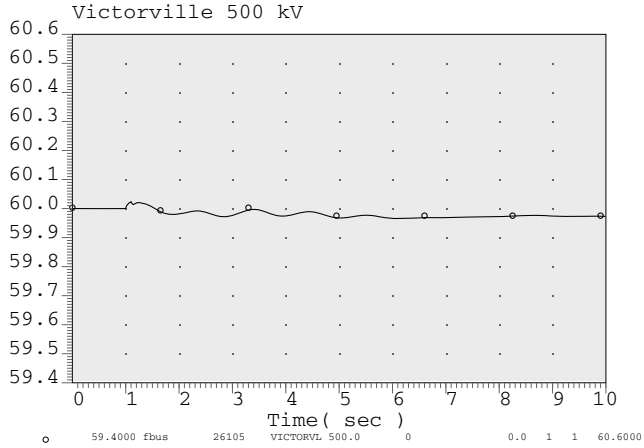






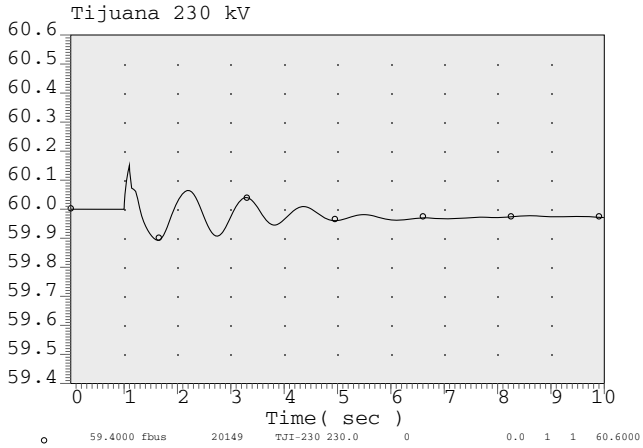


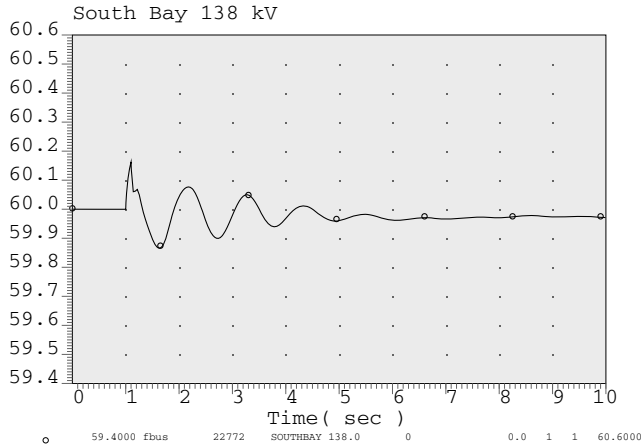


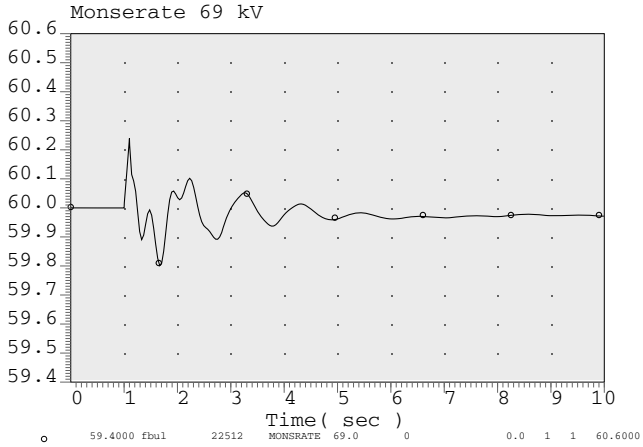


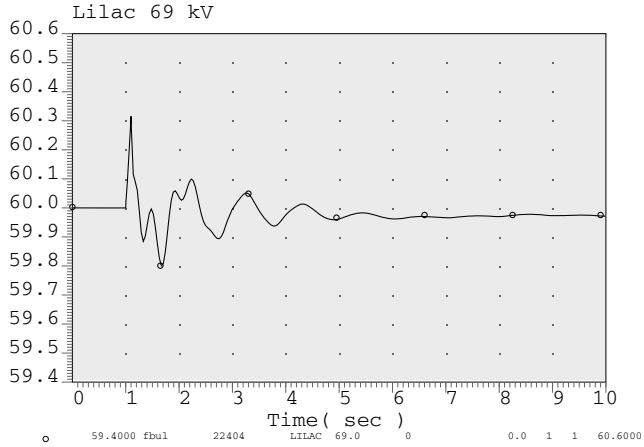
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

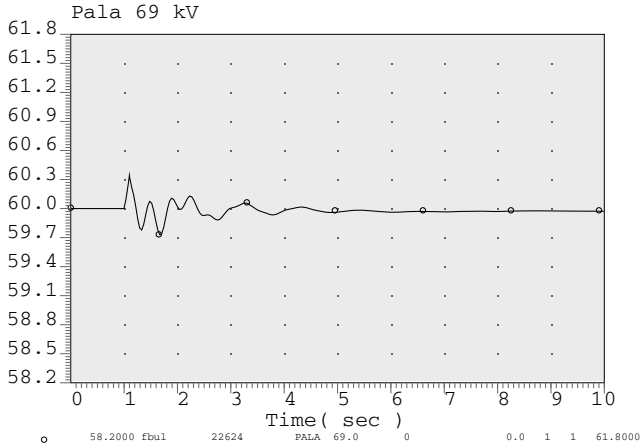
Bus Frequency

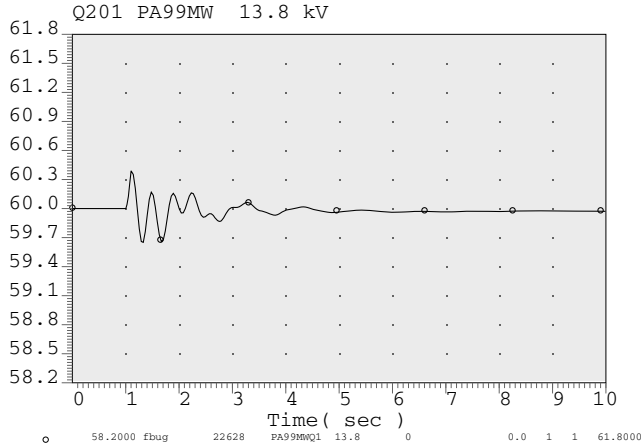






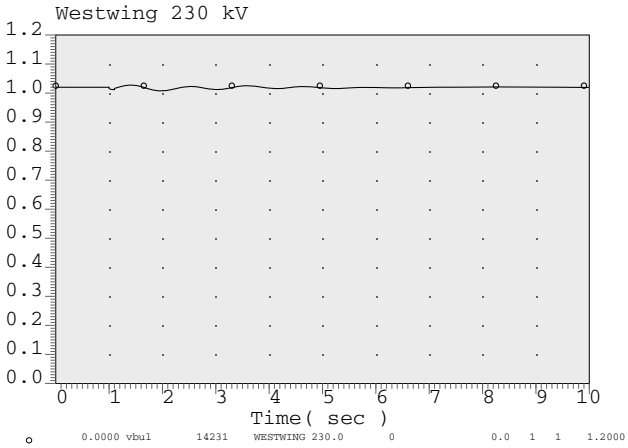


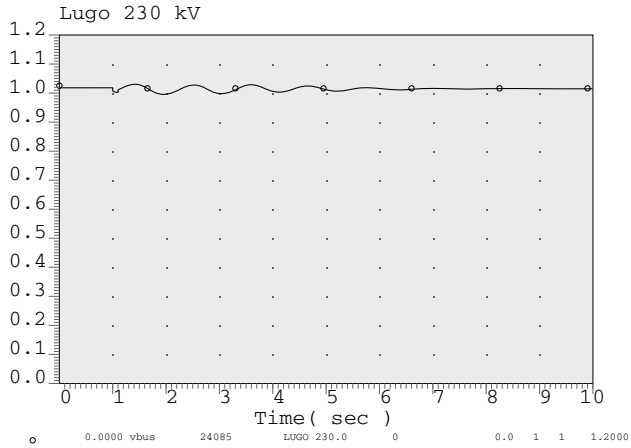


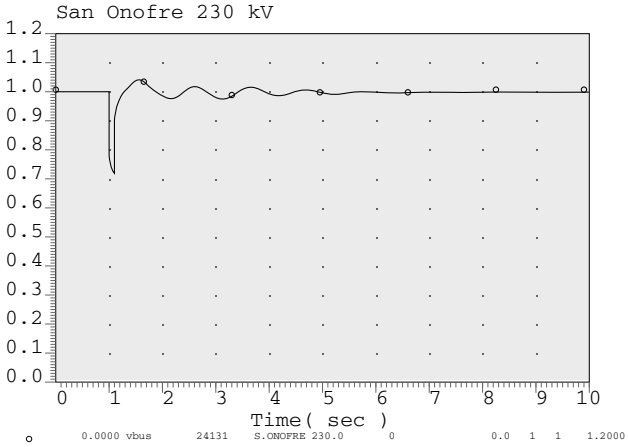


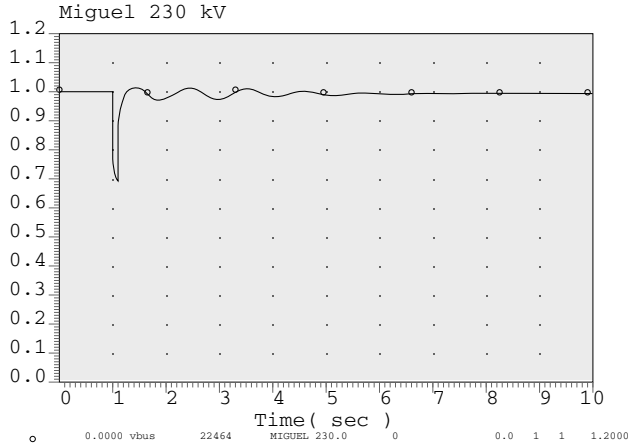
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

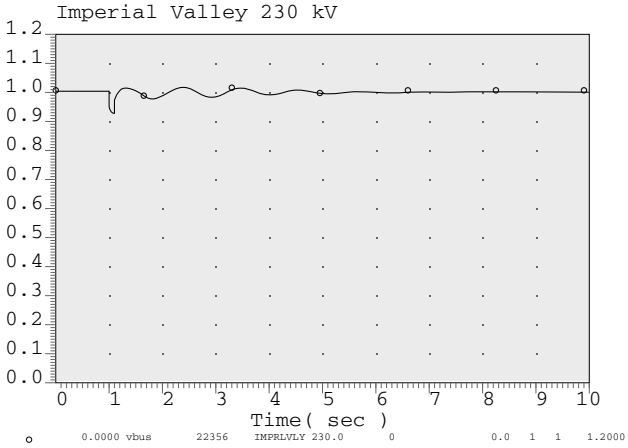
Bus Voltage

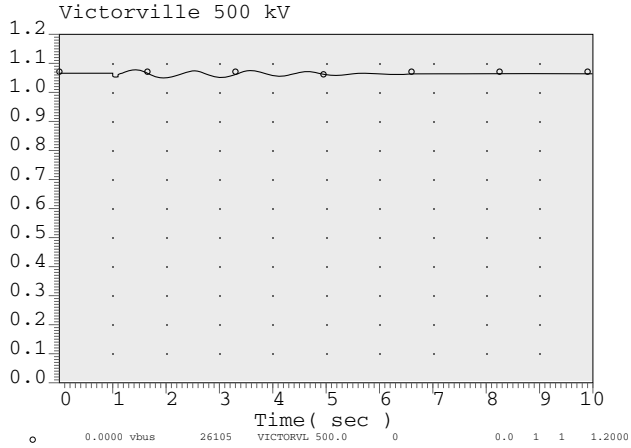






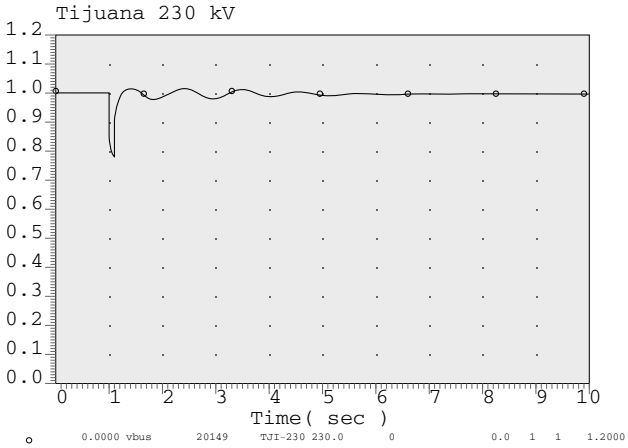


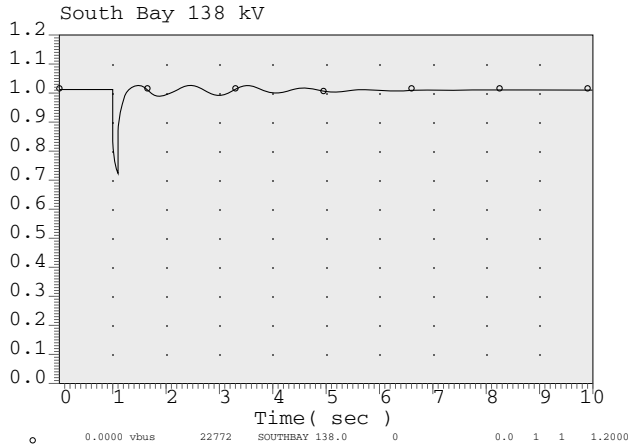


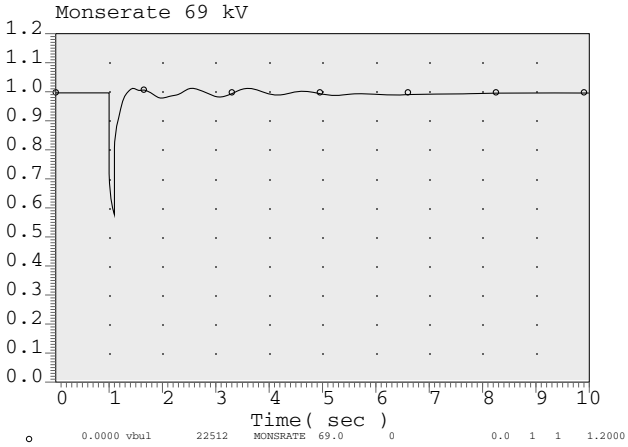


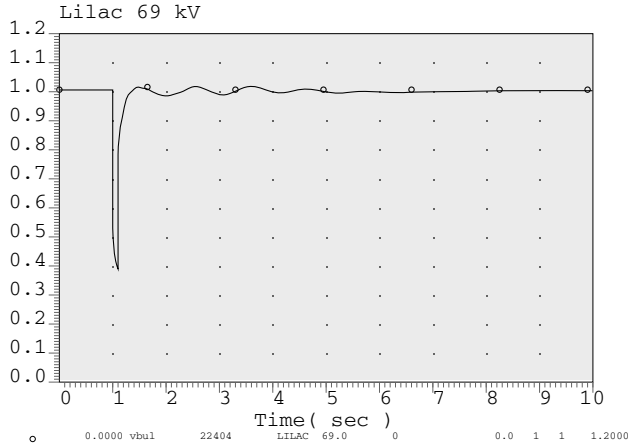
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

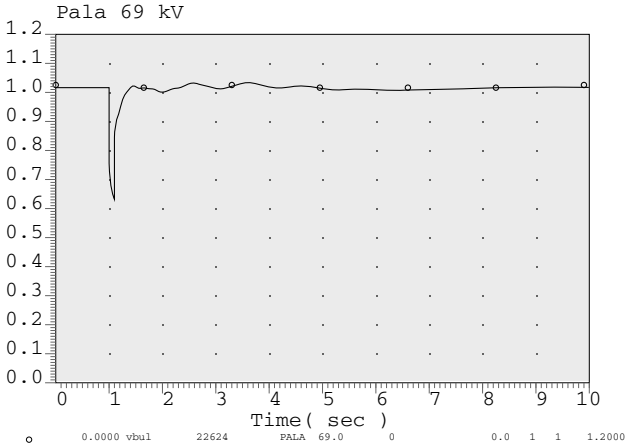
Bus Voltage

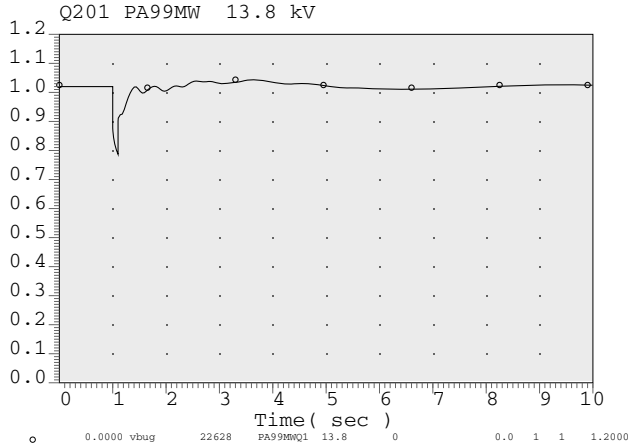






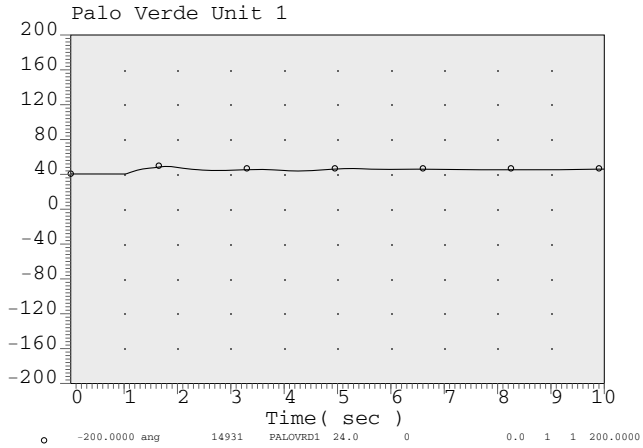


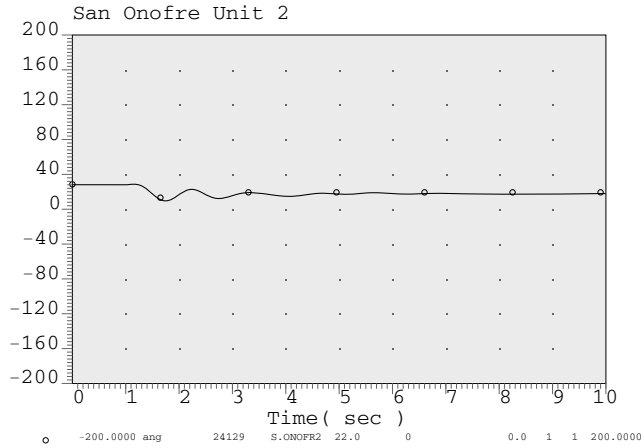


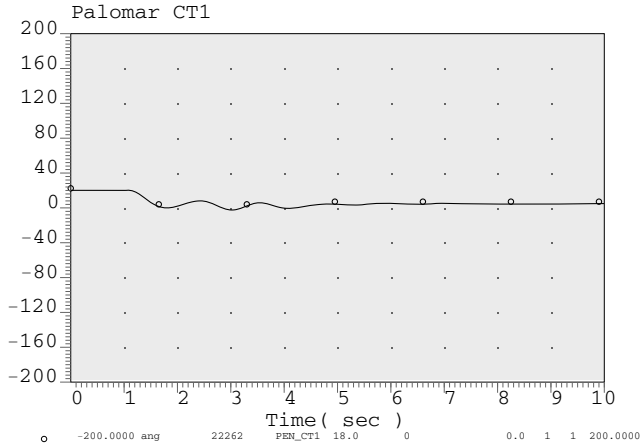


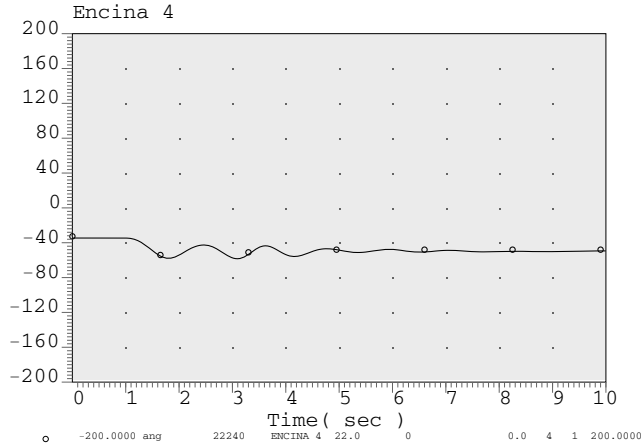
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

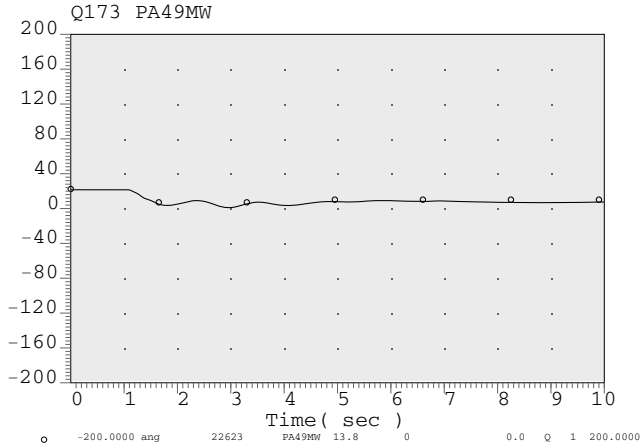
Relative Rotor Angle

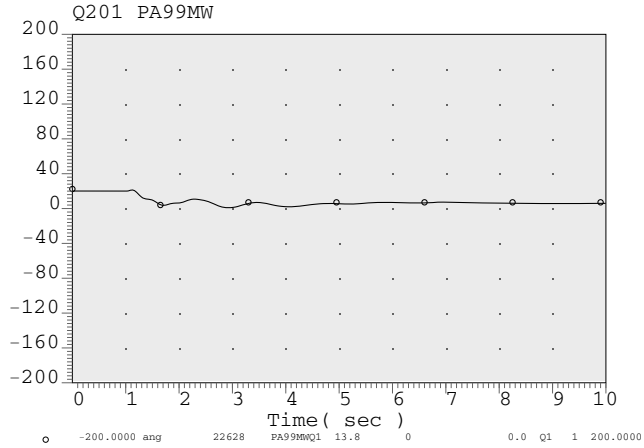






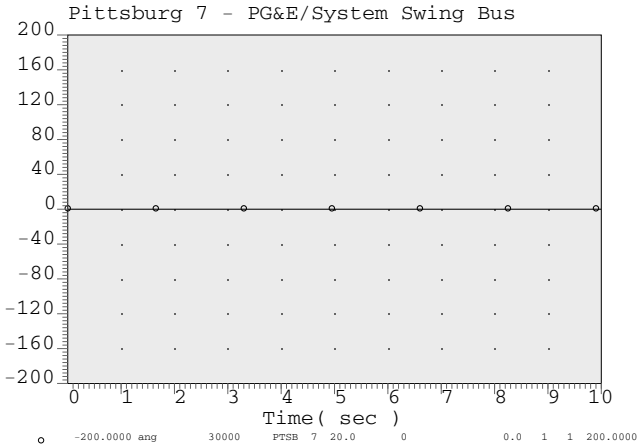


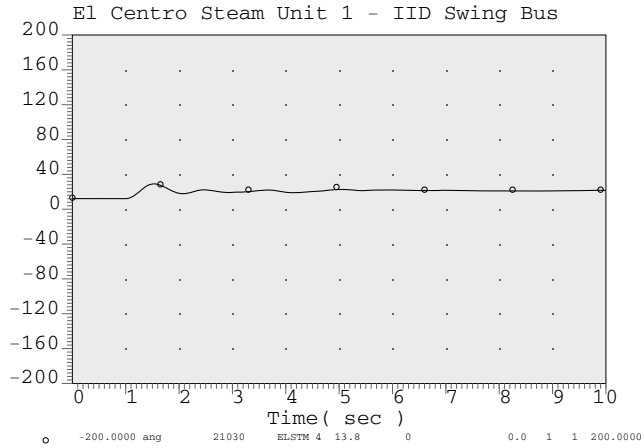


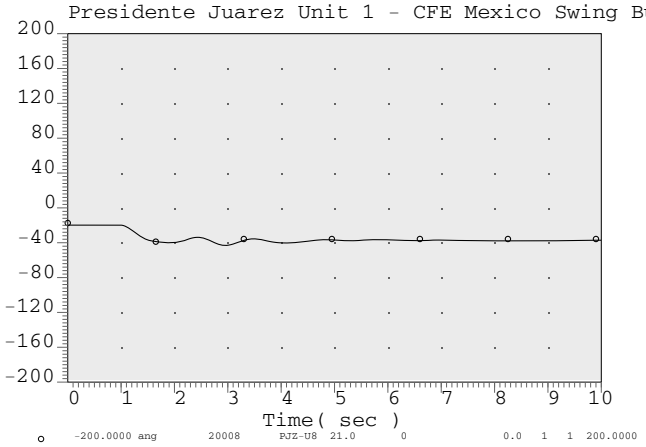


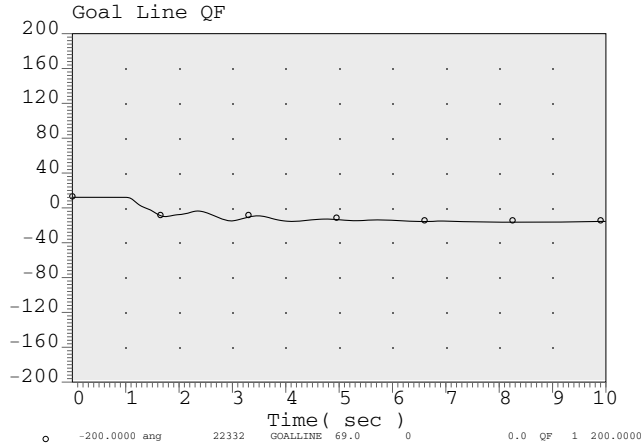
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

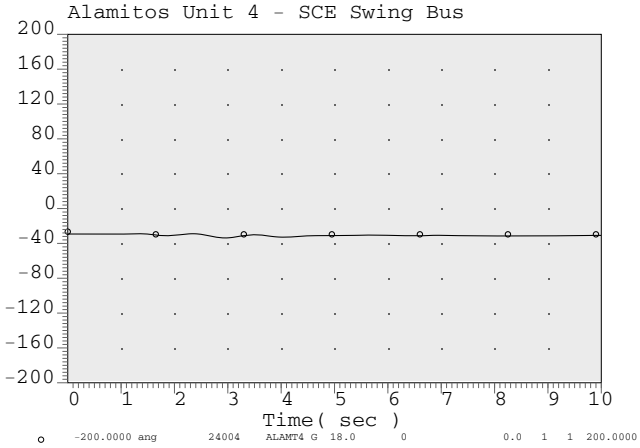
Relative Rotor Angle

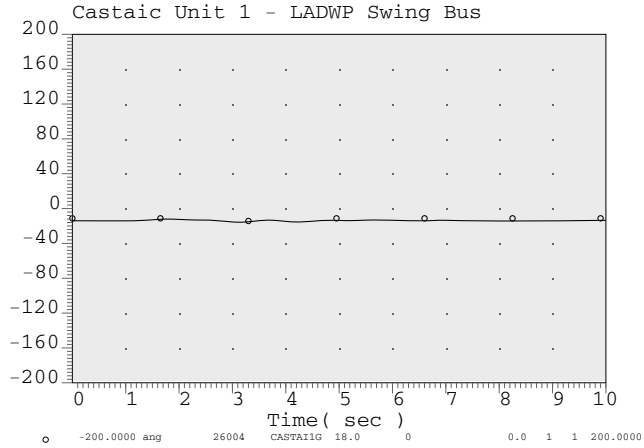






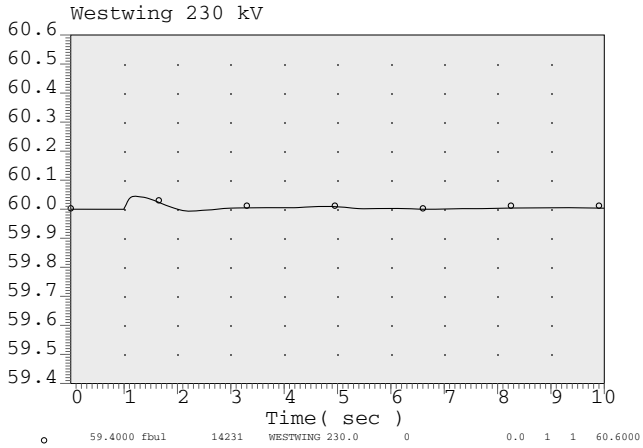


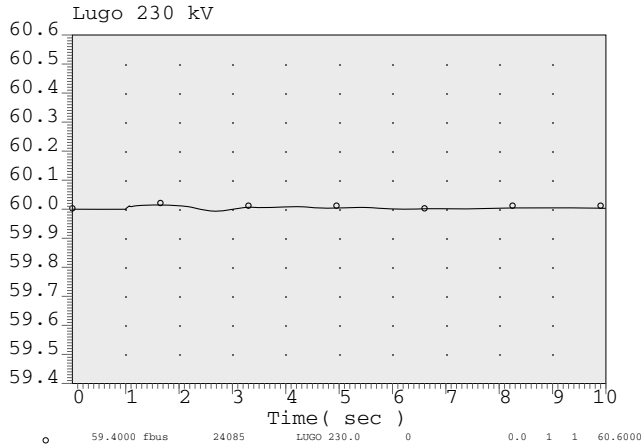


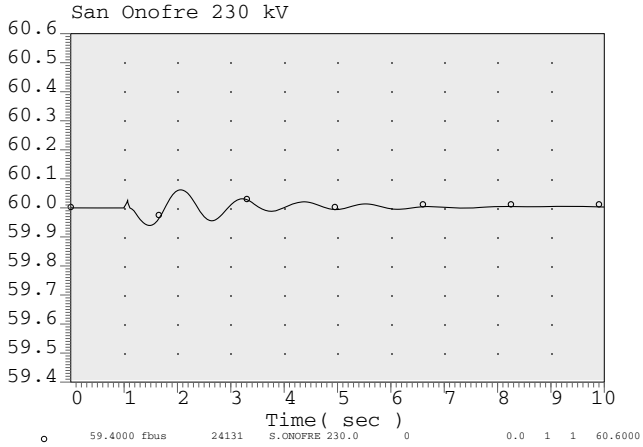


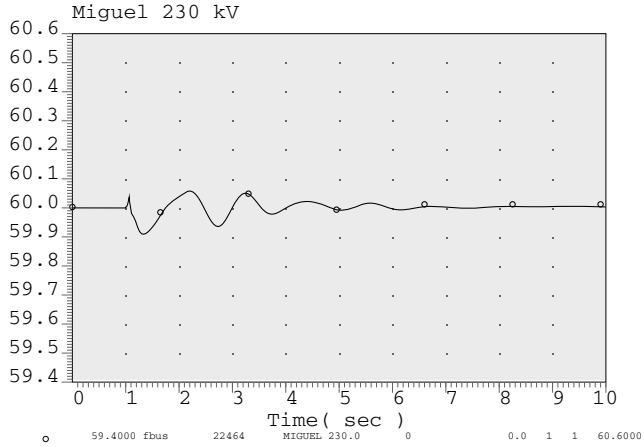
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

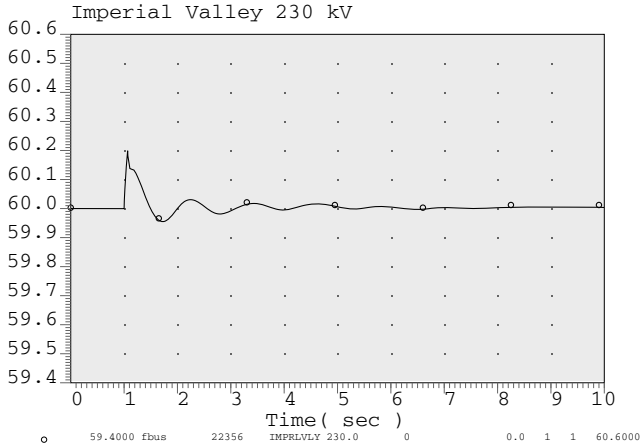
Bus Frequency

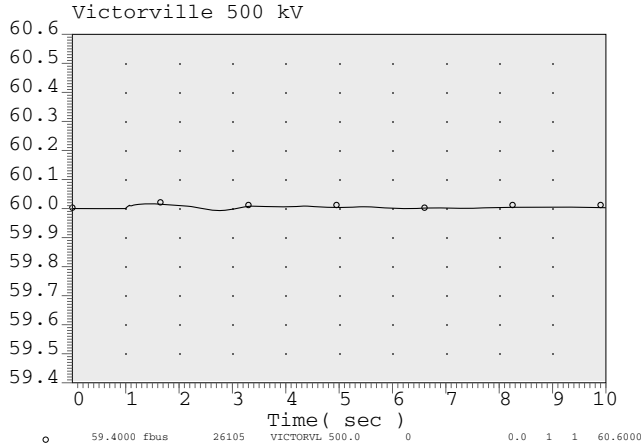






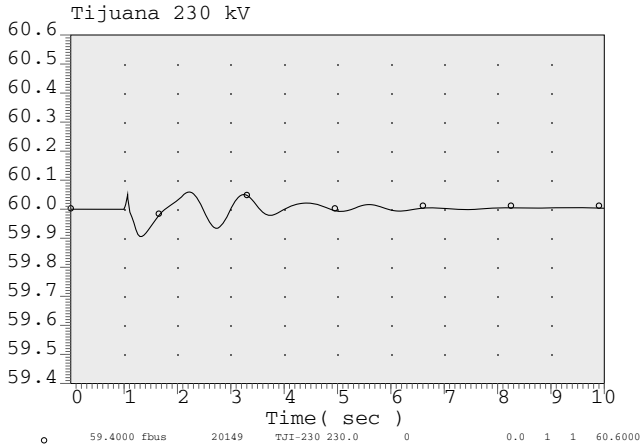


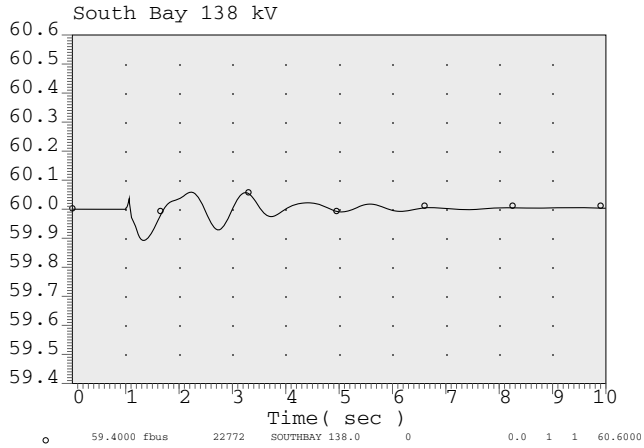


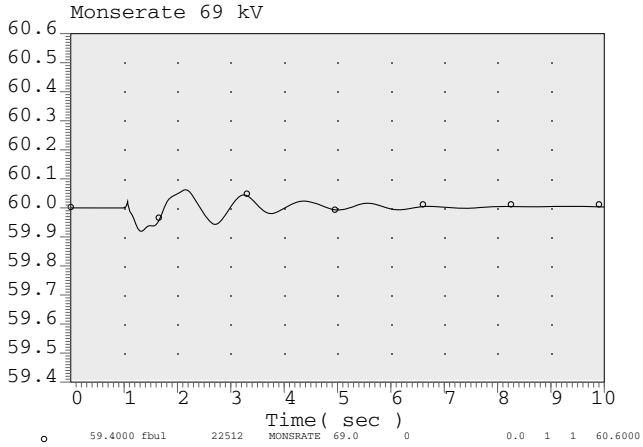


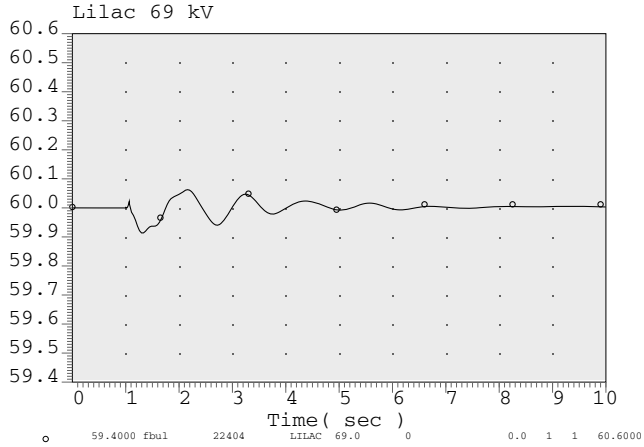
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

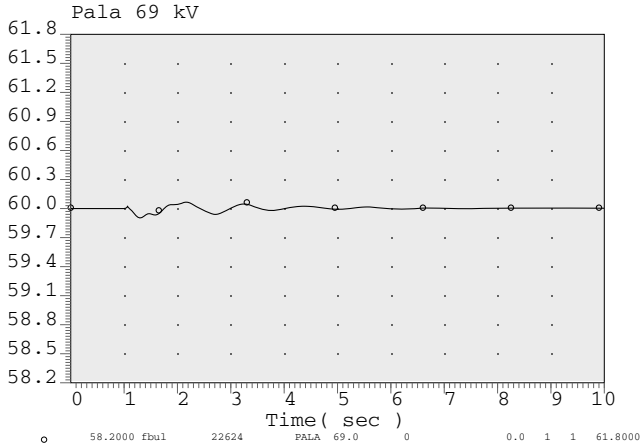
Bus Frequency

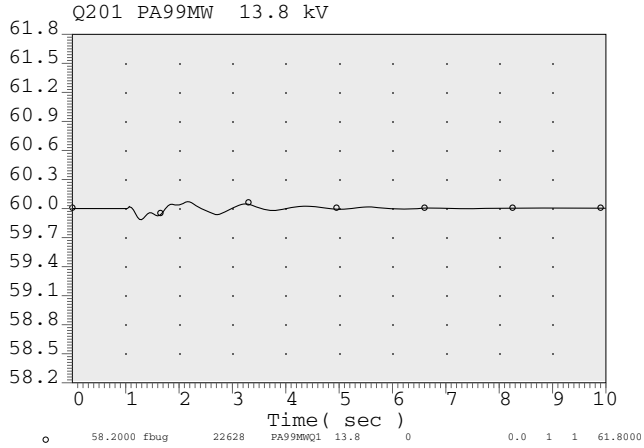






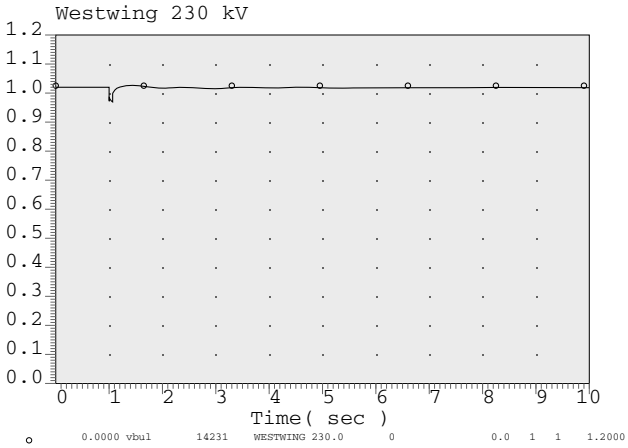


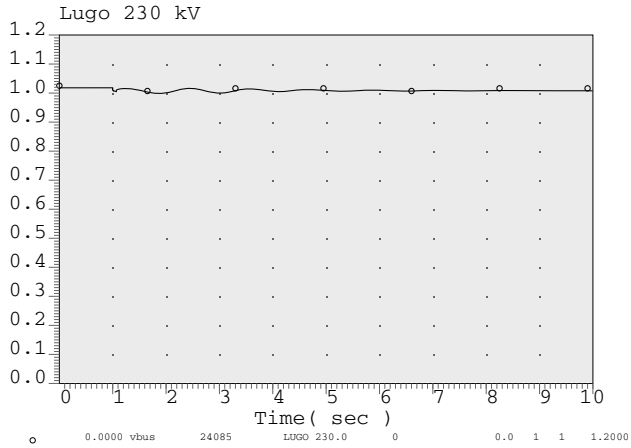


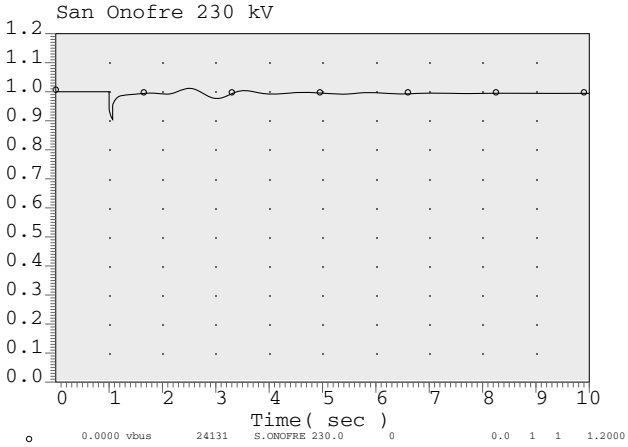


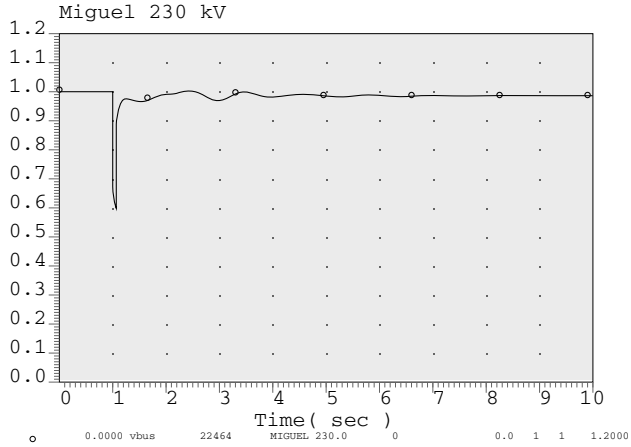
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

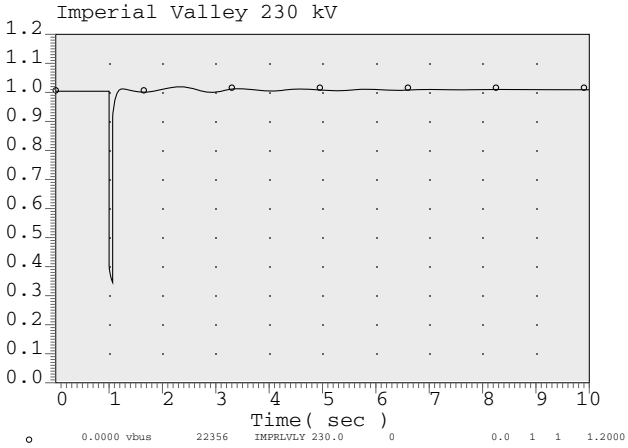
Bus Voltage

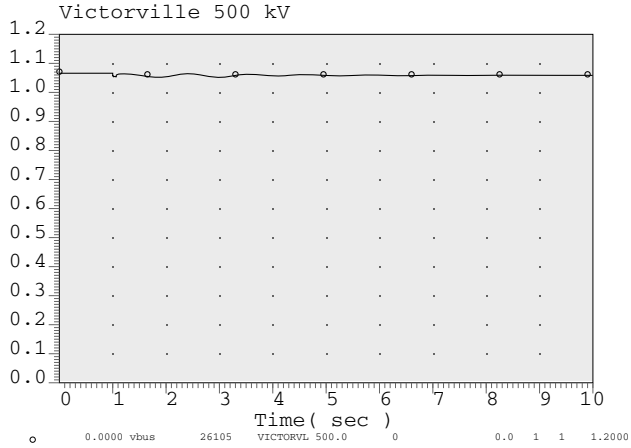






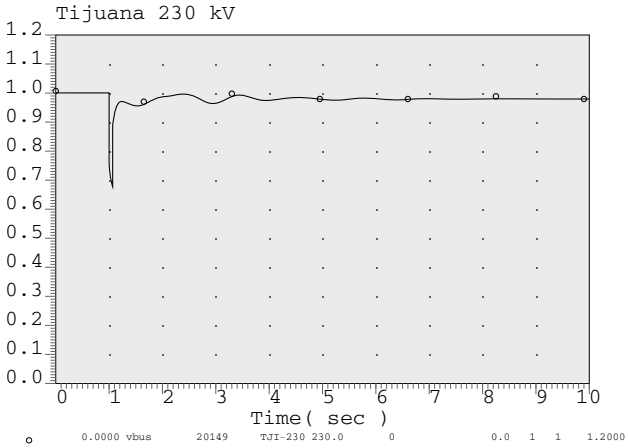


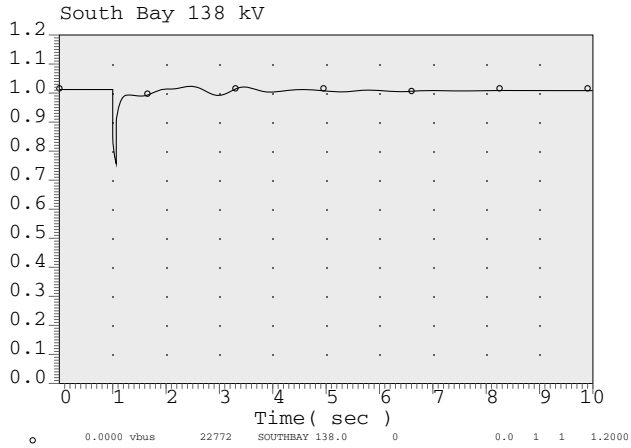


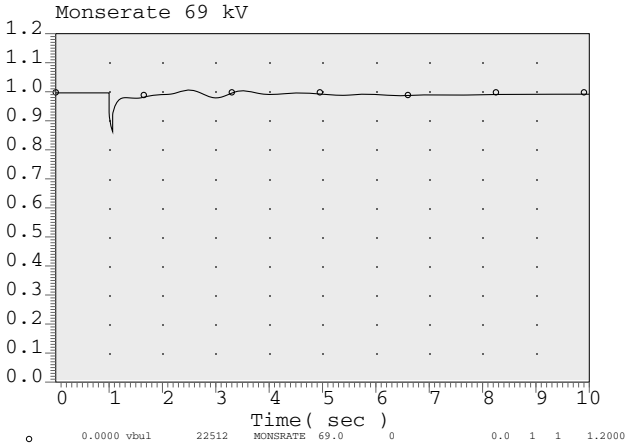


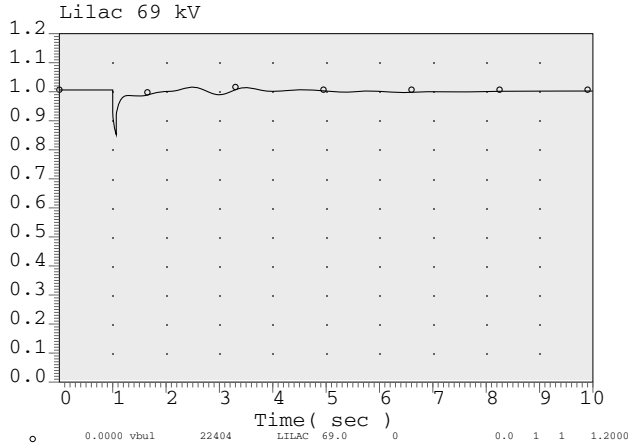
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

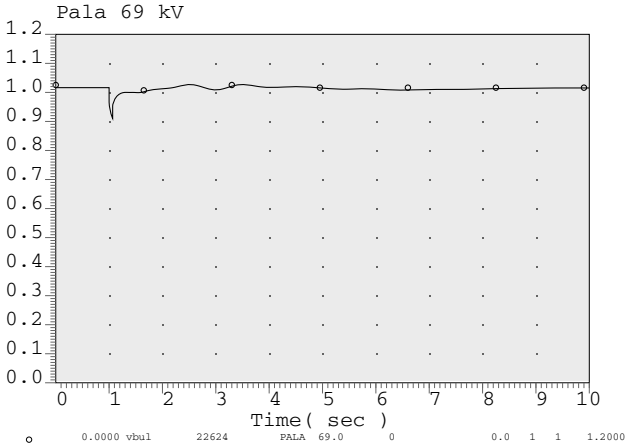
Bus Voltage

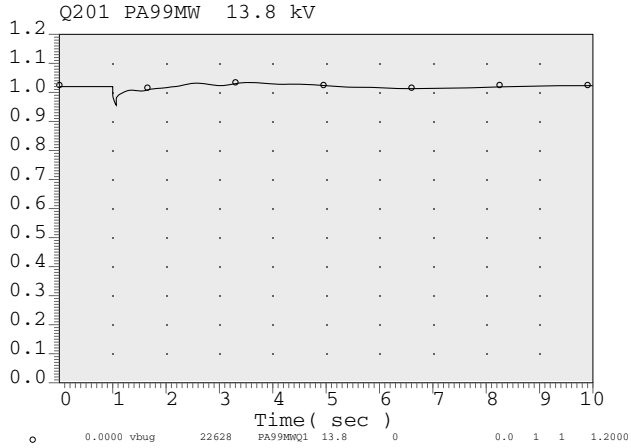






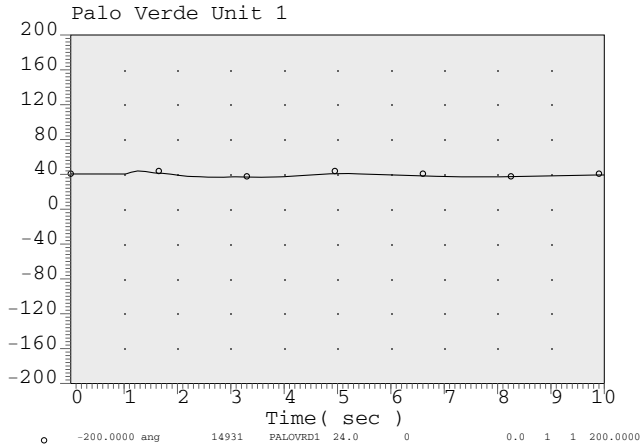


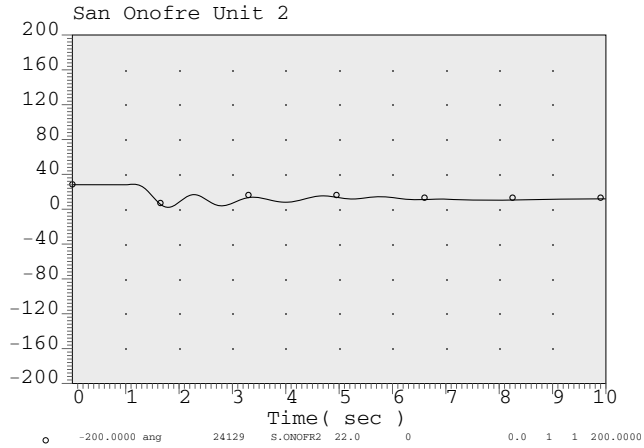


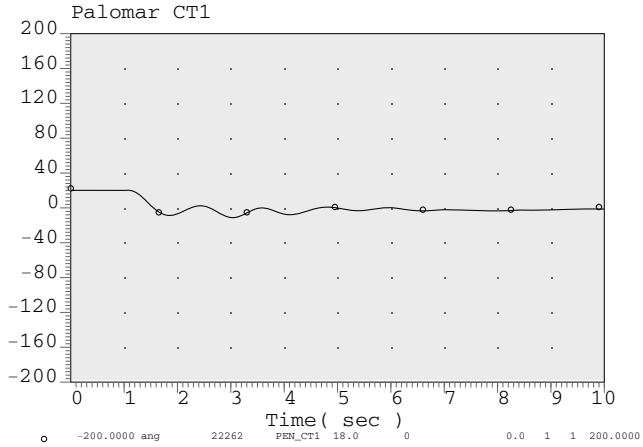


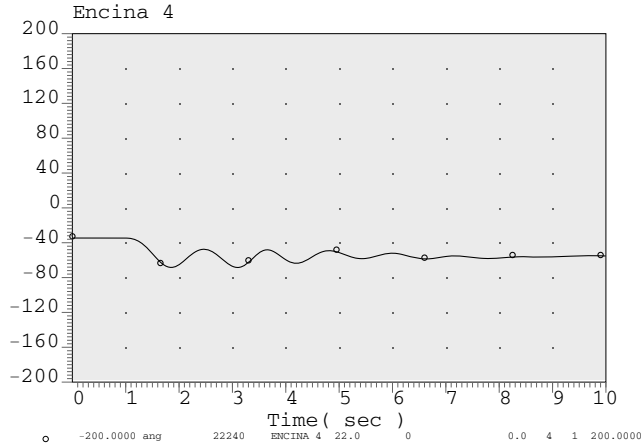
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

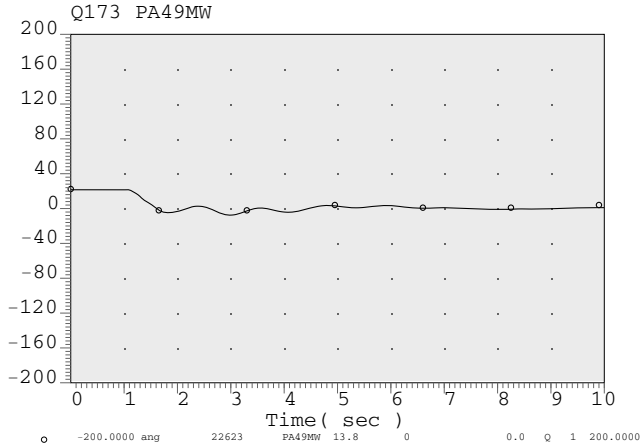
Relative Rotor Angle

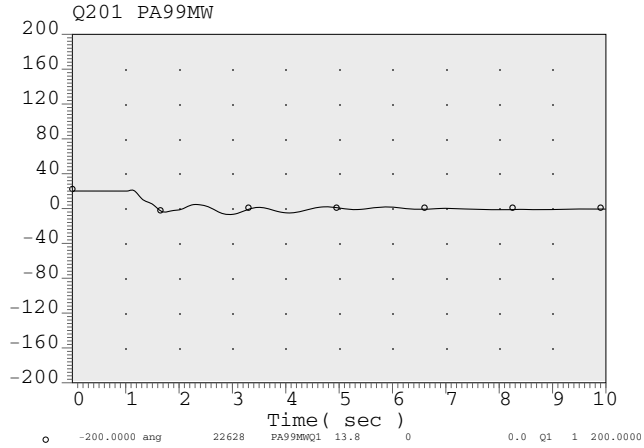






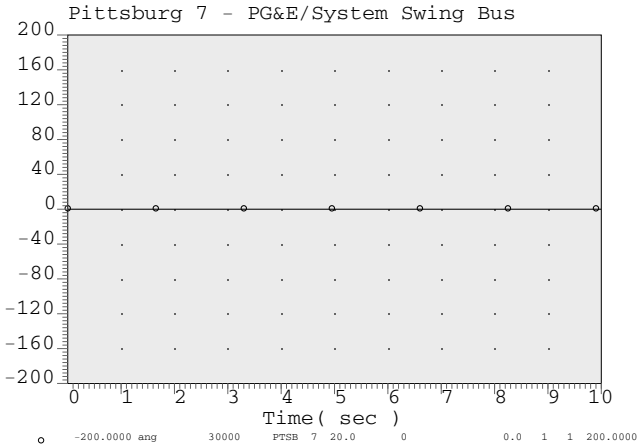


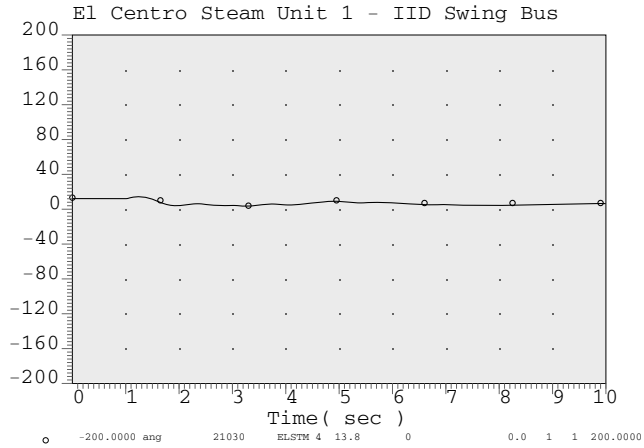


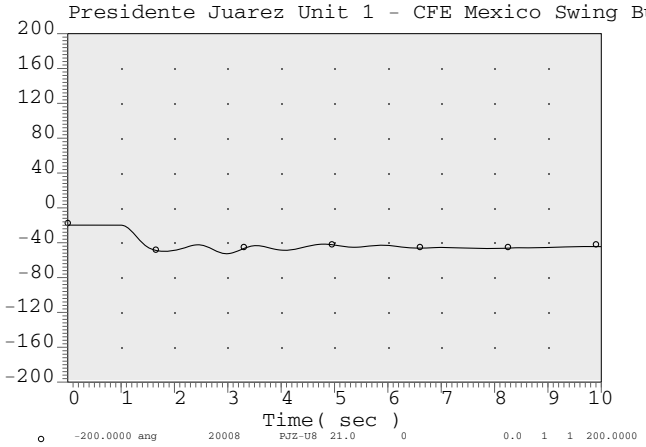


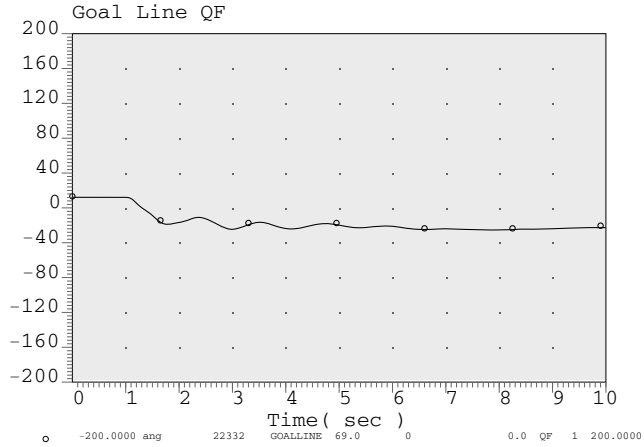
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

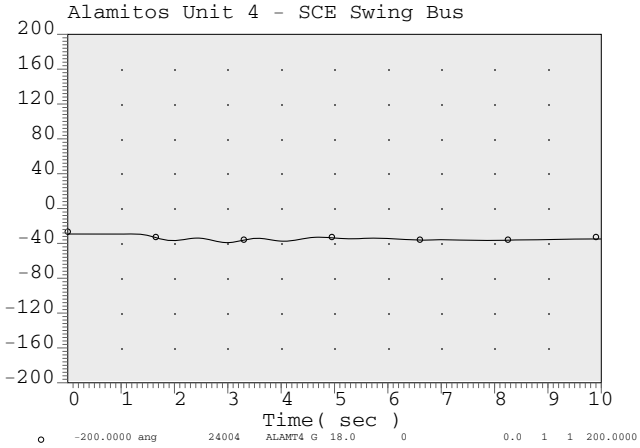
Relative Rotor Angle

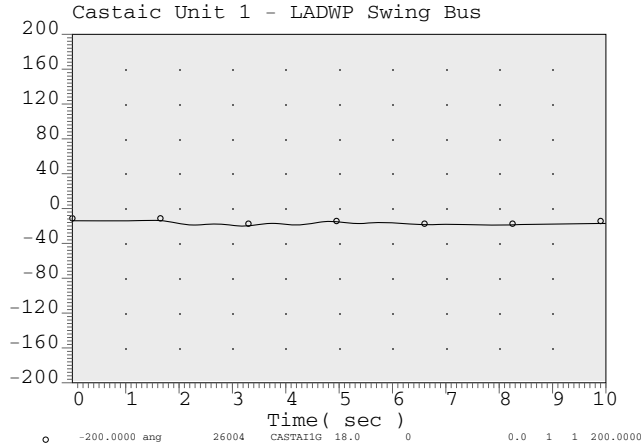






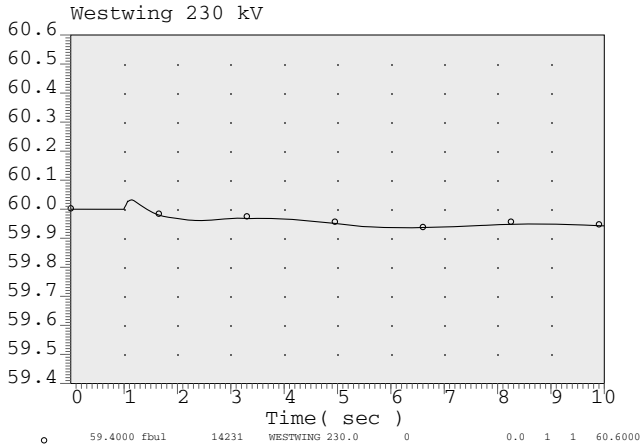


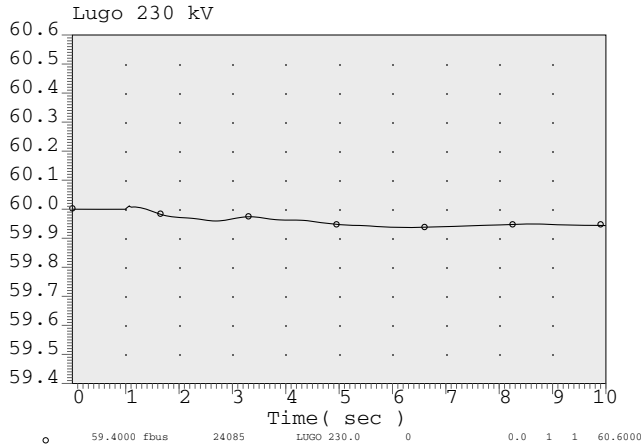


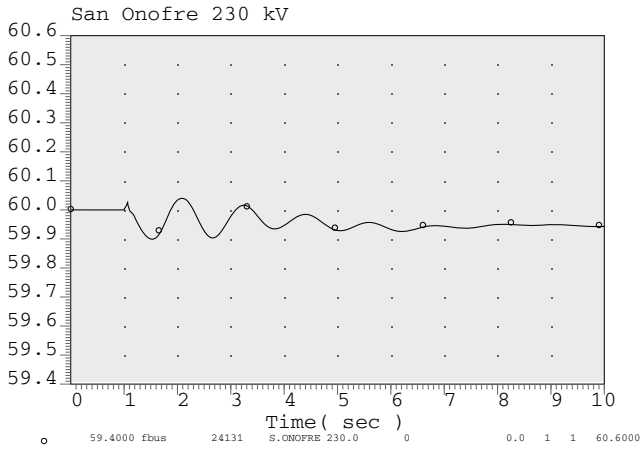


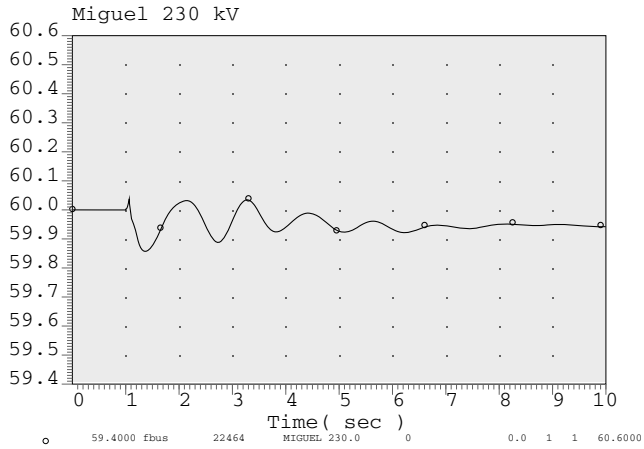
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

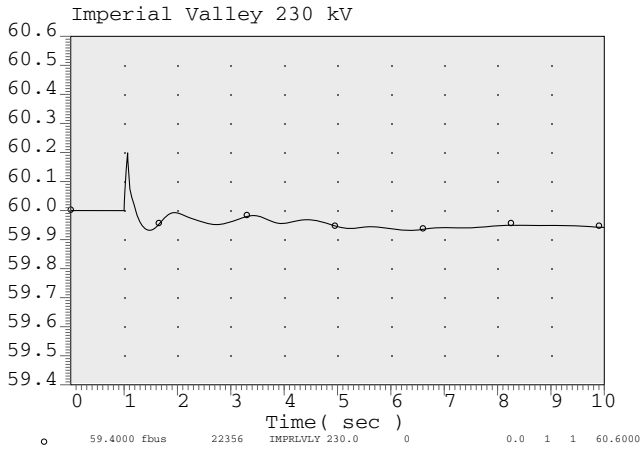
Bus Frequency

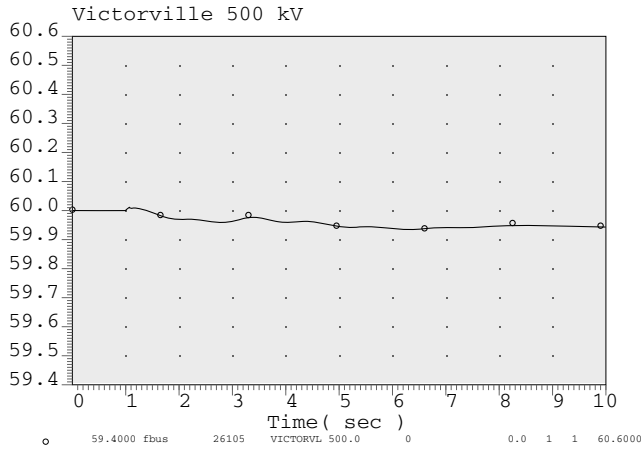






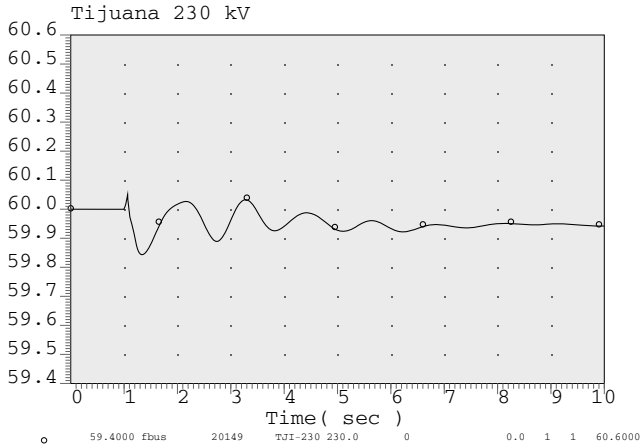


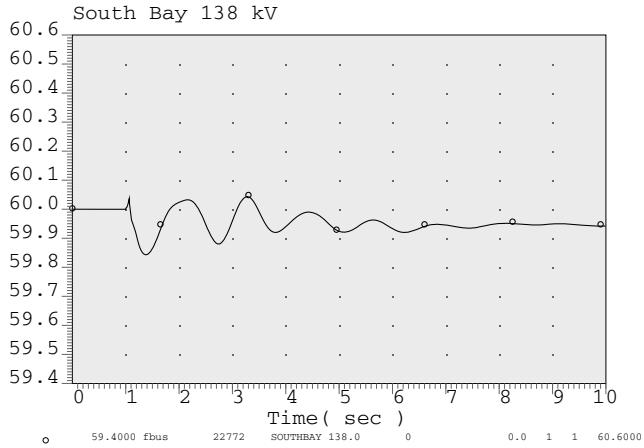


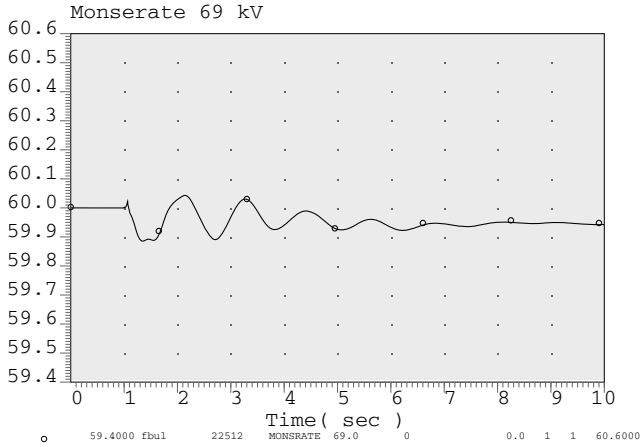


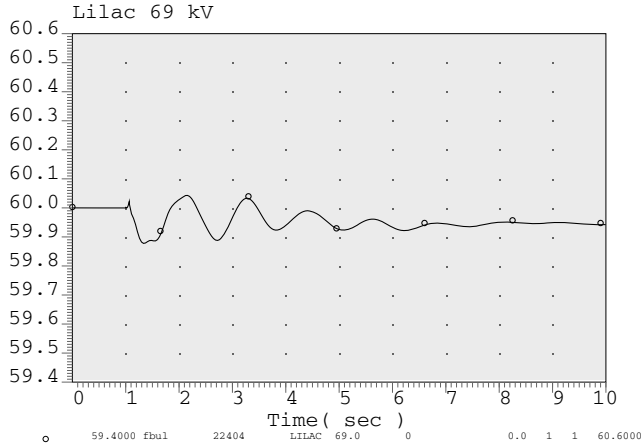
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

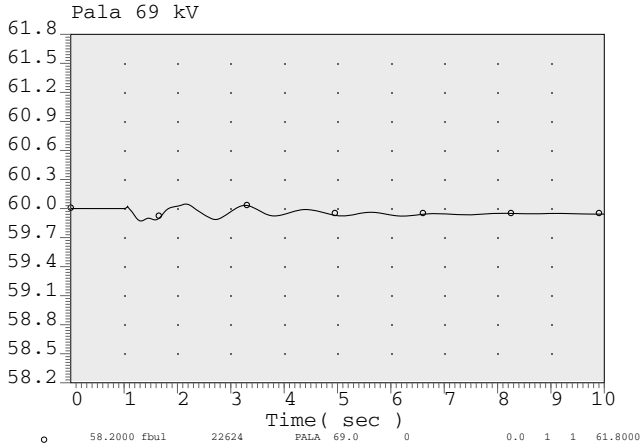
Bus Frequency

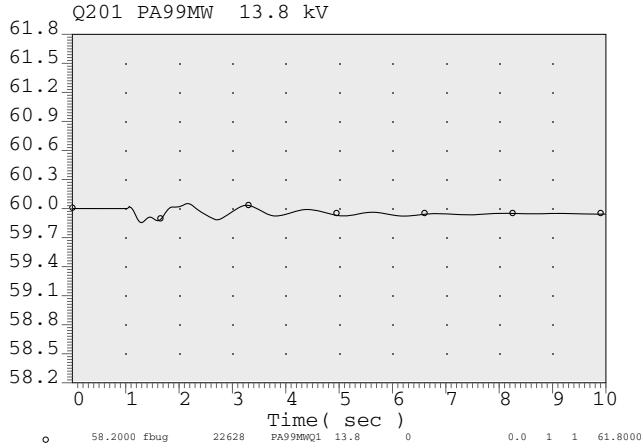






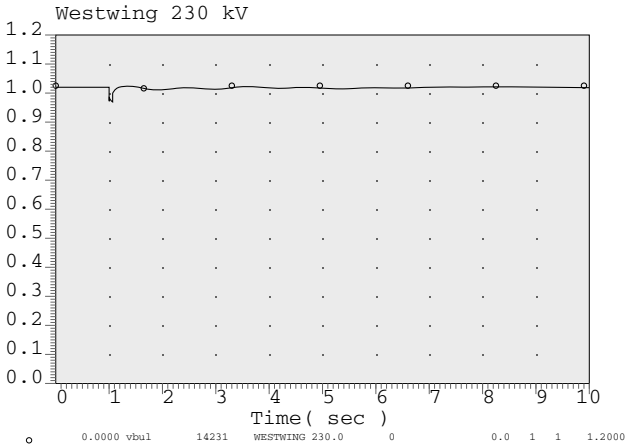


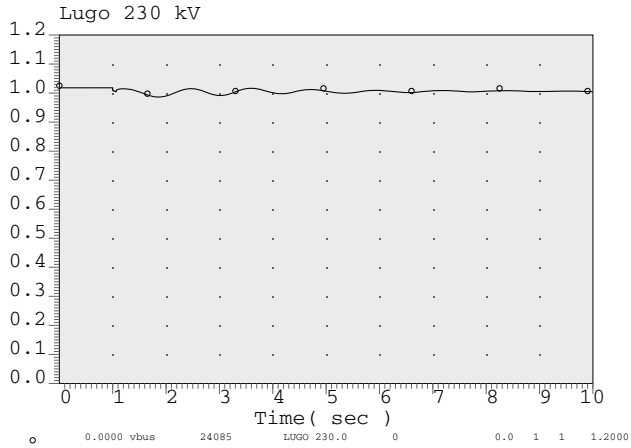


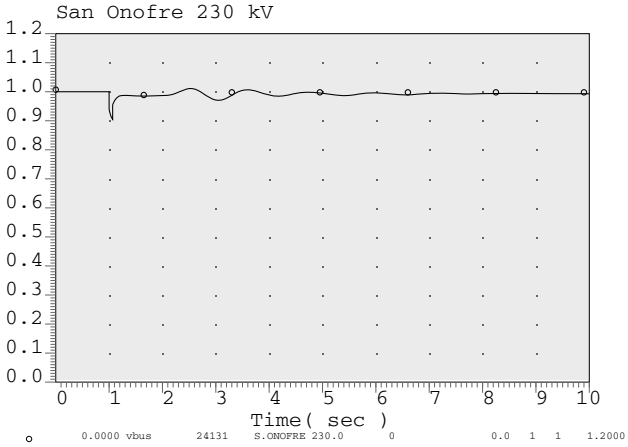


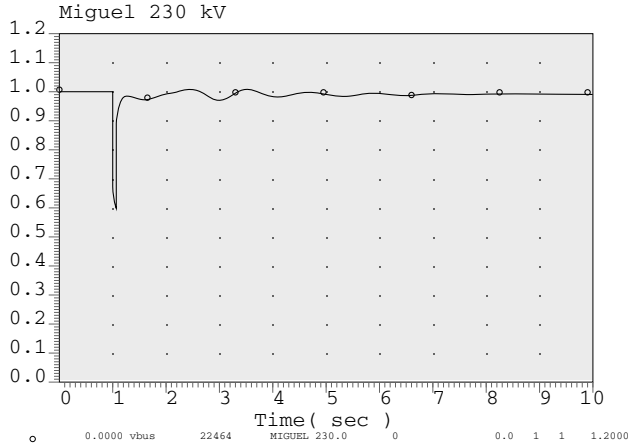
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

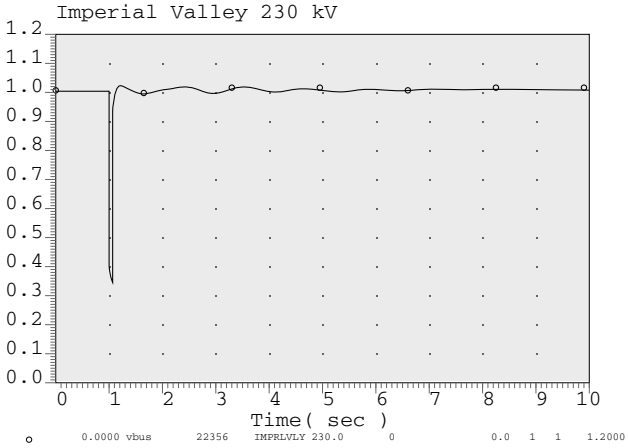
Bus Voltage

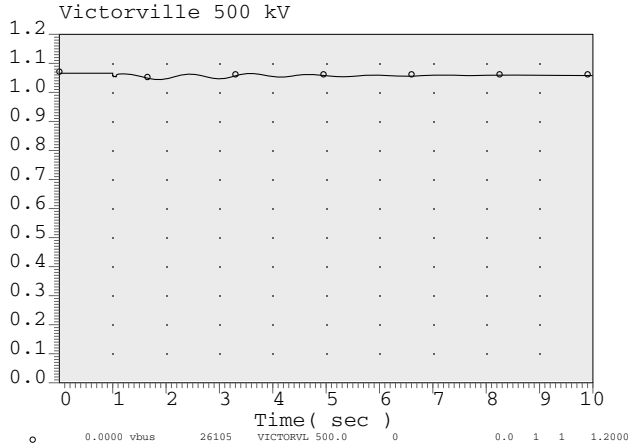






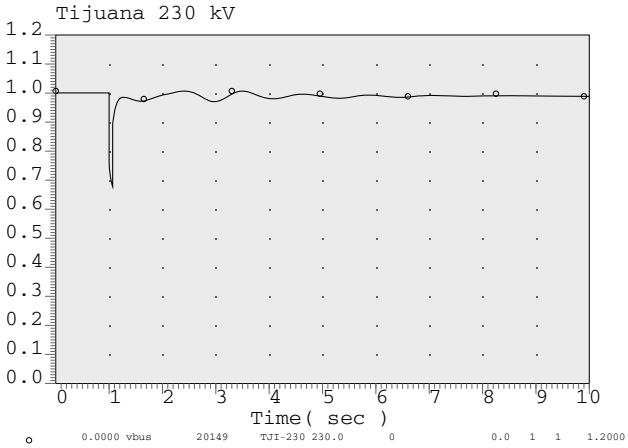


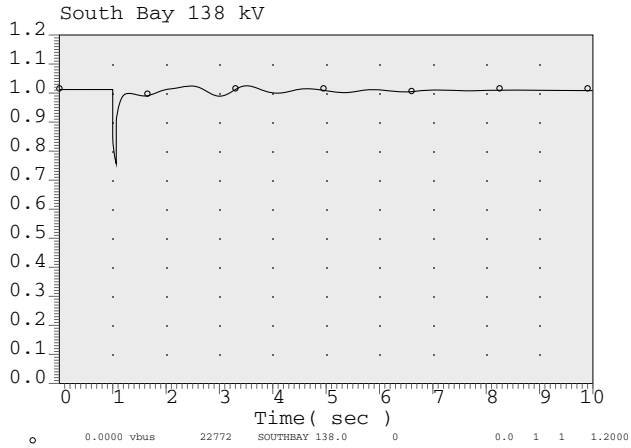


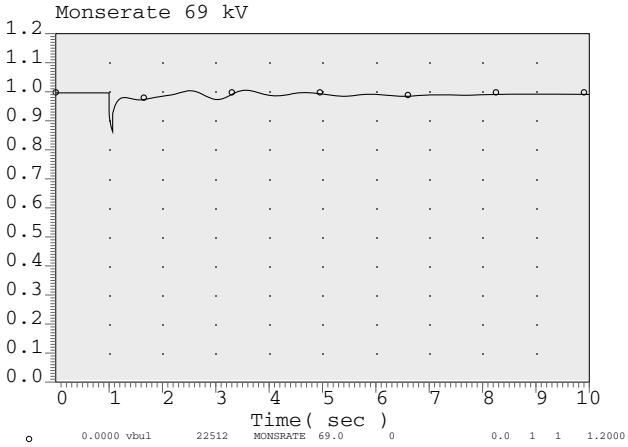


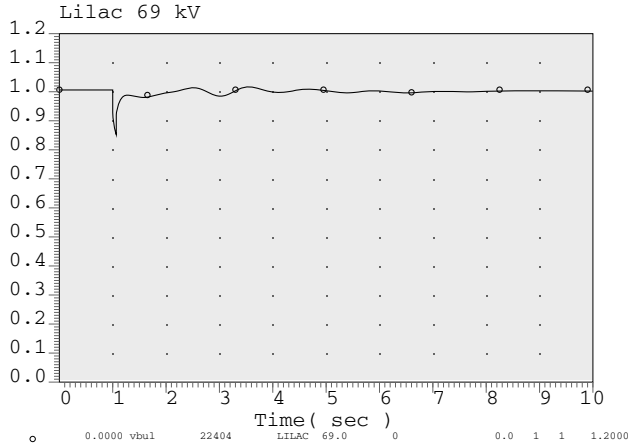
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

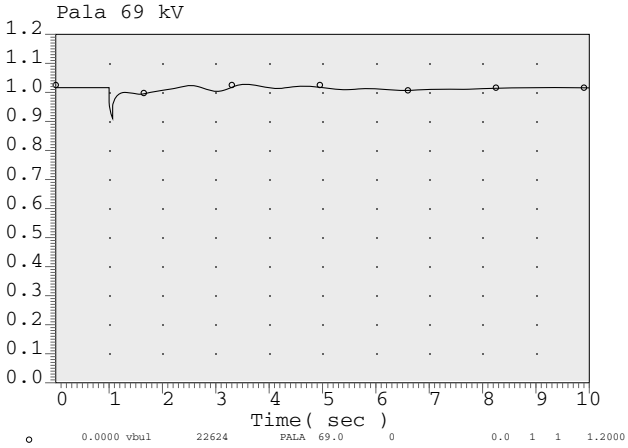
Bus Voltage

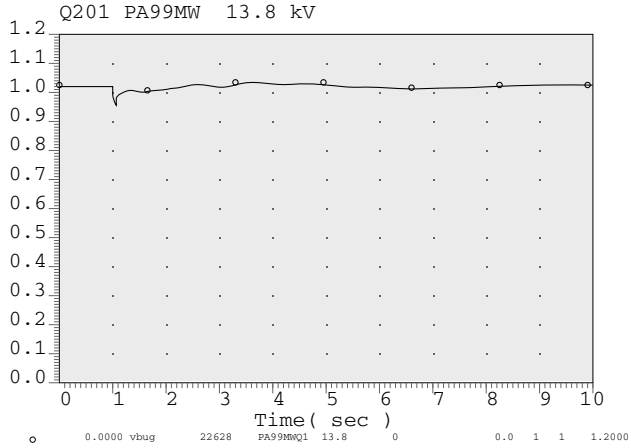






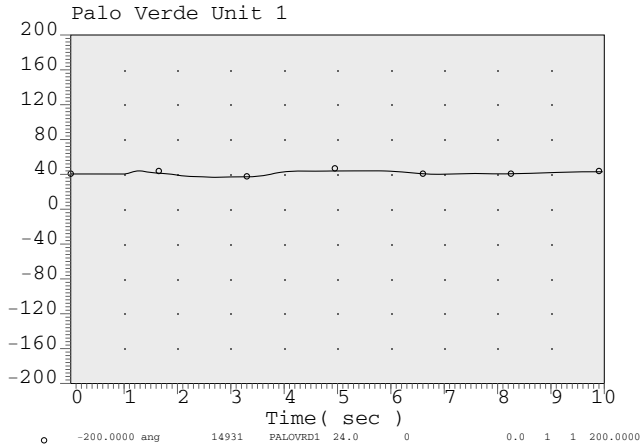


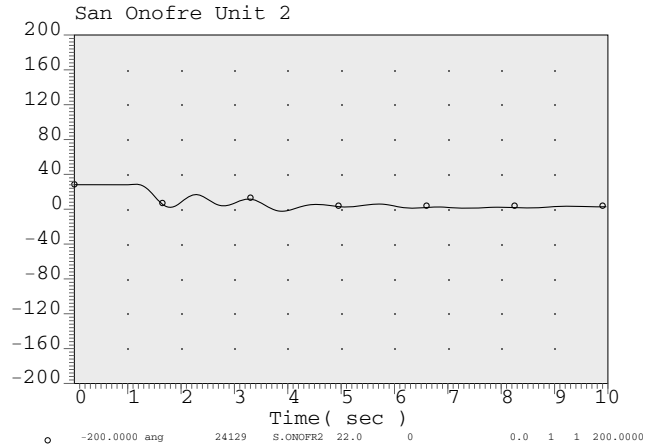


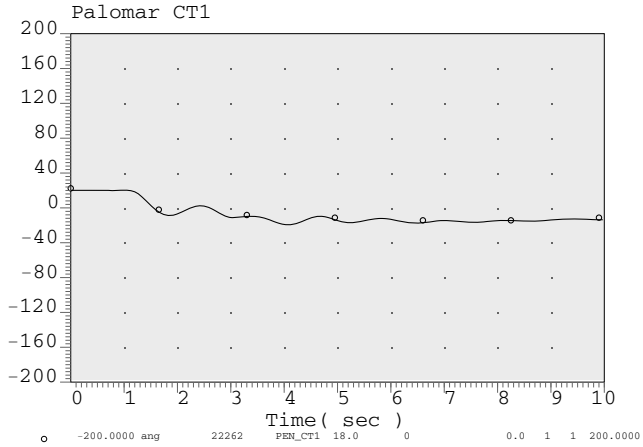


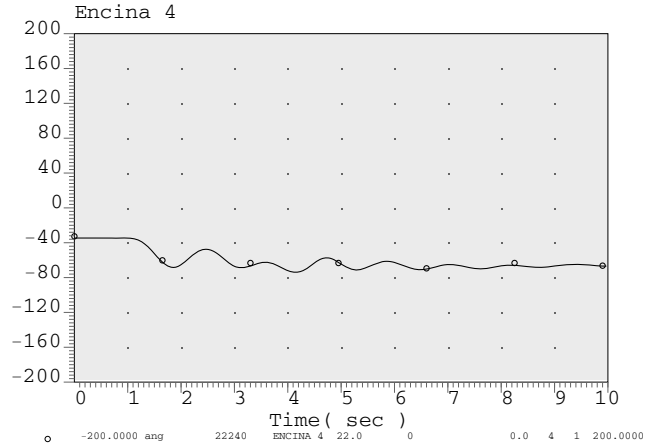
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

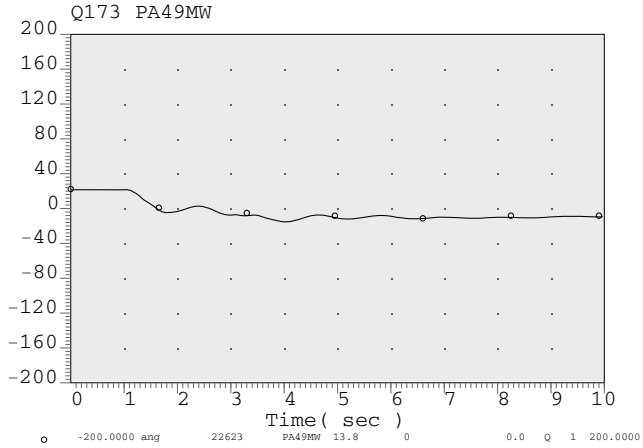
Relative Rotor Angle

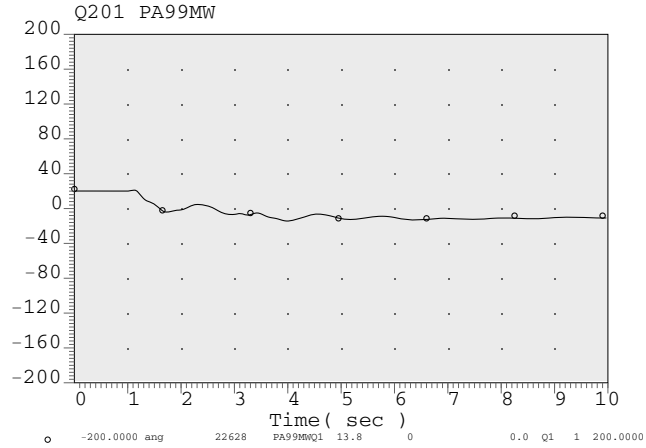






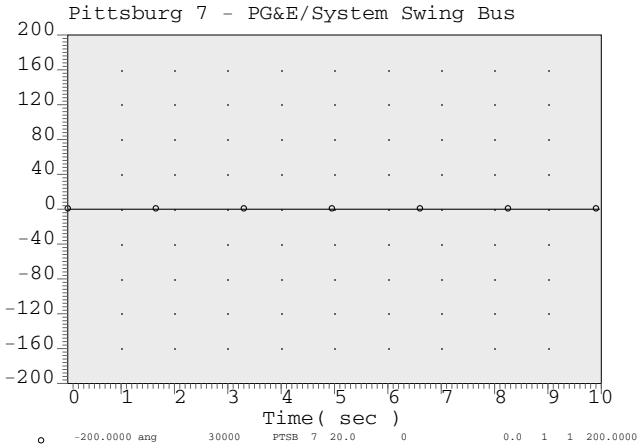


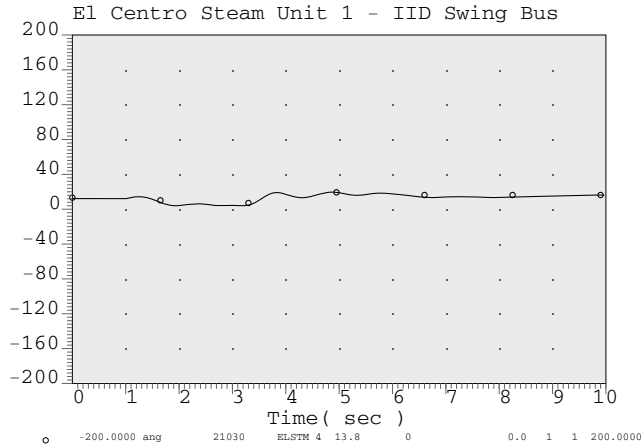


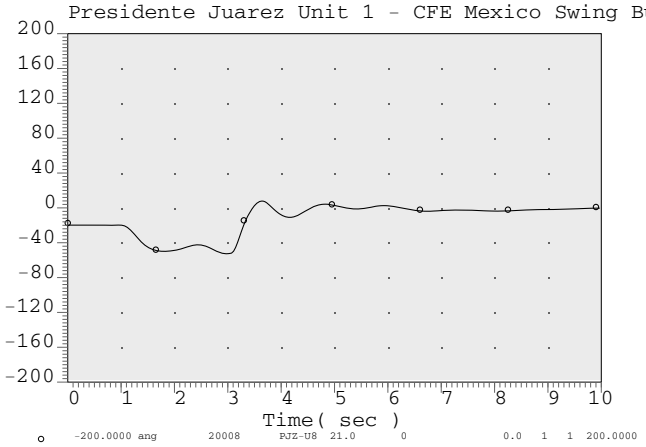


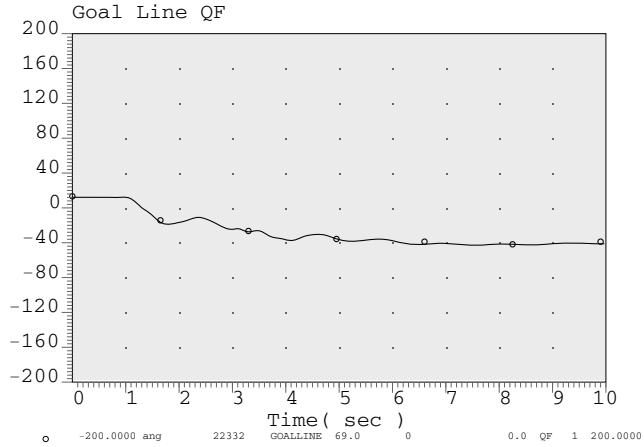
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

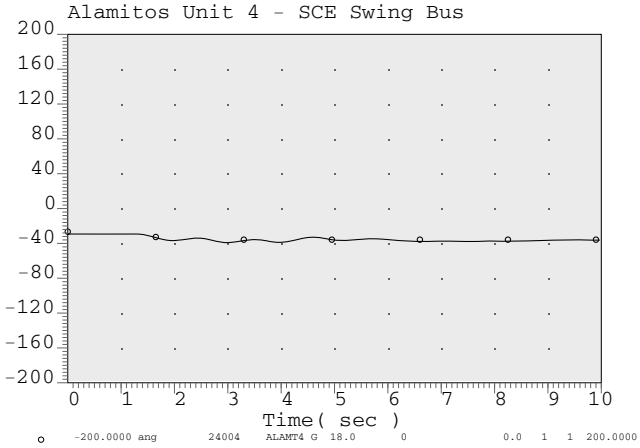
Relative Rotor Angle

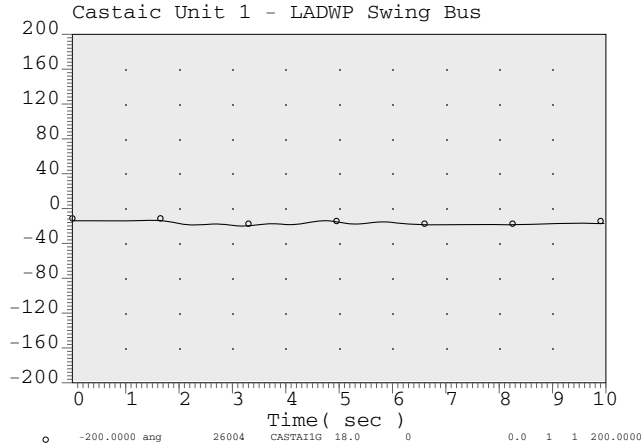






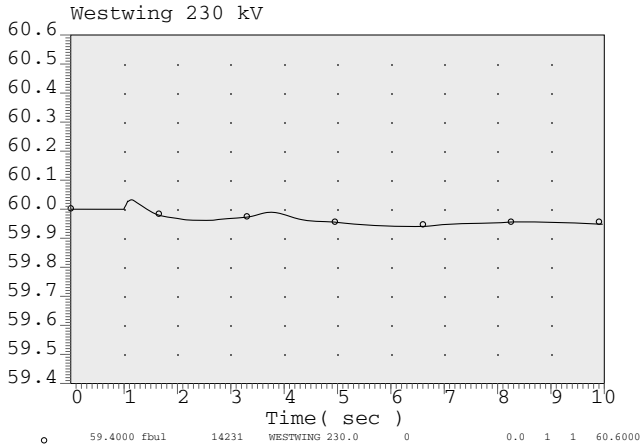


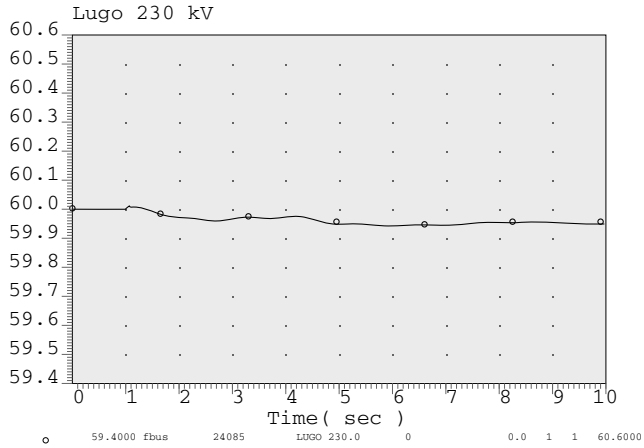


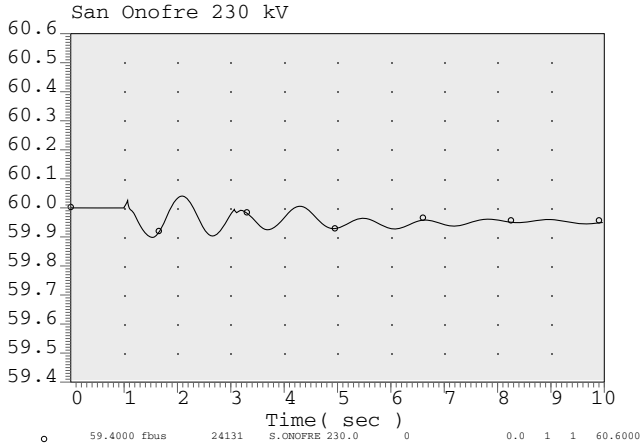


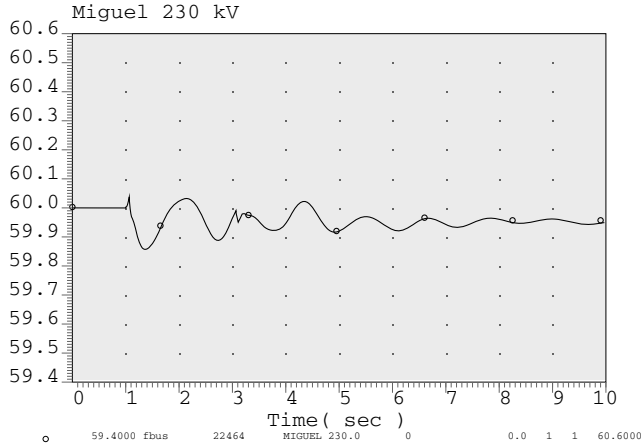
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

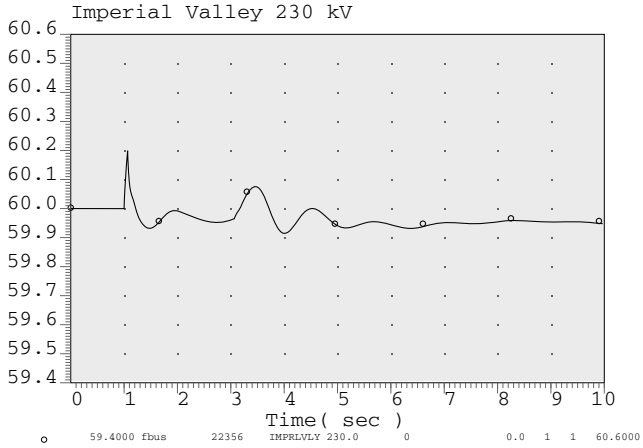
Bus Frequency

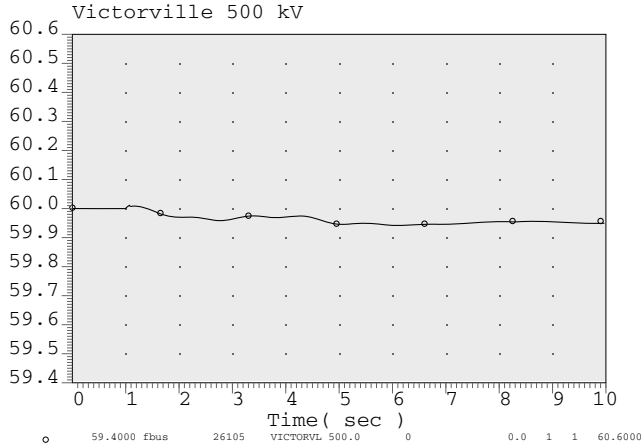






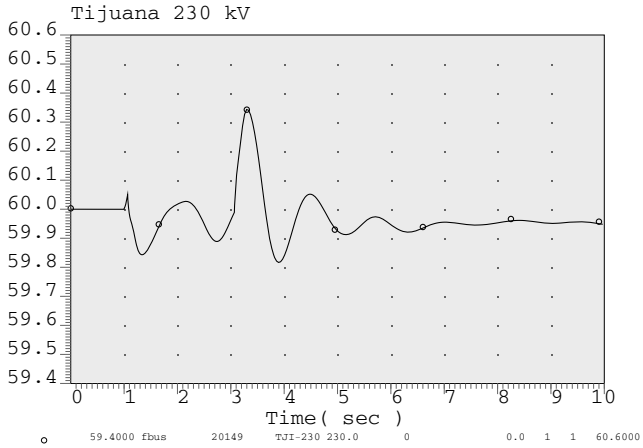


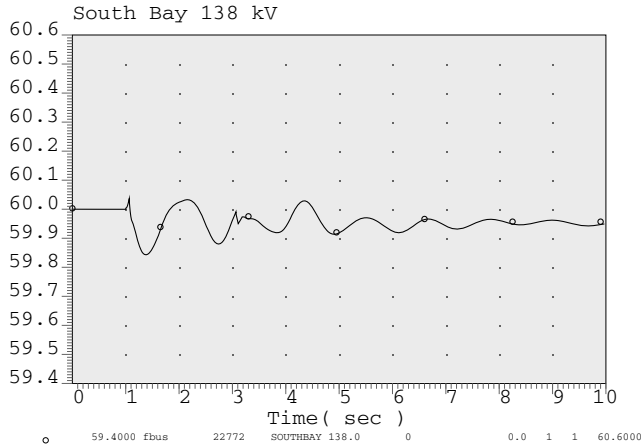


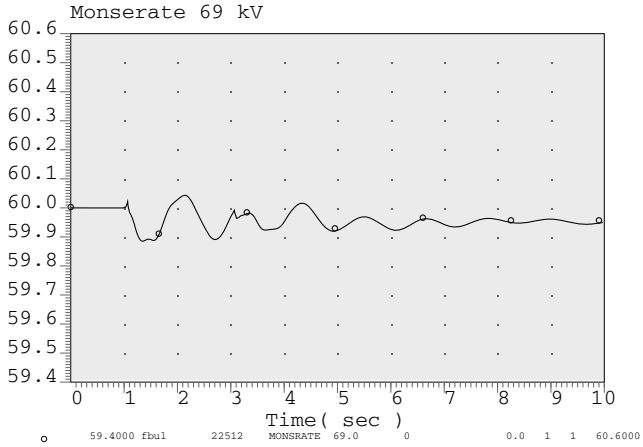


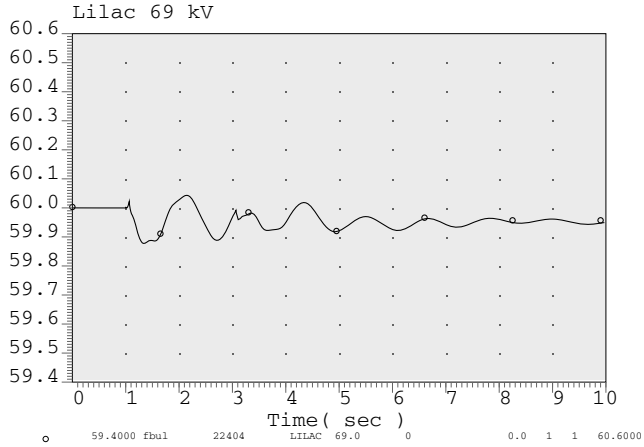
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

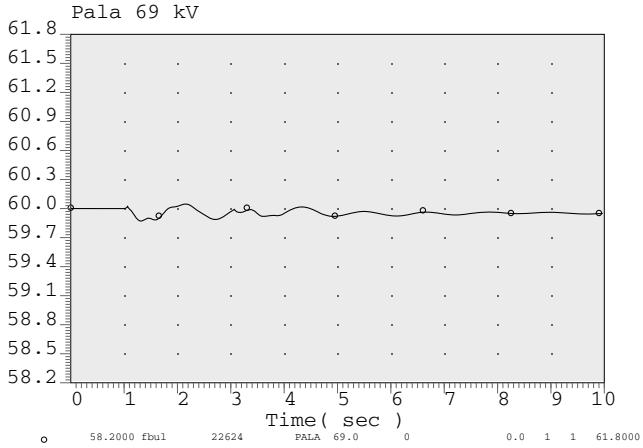
Bus Frequency

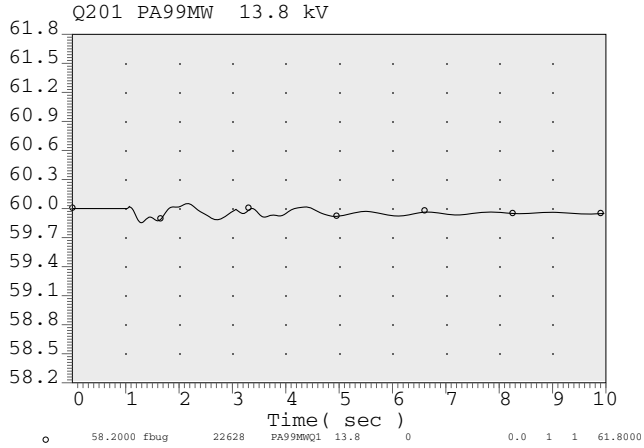






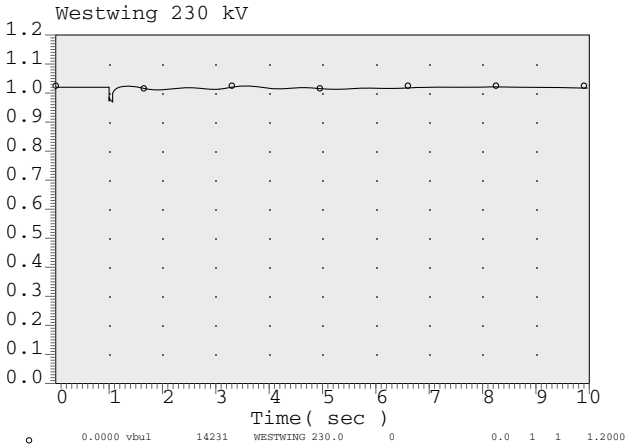


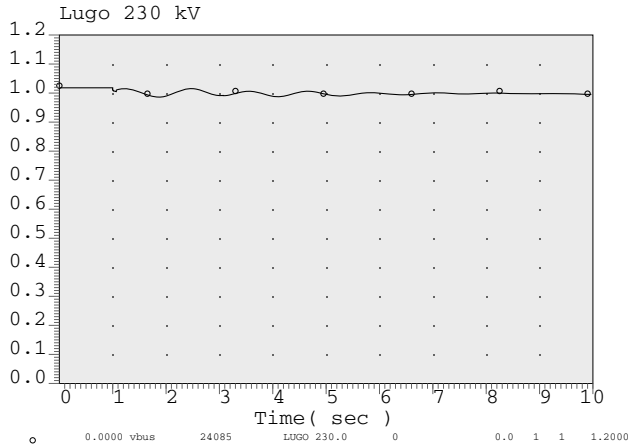


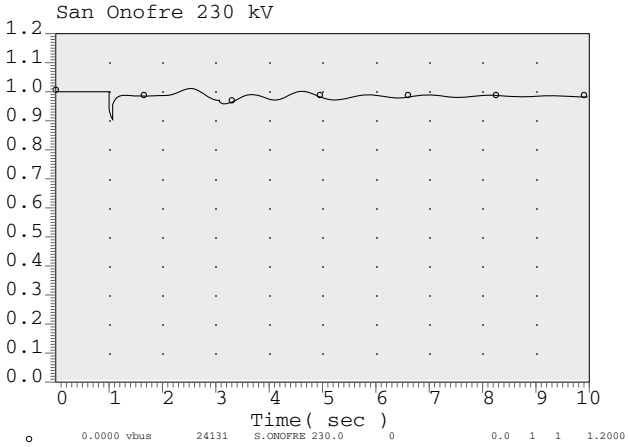


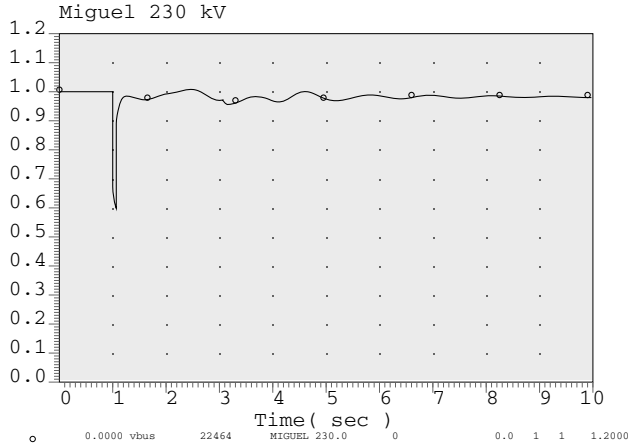
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

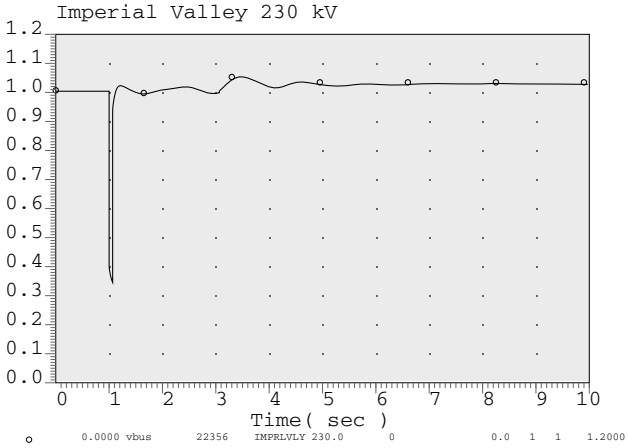
Bus Voltage

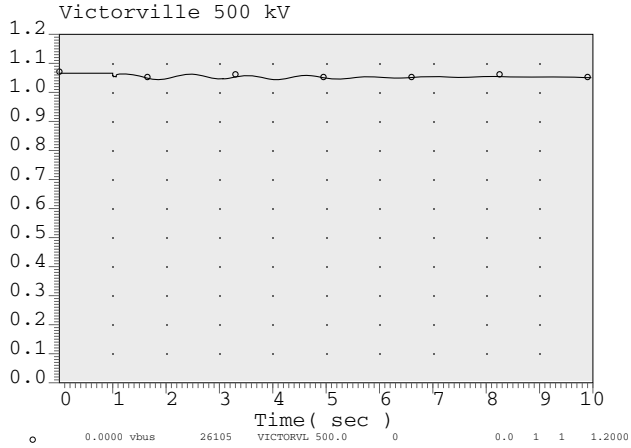






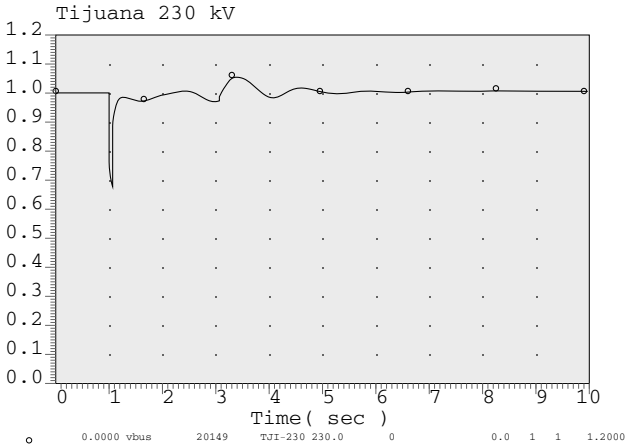


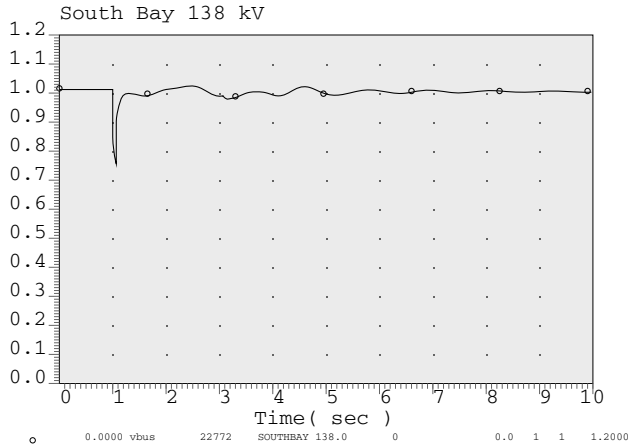


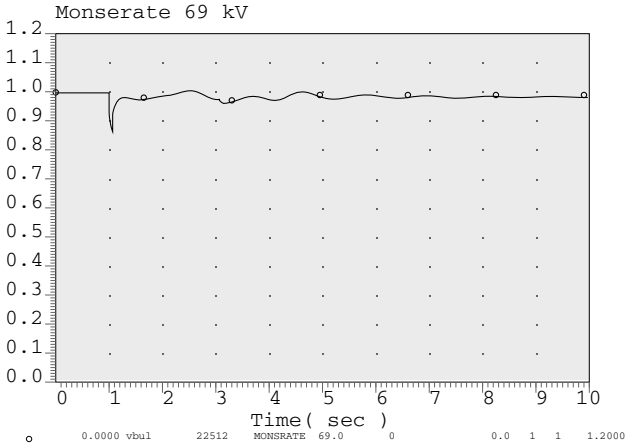


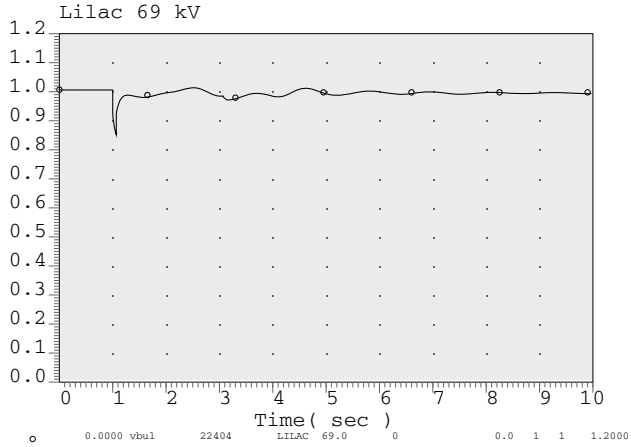
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

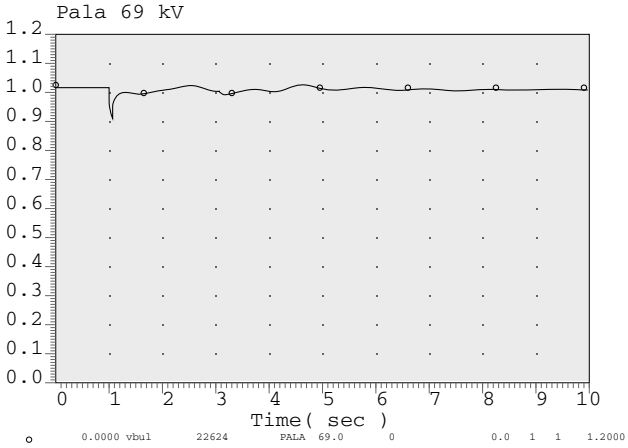
Bus Voltage

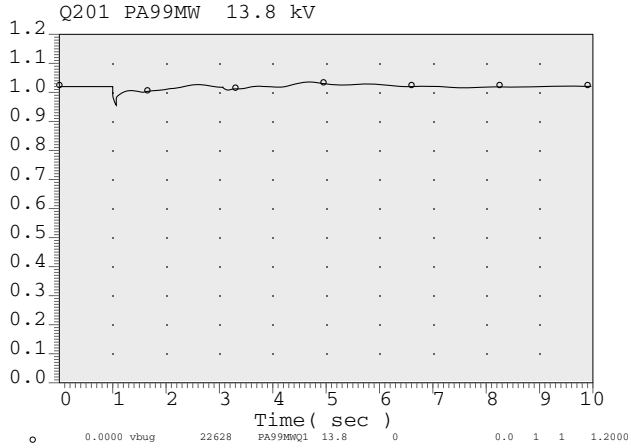






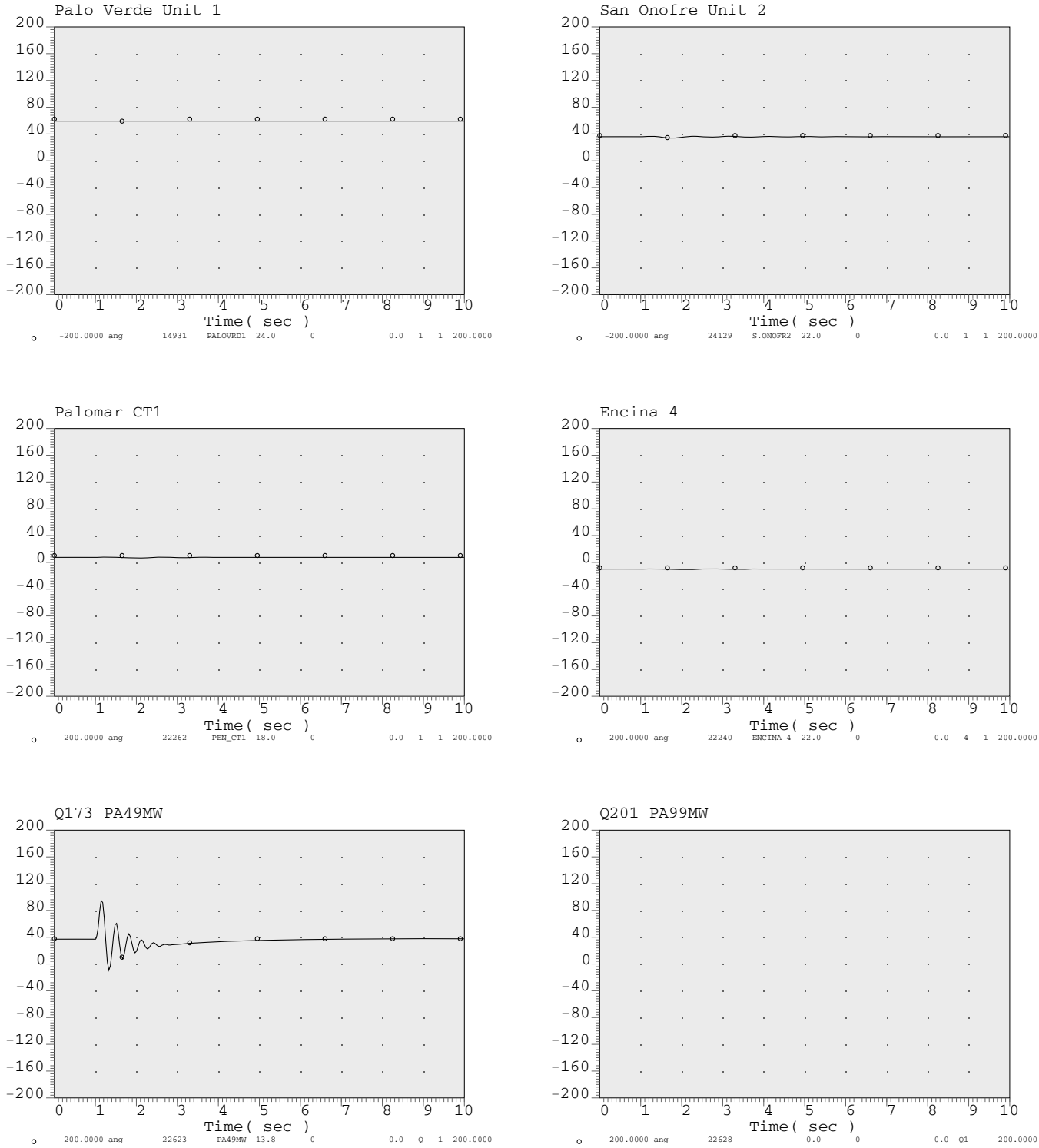






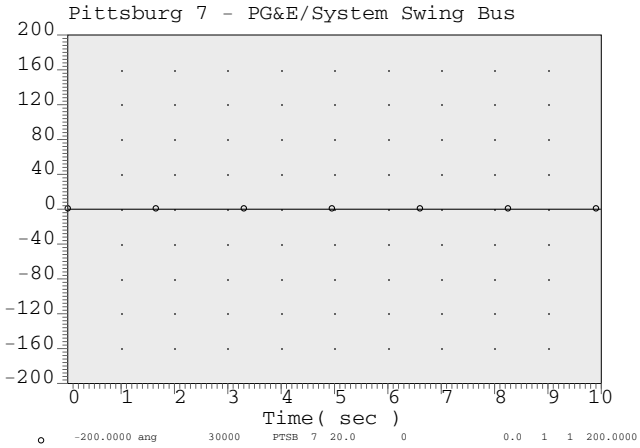
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

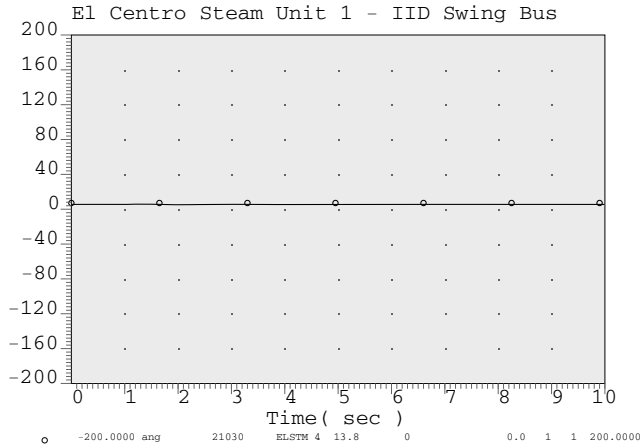
Relative Rotor Angle

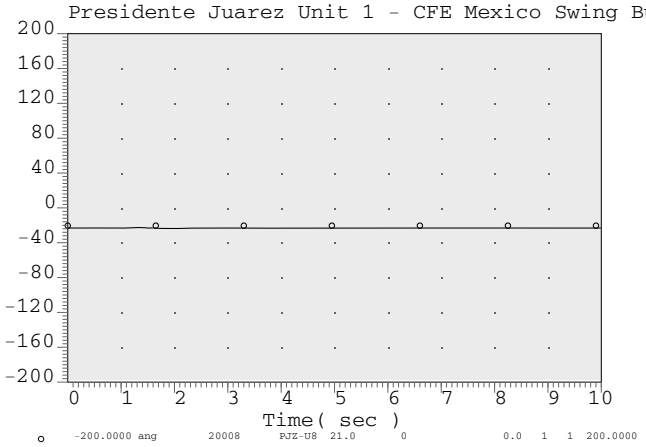


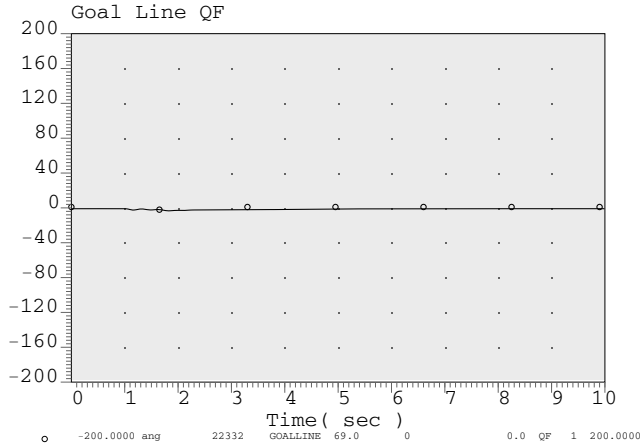
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

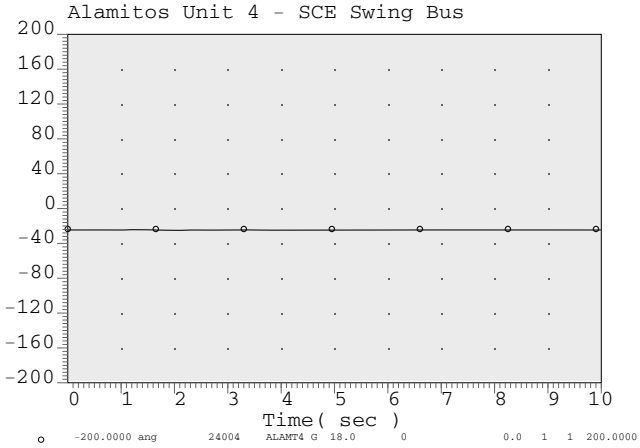
Relative Rotor Angle

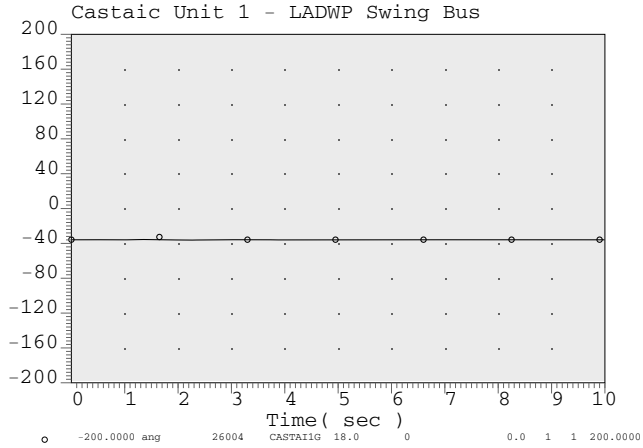






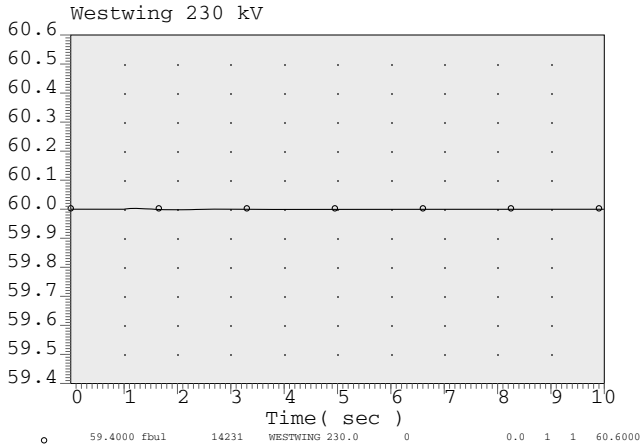


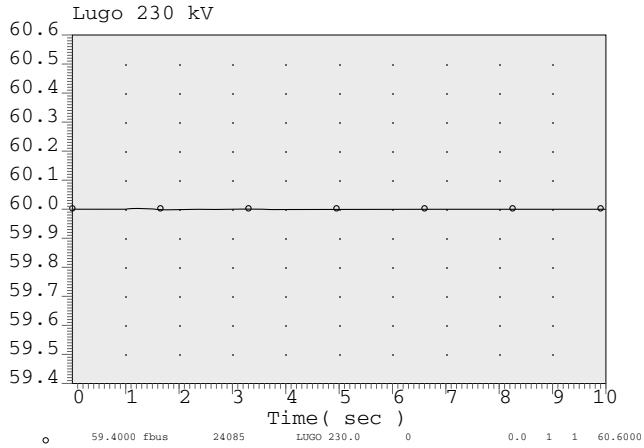


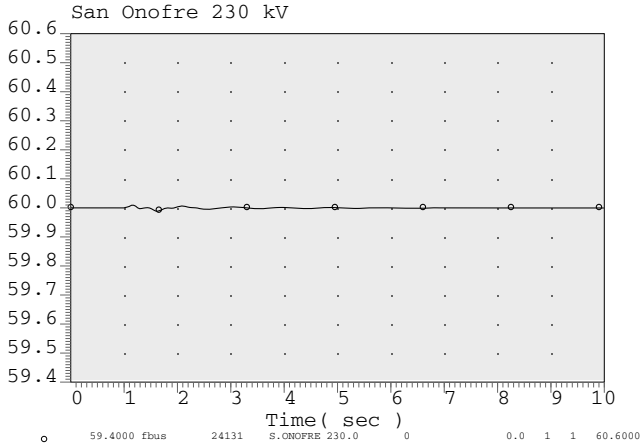


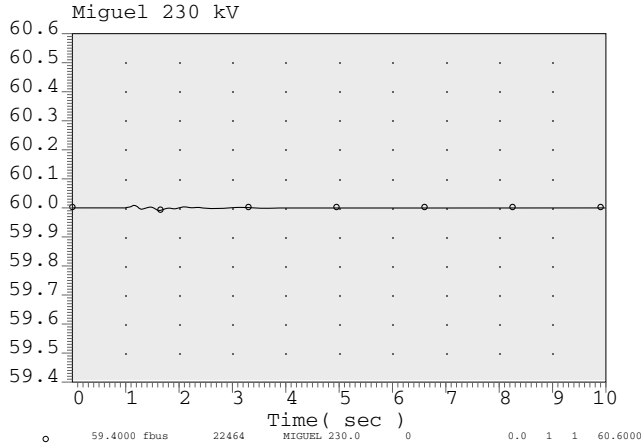
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

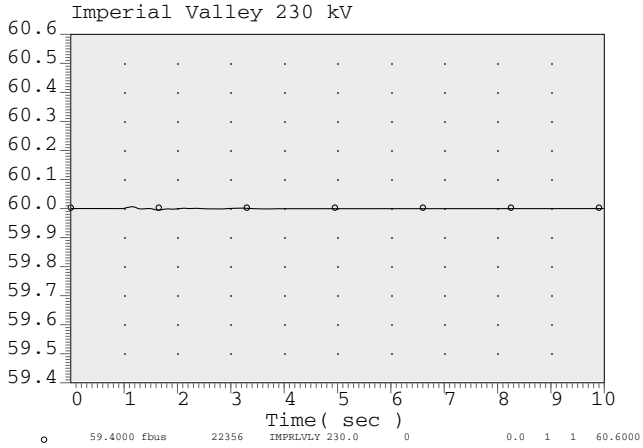
Bus Frequency

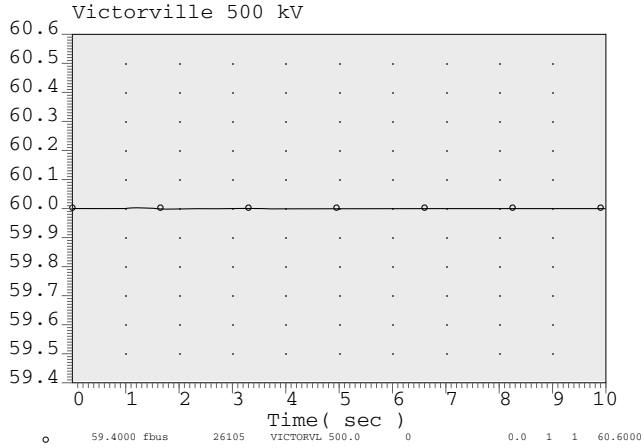






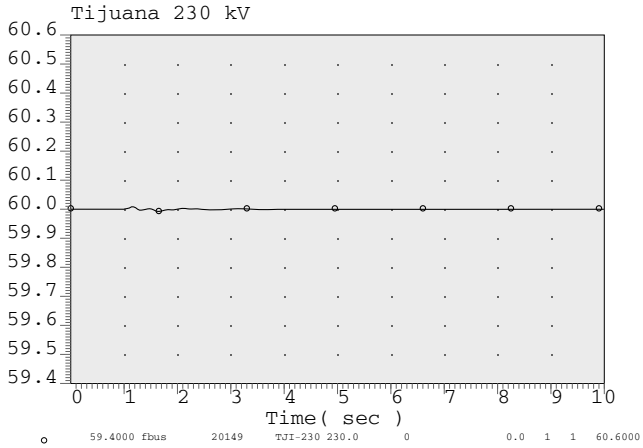


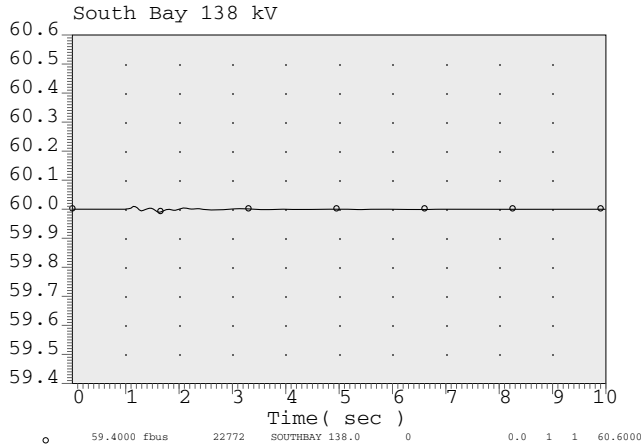


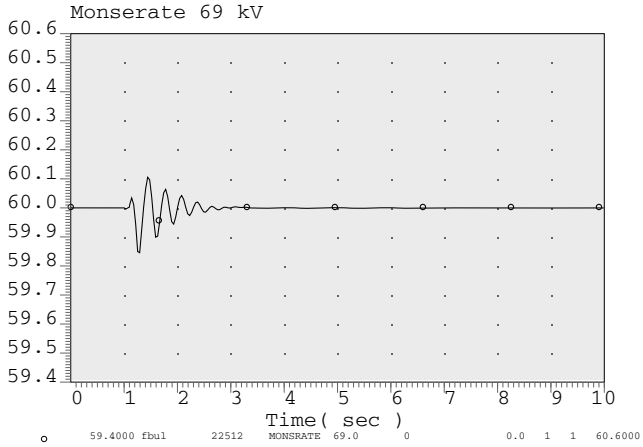


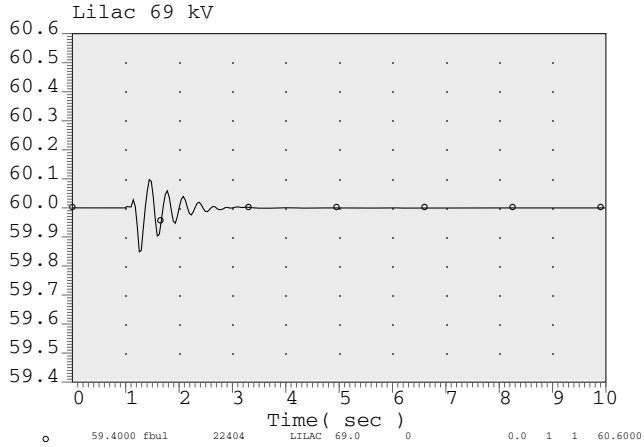
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

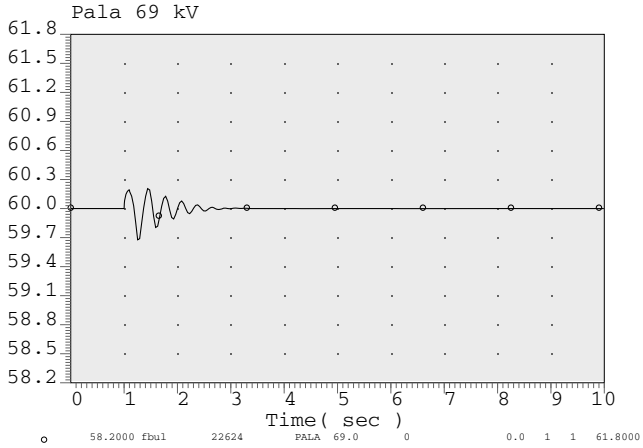
Bus Frequency

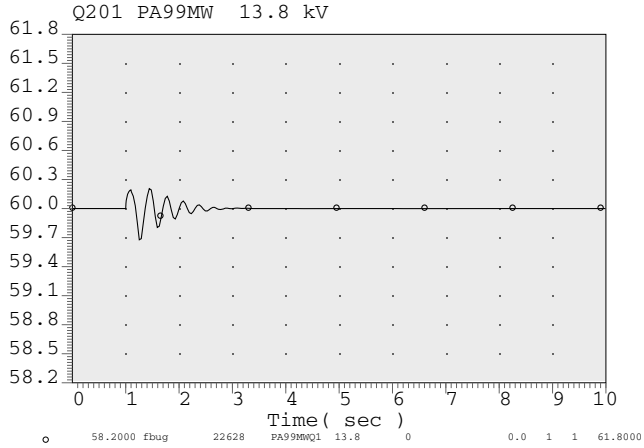




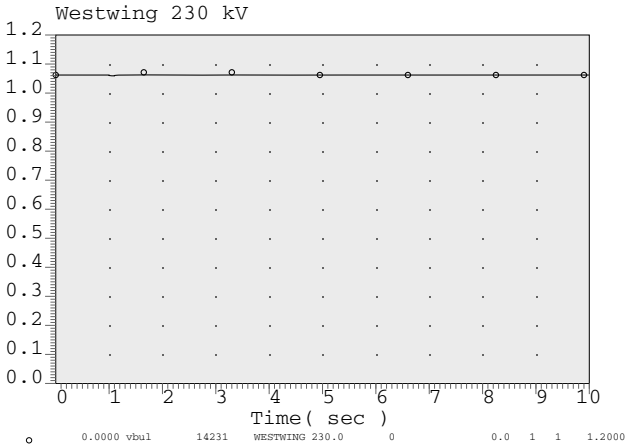


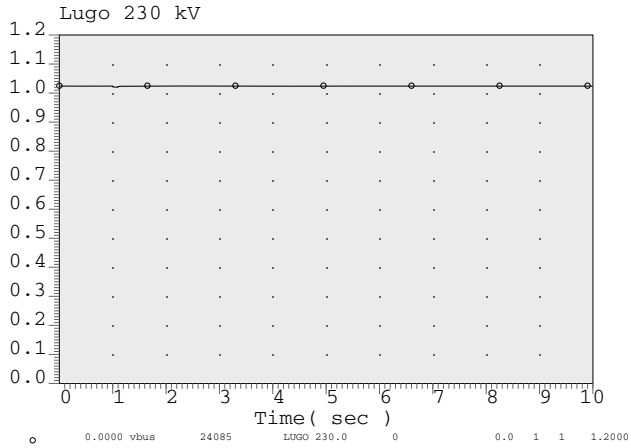


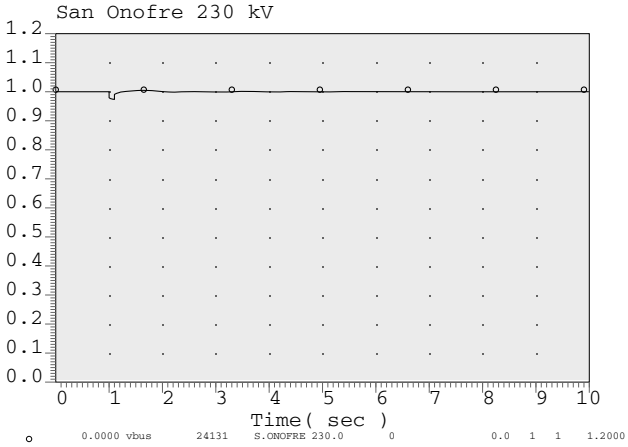


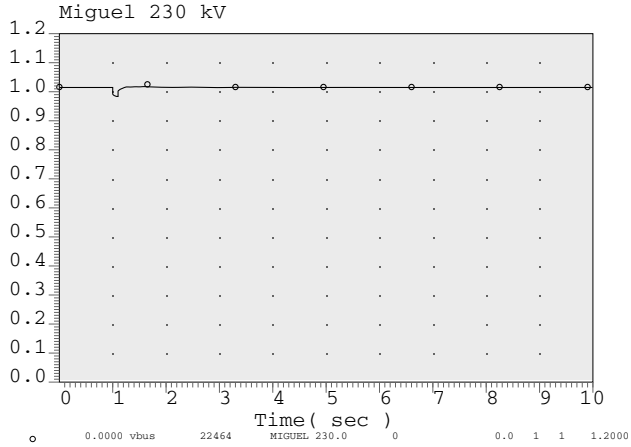


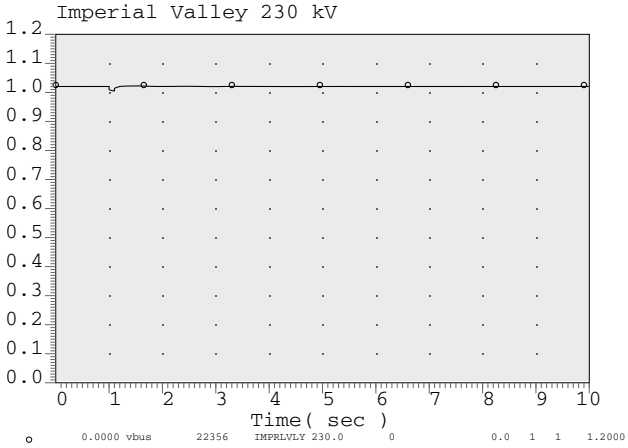
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

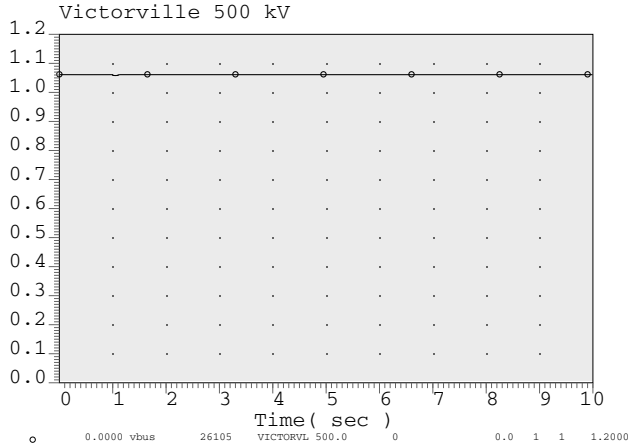






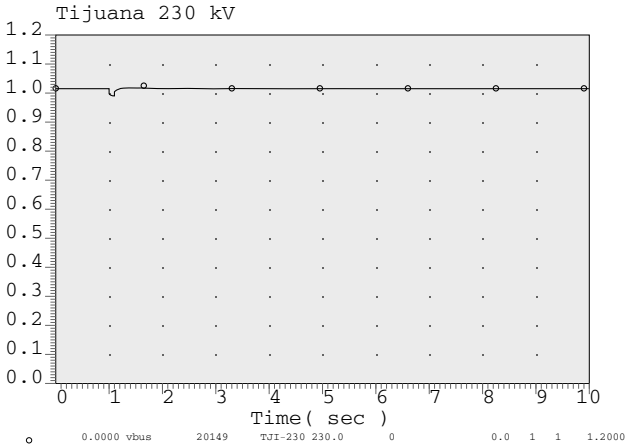


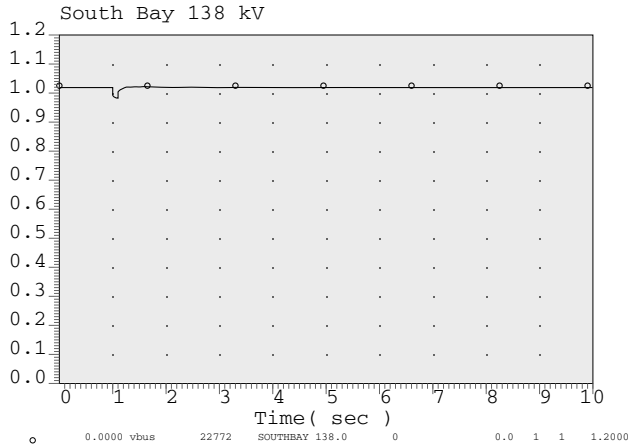


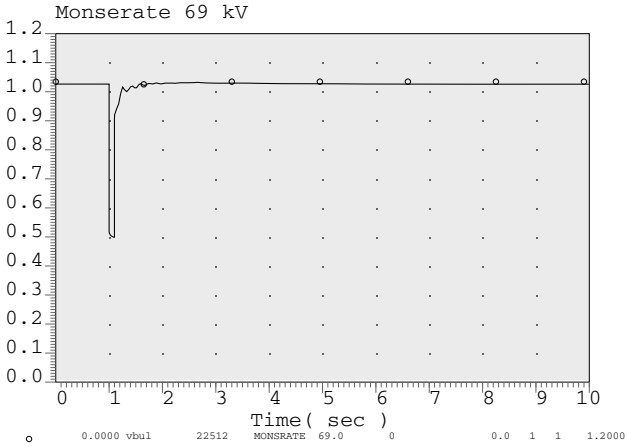


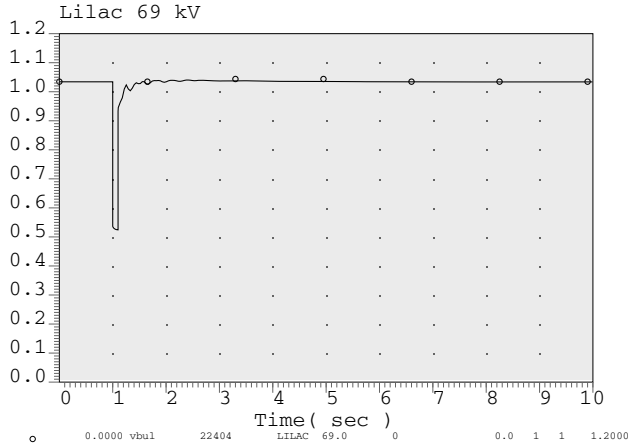
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

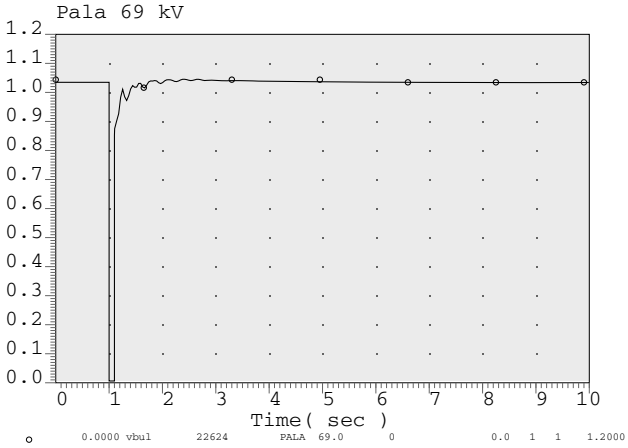
Bus Voltage

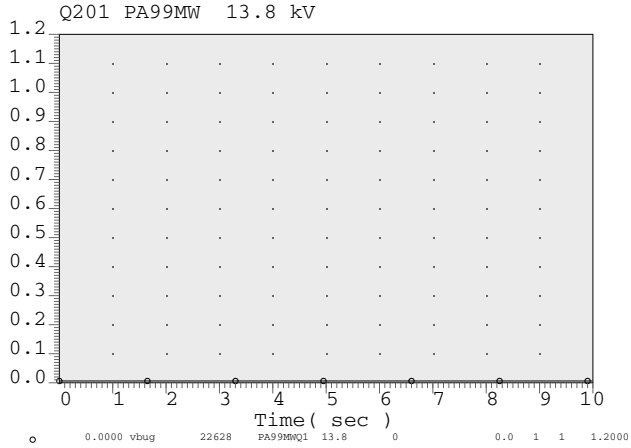






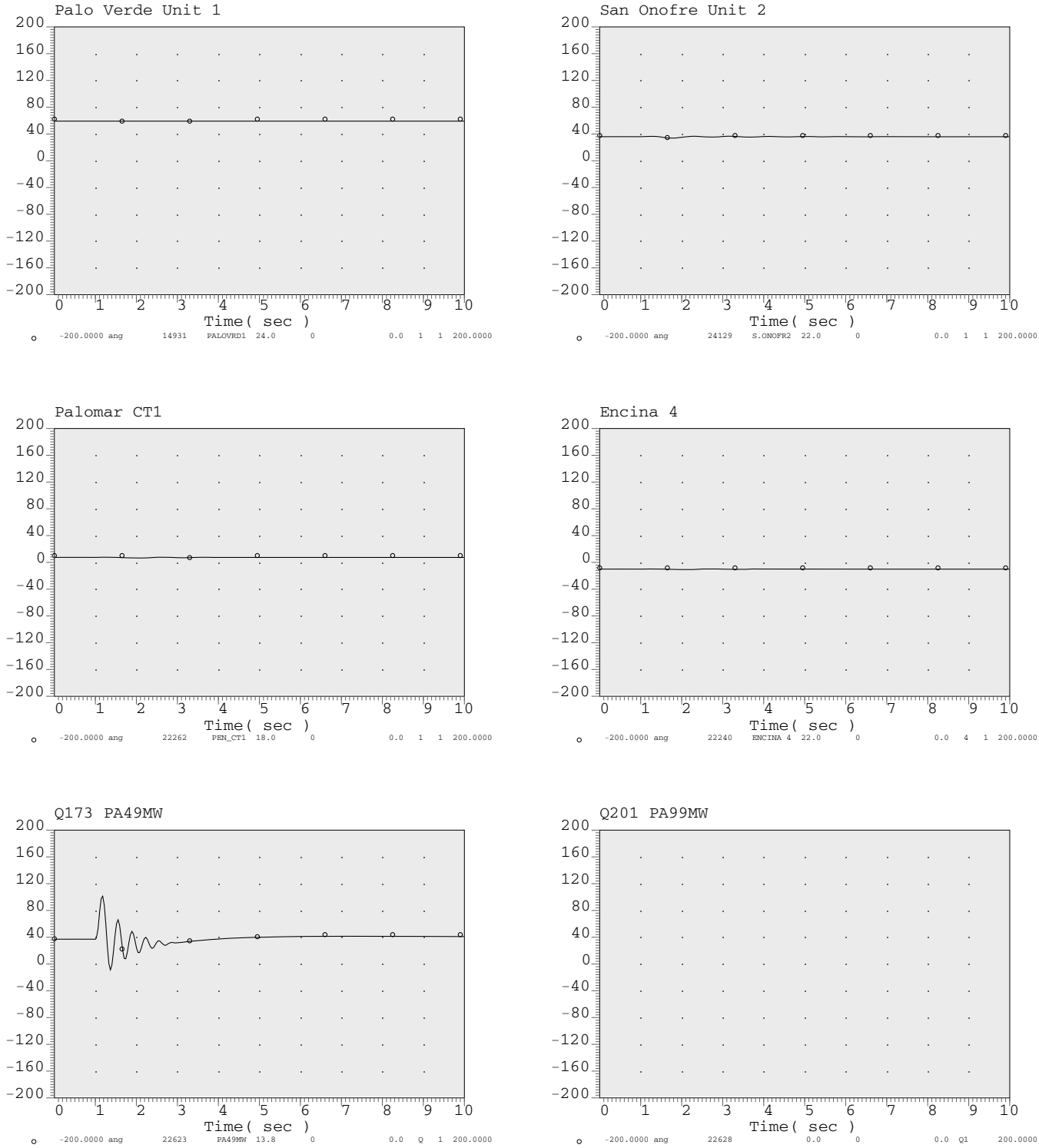






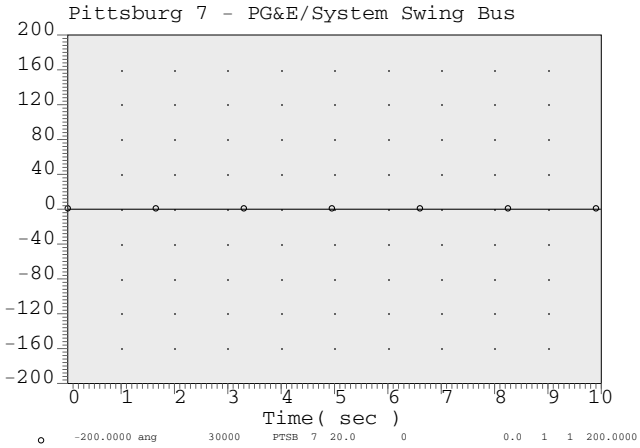
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

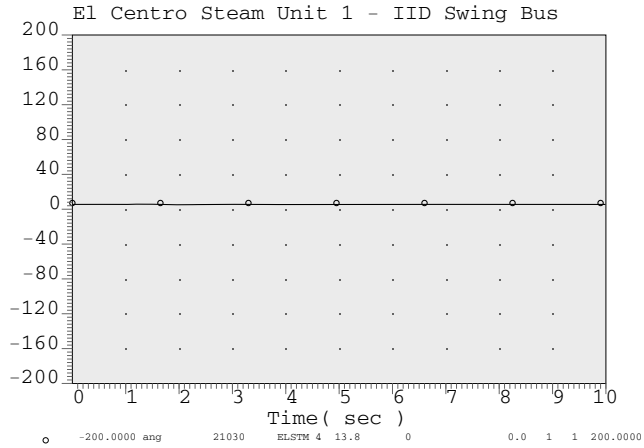
Relative Rotor Angle

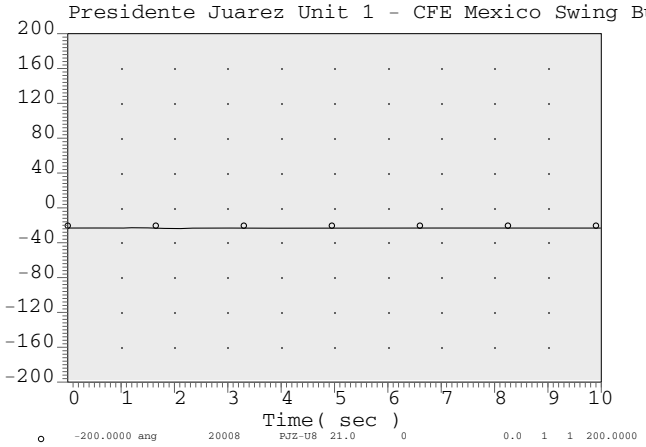


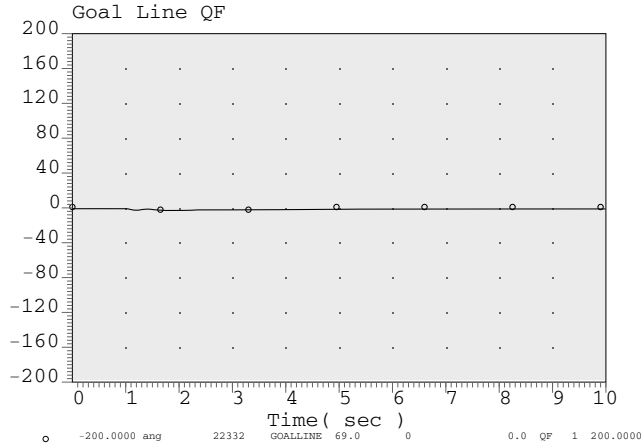
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

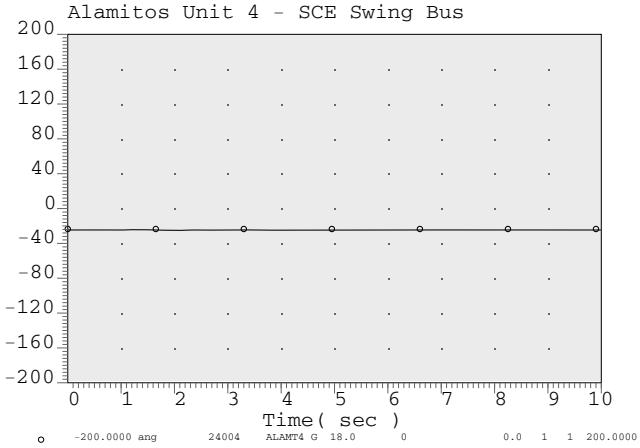
Relative Rotor Angle

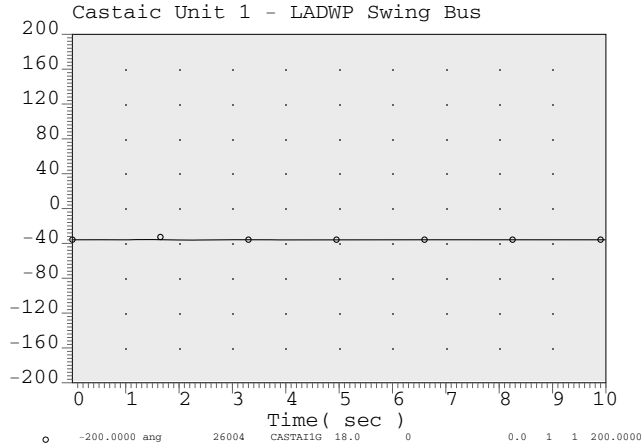






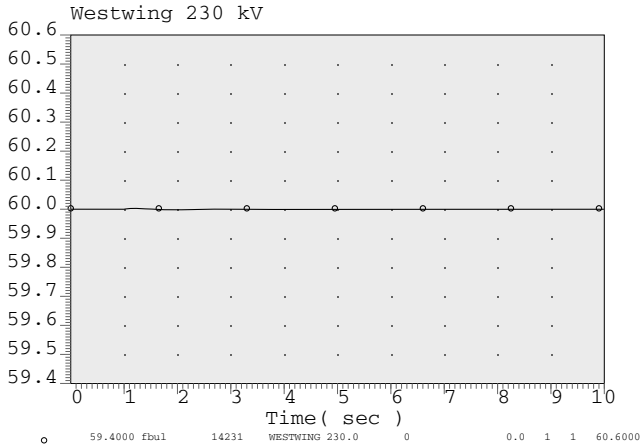


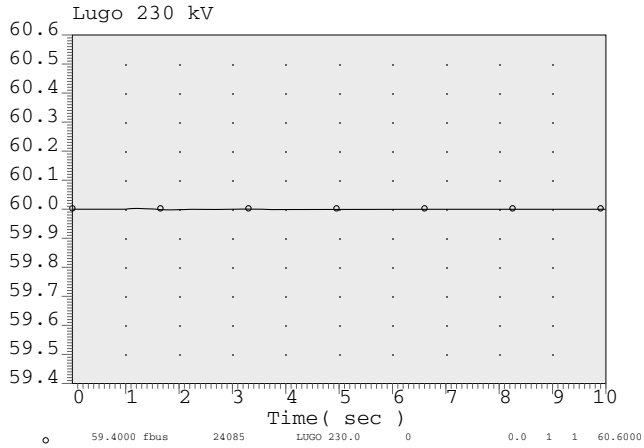


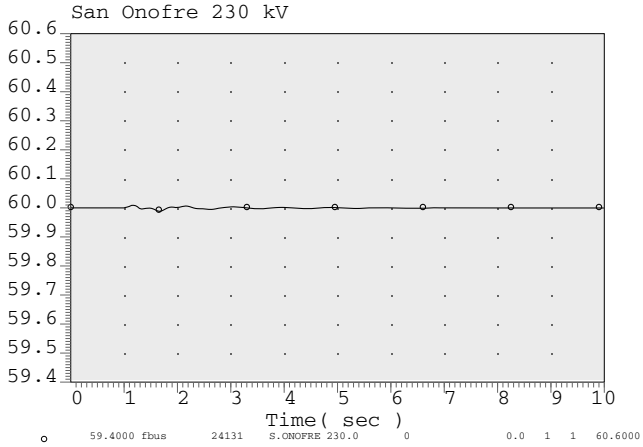


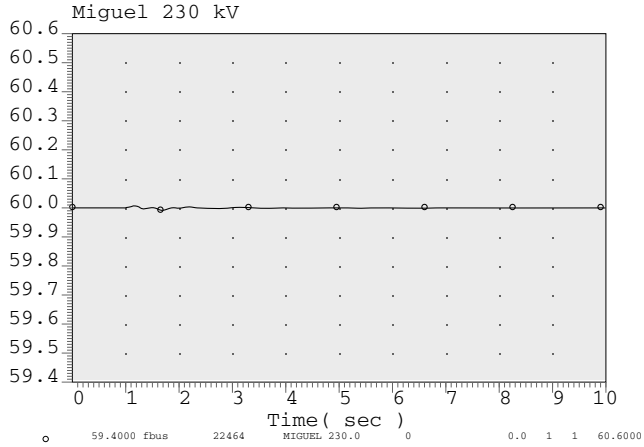
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

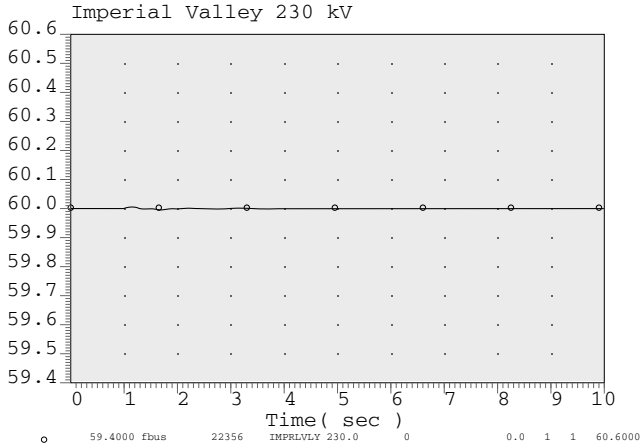
Bus Frequency

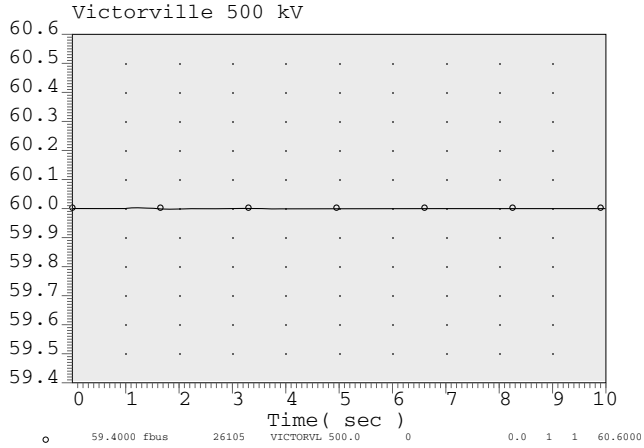






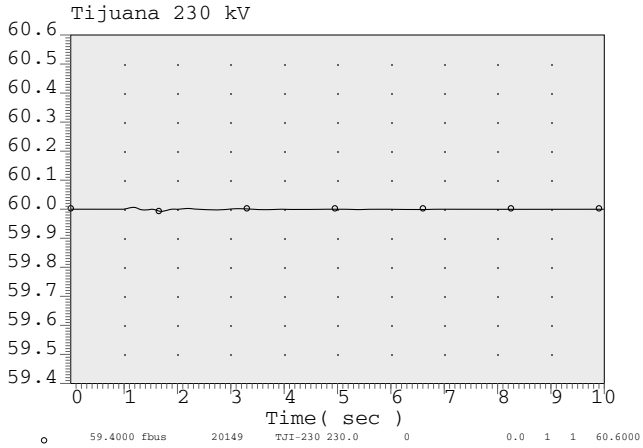


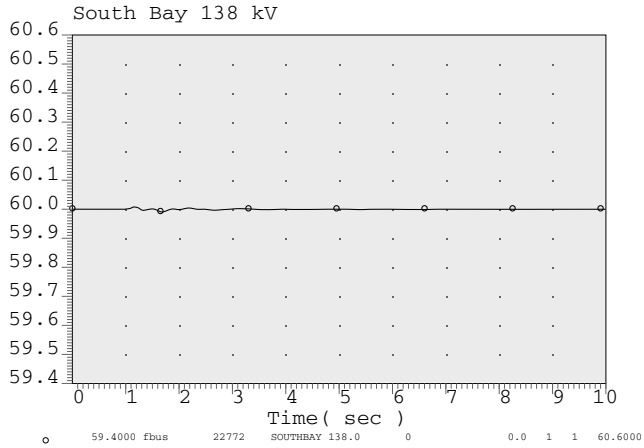


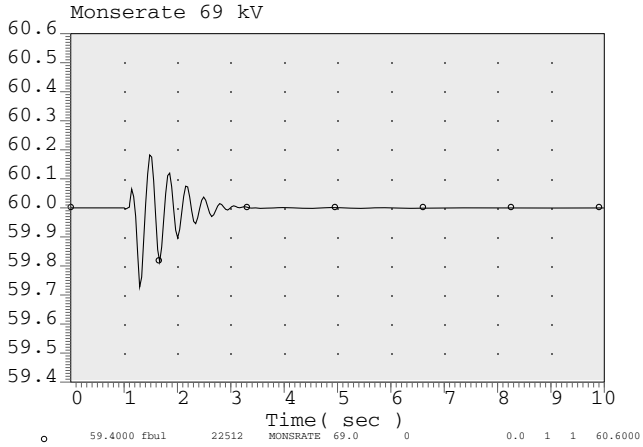


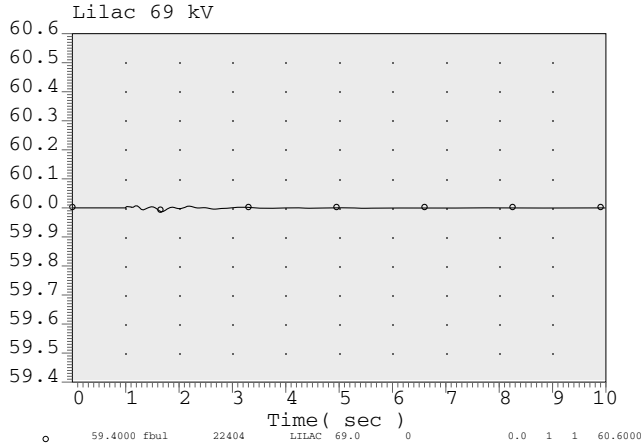
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

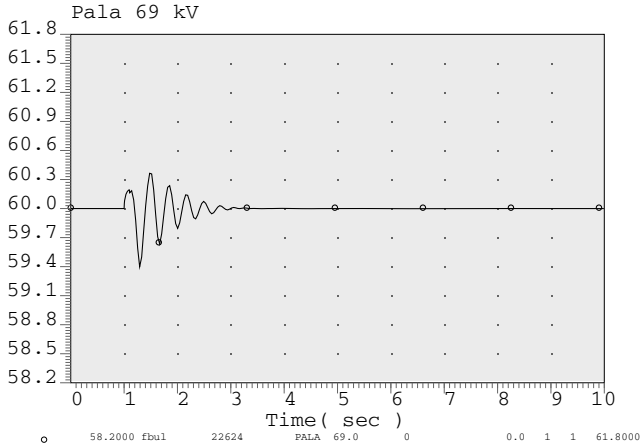
Bus Frequency

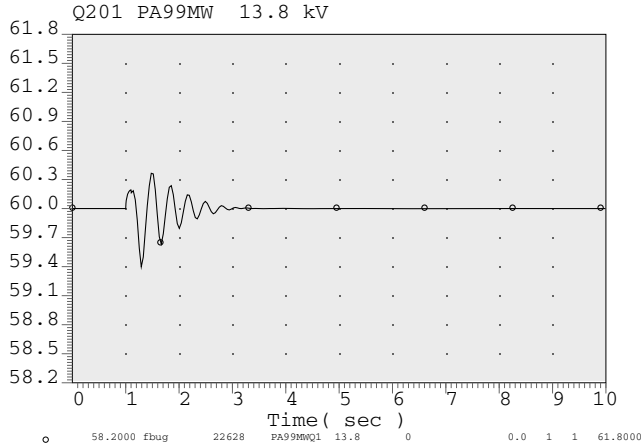






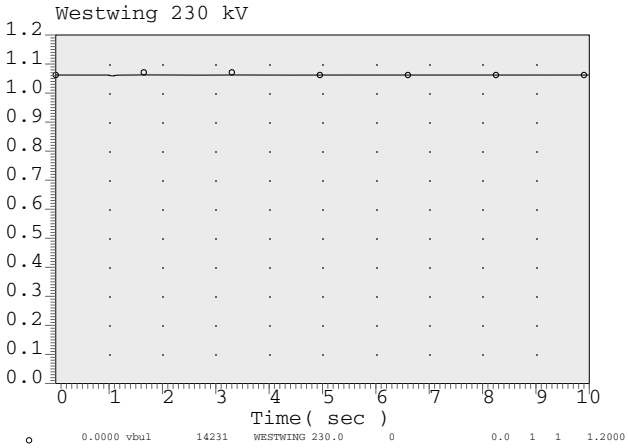


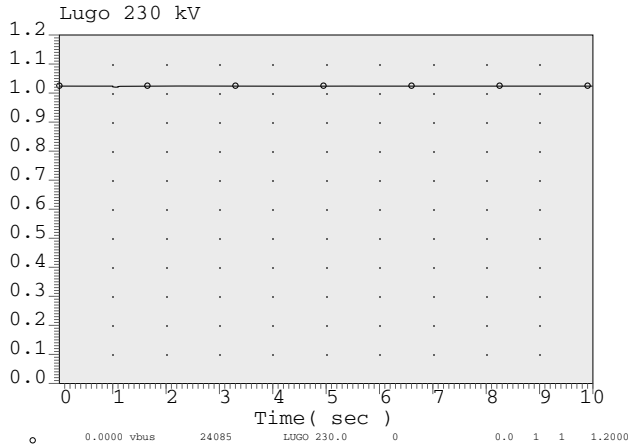


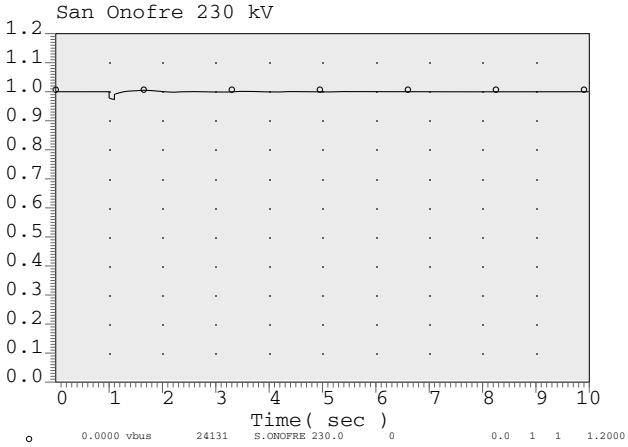


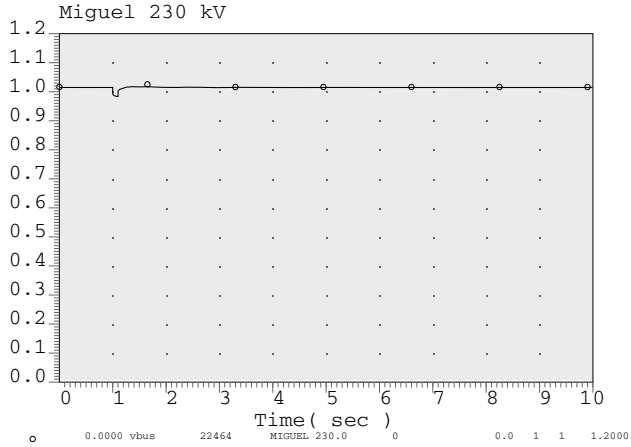
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

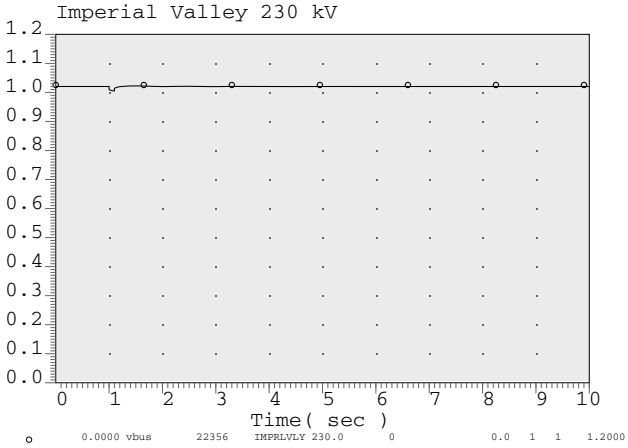
Bus Voltage

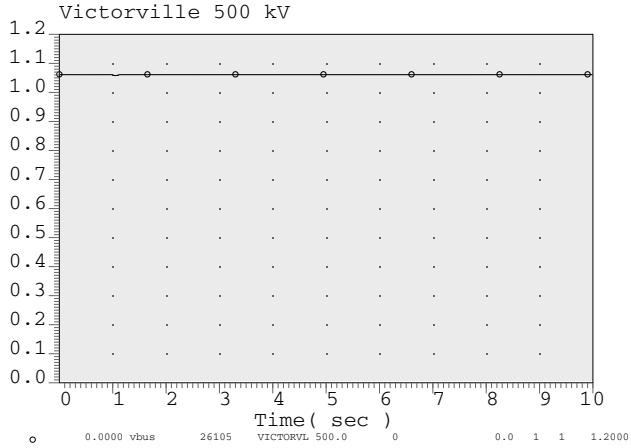






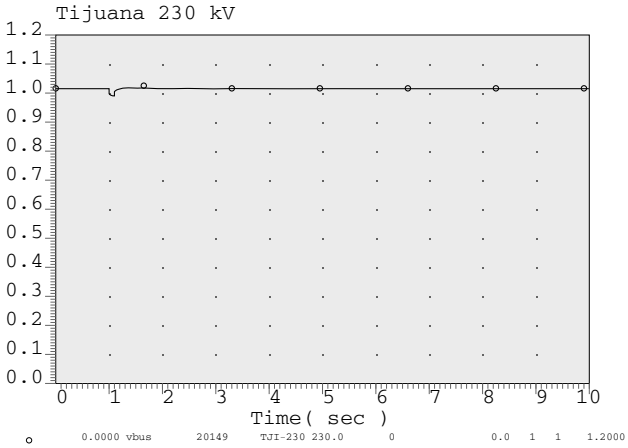


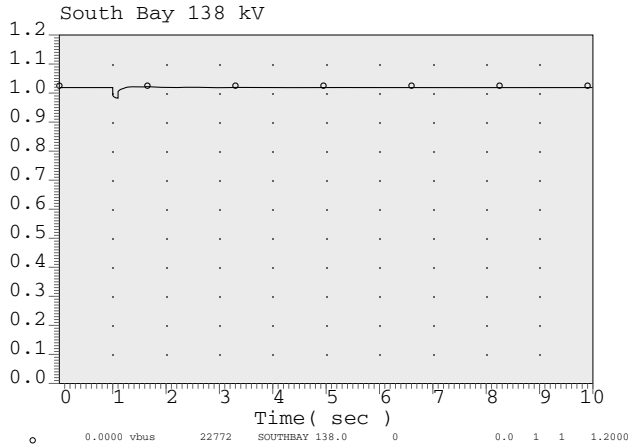


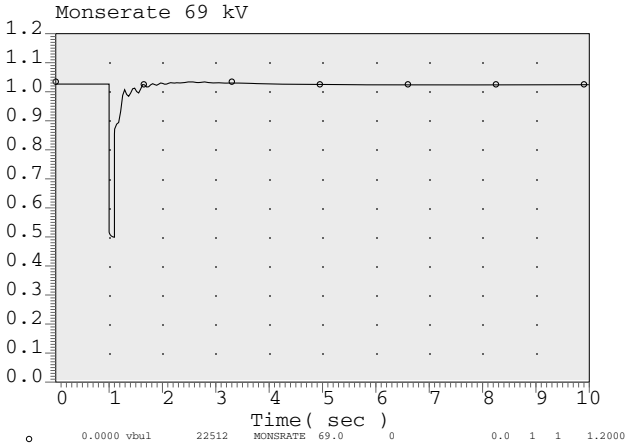


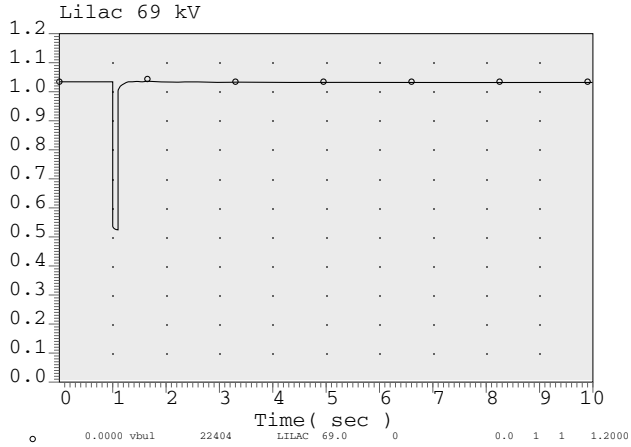
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

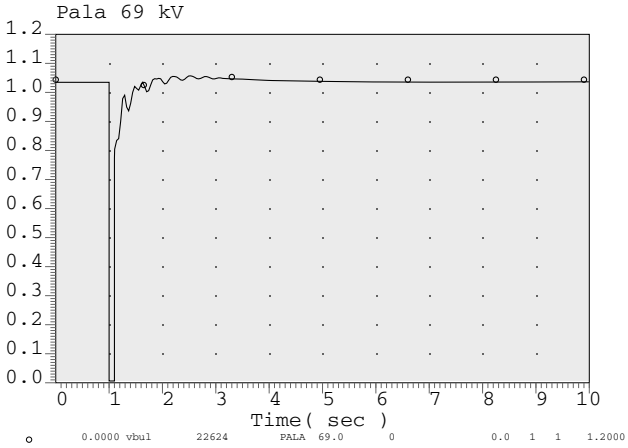
Bus Voltage

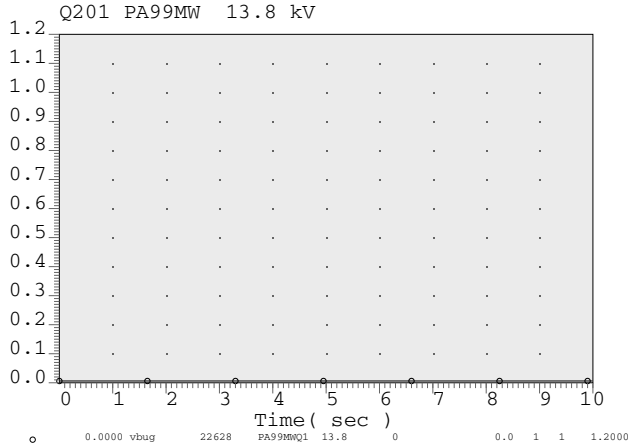






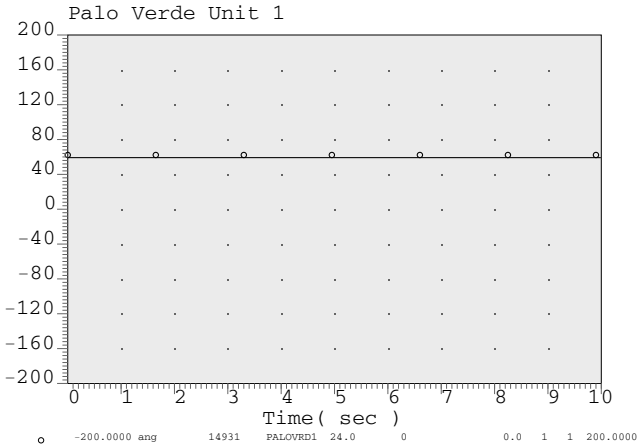


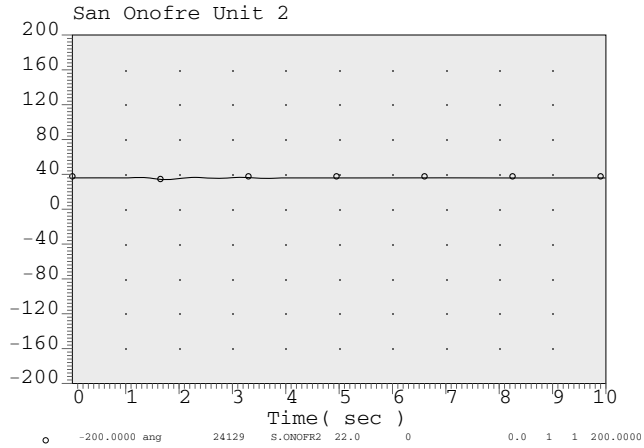


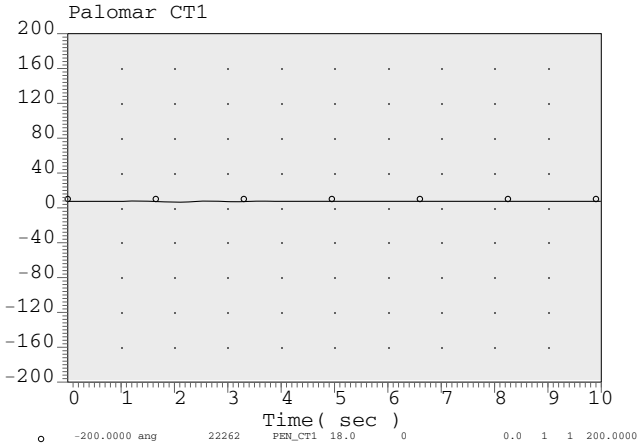


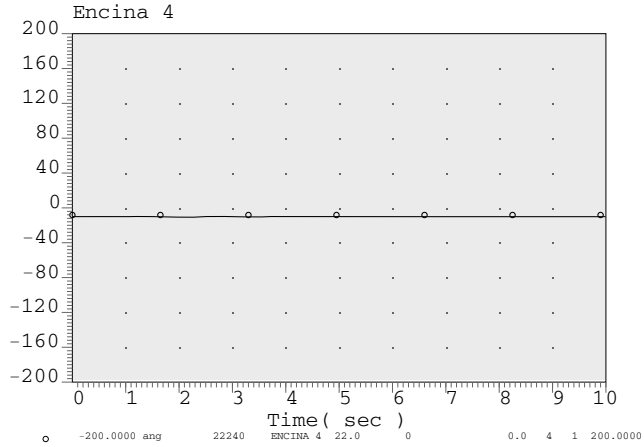
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

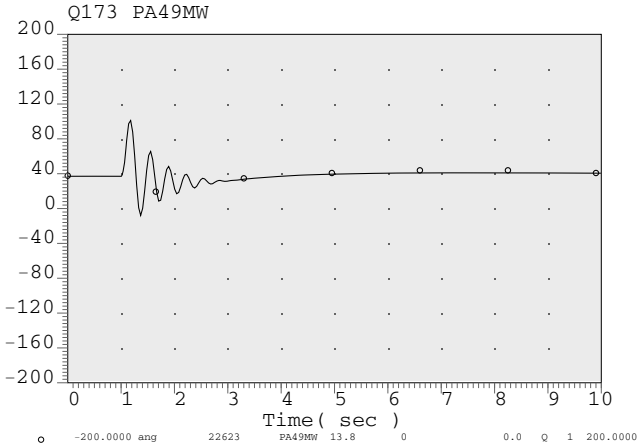
Relative Rotor Angle

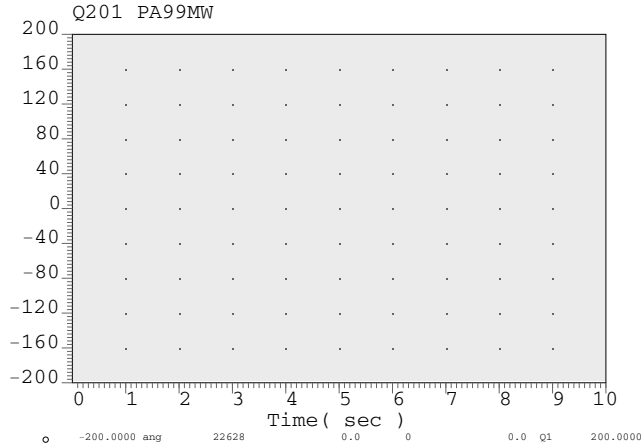






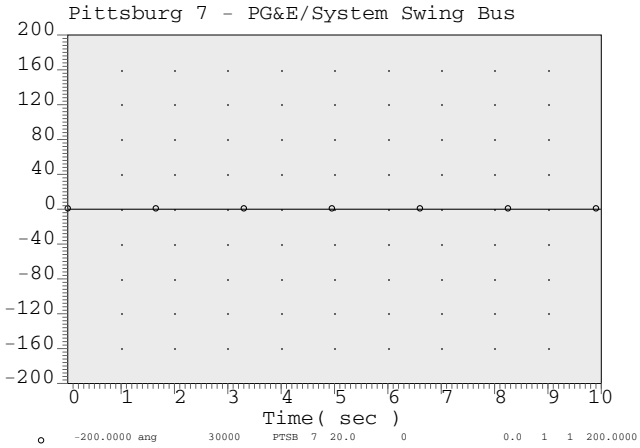


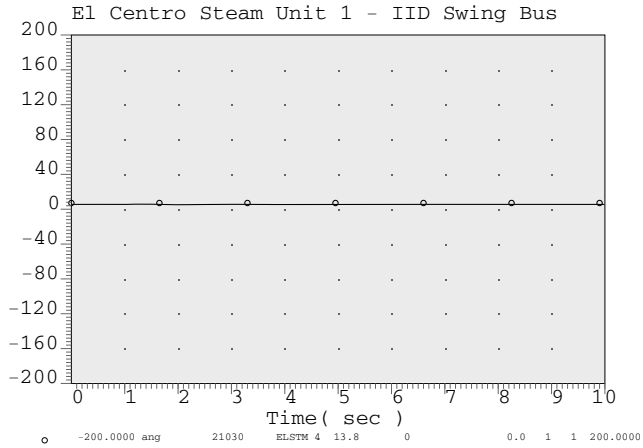


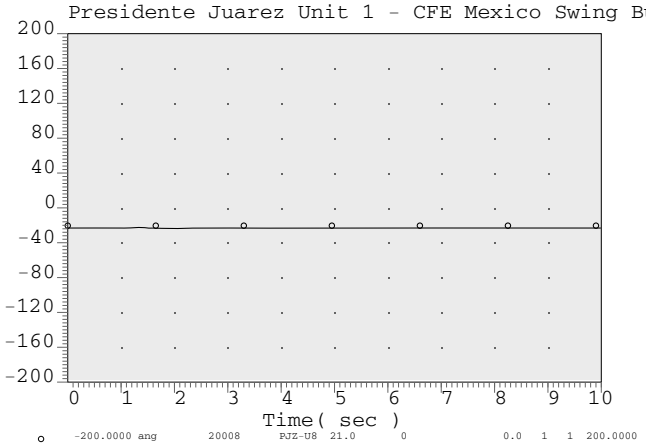


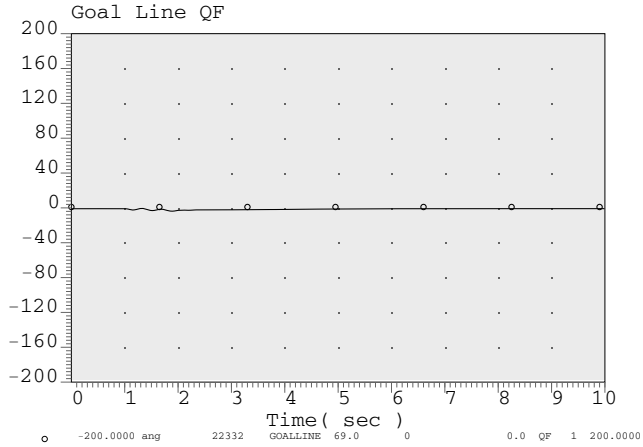
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

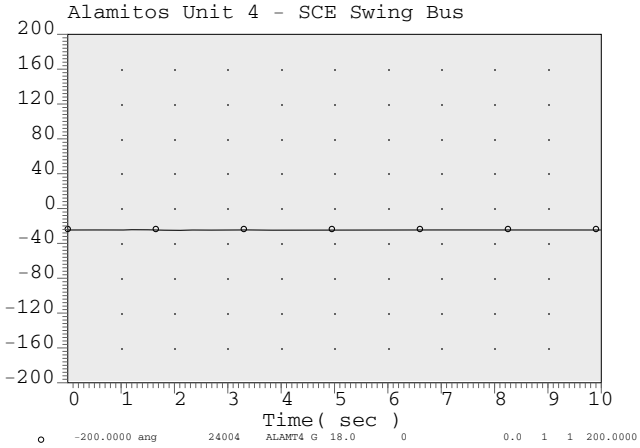
Relative Rotor Angle

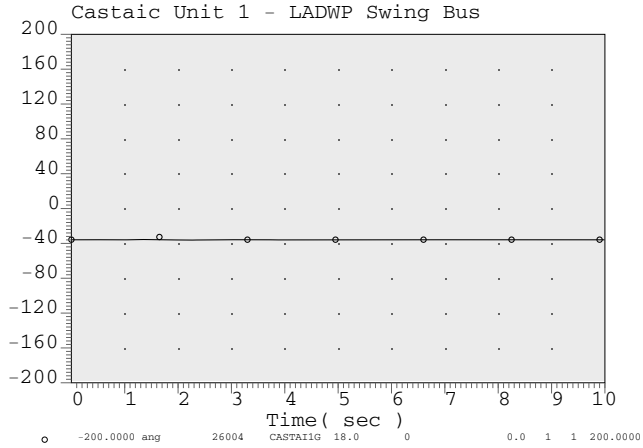






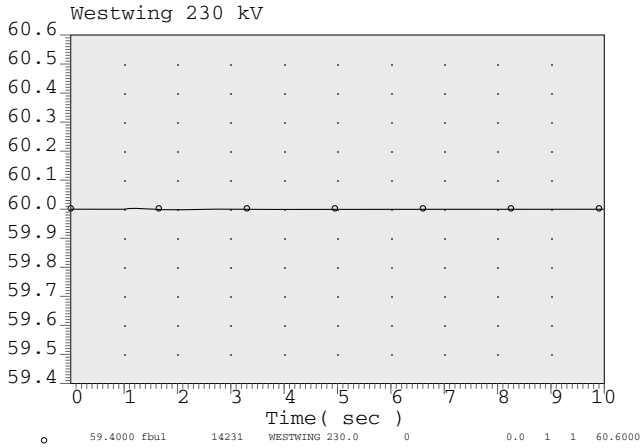


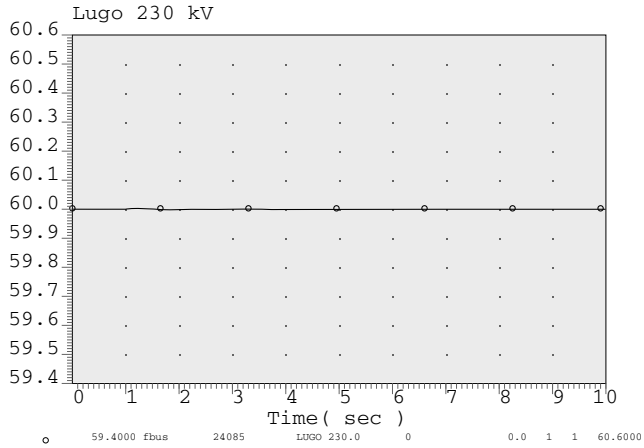


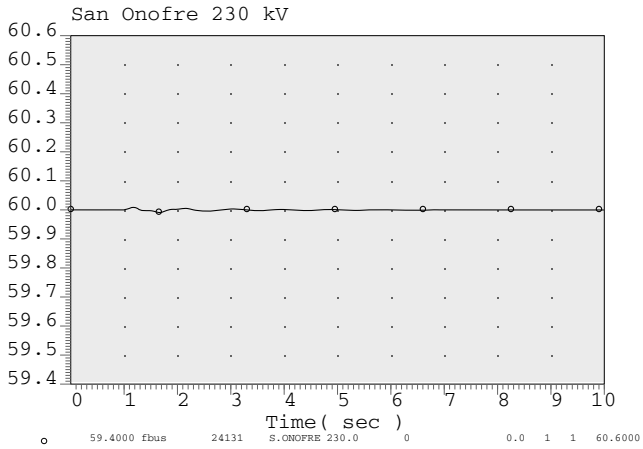


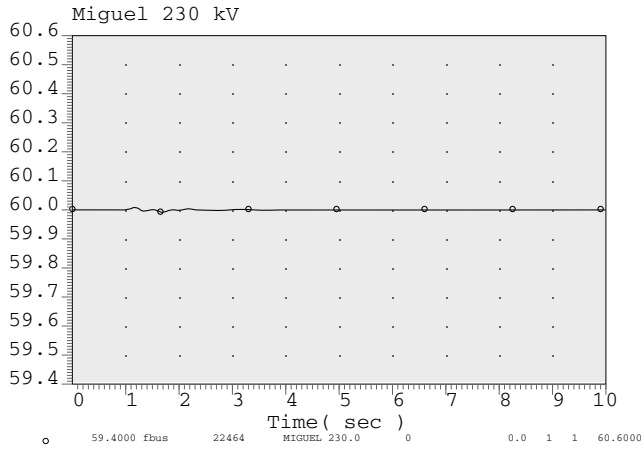
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

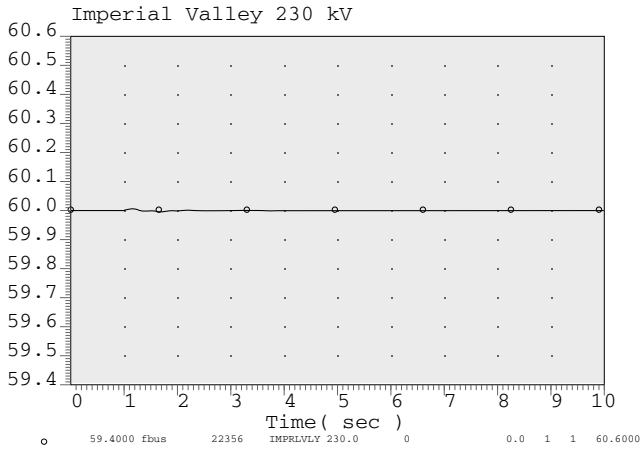
Bus Frequency

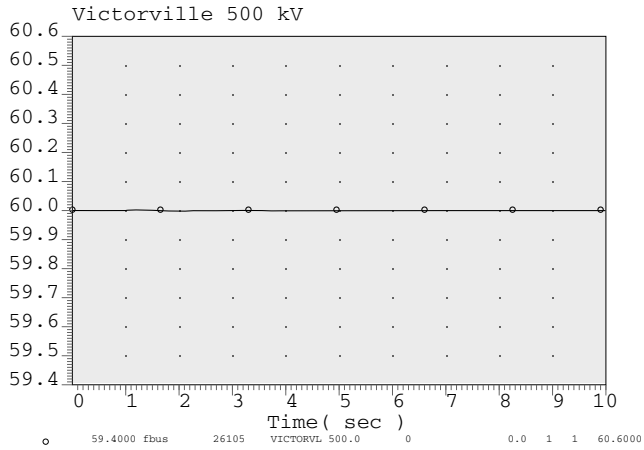






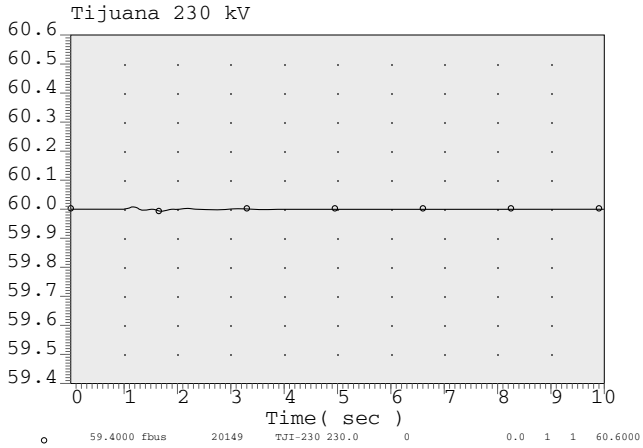


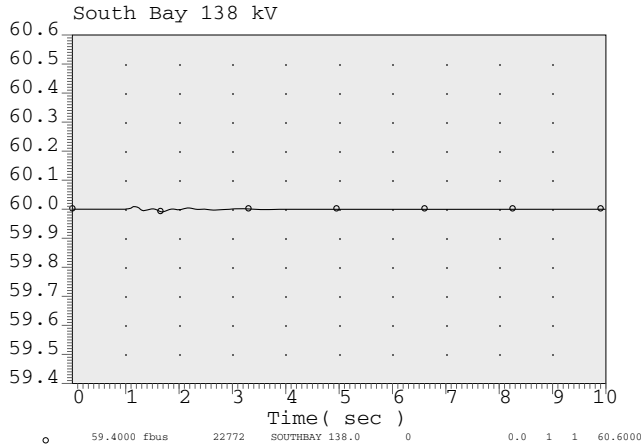


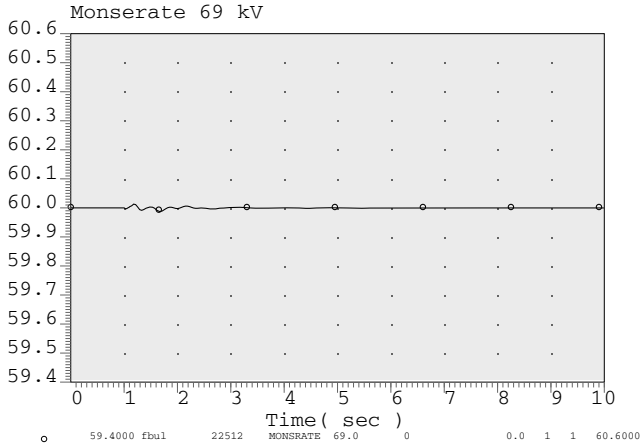


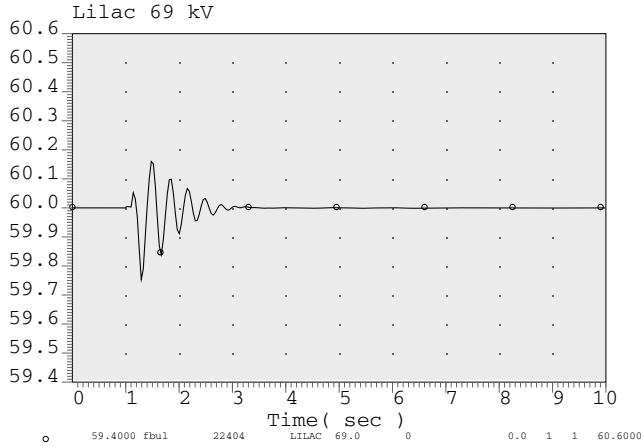
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

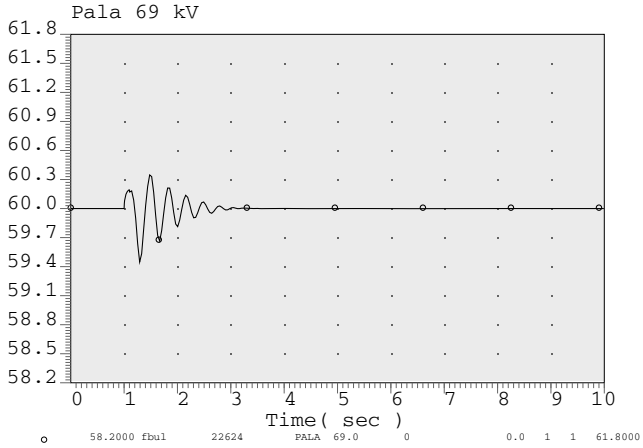
Bus Frequency

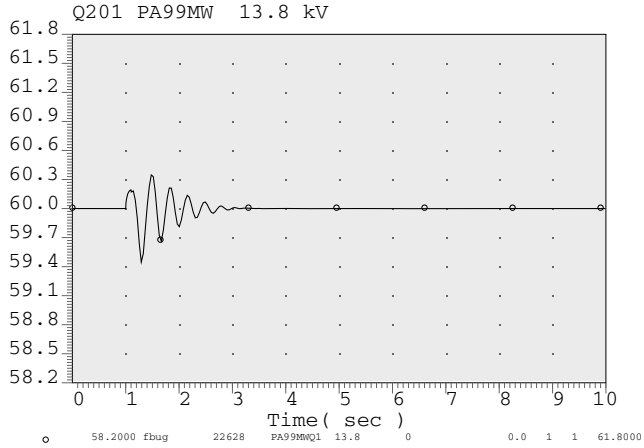






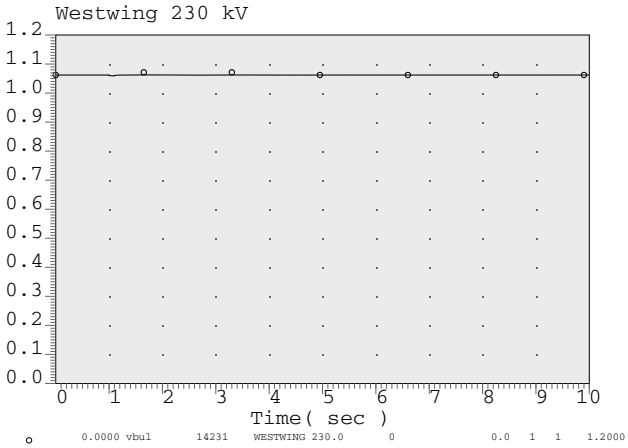


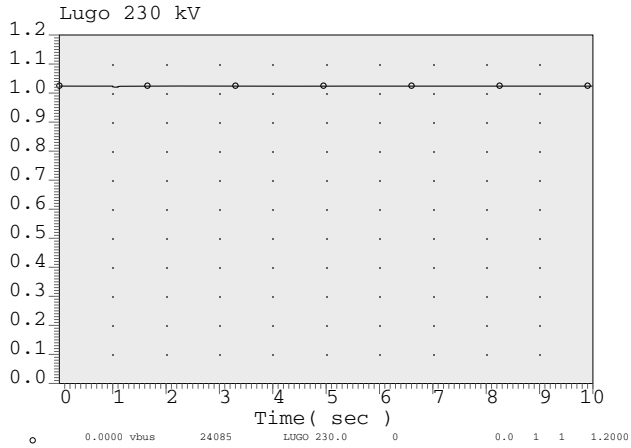


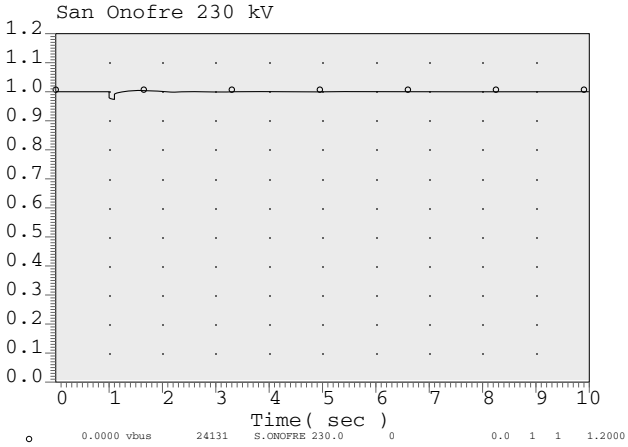


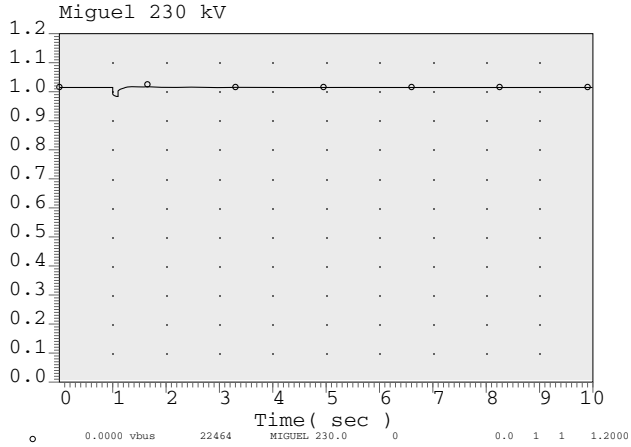
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

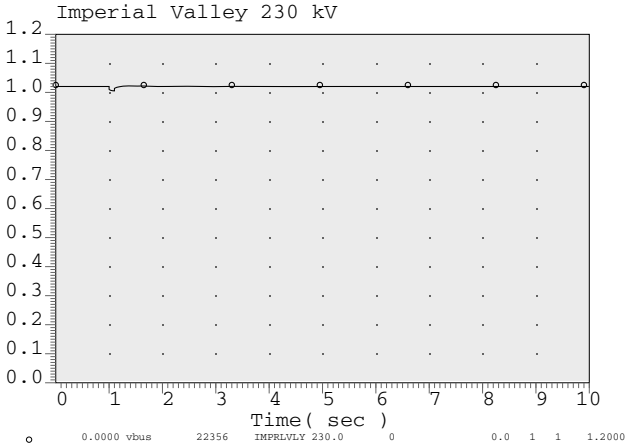
Bus Voltage

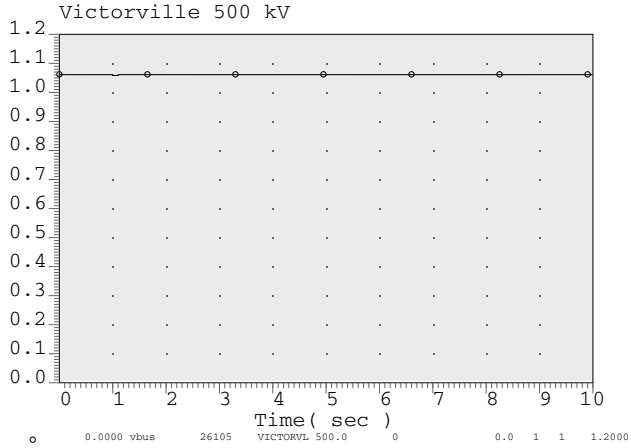






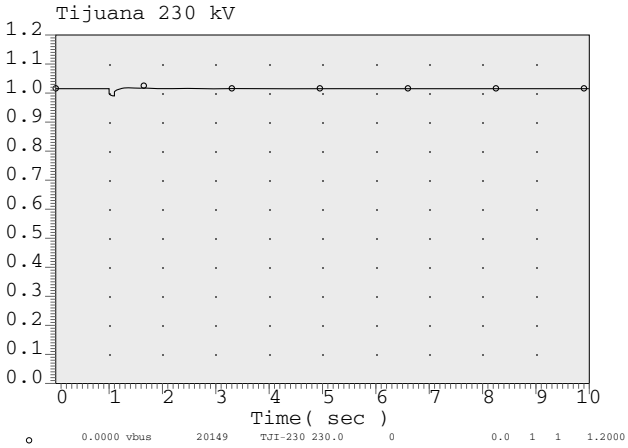


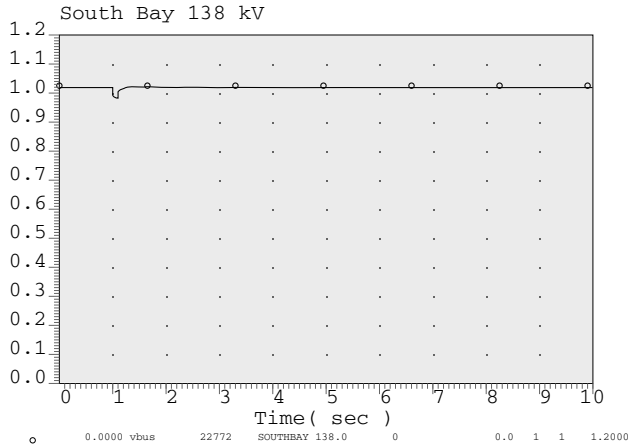


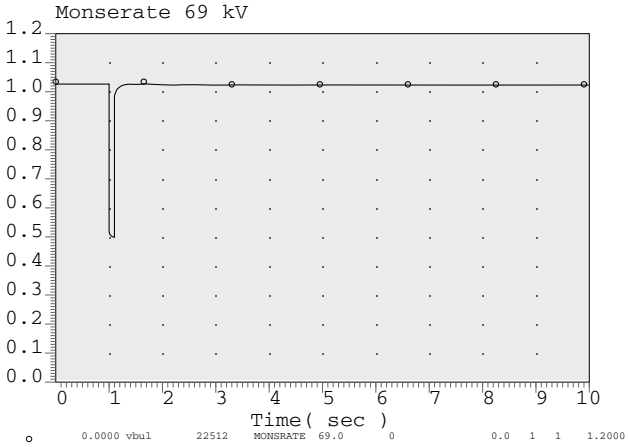


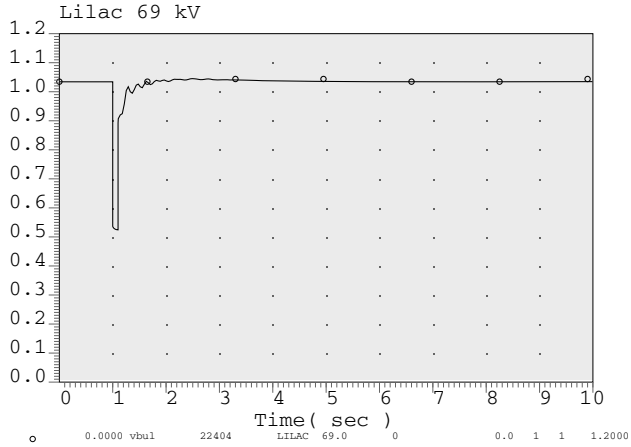
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

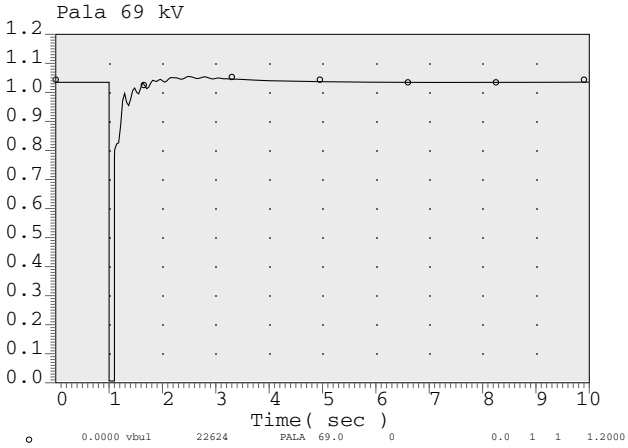
Bus Voltage

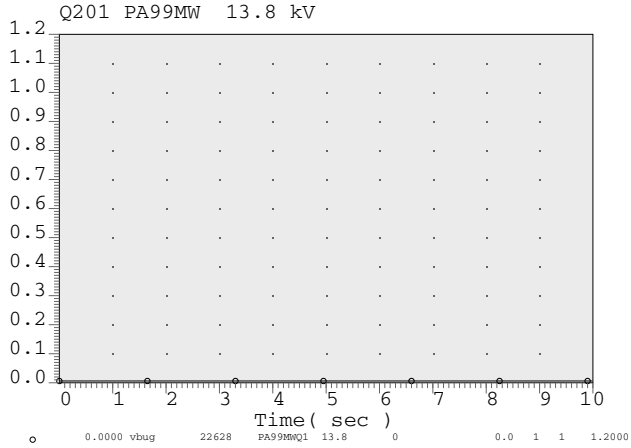






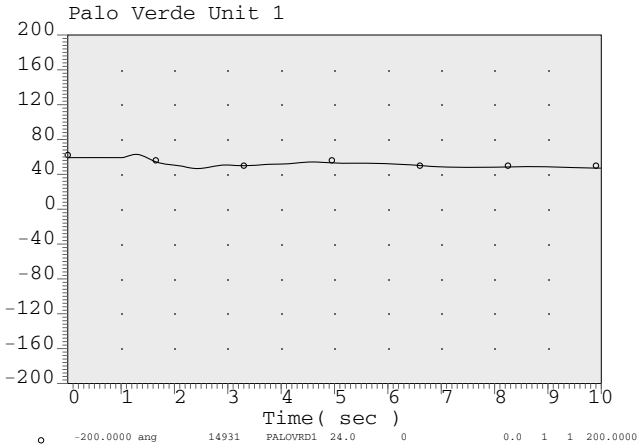


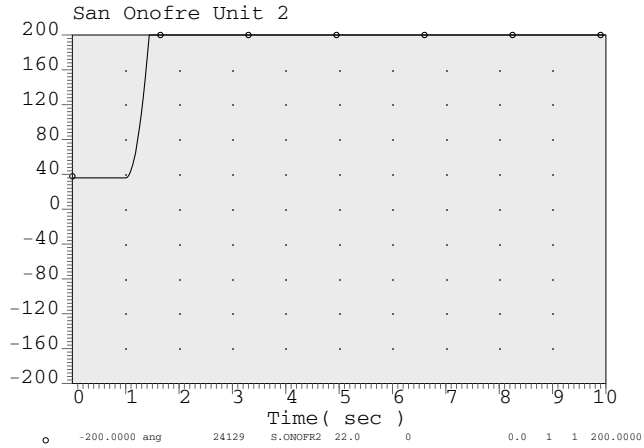


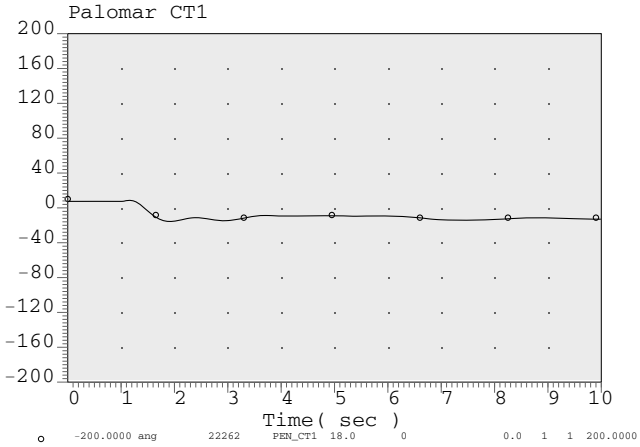


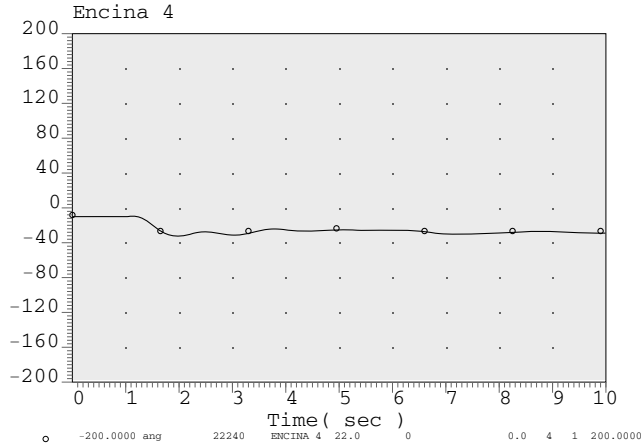
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

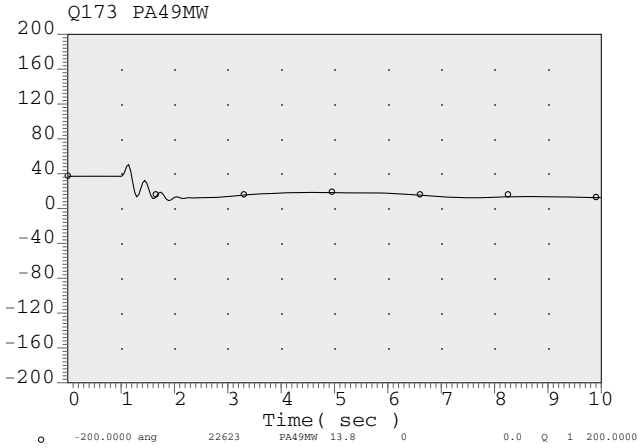
Relative Rotor Angle

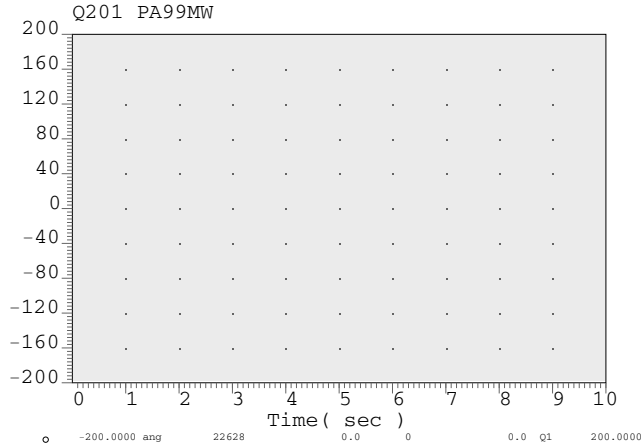






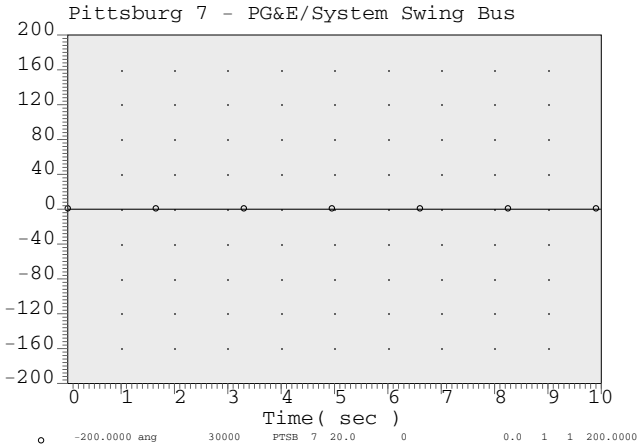


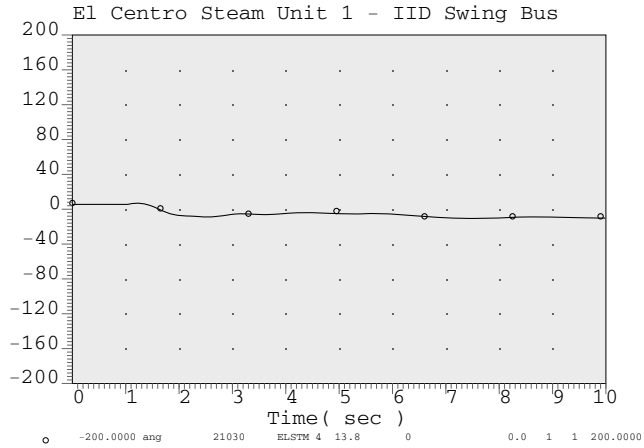


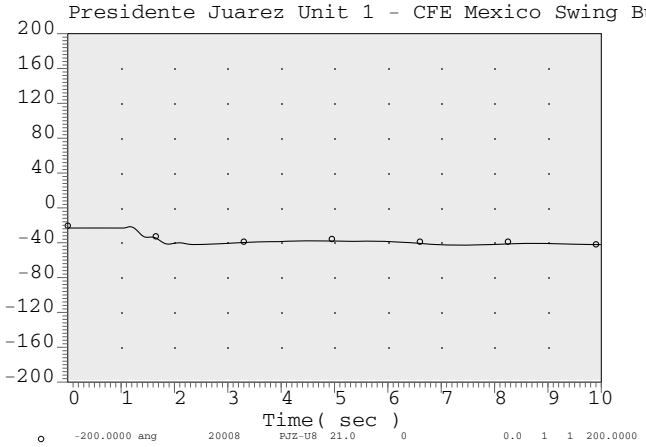


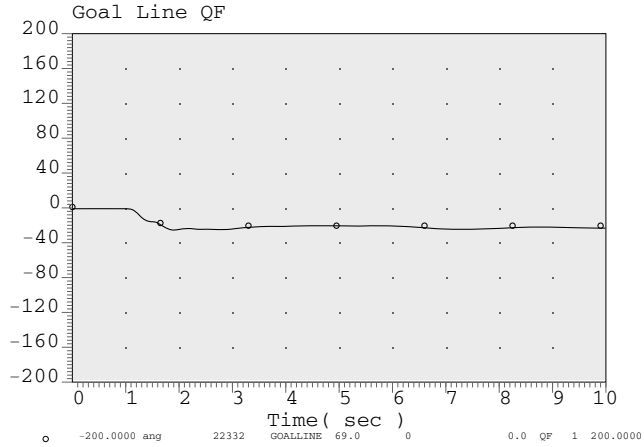
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

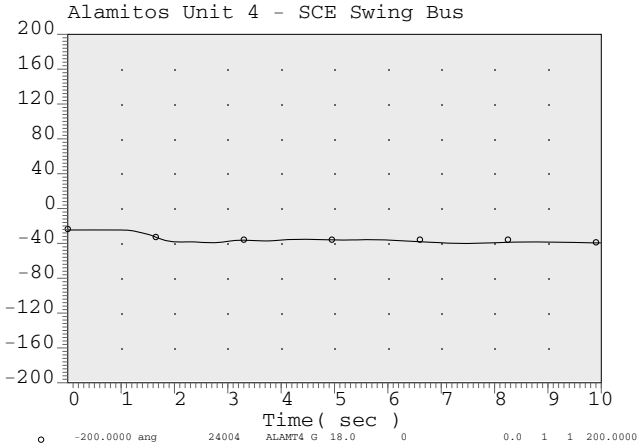
Relative Rotor Angle

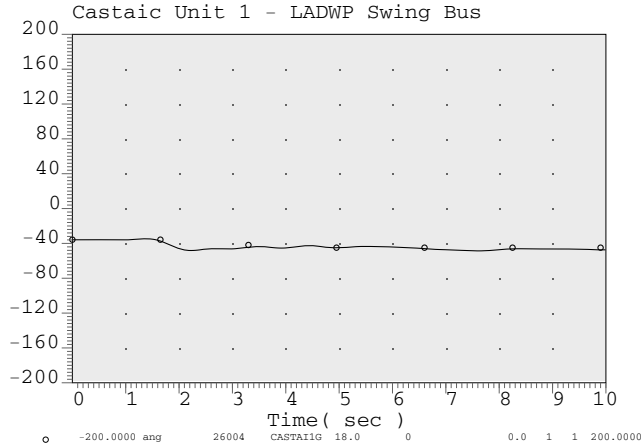






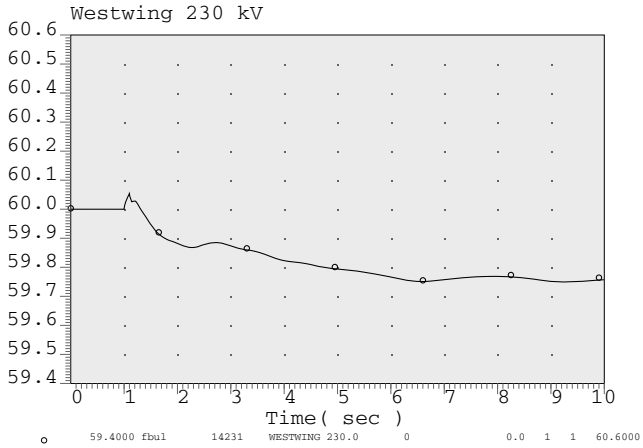


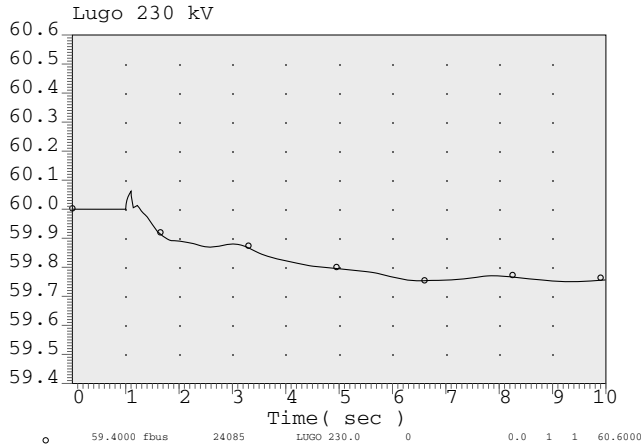


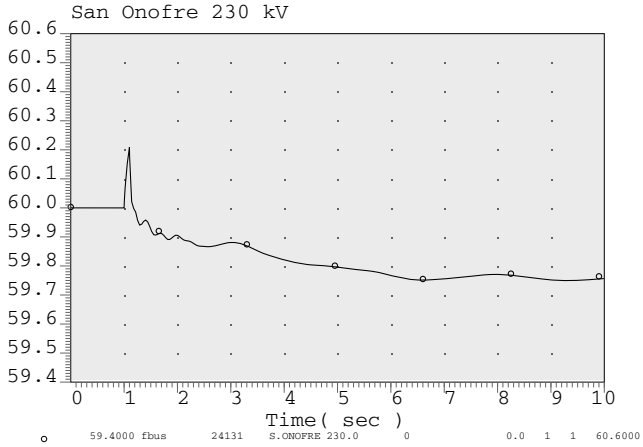


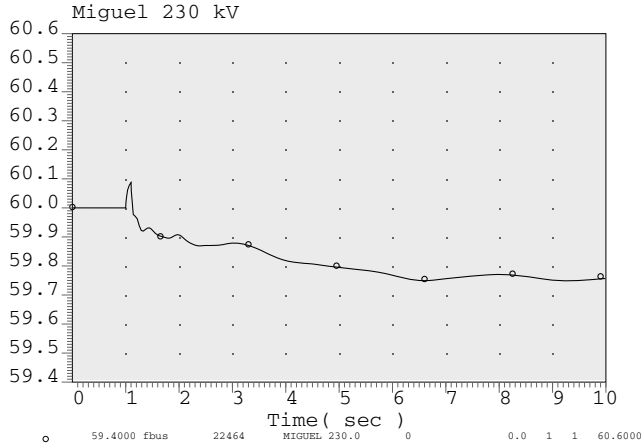
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

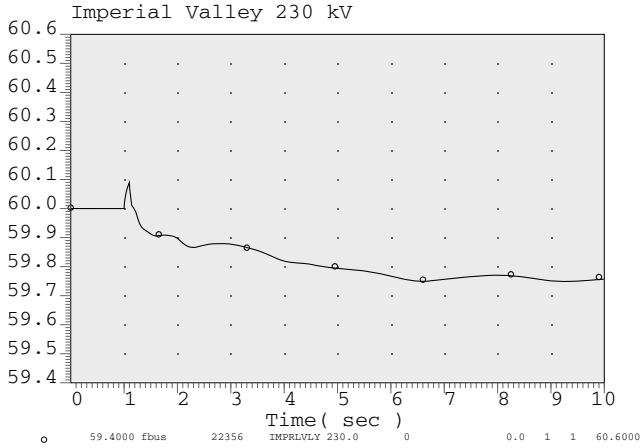
Bus Frequency

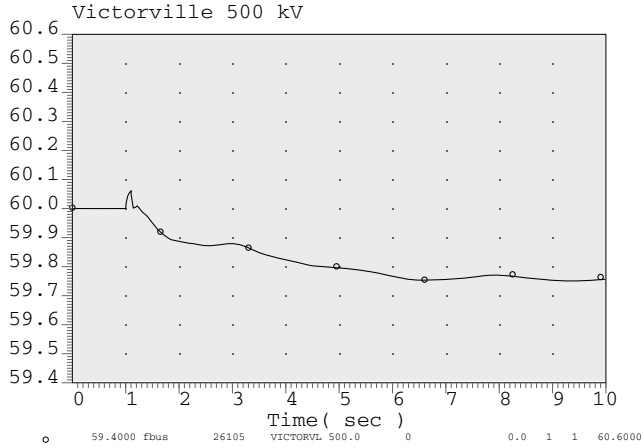






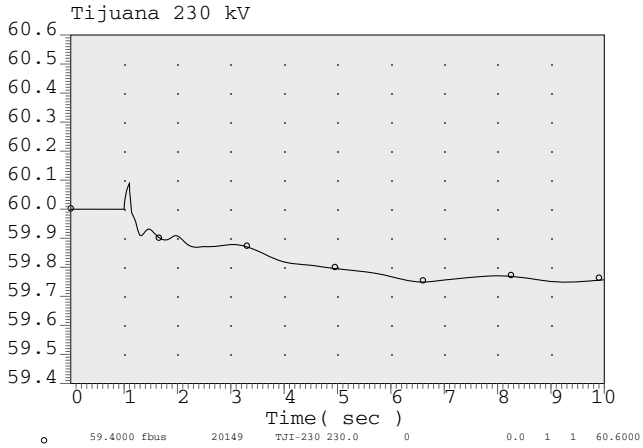


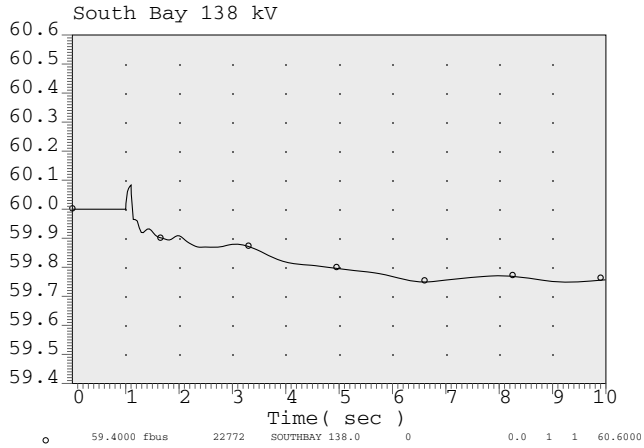


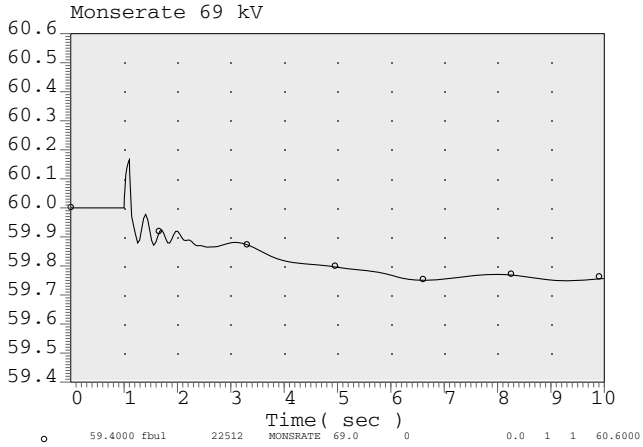


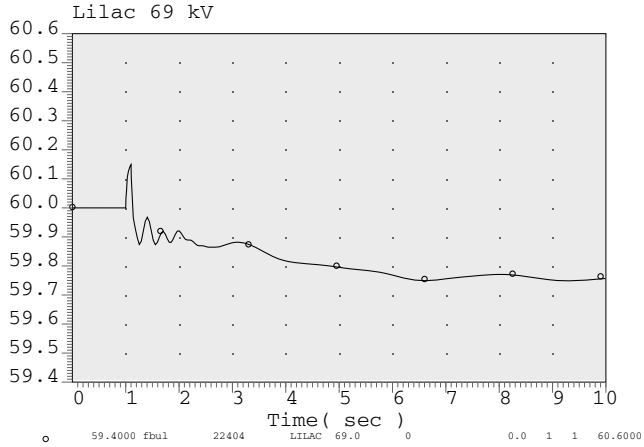
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

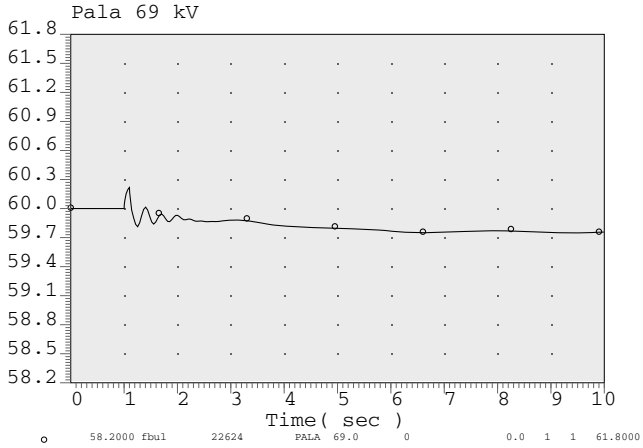
Bus Frequency

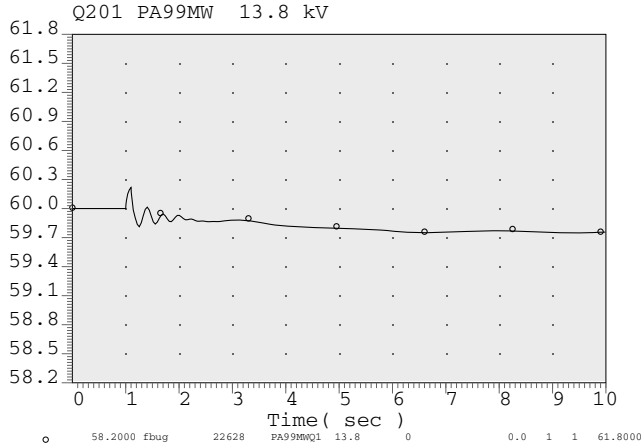






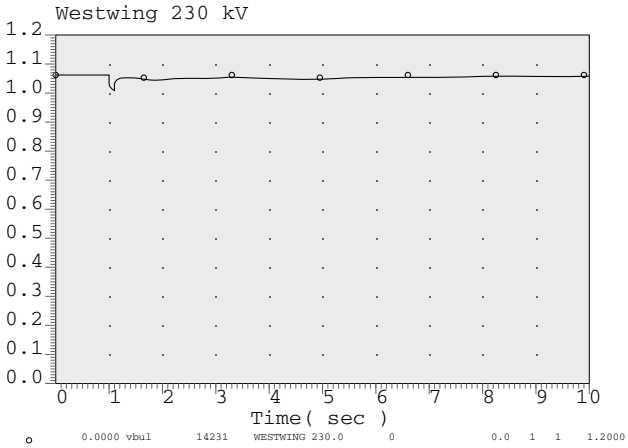


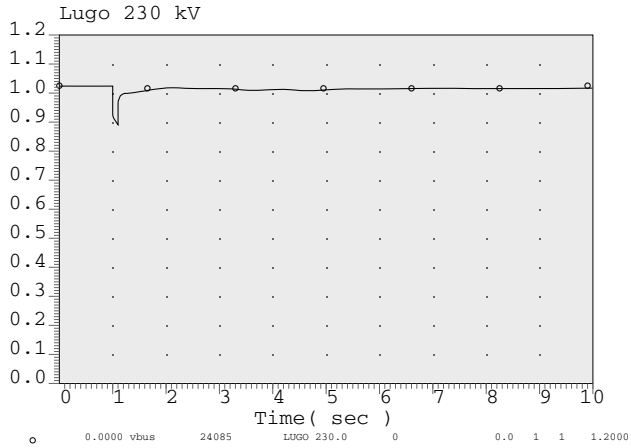


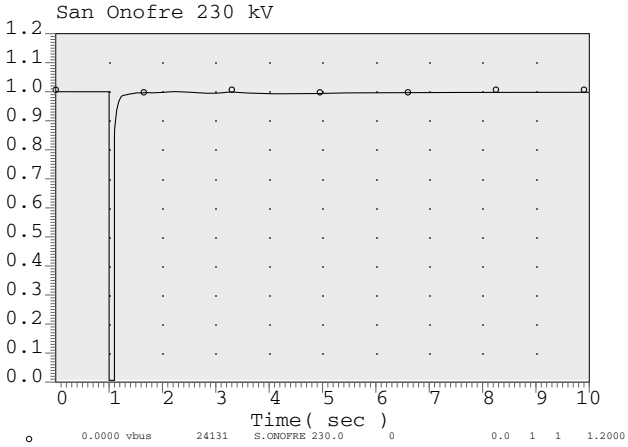


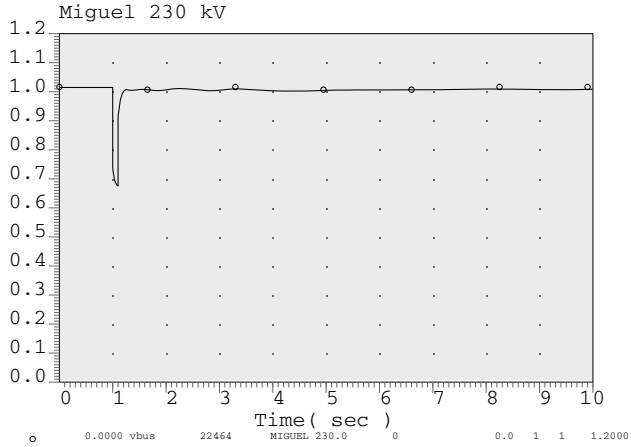
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

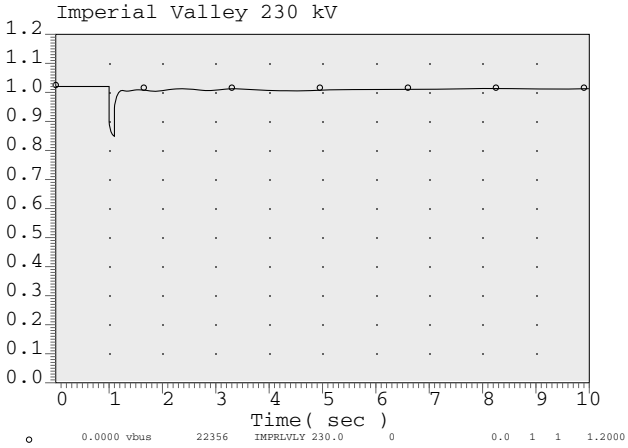
Bus Voltage

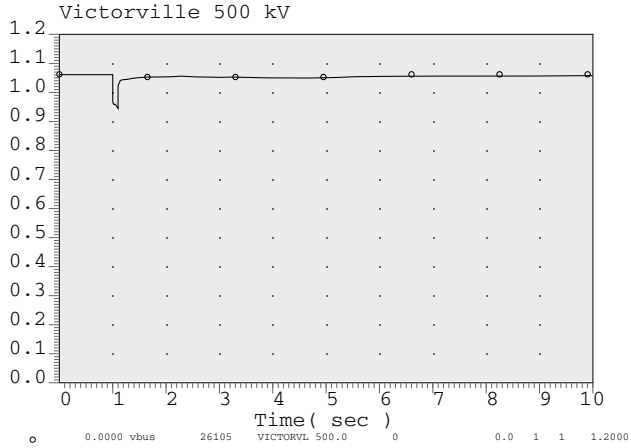






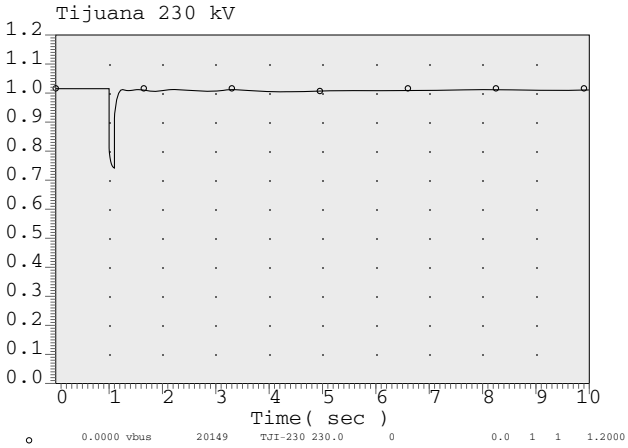


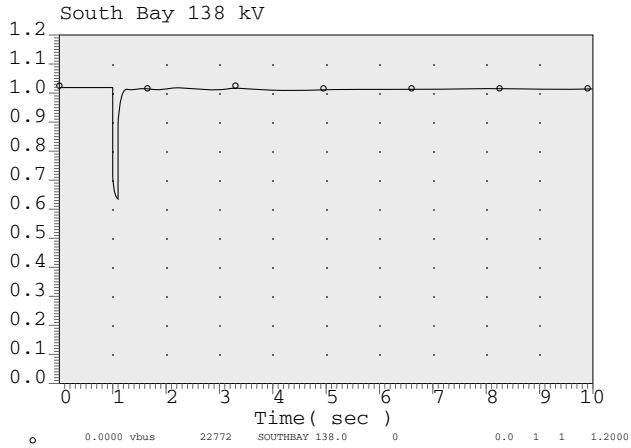


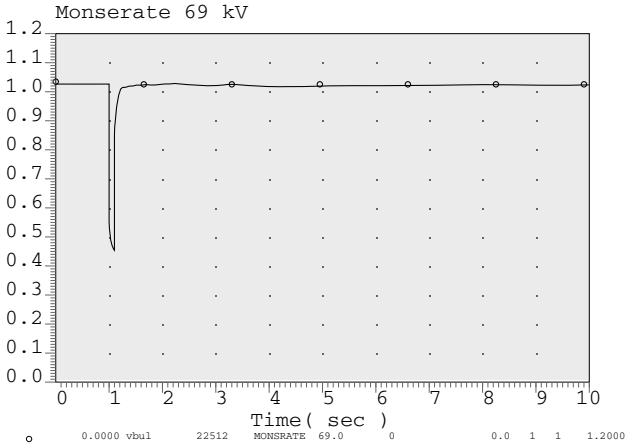


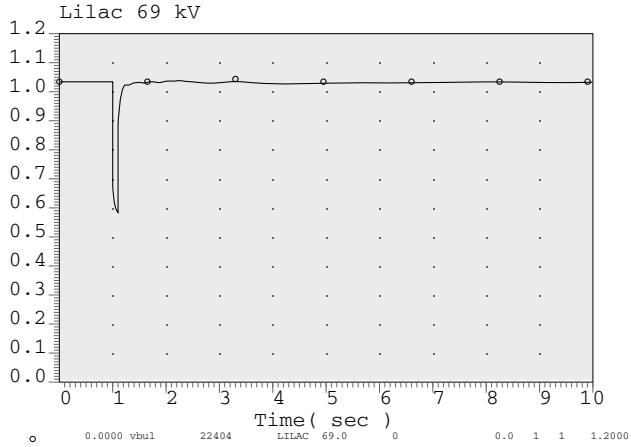
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

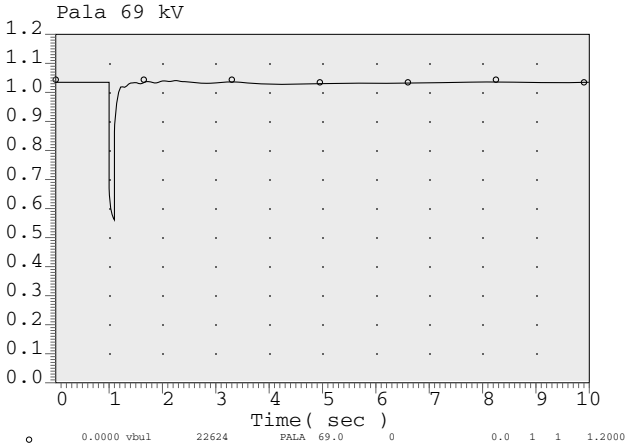
Bus Voltage

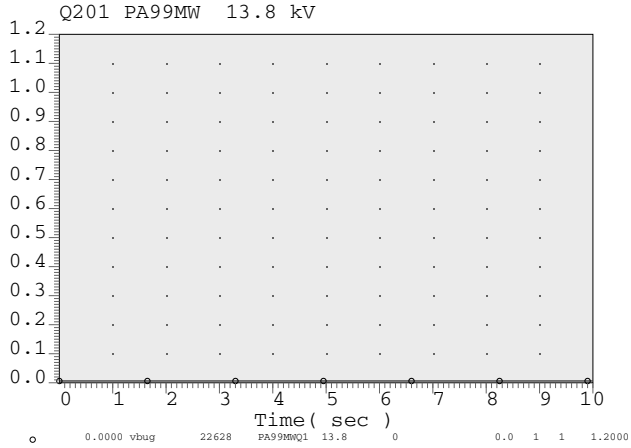






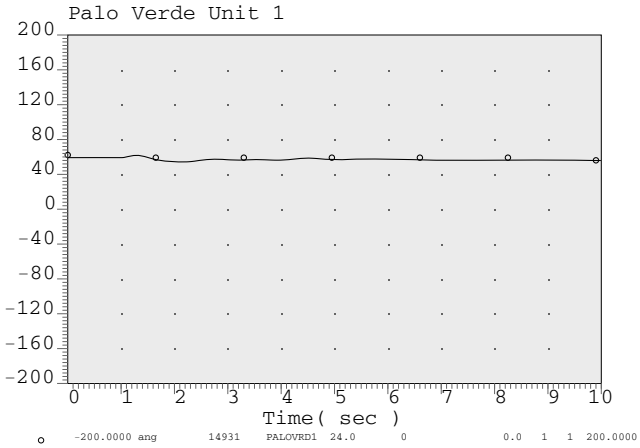


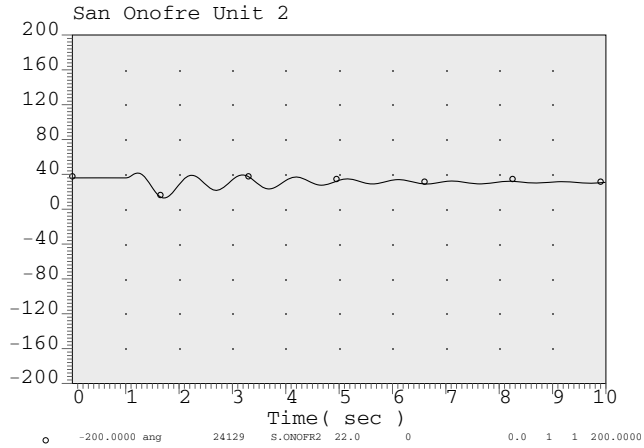


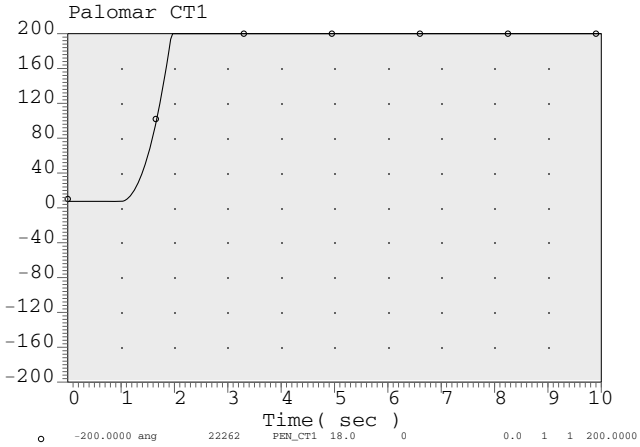


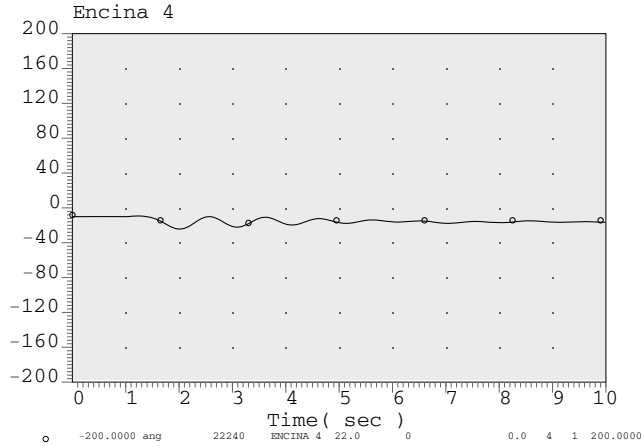
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

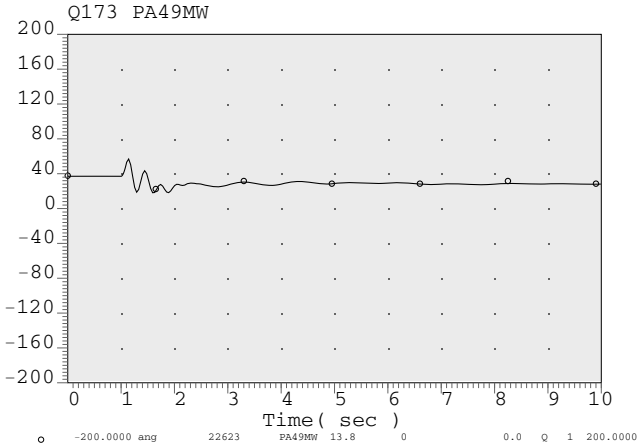
Relative Rotor Angle

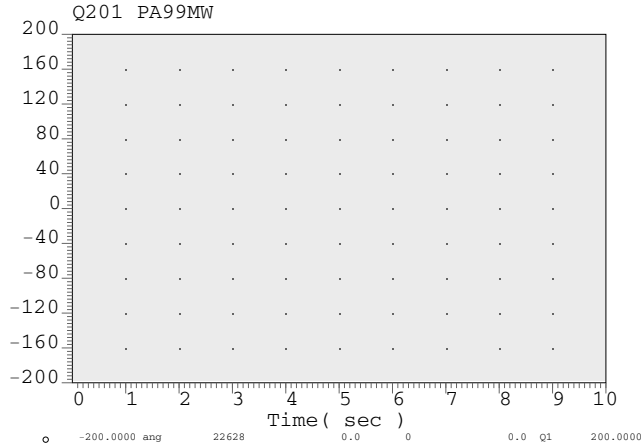






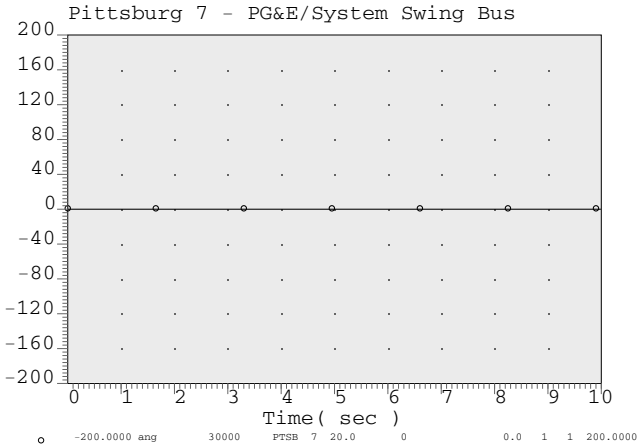


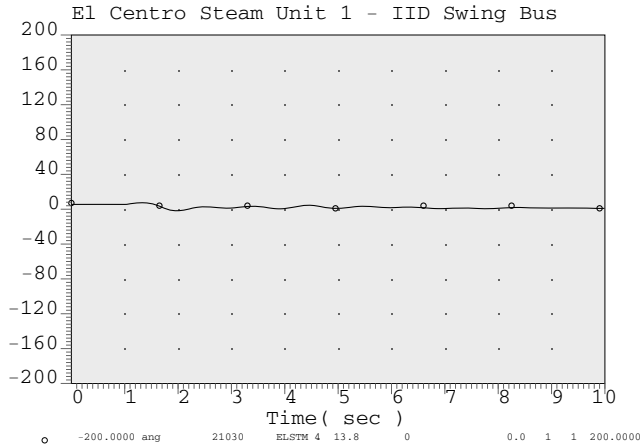


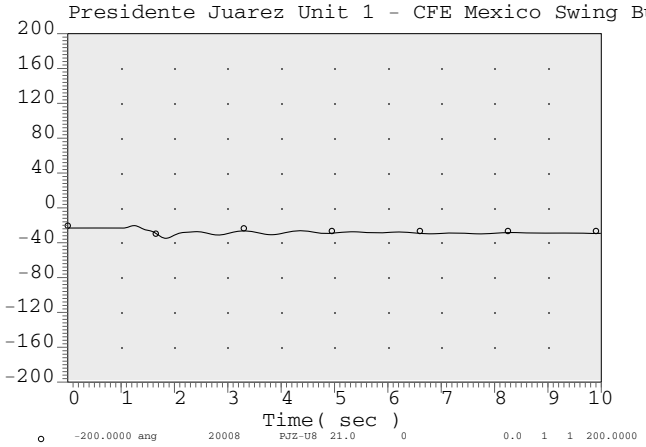


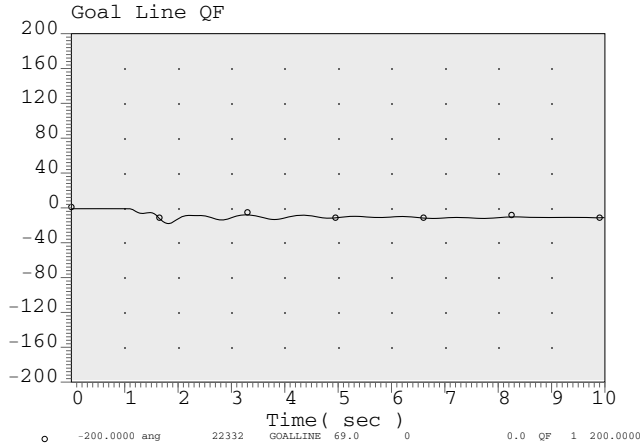
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

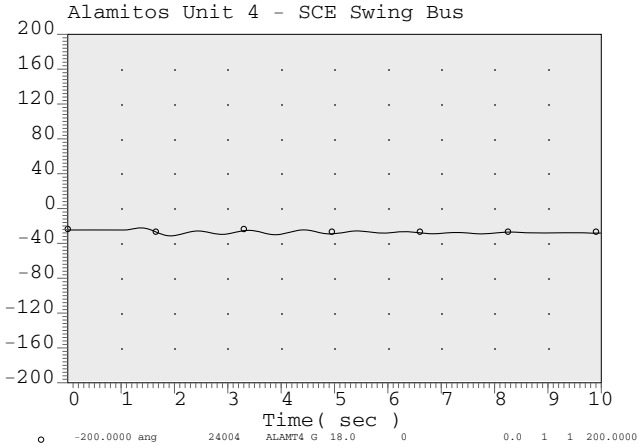
Relative Rotor Angle

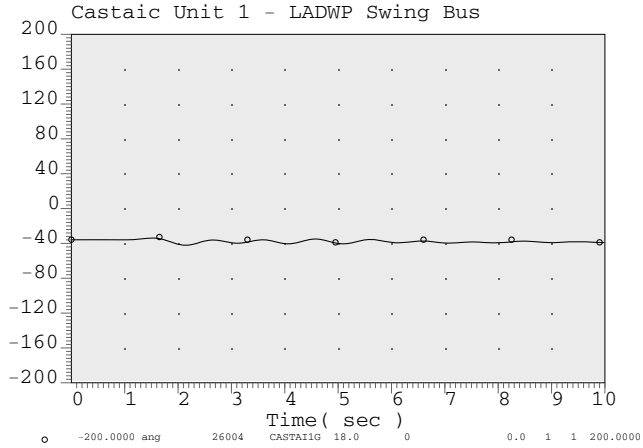






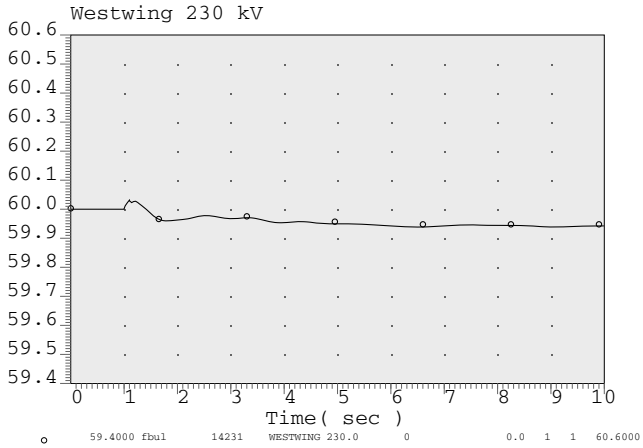


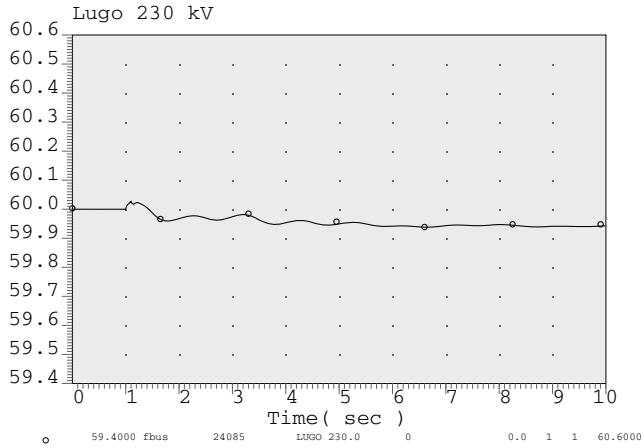


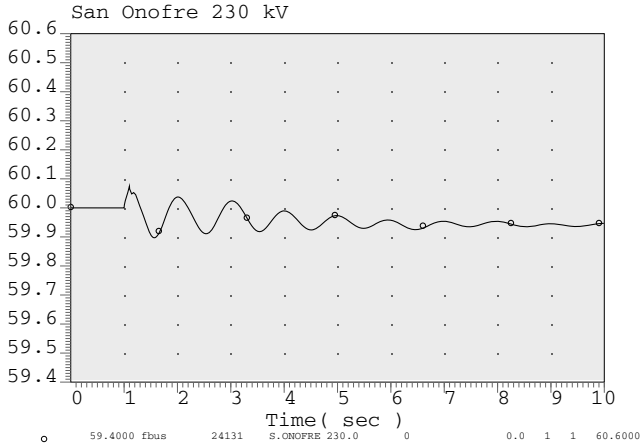


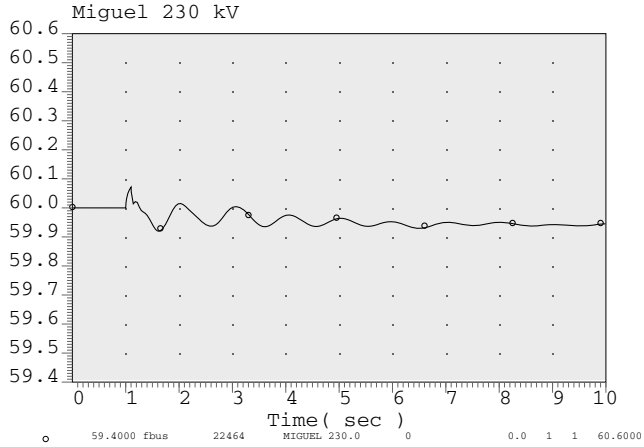
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

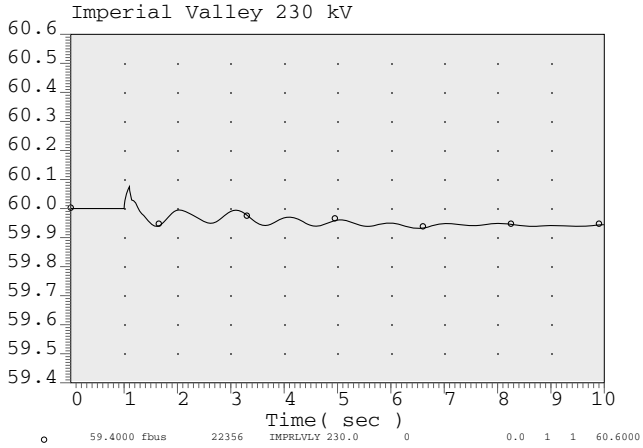
Bus Frequency

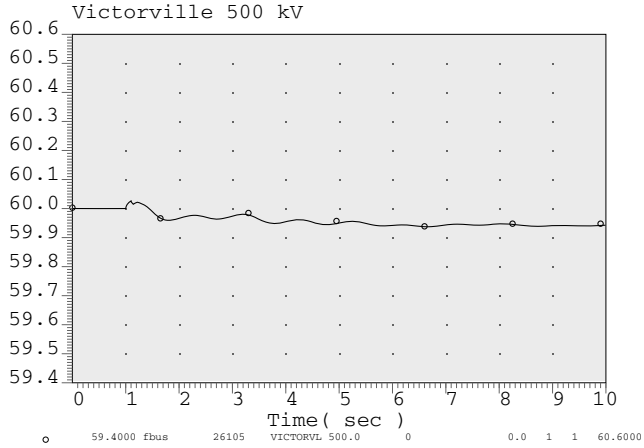






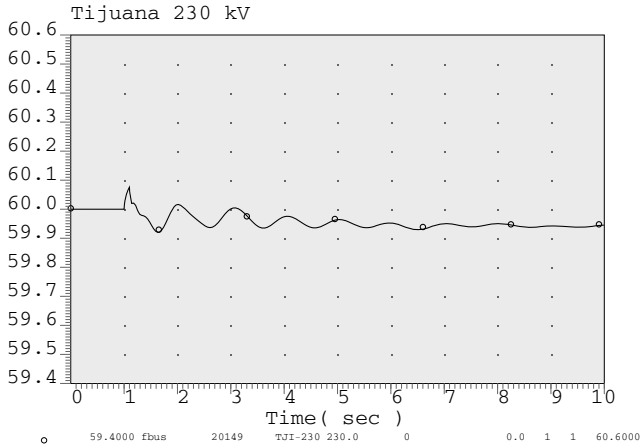


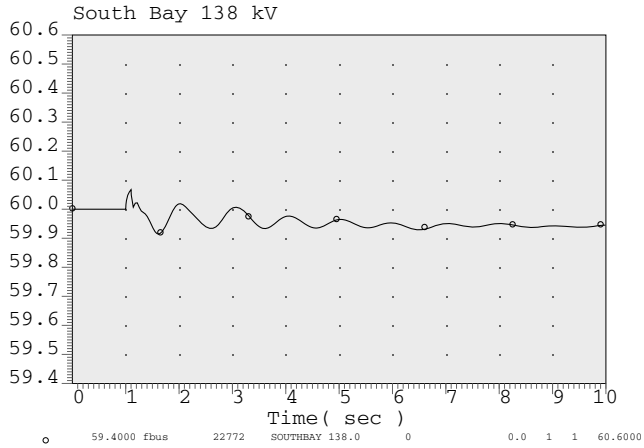


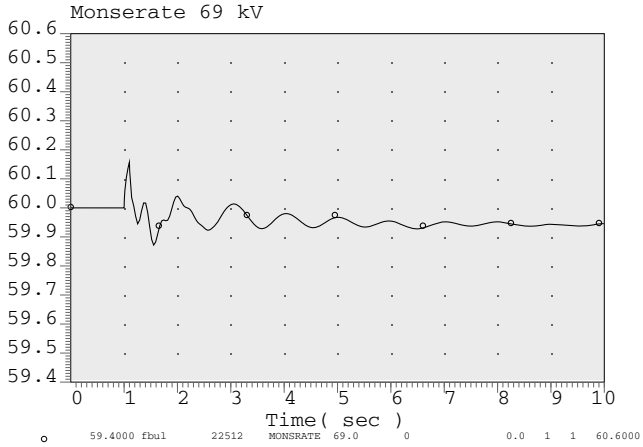


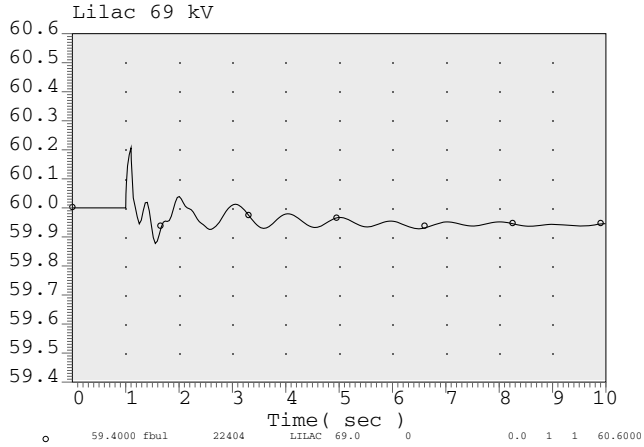
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

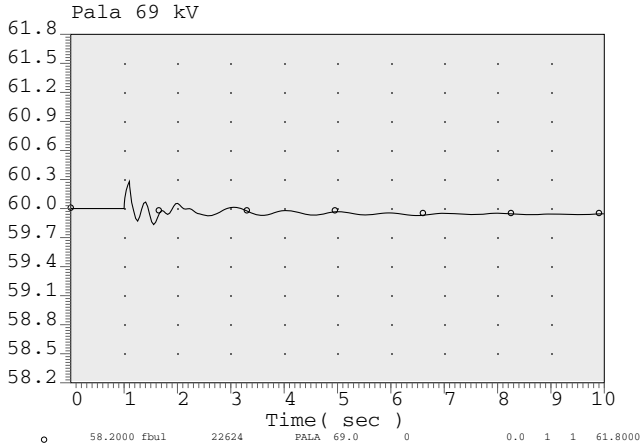
Bus Frequency

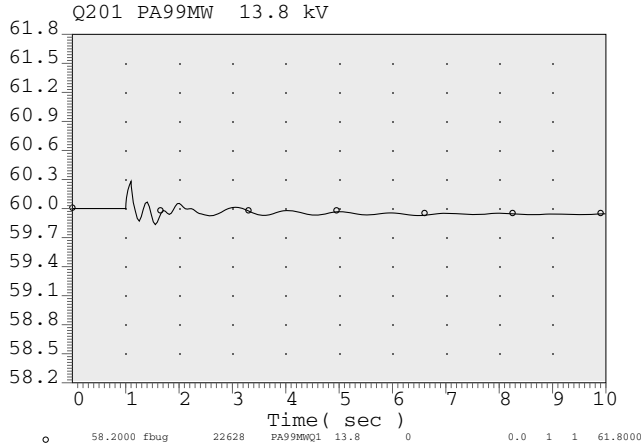






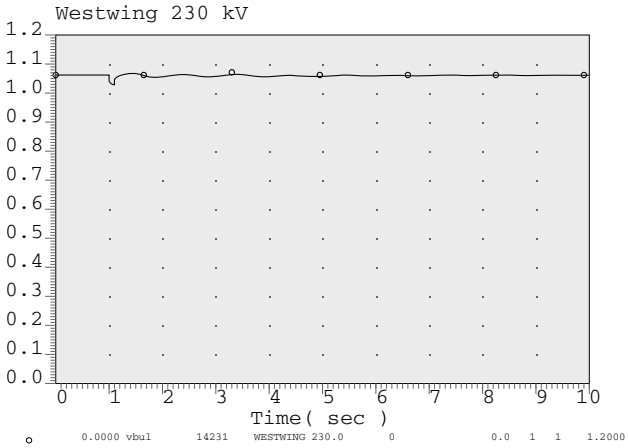


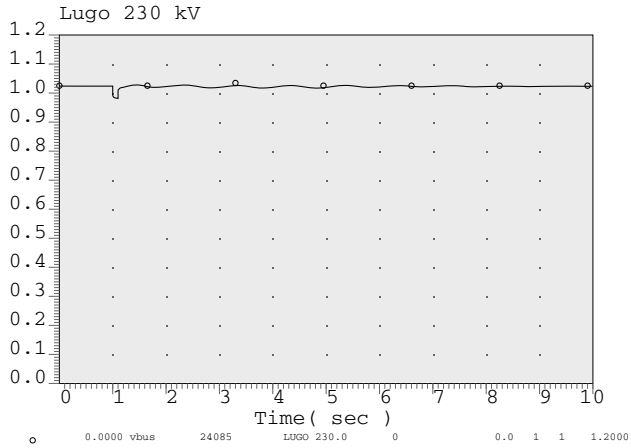


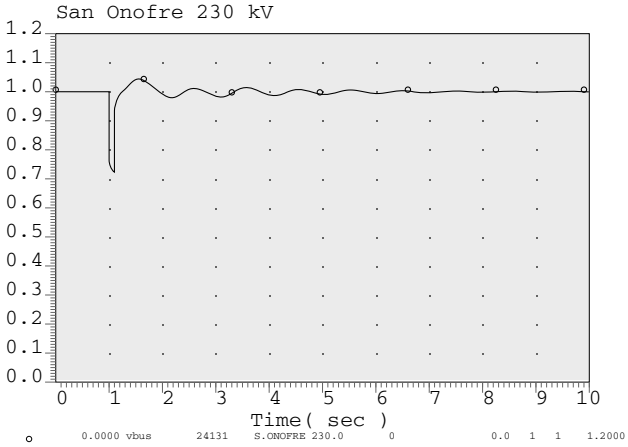


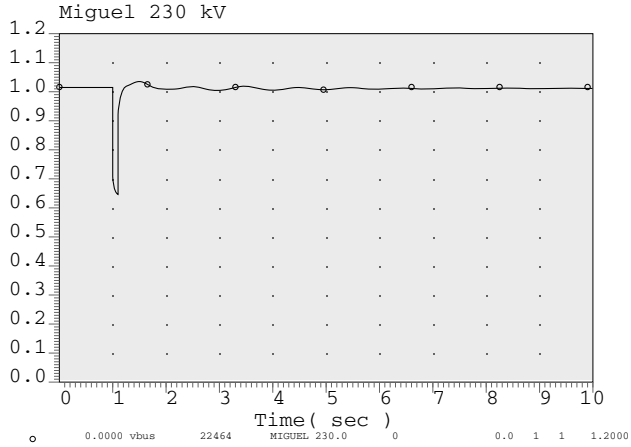
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

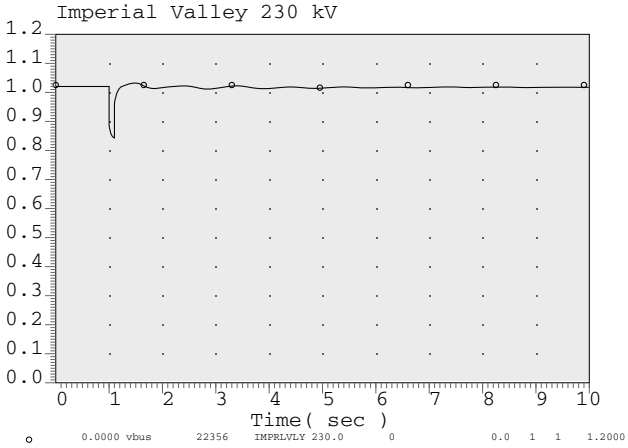
Bus Voltage

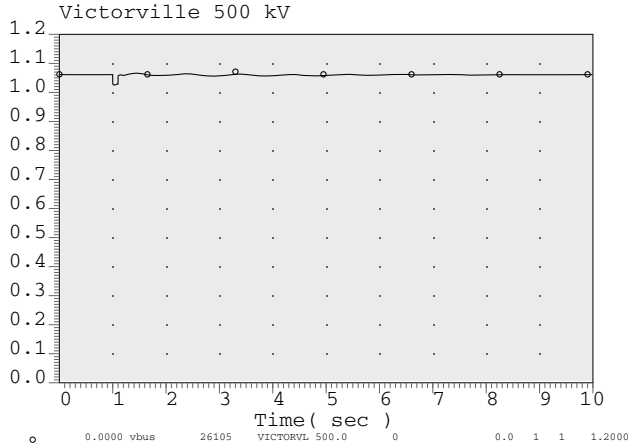






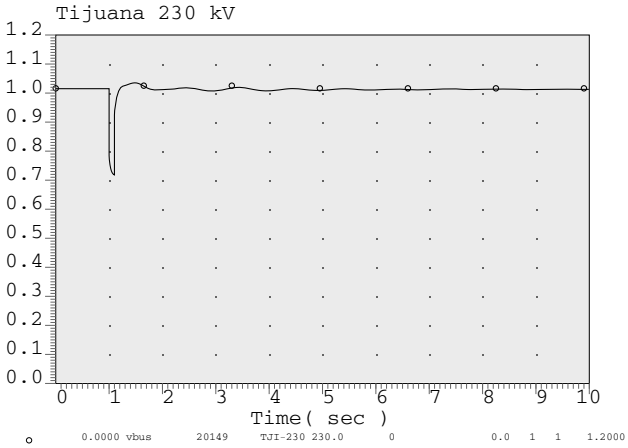


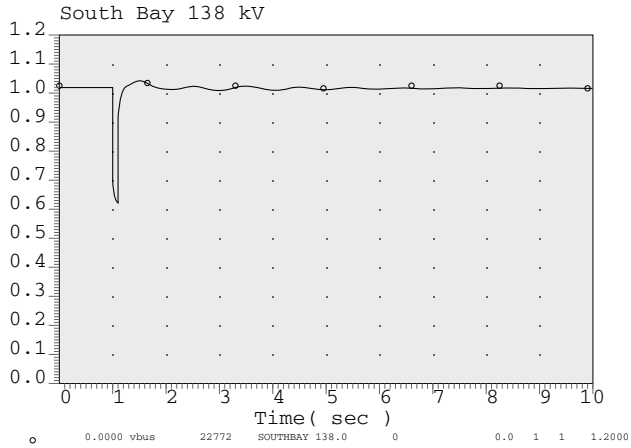


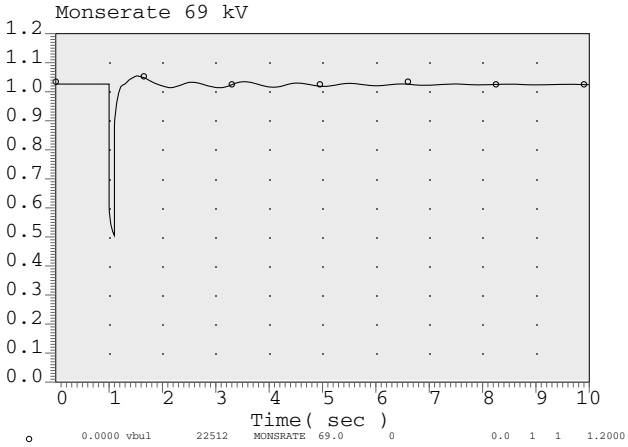


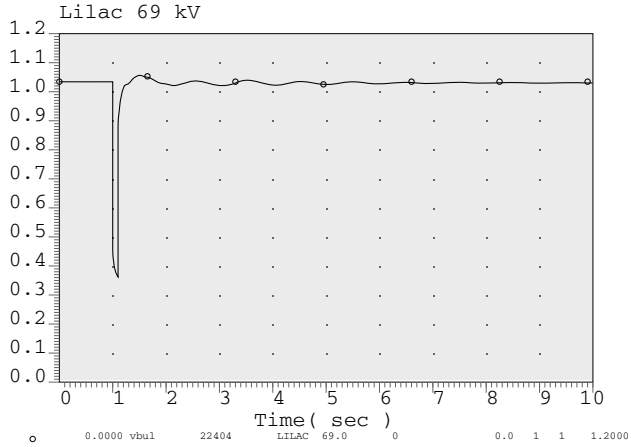
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

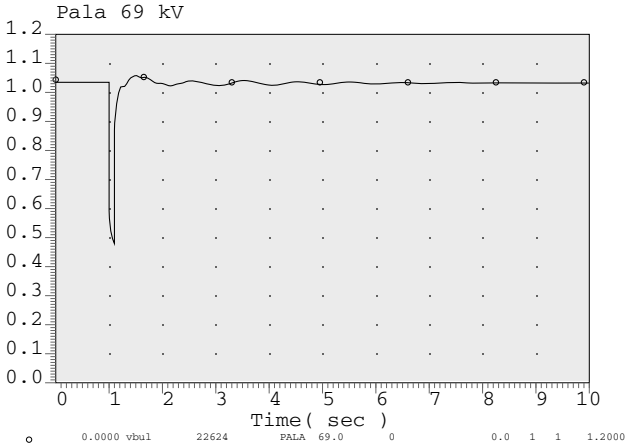
Bus Voltage

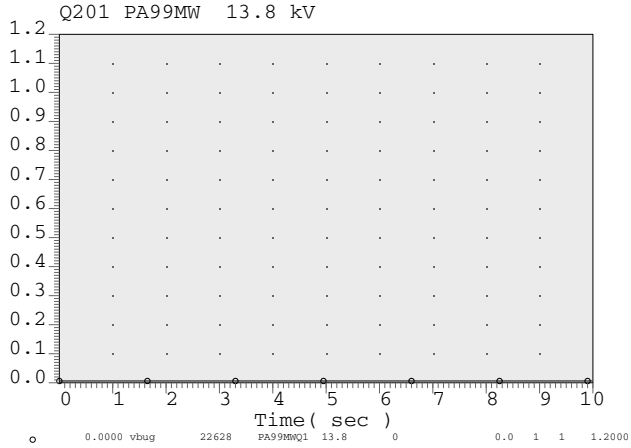






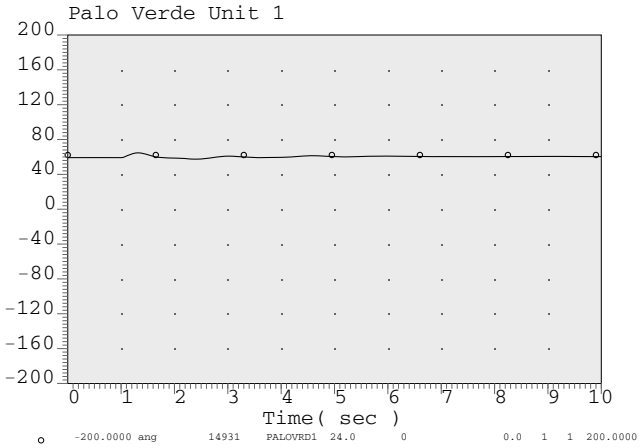


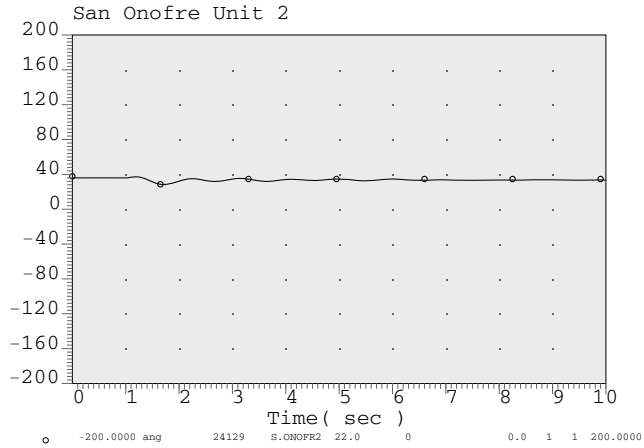


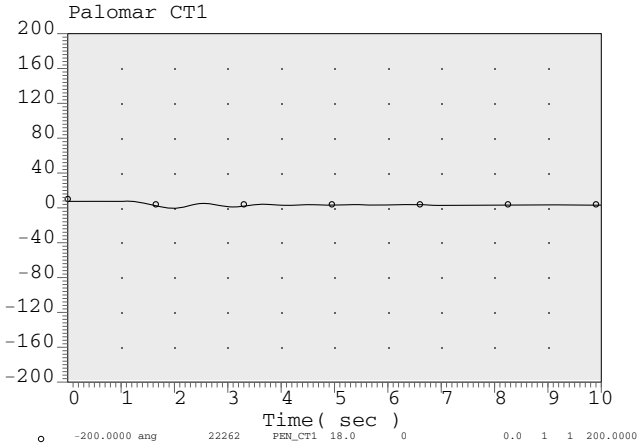


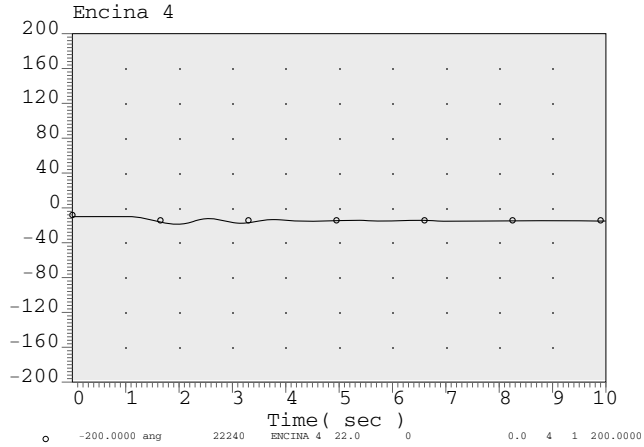
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

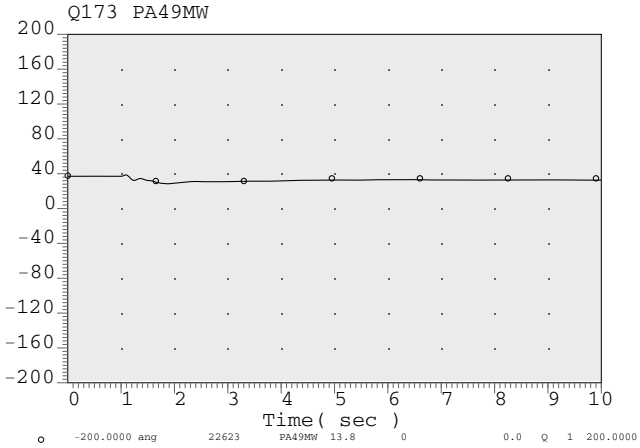
Relative Rotor Angle

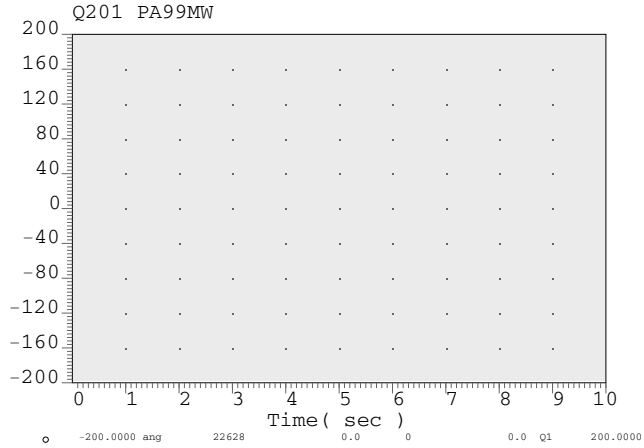






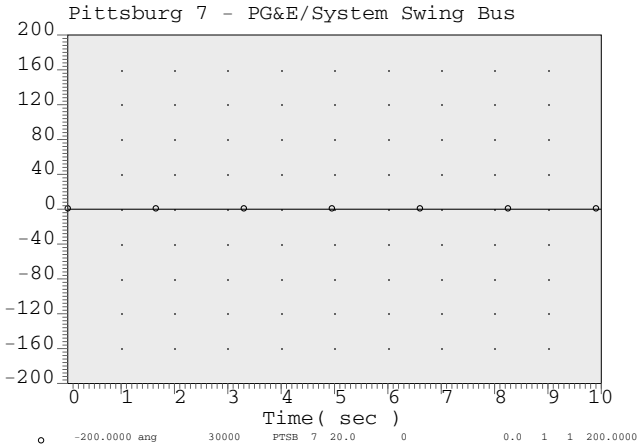


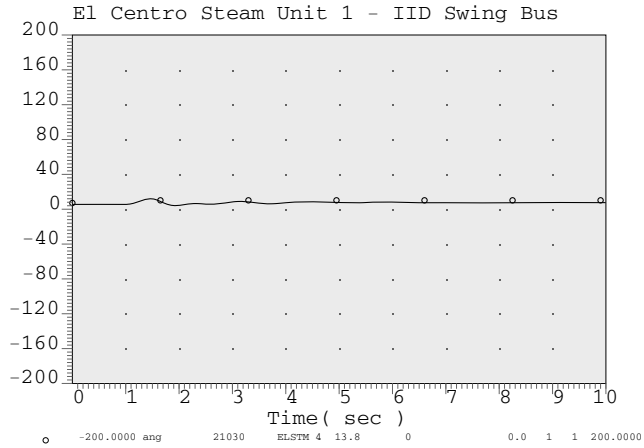


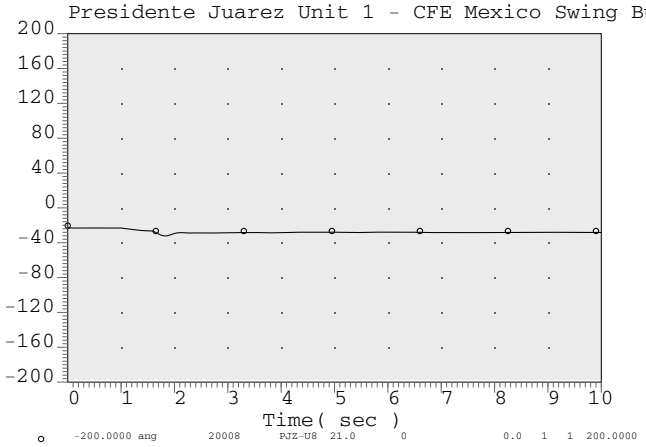


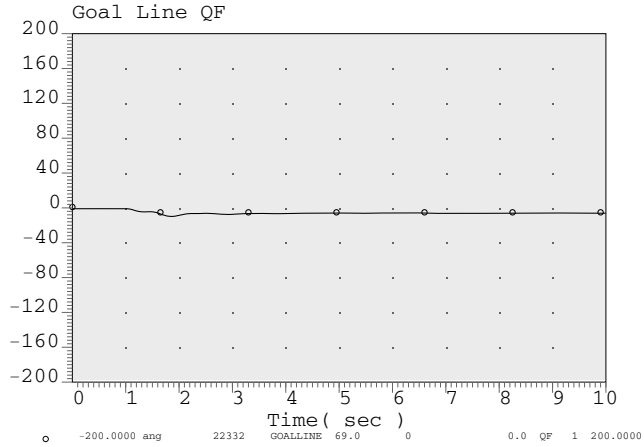
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

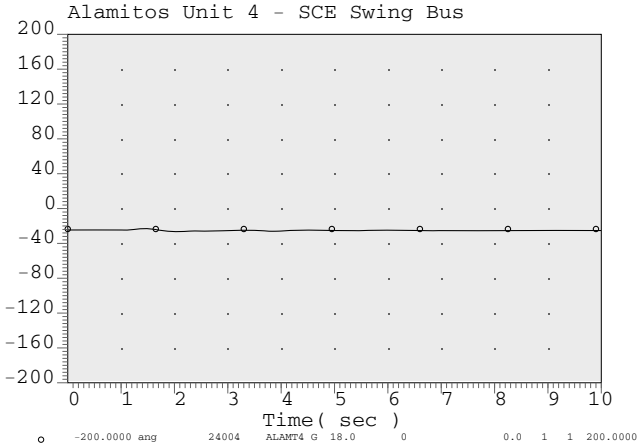
Relative Rotor Angle

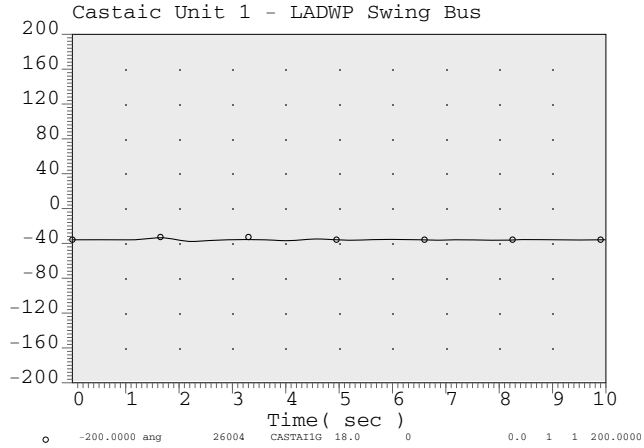






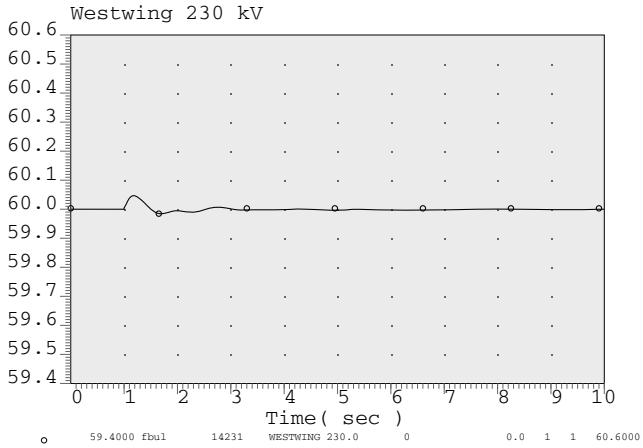


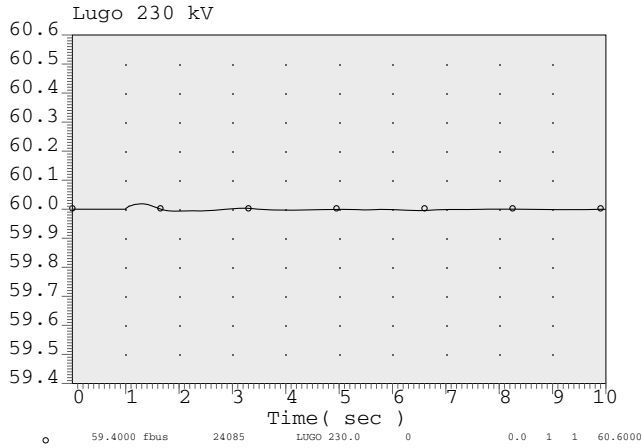


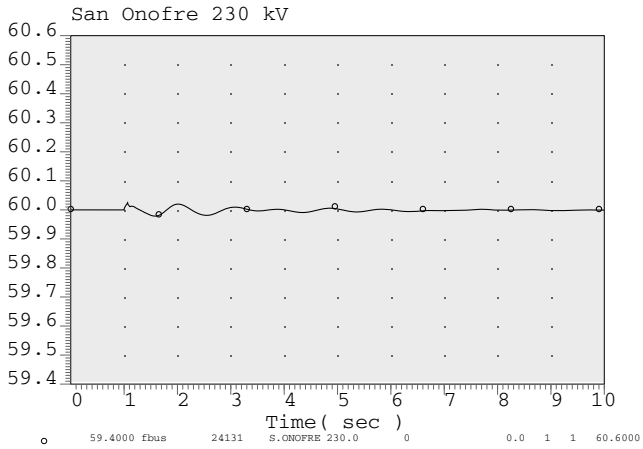


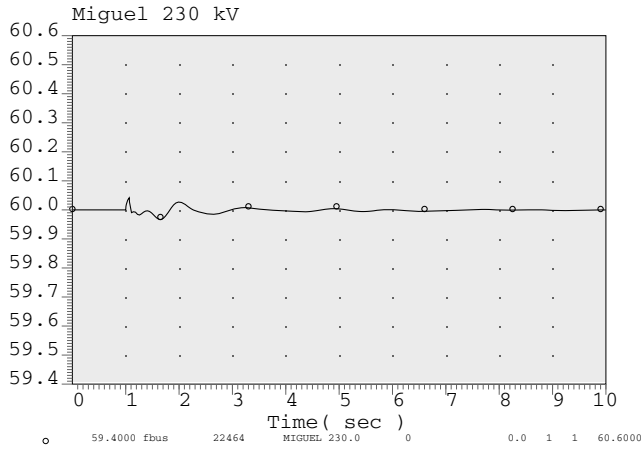
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

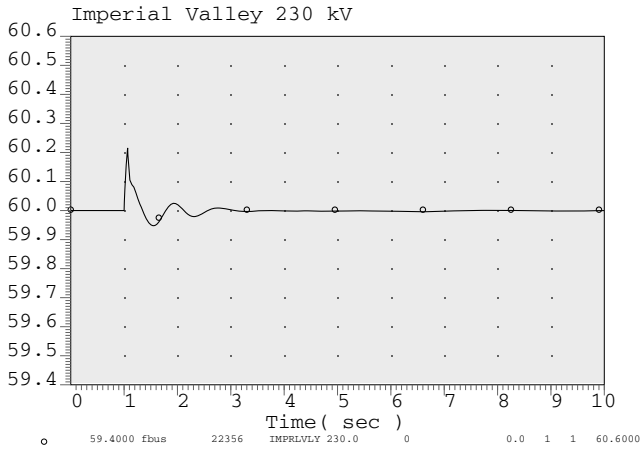
Bus Frequency

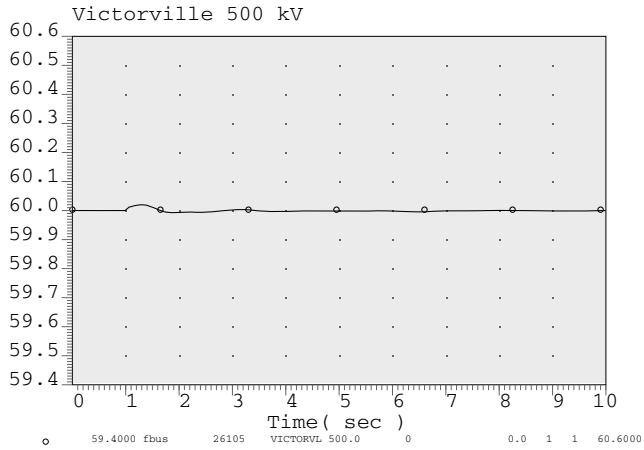






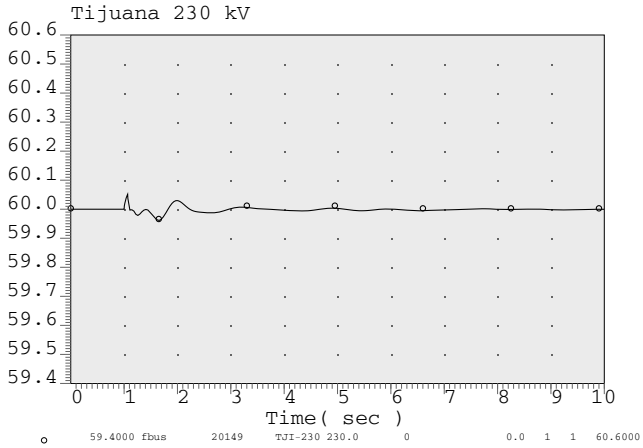


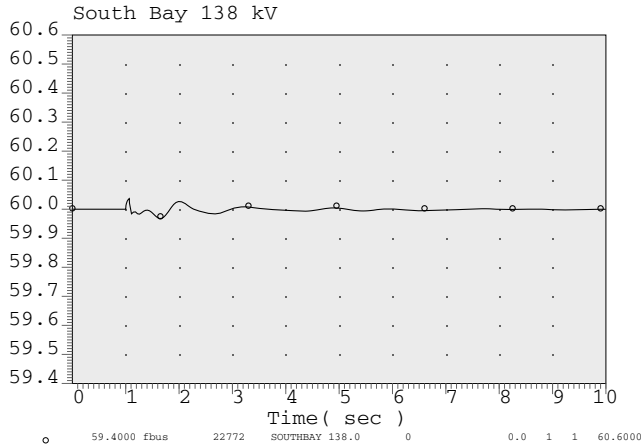


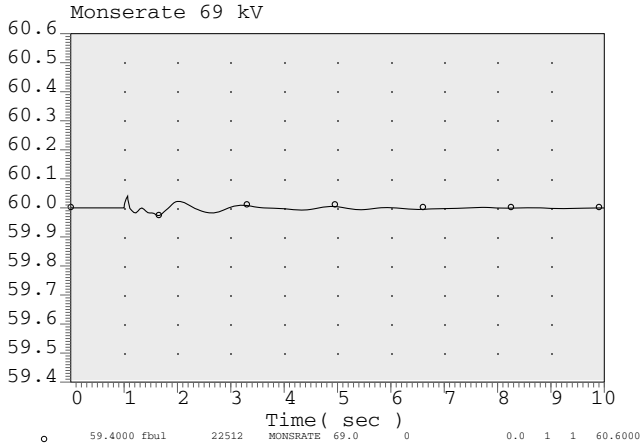


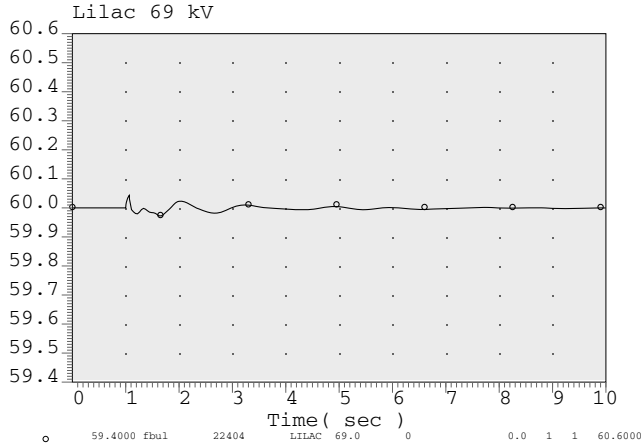
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

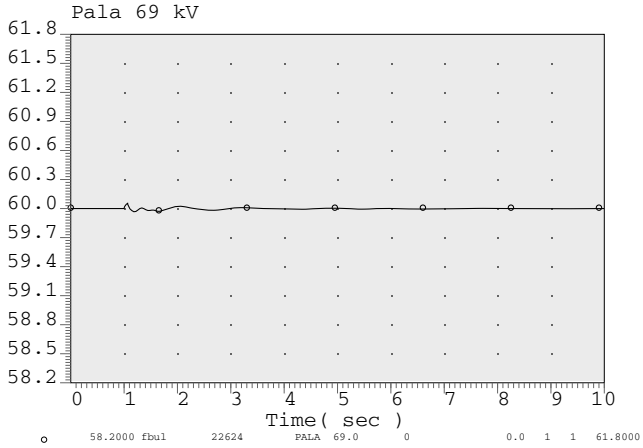
Bus Frequency

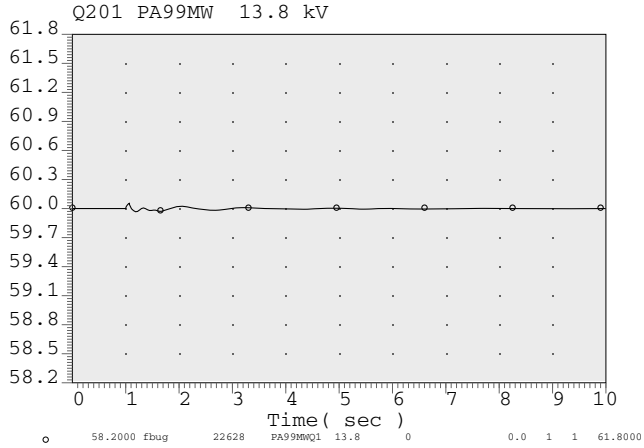




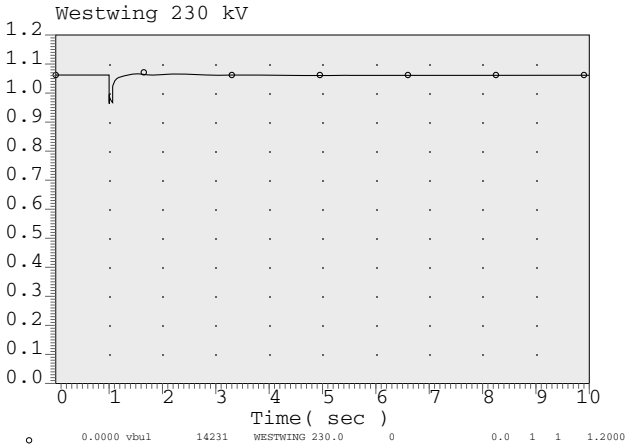


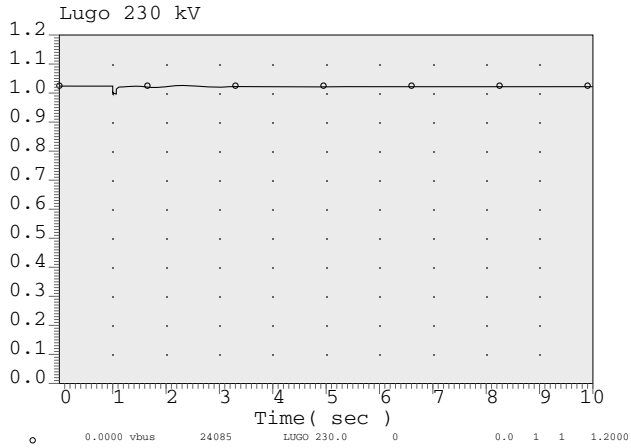


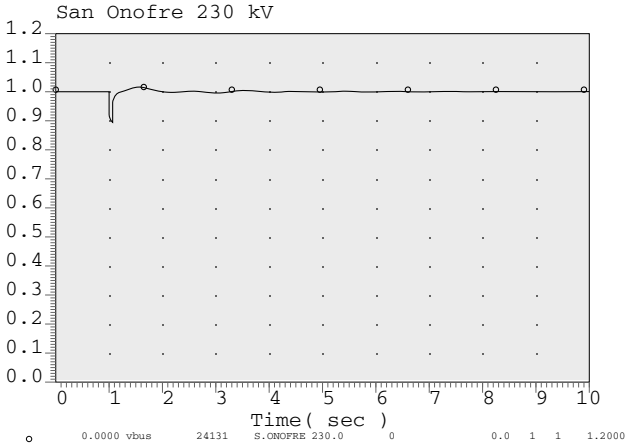


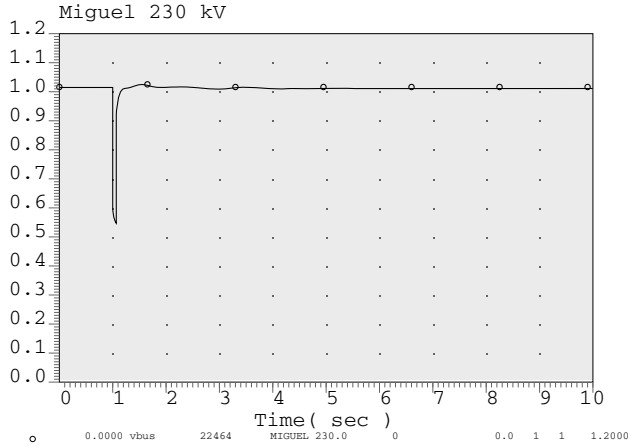


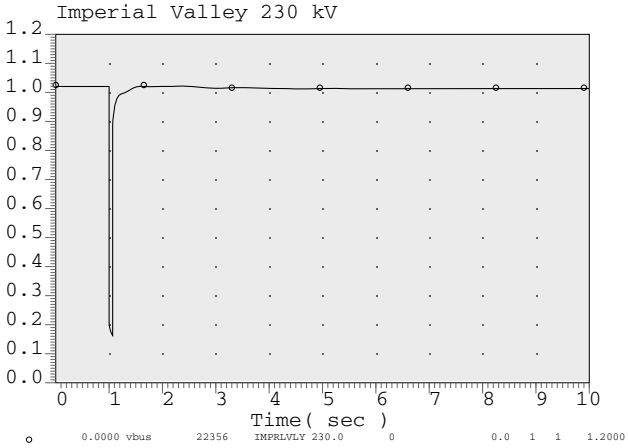
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

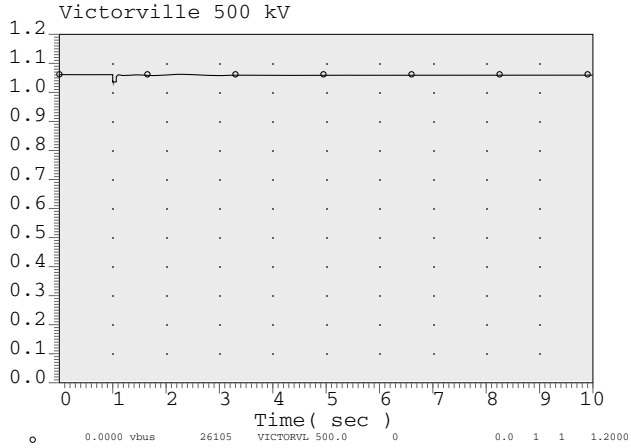






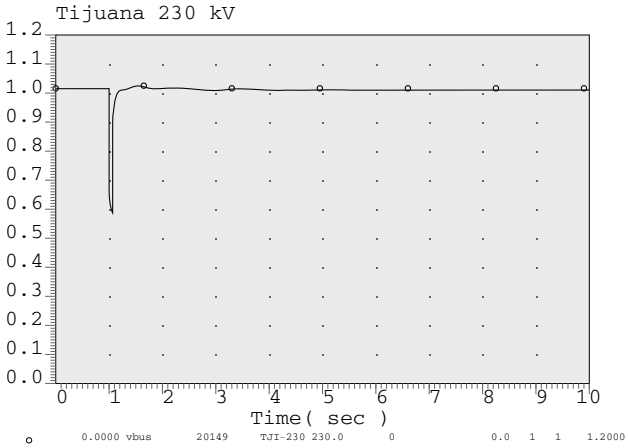


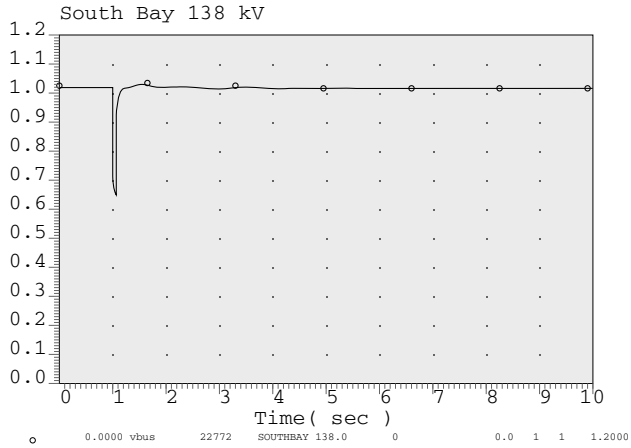


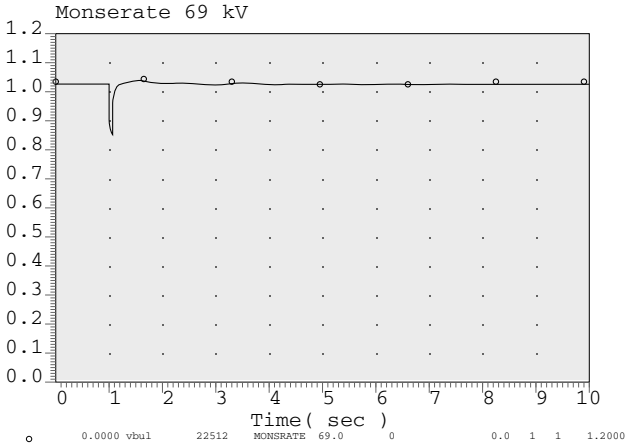


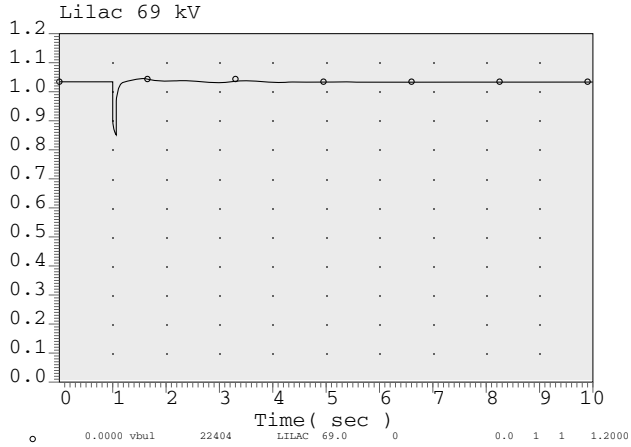
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

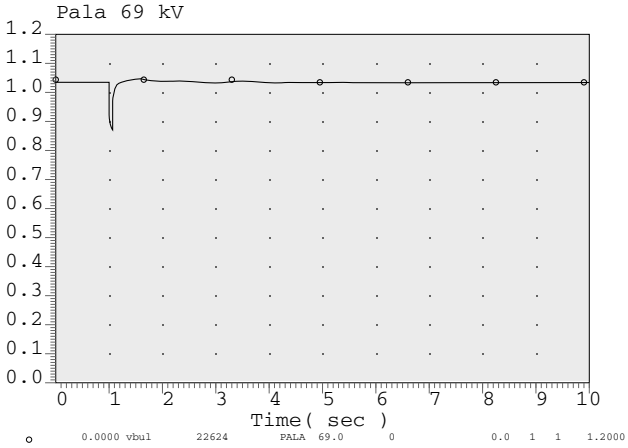
Bus Voltage

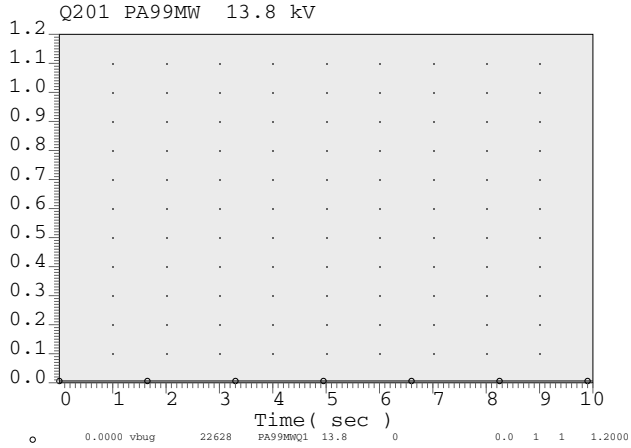






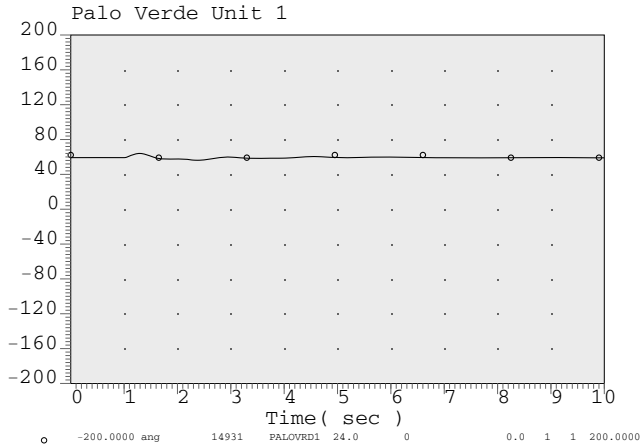


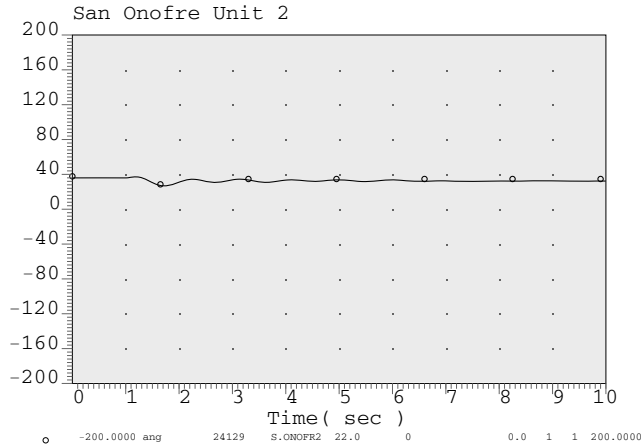


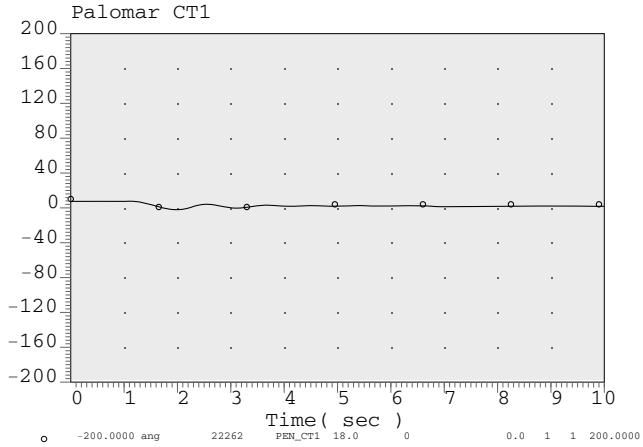


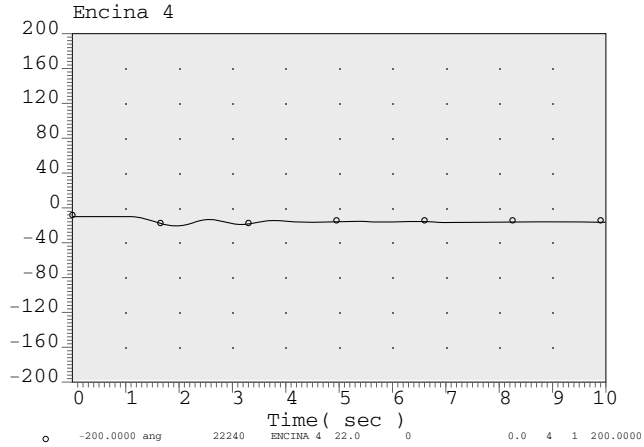
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

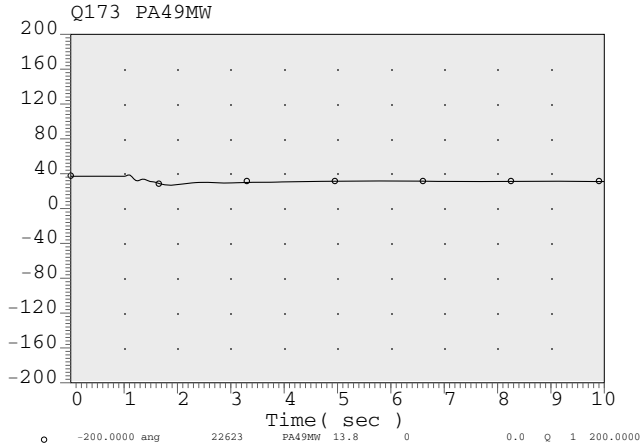
Relative Rotor Angle

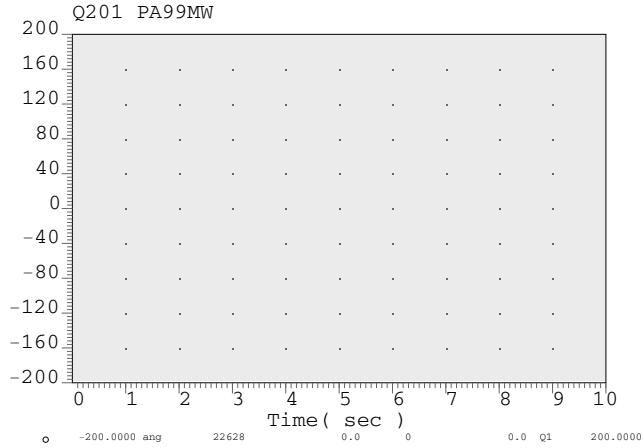






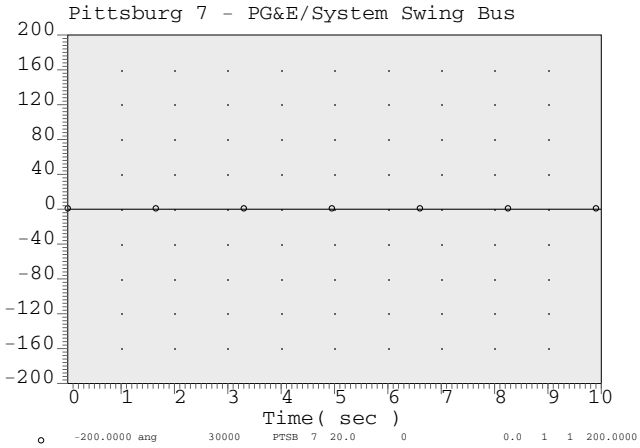


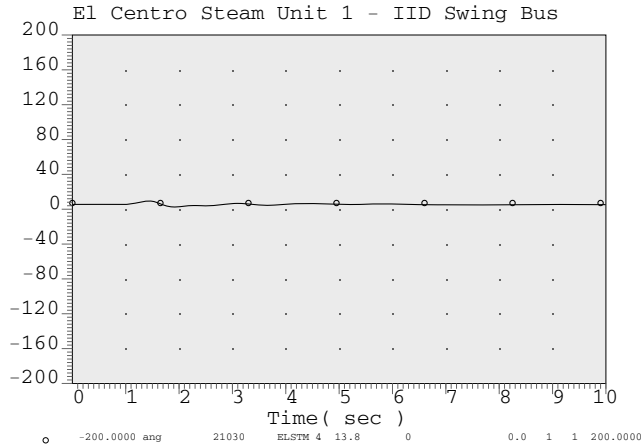


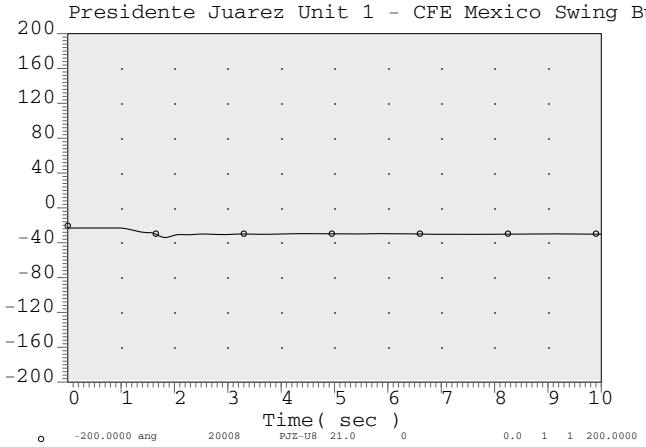


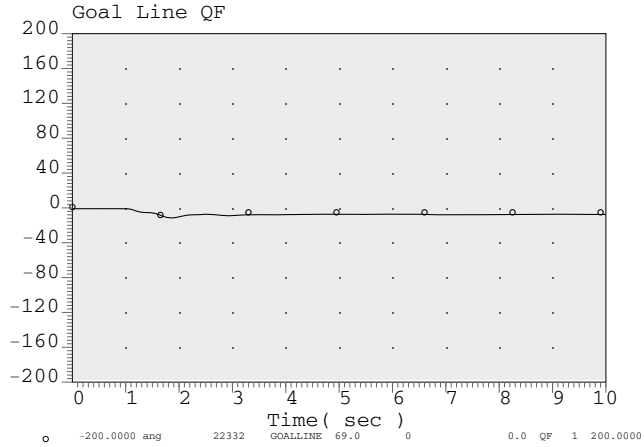
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

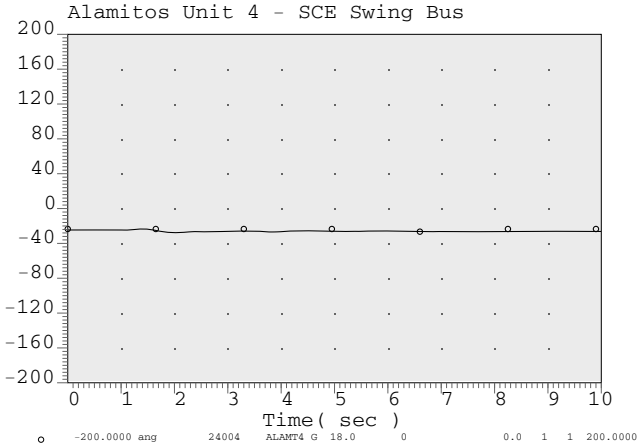
Relative Rotor Angle

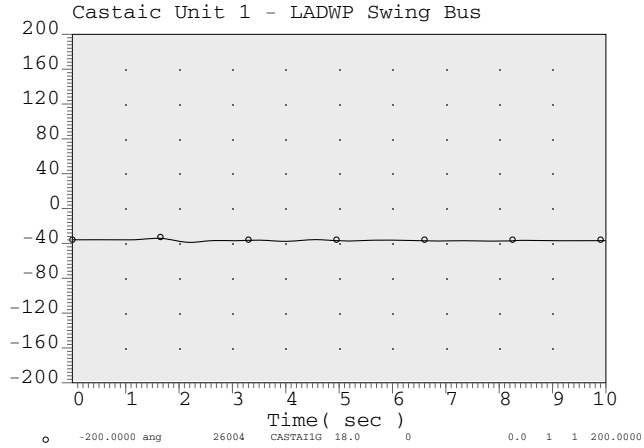






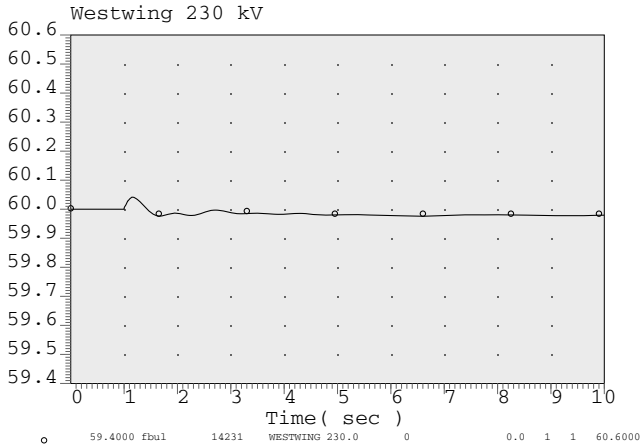


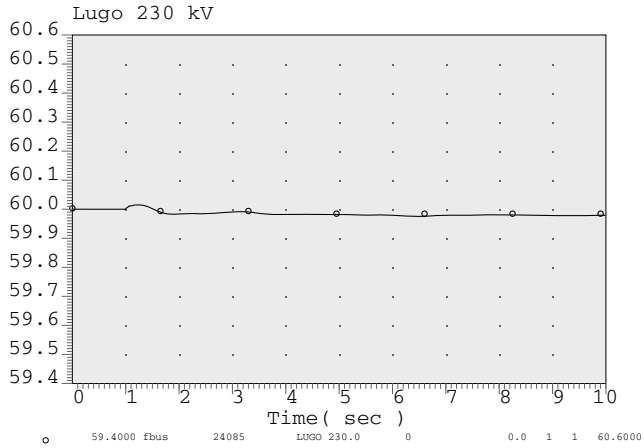


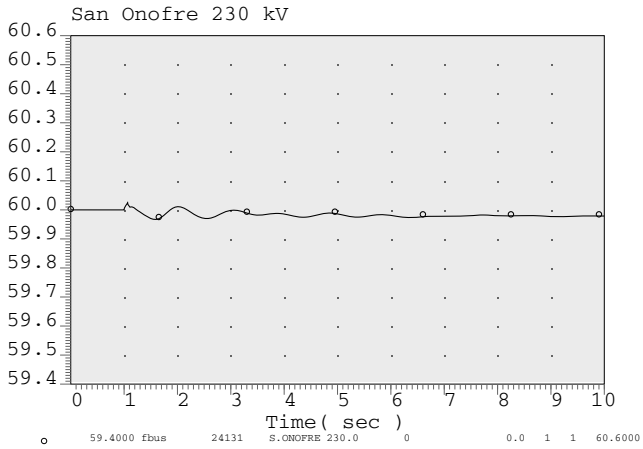


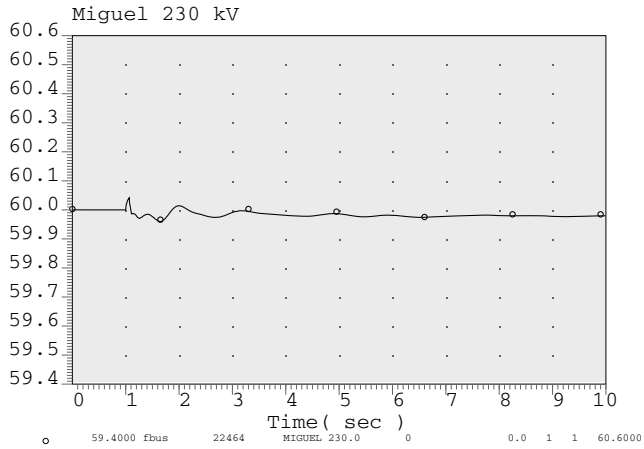
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

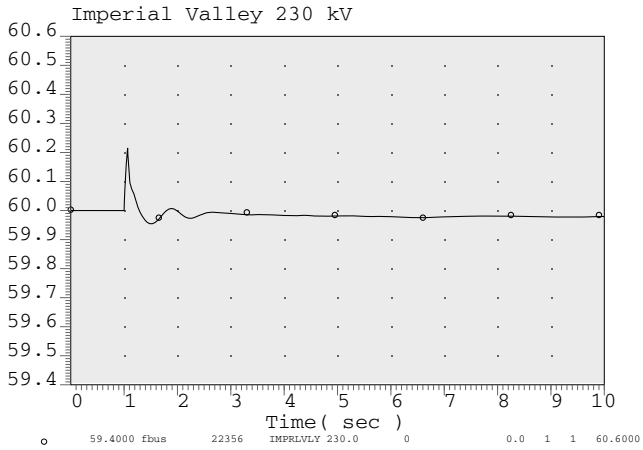
Bus Frequency

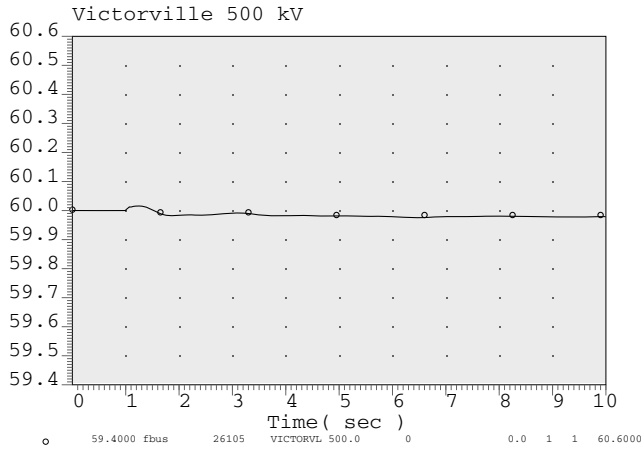






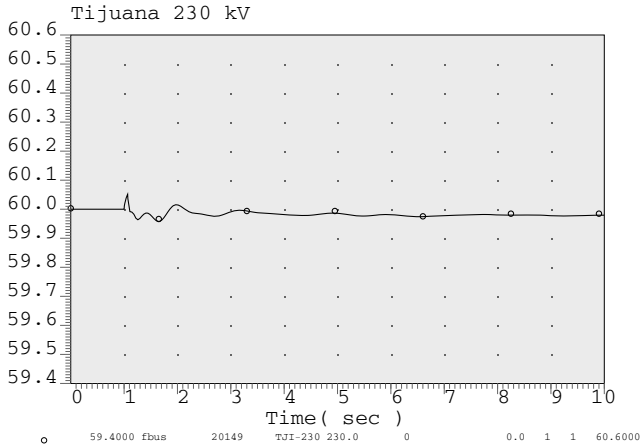


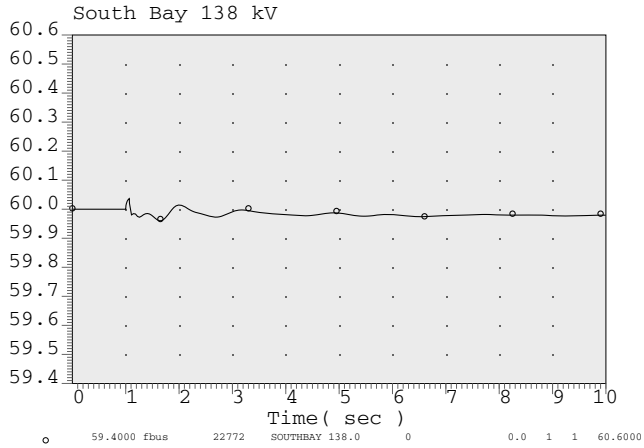


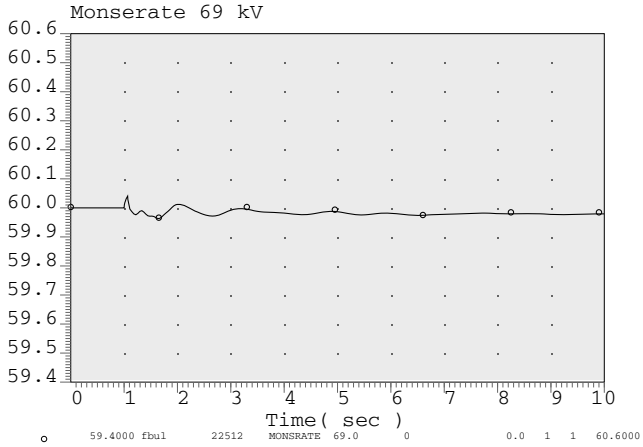


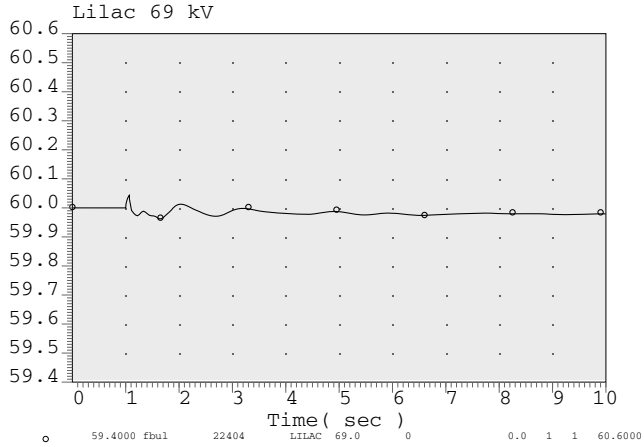
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

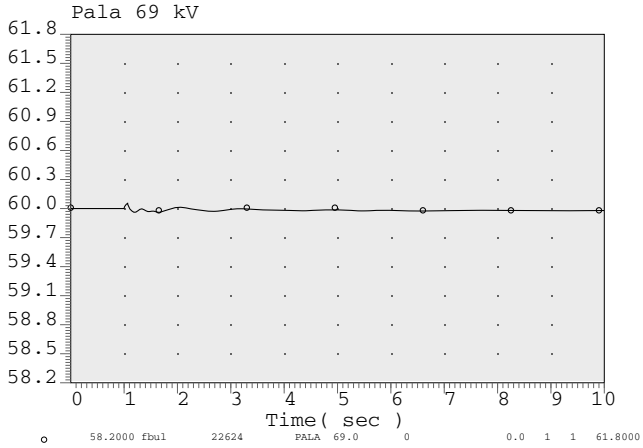
Bus Frequency

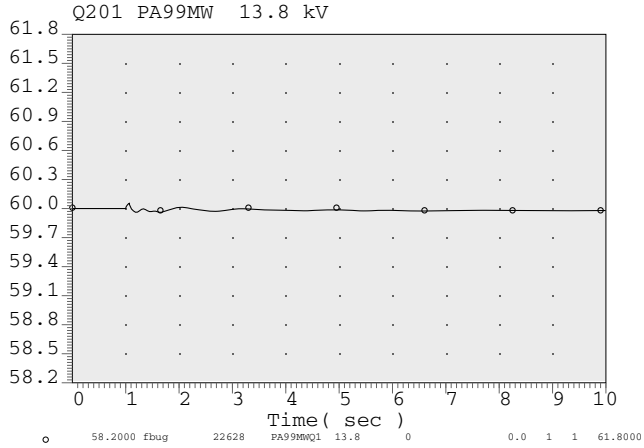






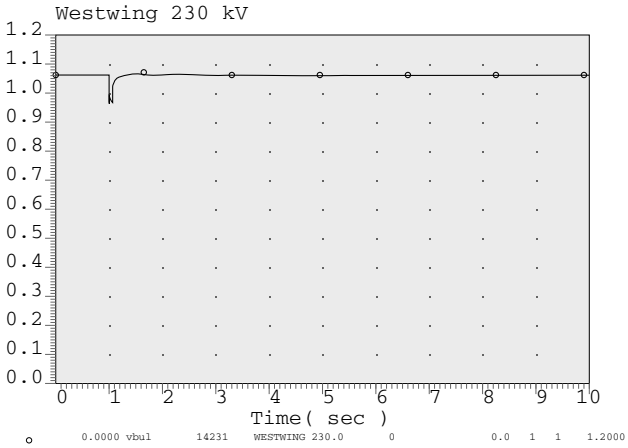


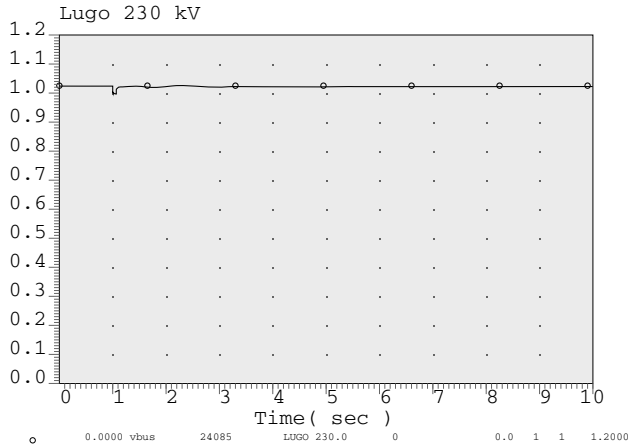


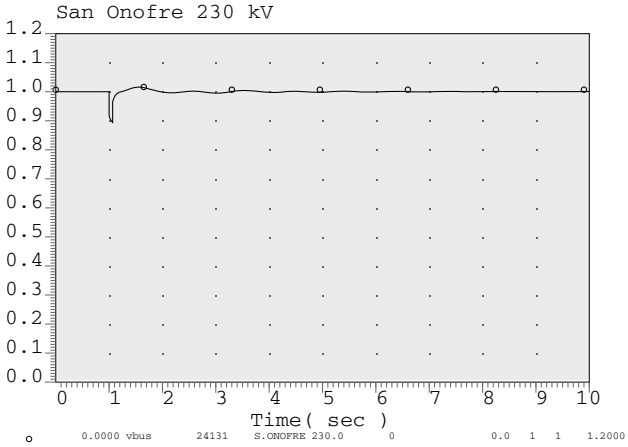


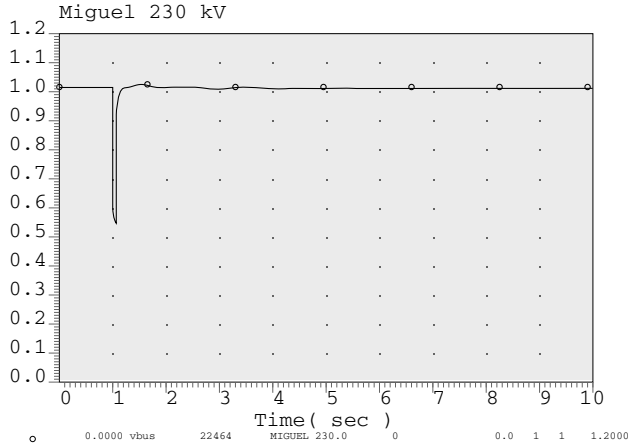
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

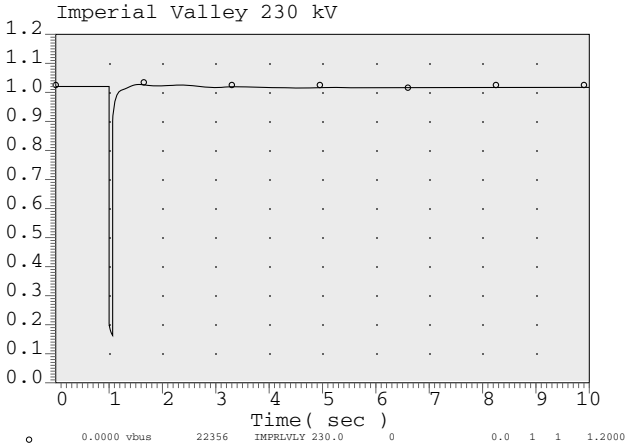
Bus Voltage

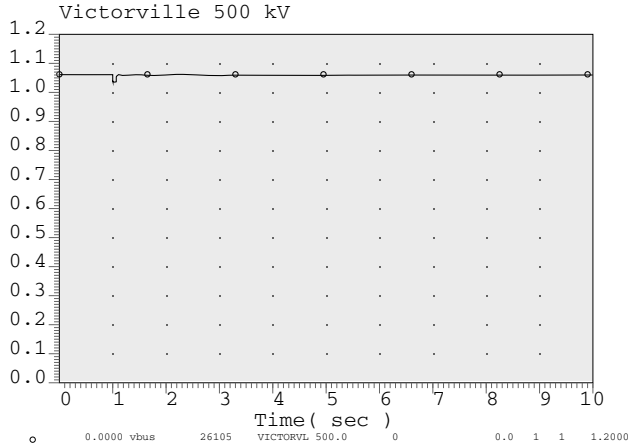






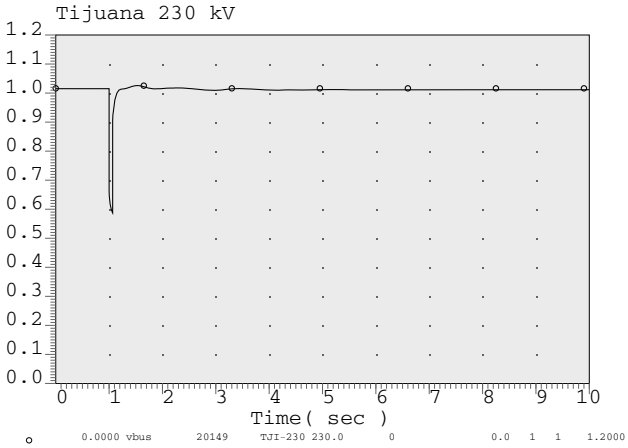


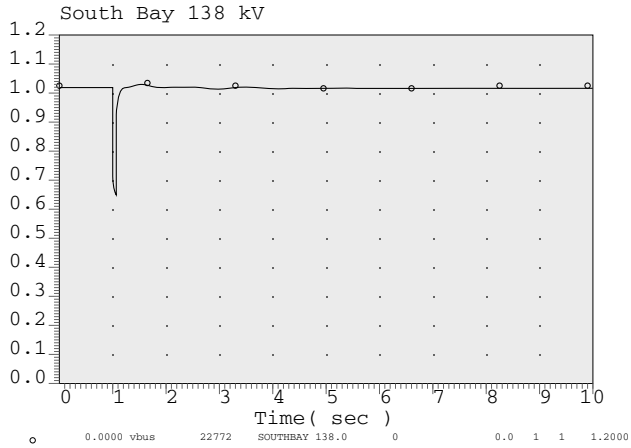


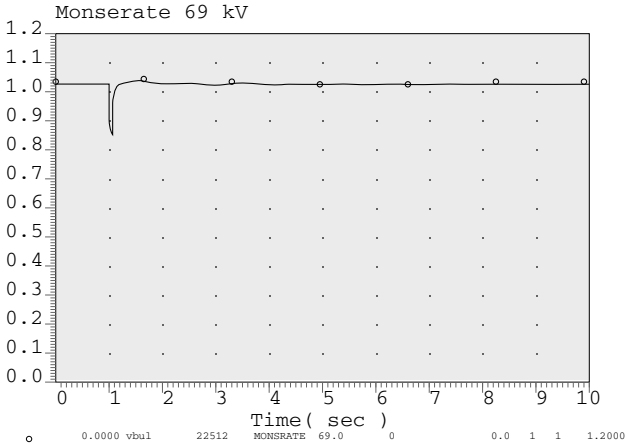


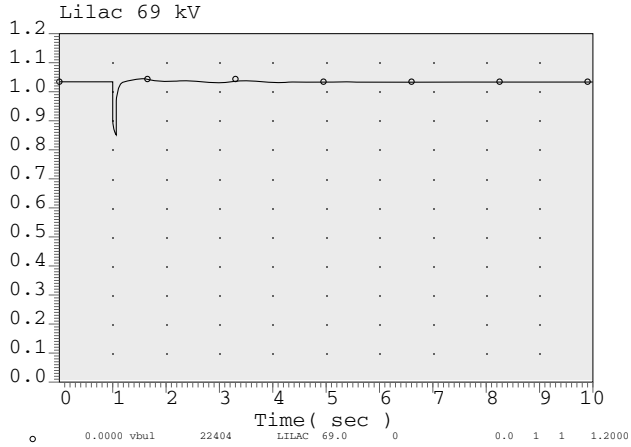
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

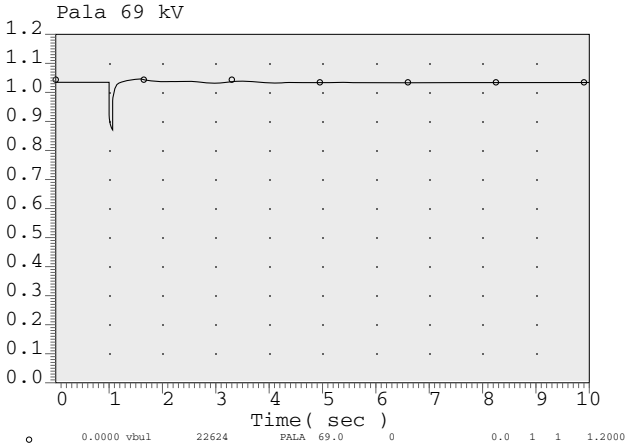
Bus Voltage

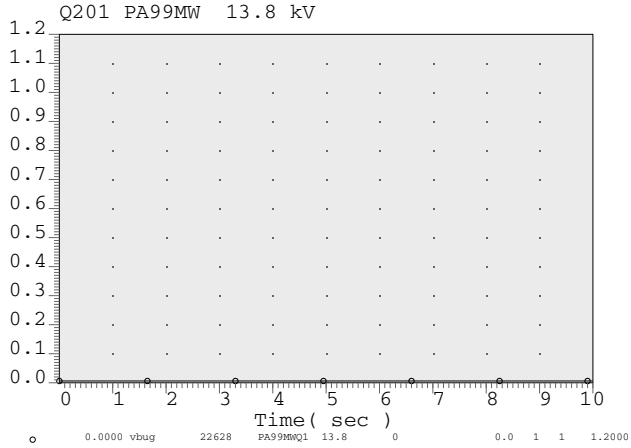






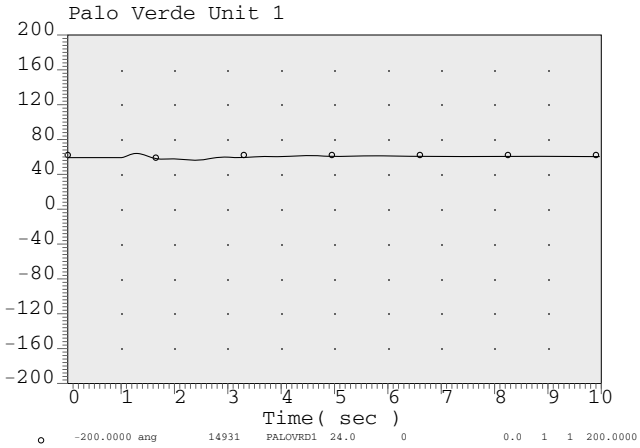


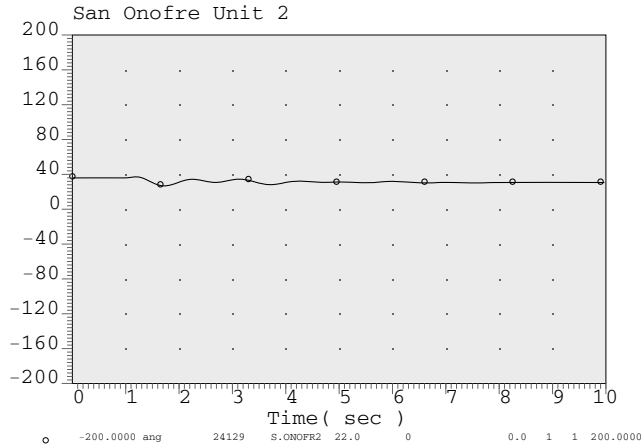


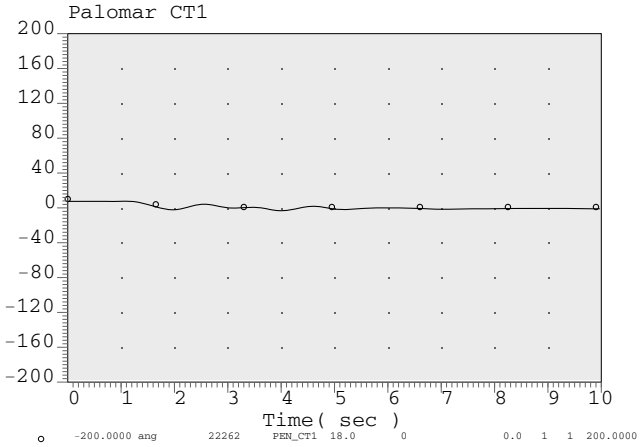


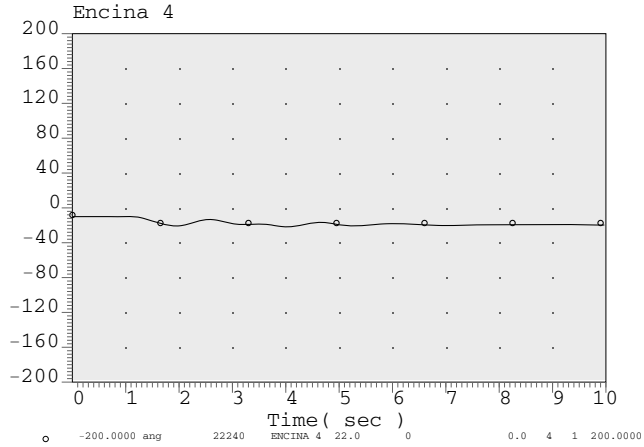
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

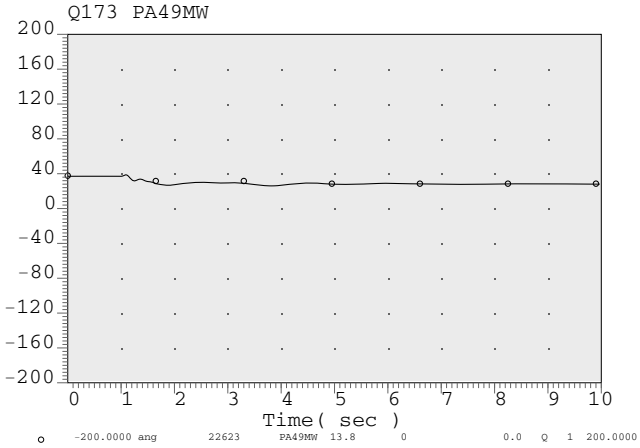
Relative Rotor Angle

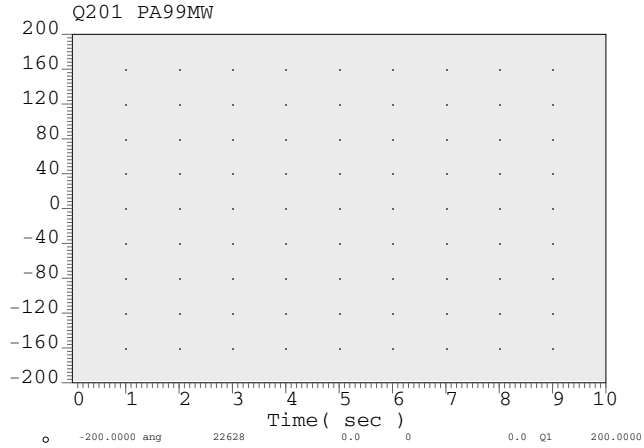






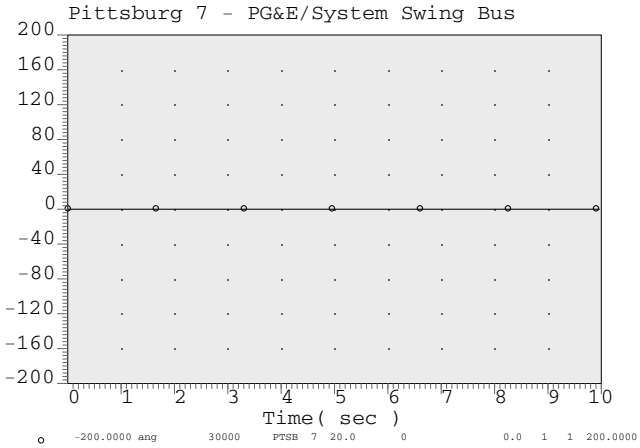


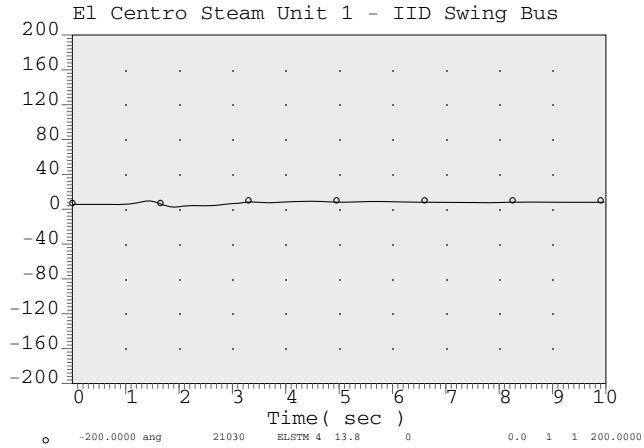


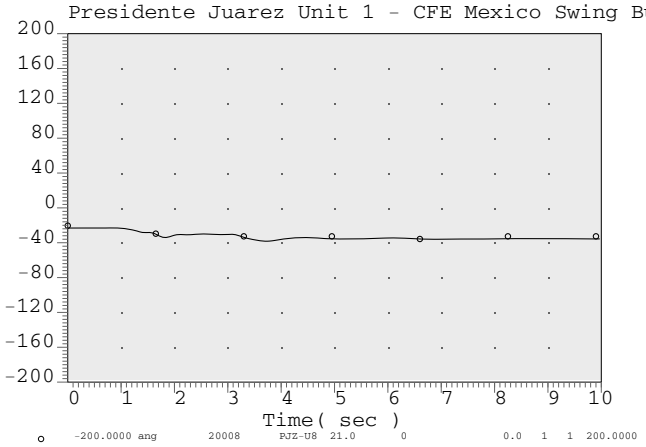


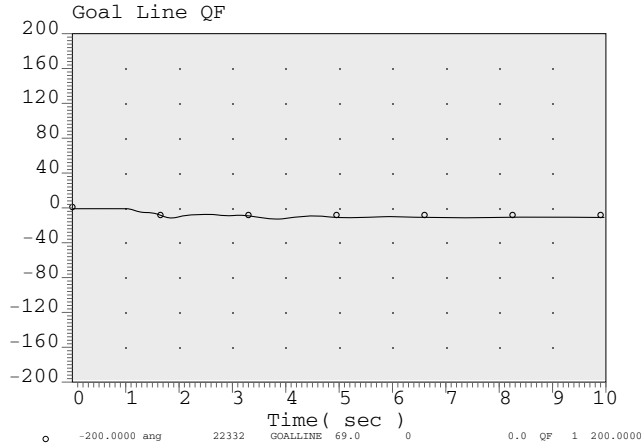
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

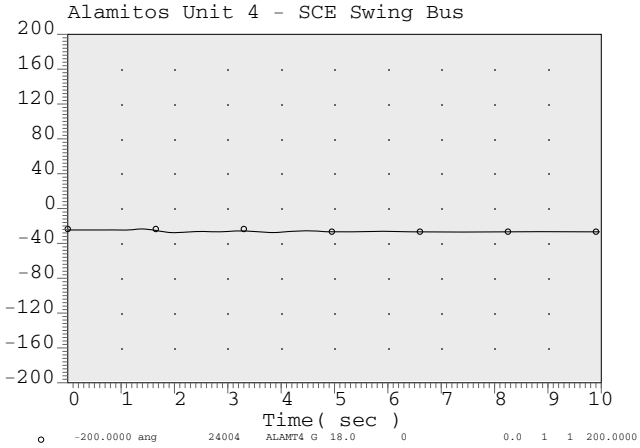
Relative Rotor Angle

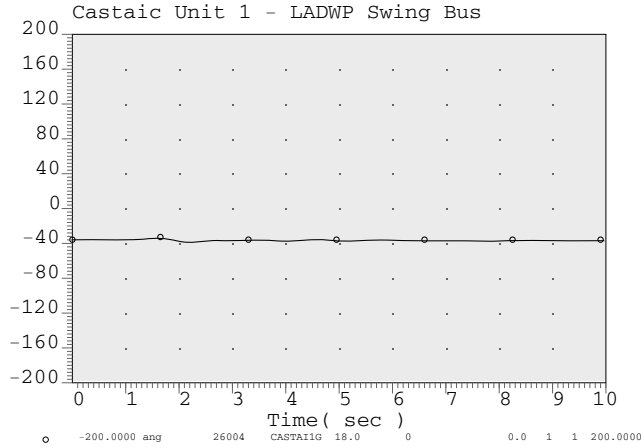






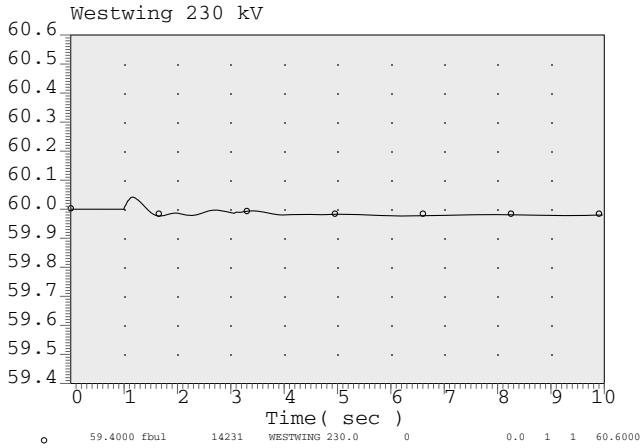


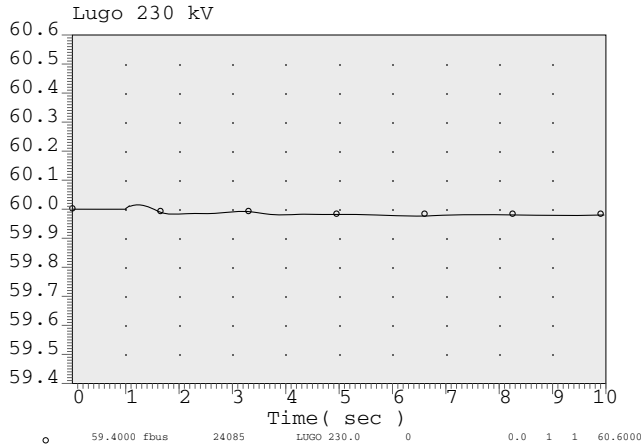


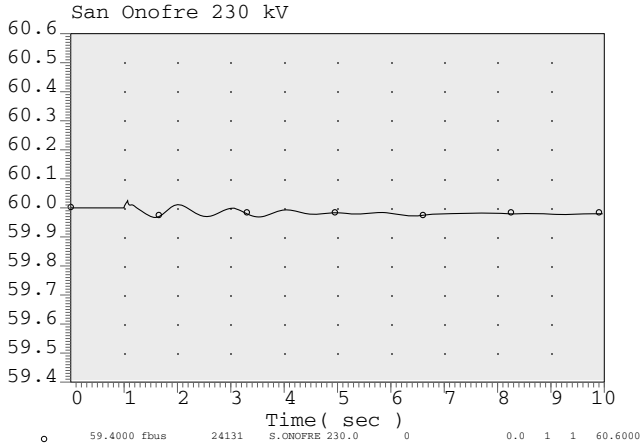


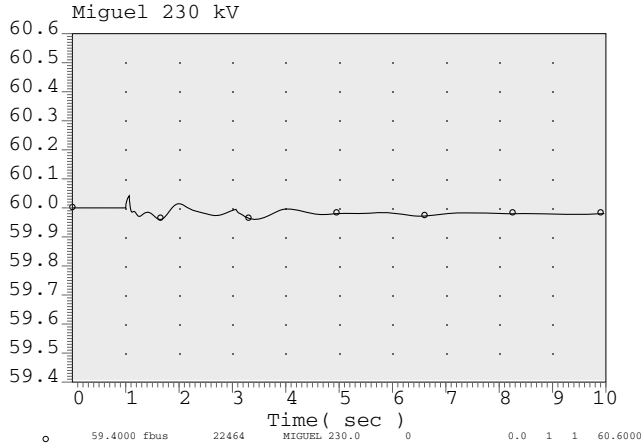
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

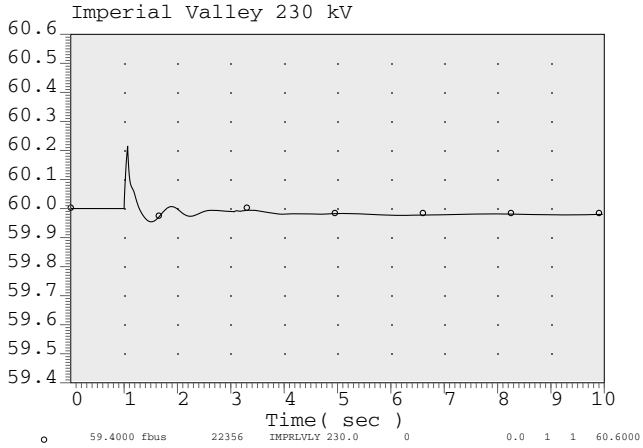
Bus Frequency

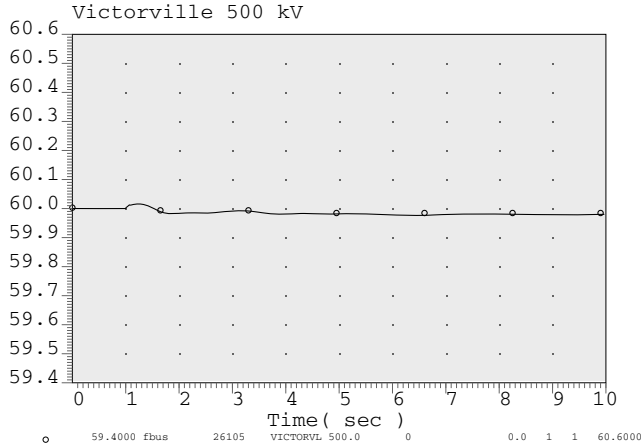






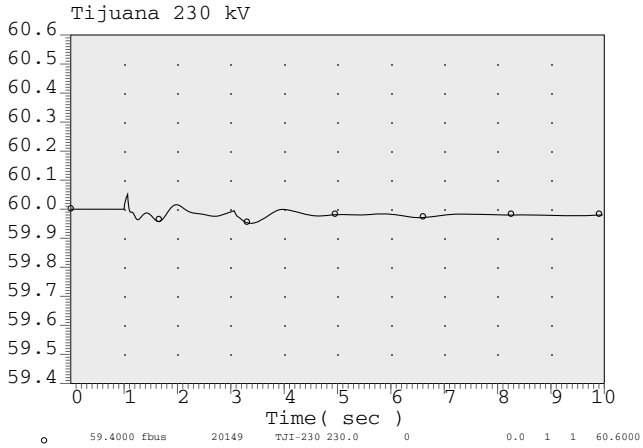


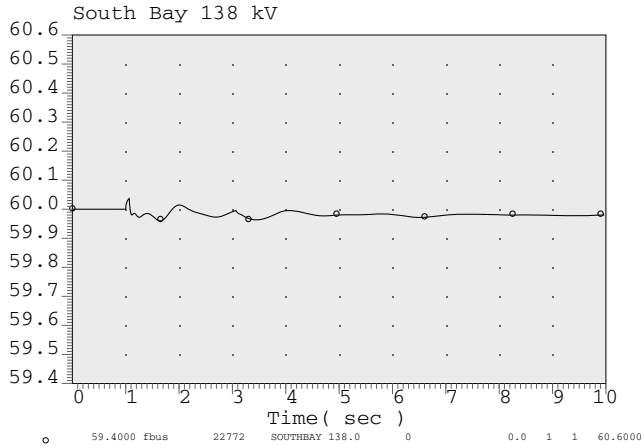


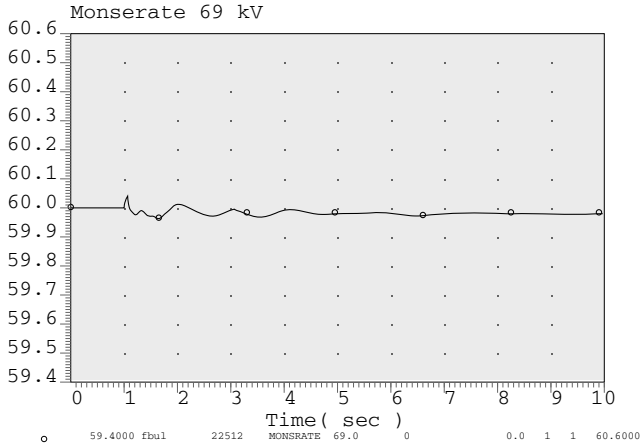


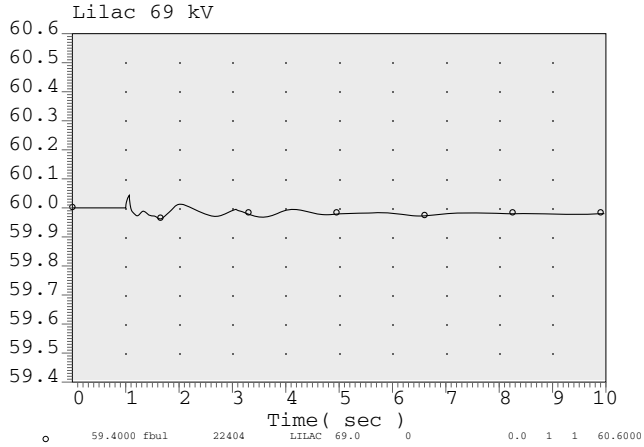
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

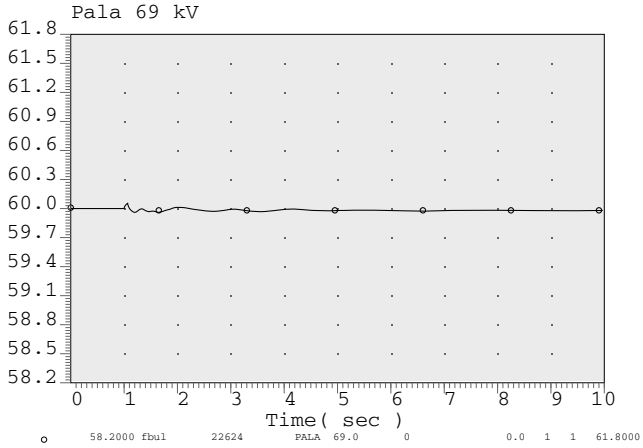
Bus Frequency

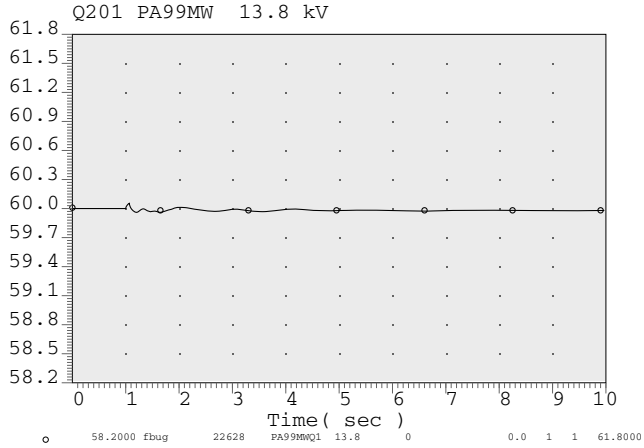






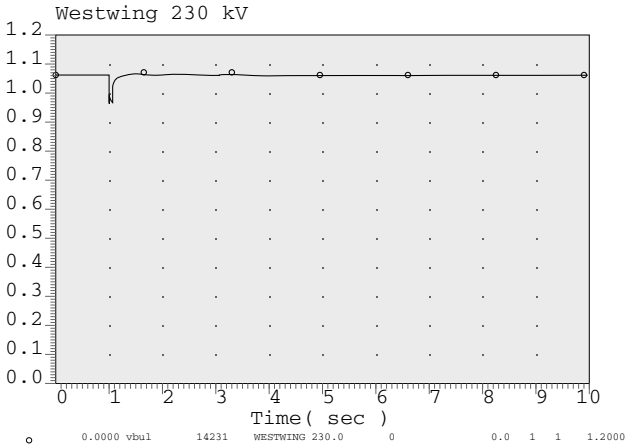


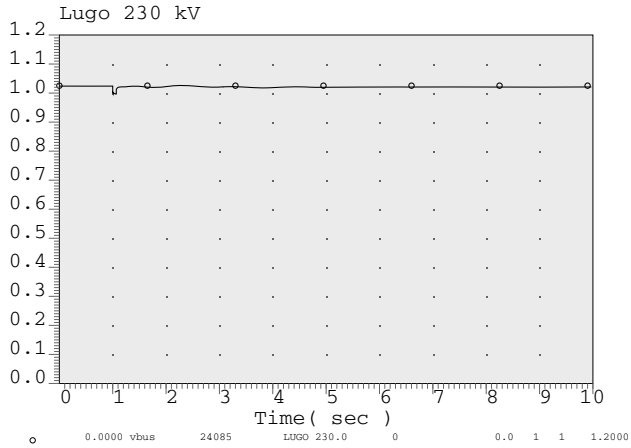


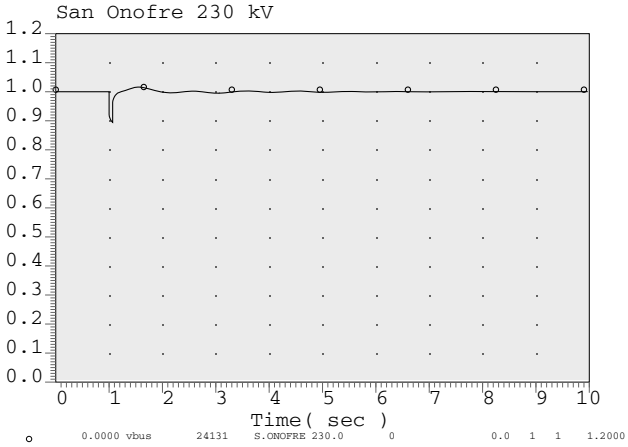


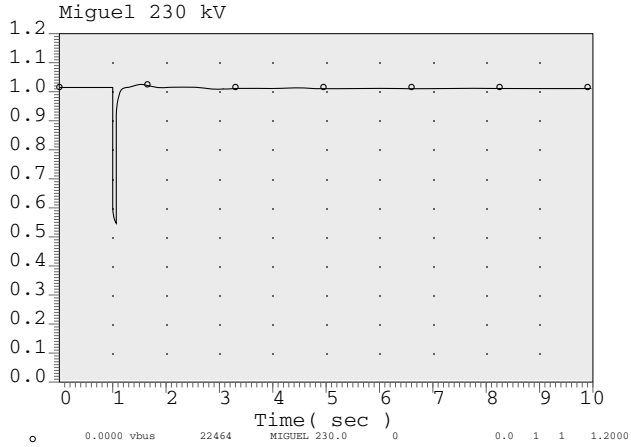
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

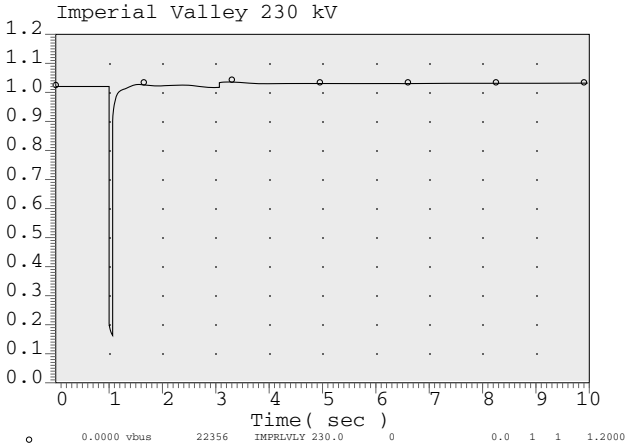
Bus Voltage

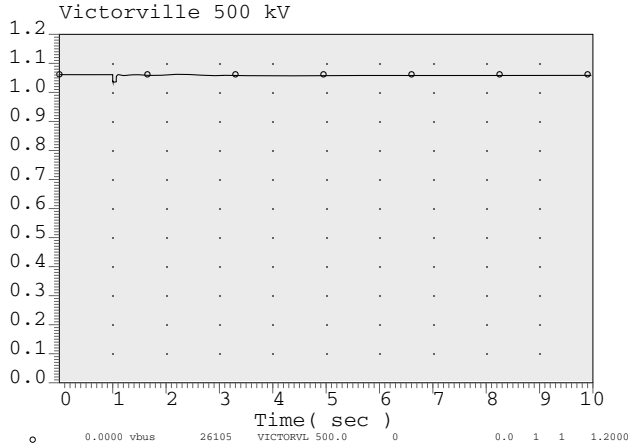






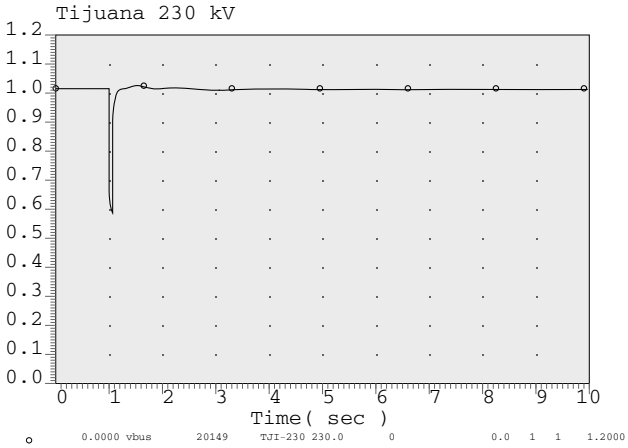


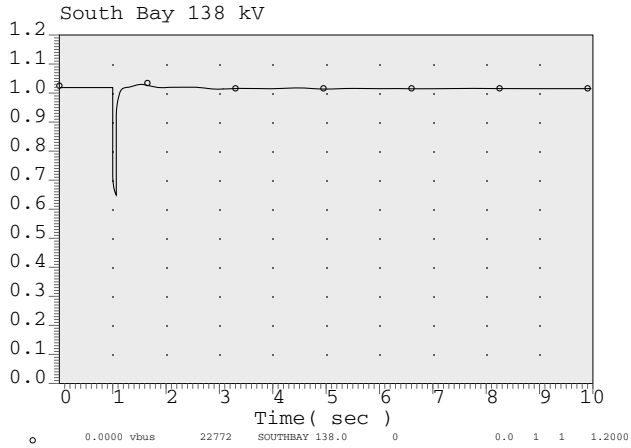


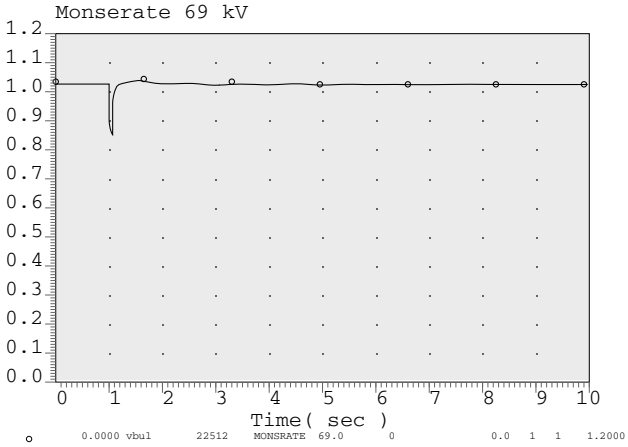


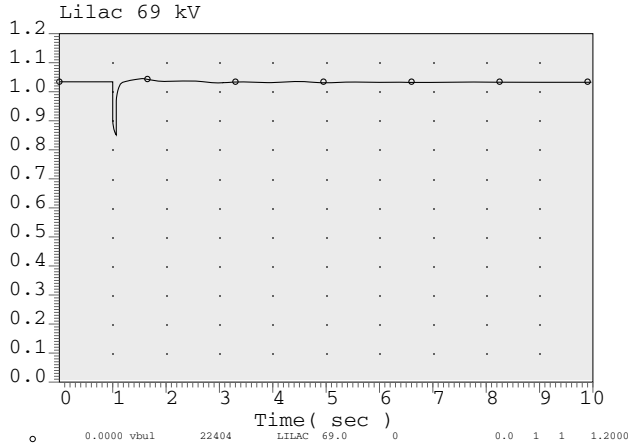
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

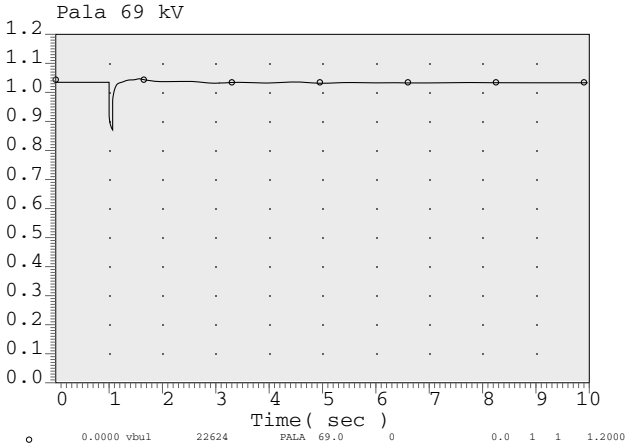
Bus Voltage

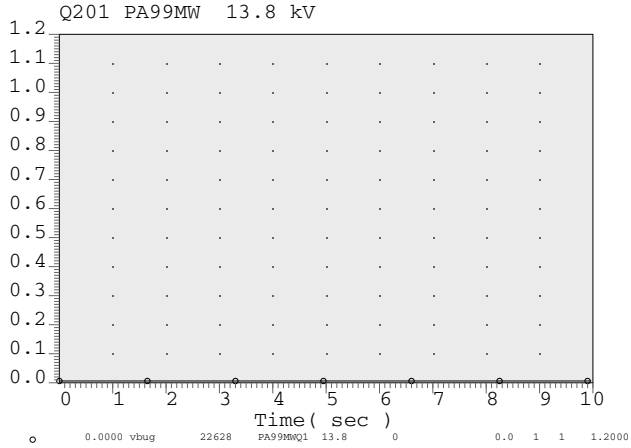






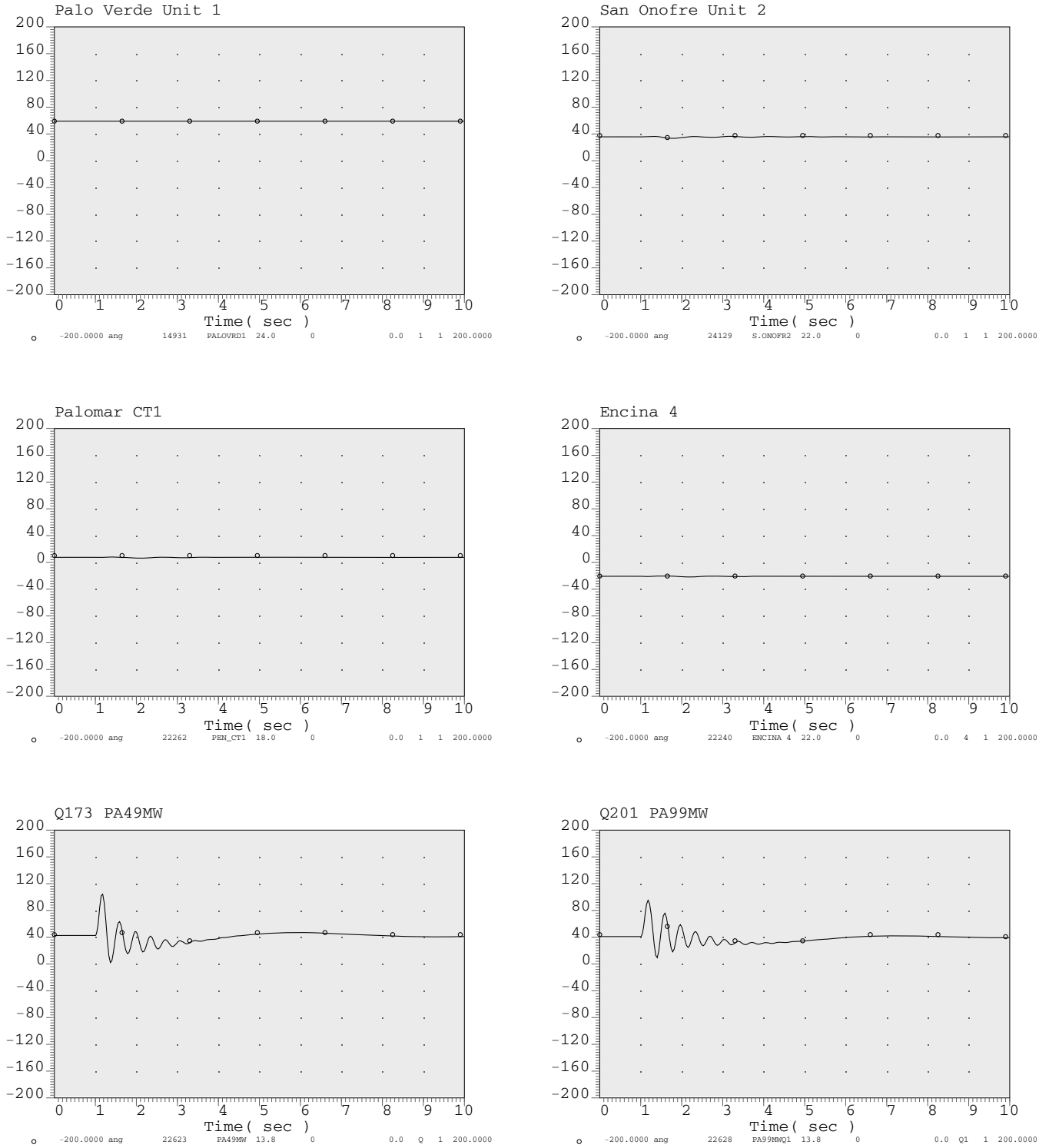






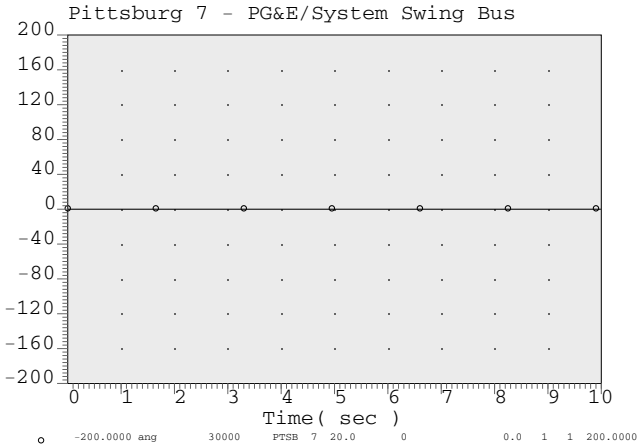
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

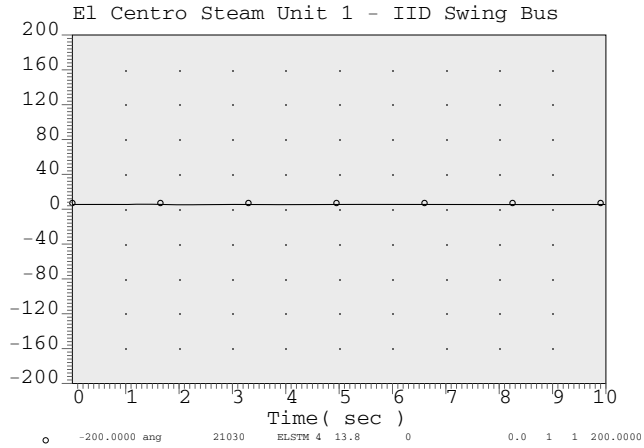
Relative Rotor Angle

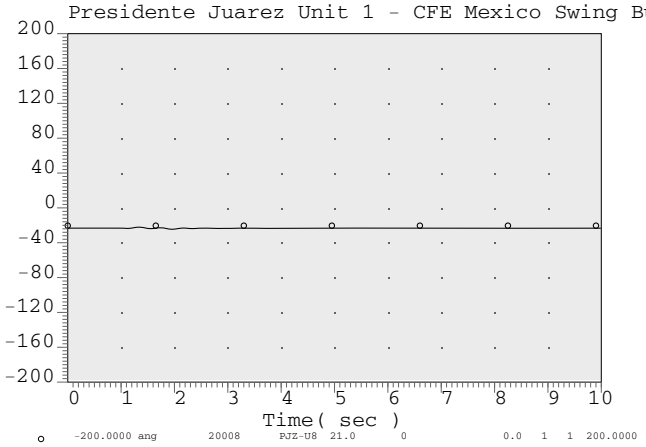


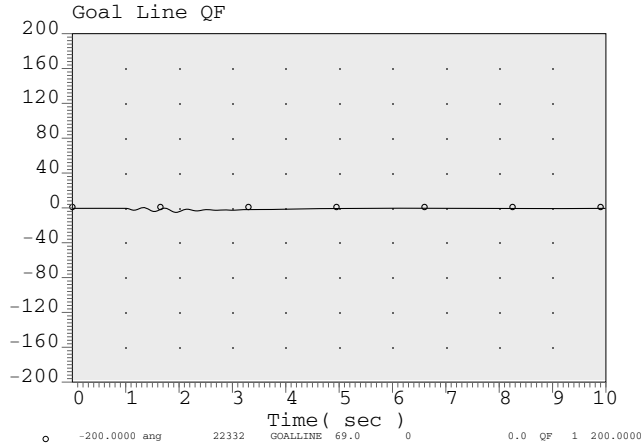
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

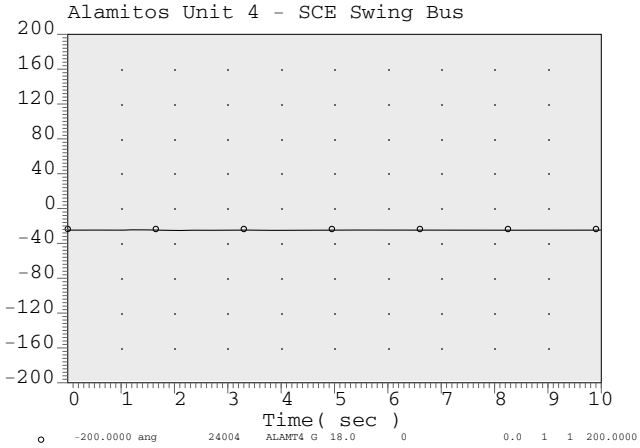
Relative Rotor Angle

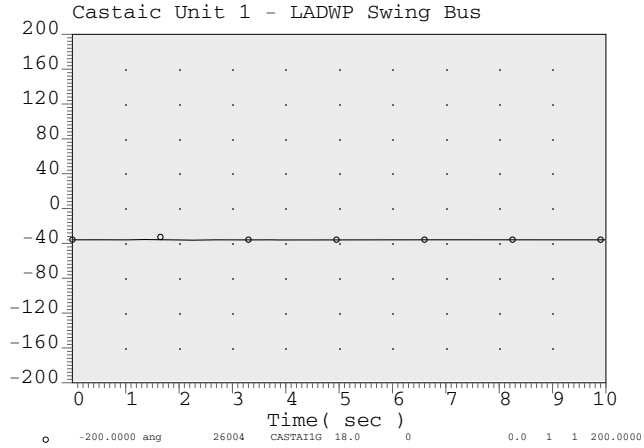






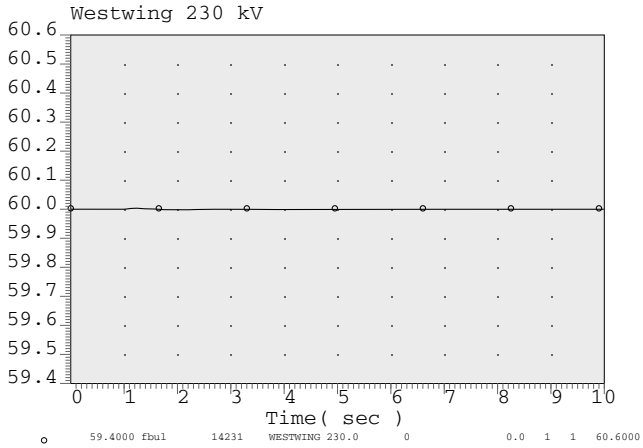


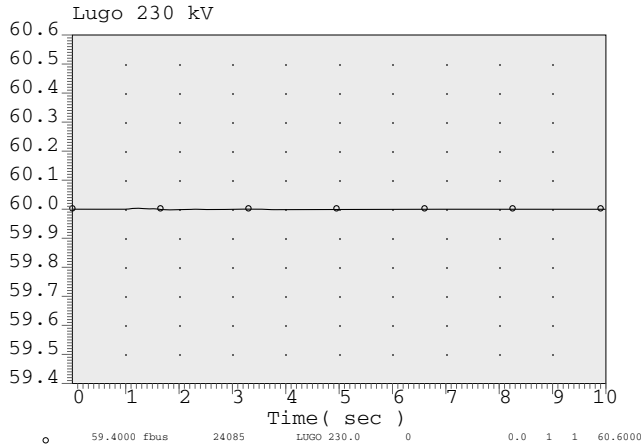


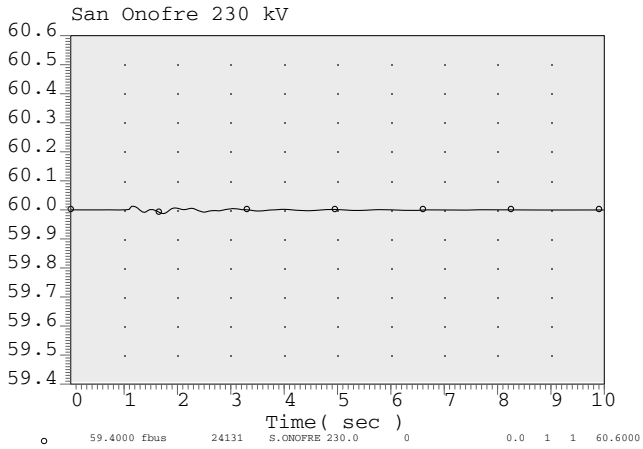


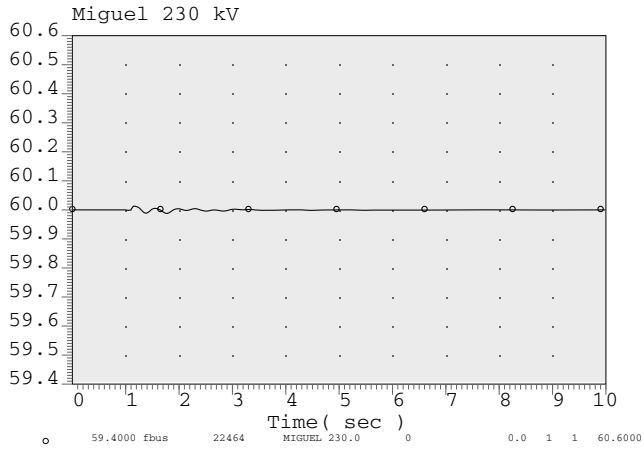
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

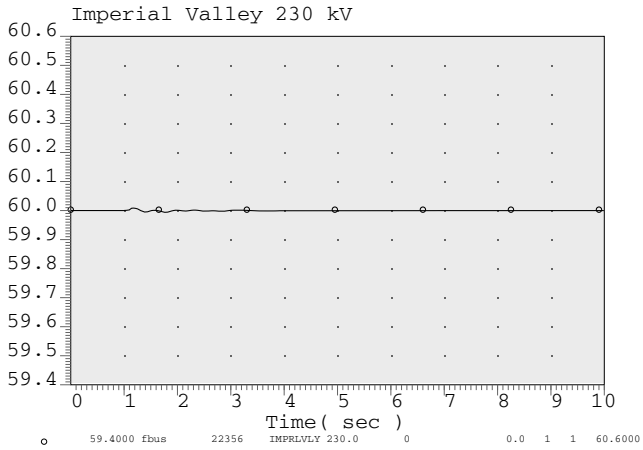
Bus Frequency

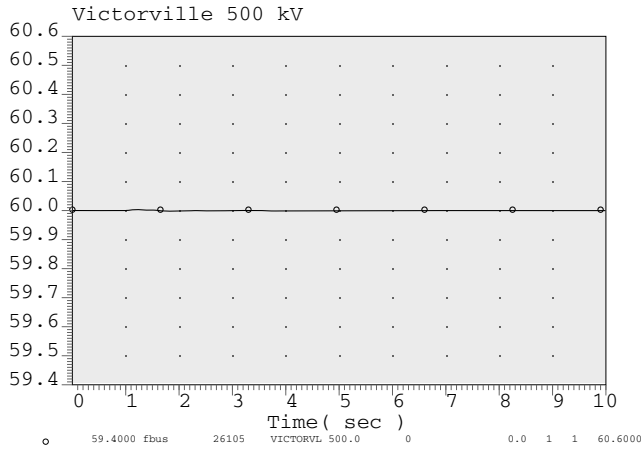






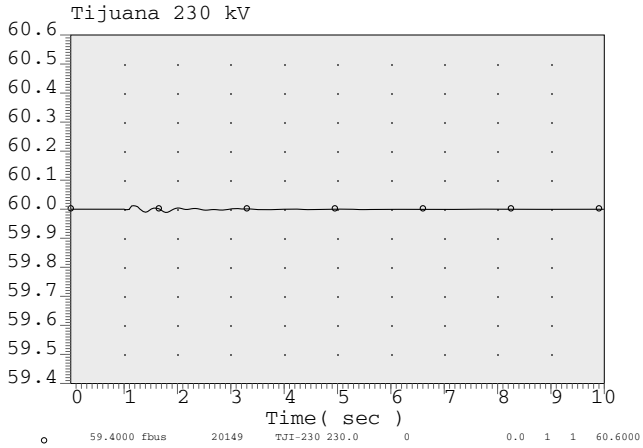


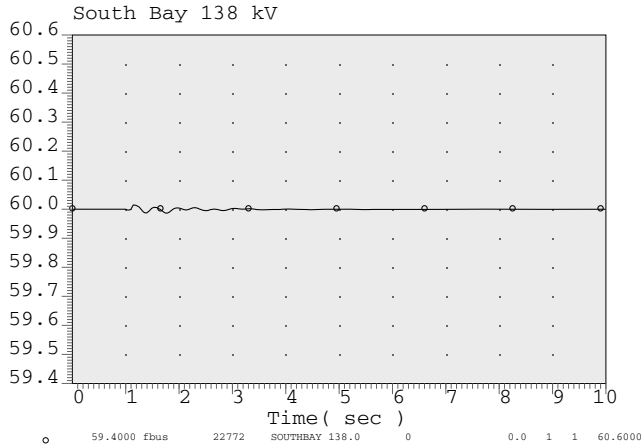


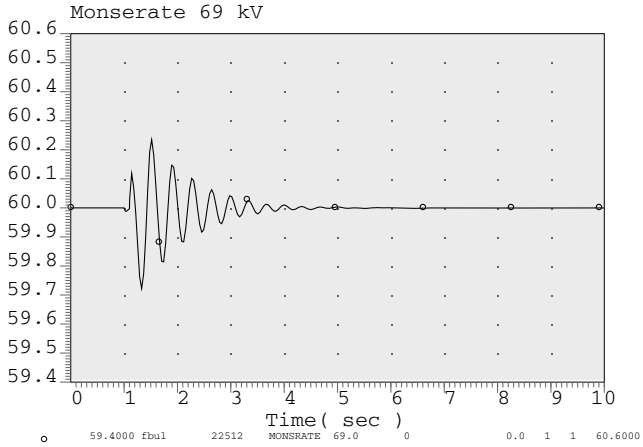


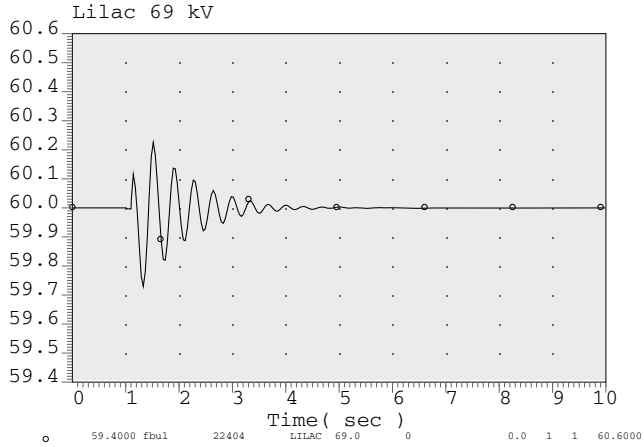
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

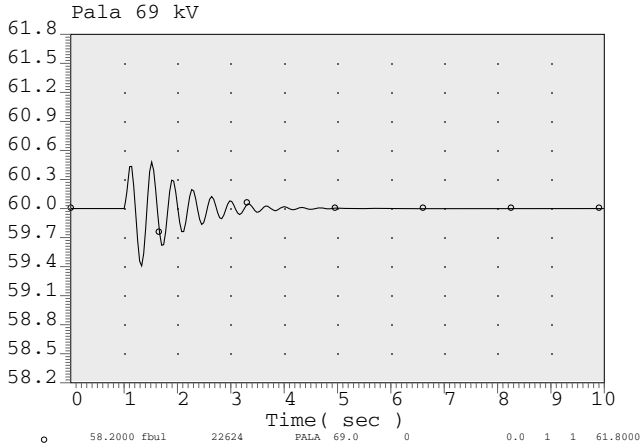
Bus Frequency

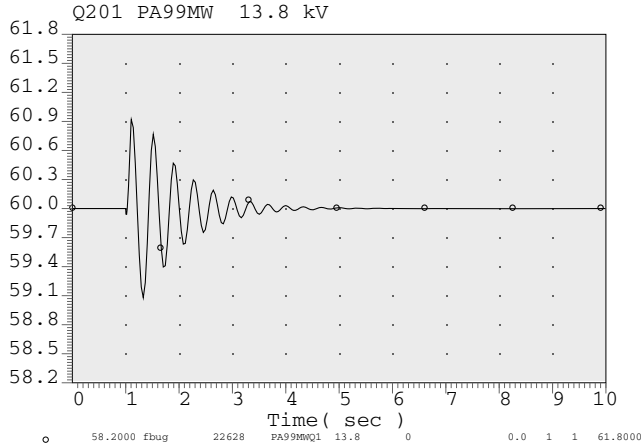






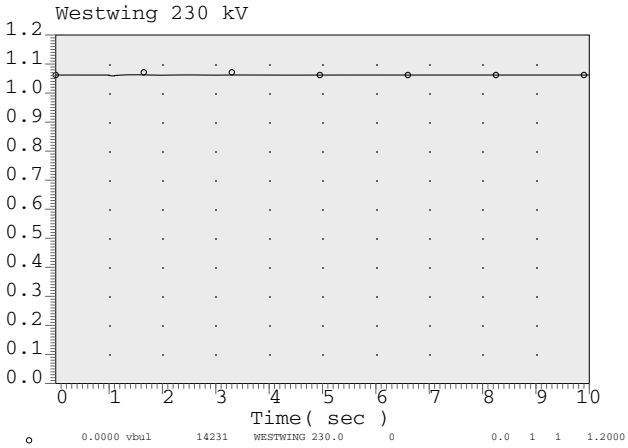


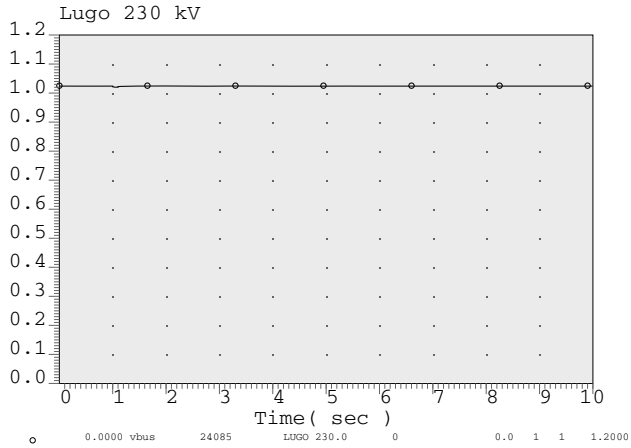


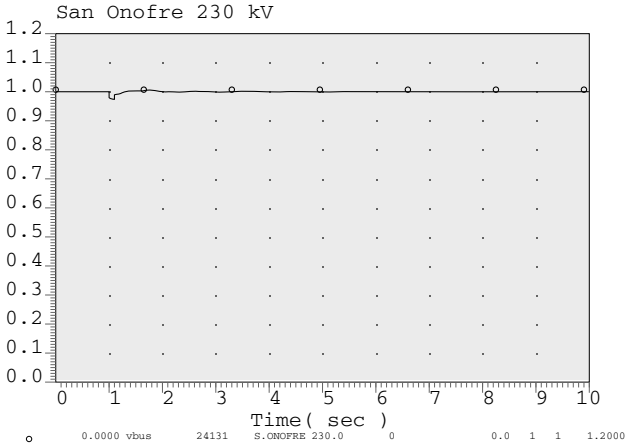


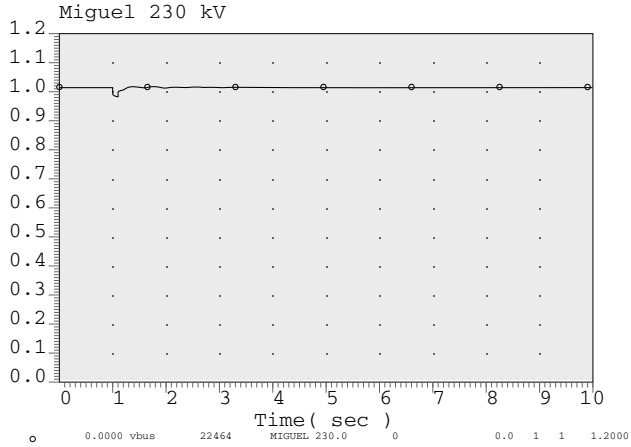
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

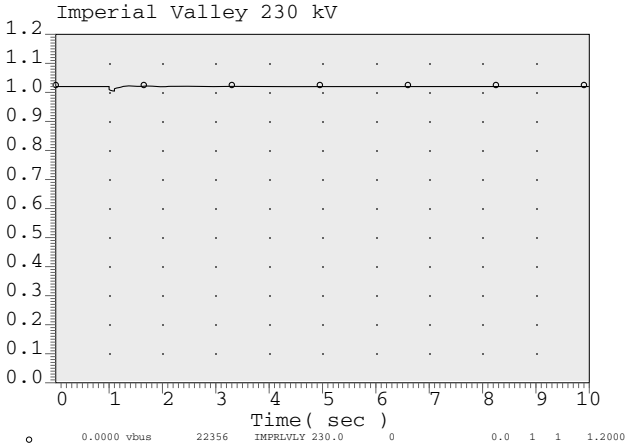
Bus Voltage

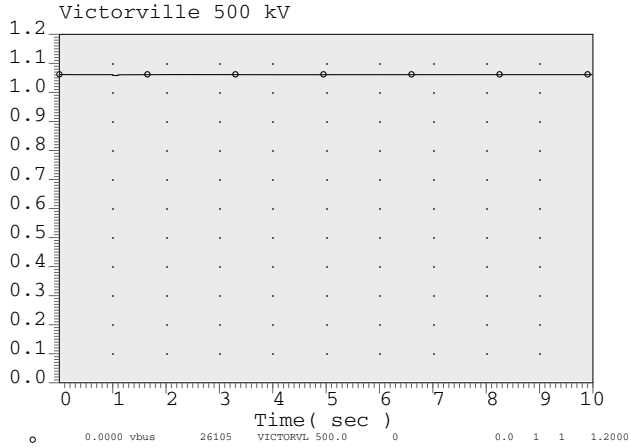






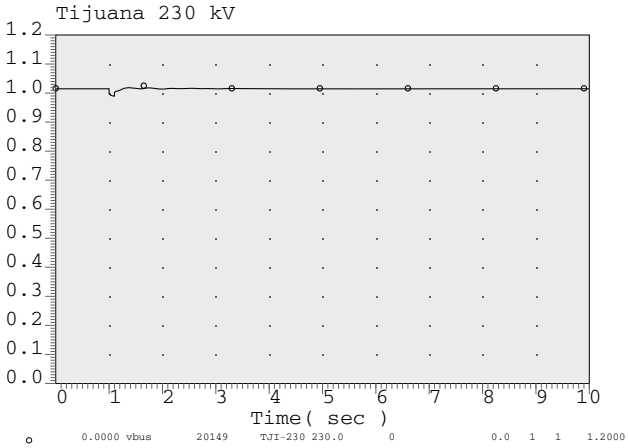


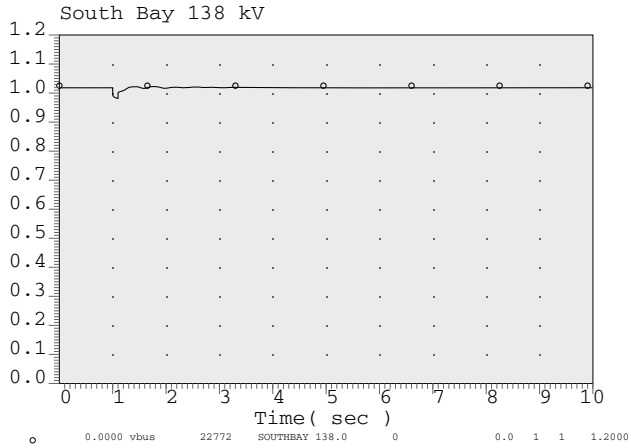


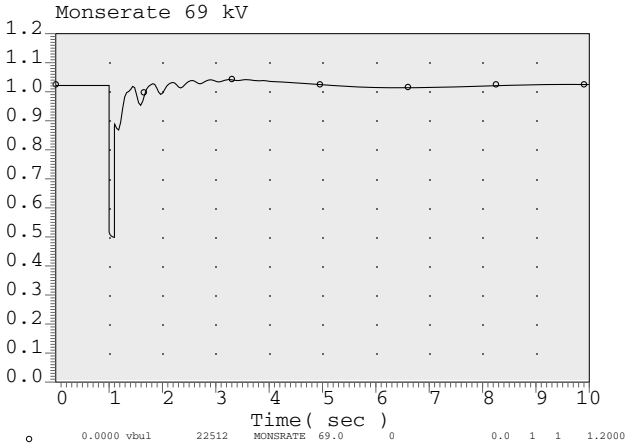


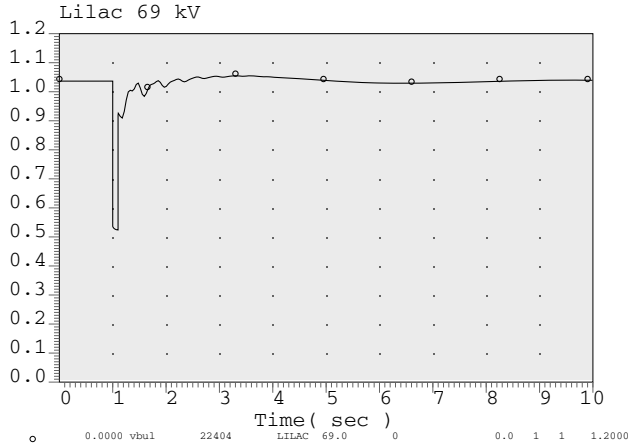
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

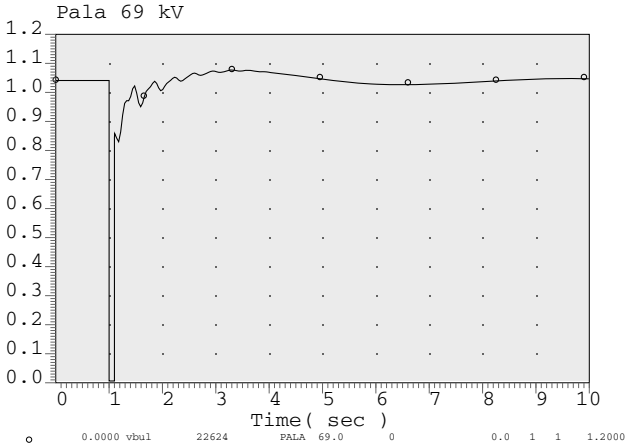
Bus Voltage

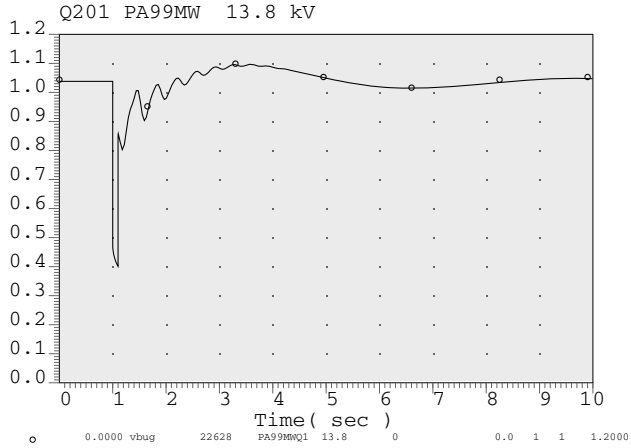






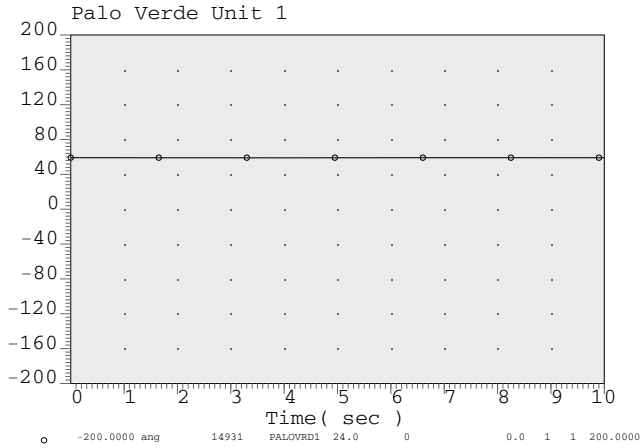


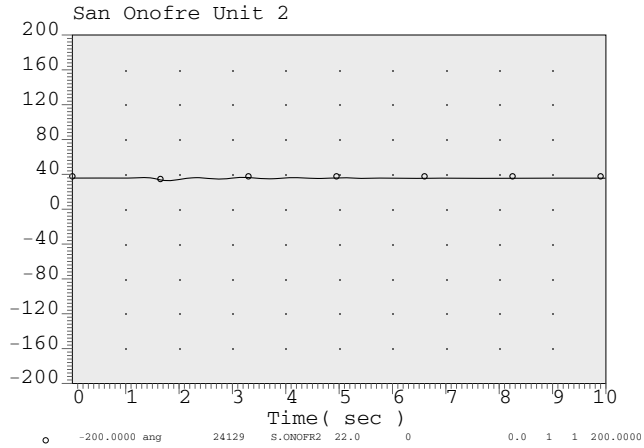


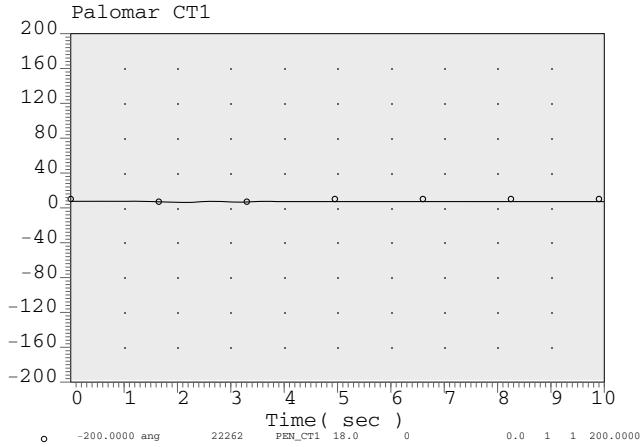


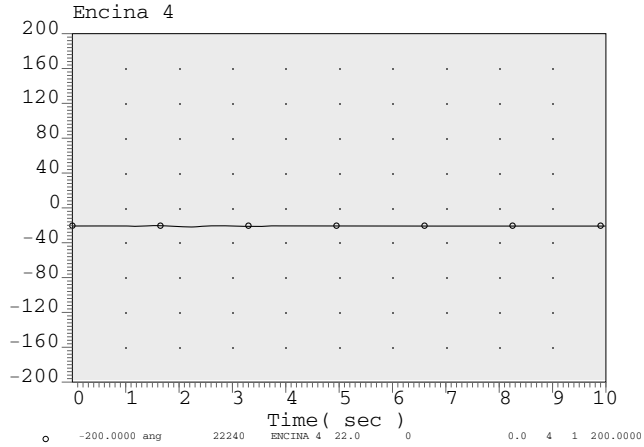
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

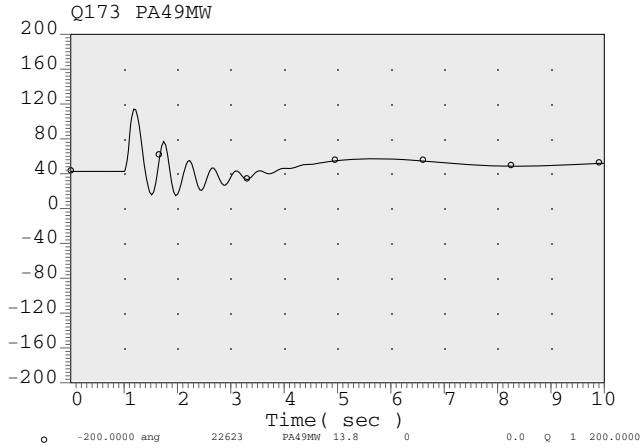
Relative Rotor Angle

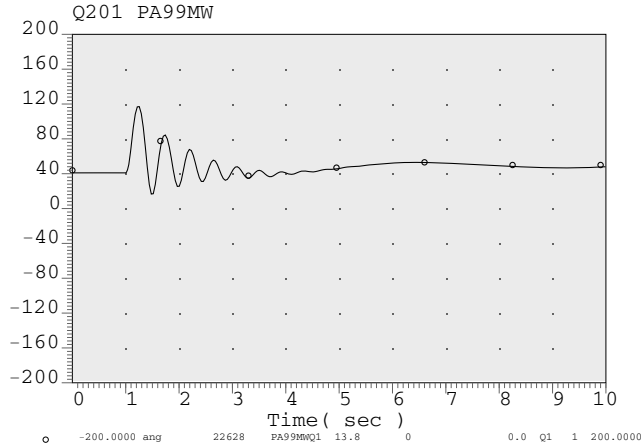






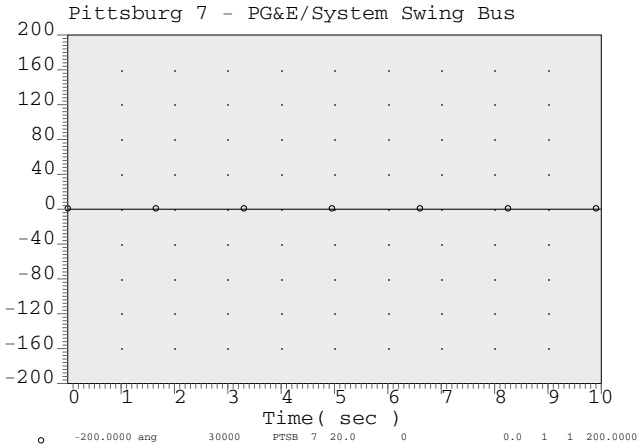


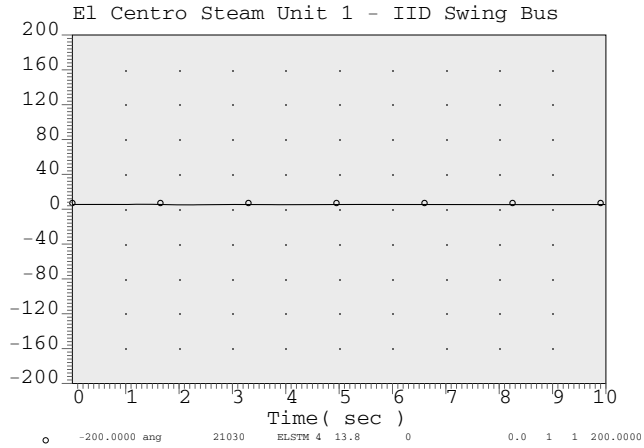


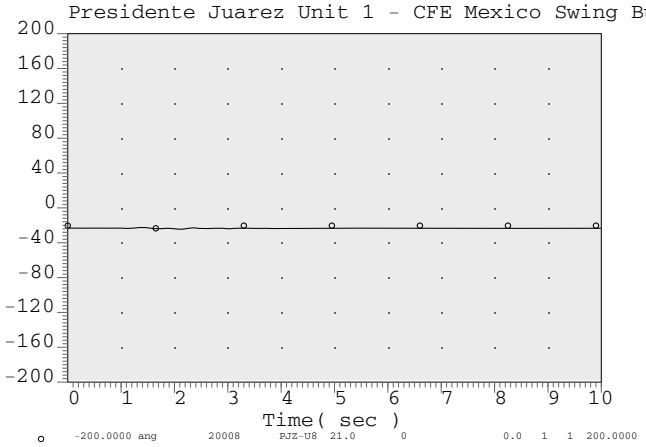


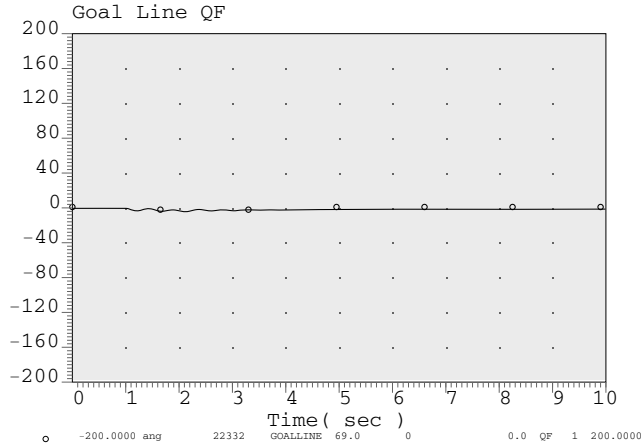
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

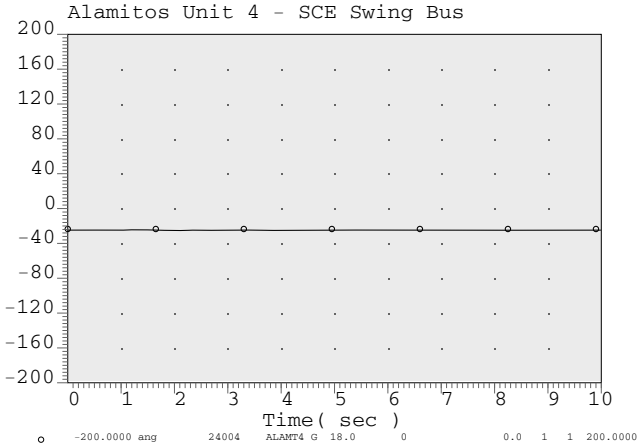
Relative Rotor Angle

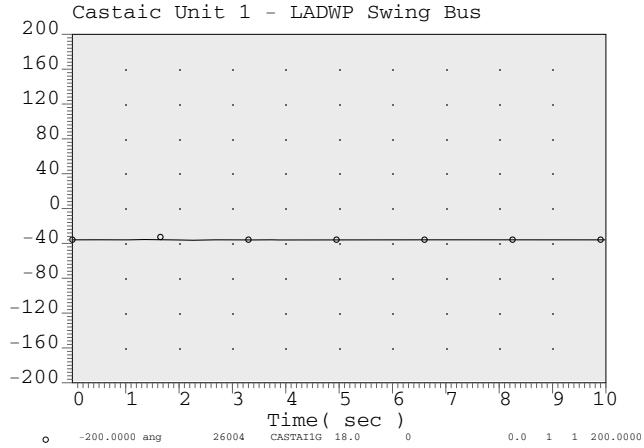






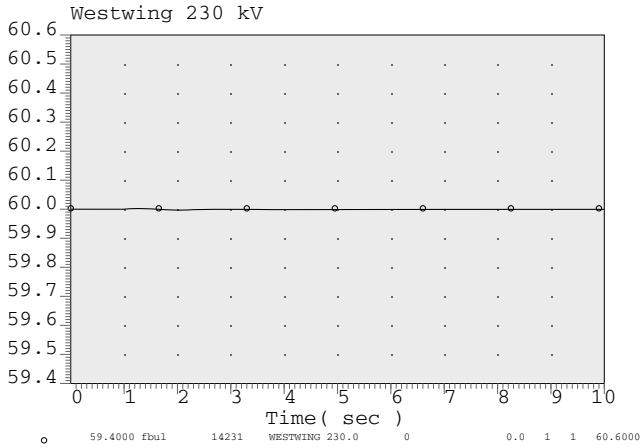


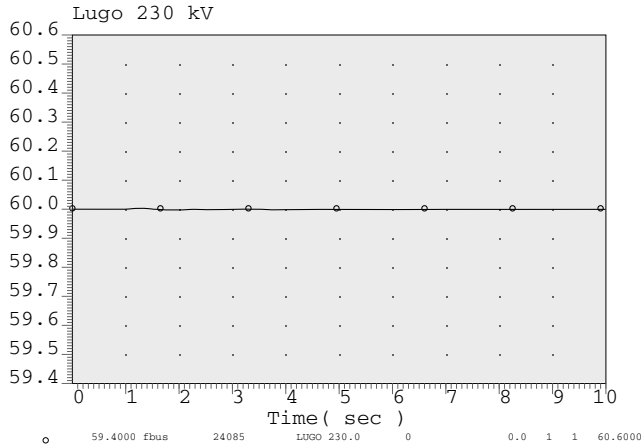


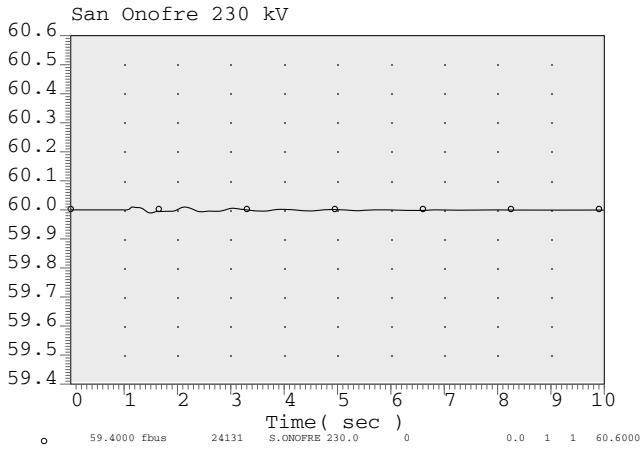


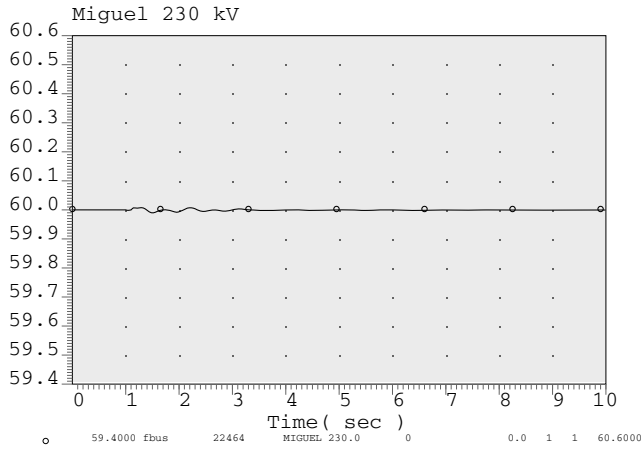
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

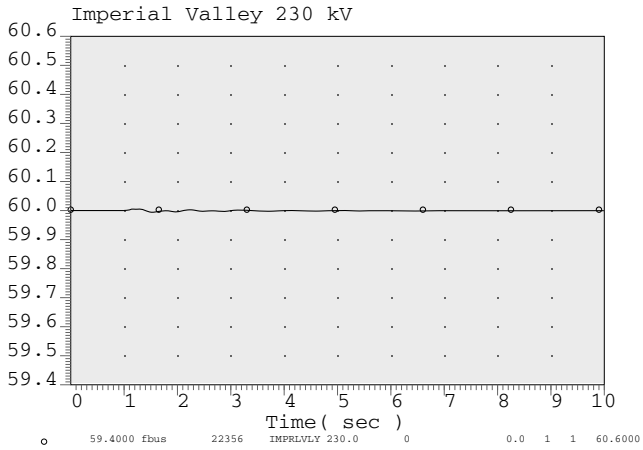
Bus Frequency

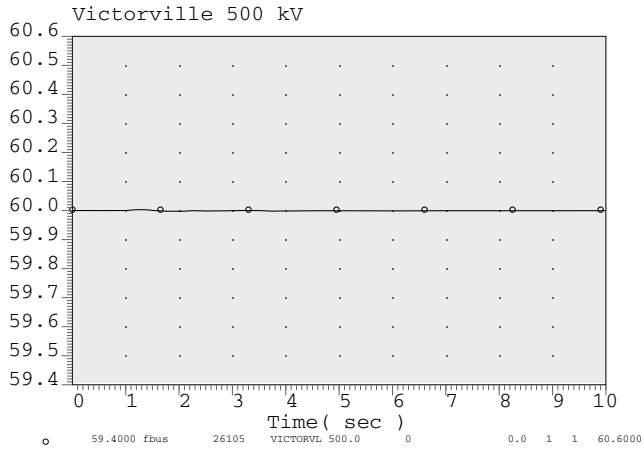






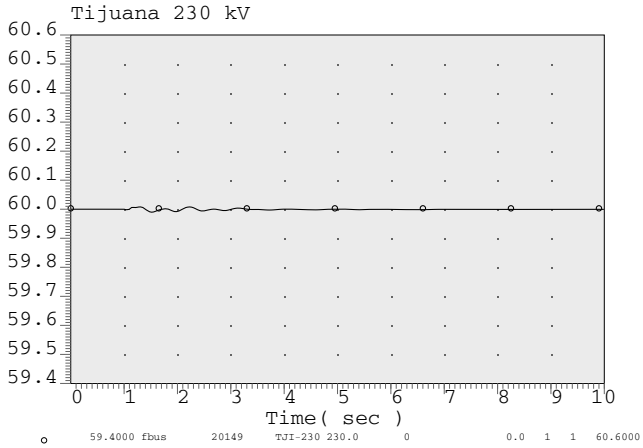


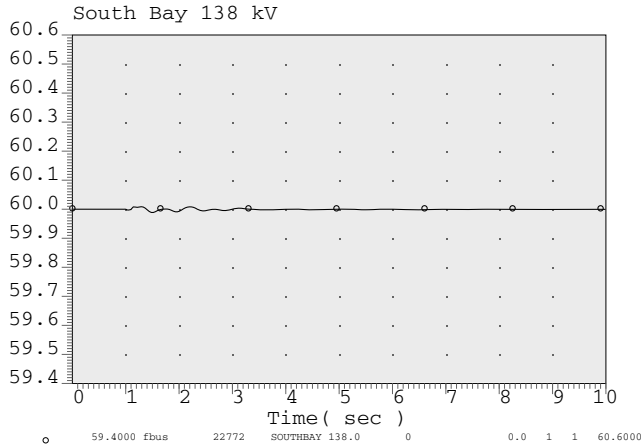


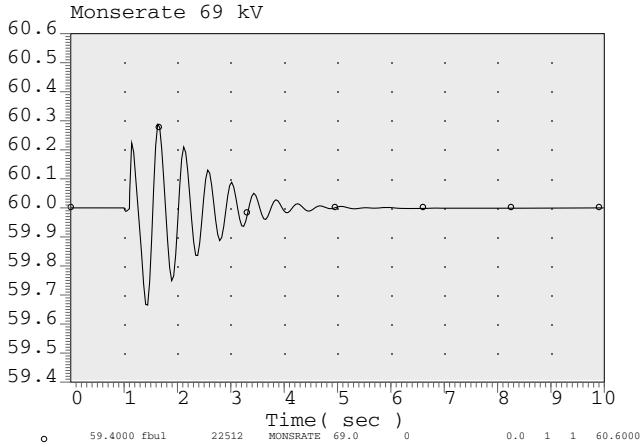


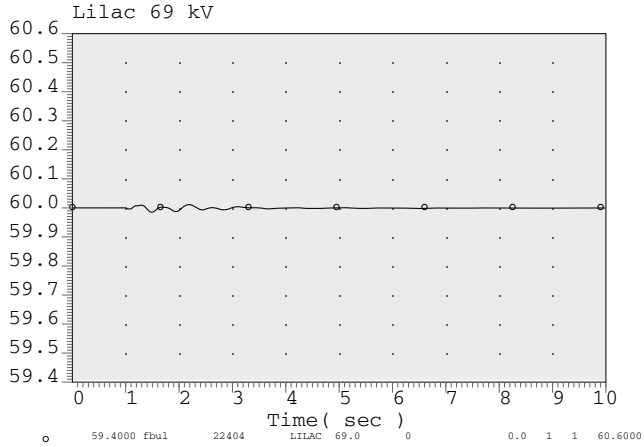
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

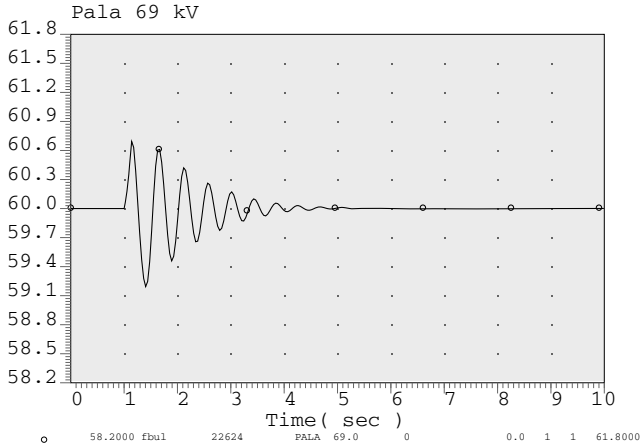
Bus Frequency

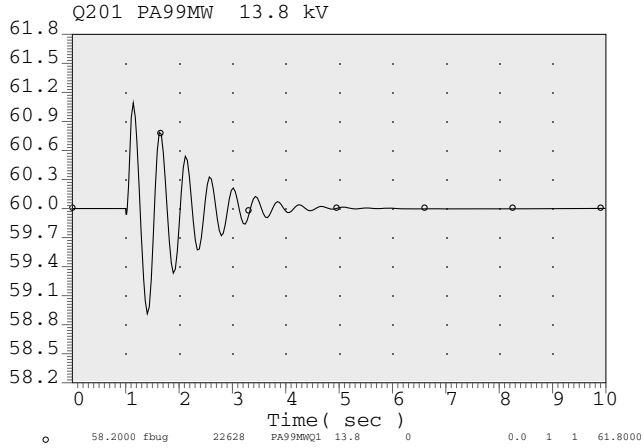






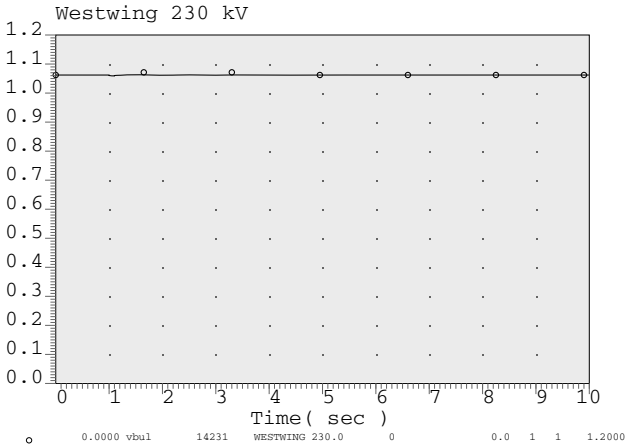


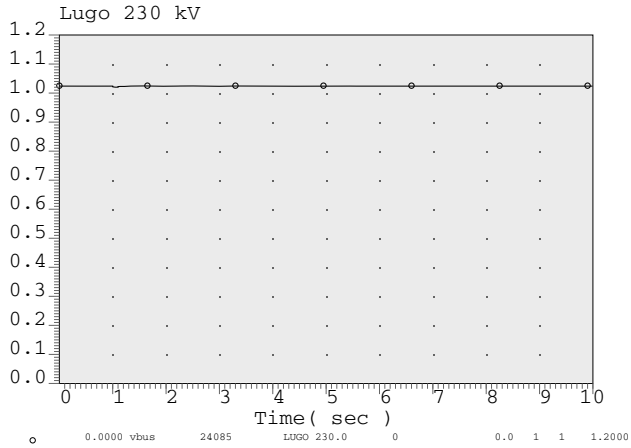


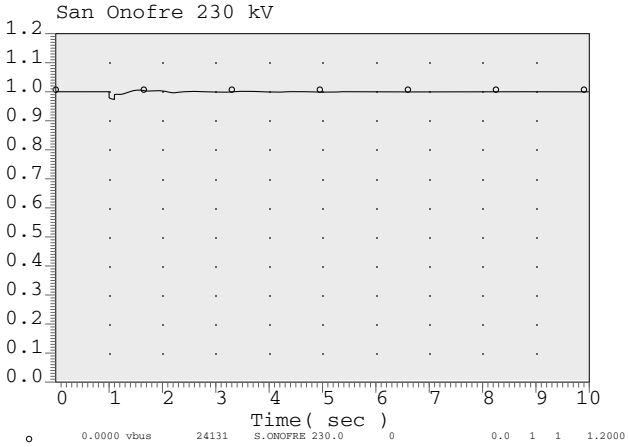


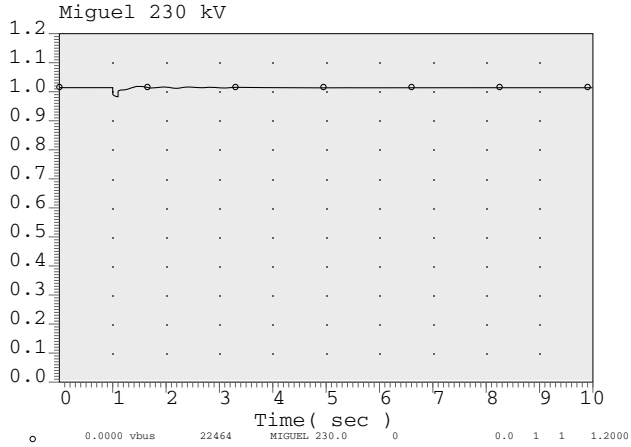
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

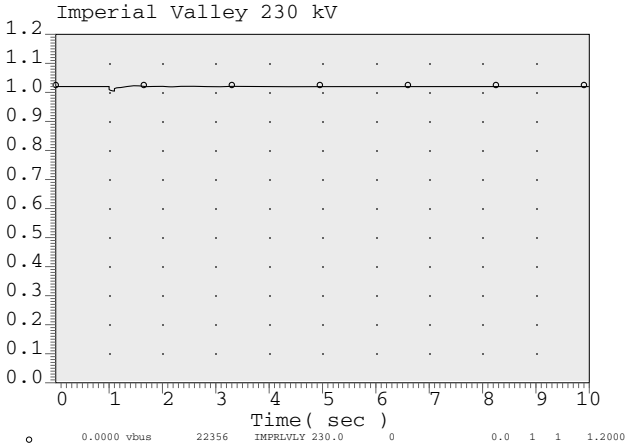
Bus Voltage

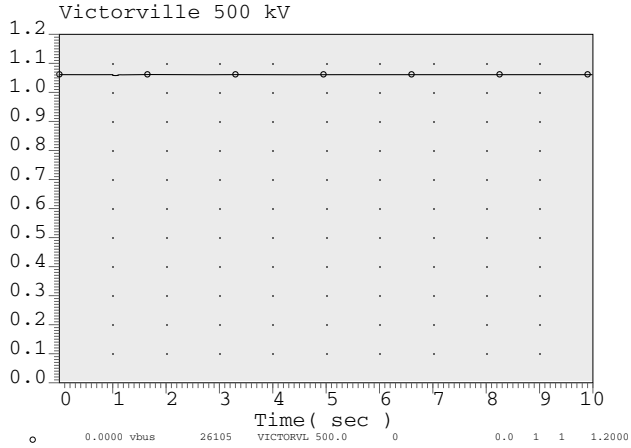






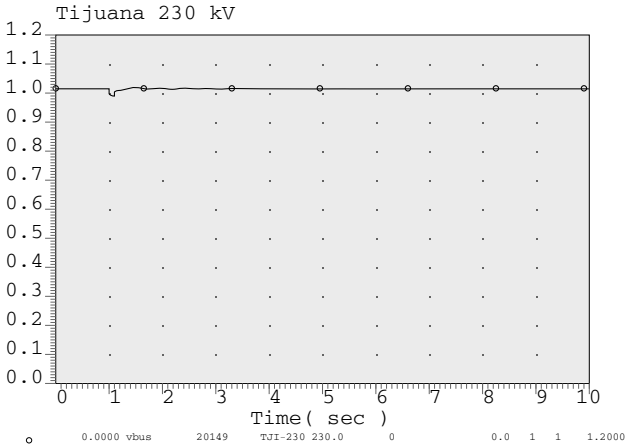


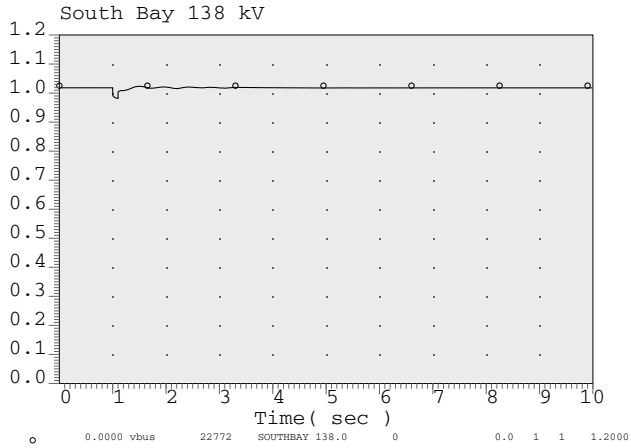


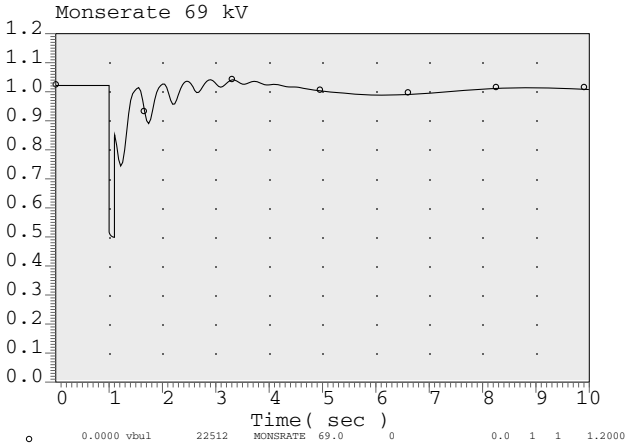


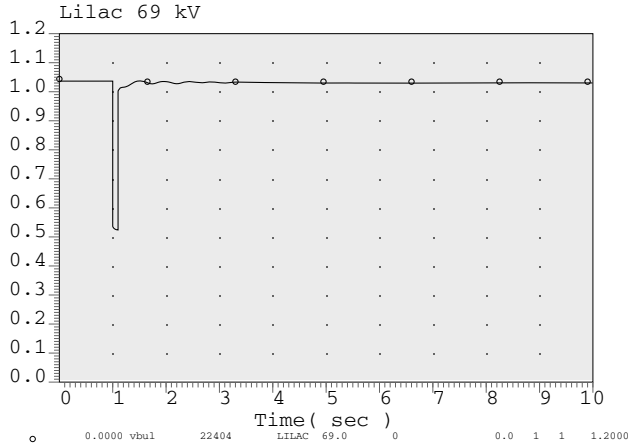
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

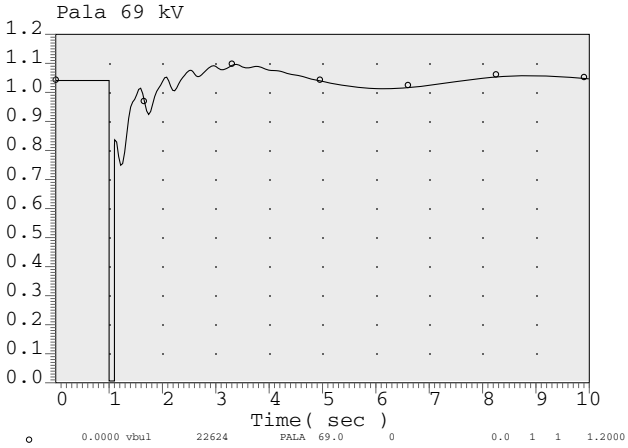
Bus Voltage

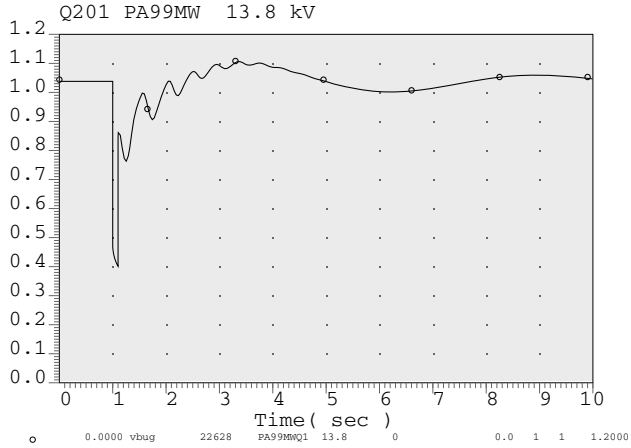






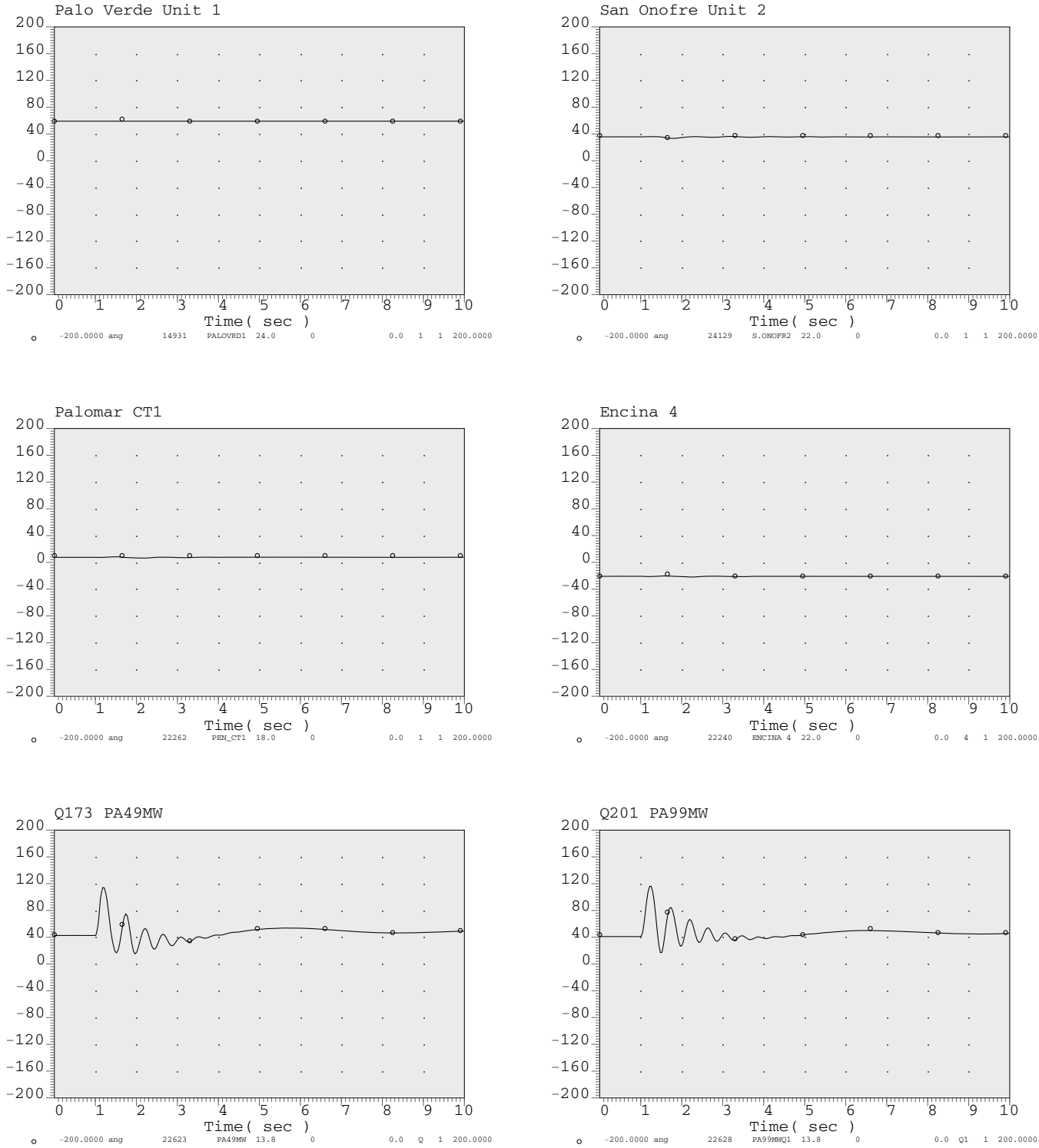






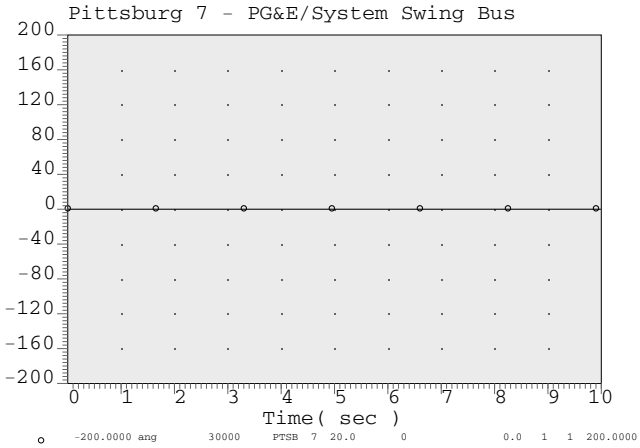
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

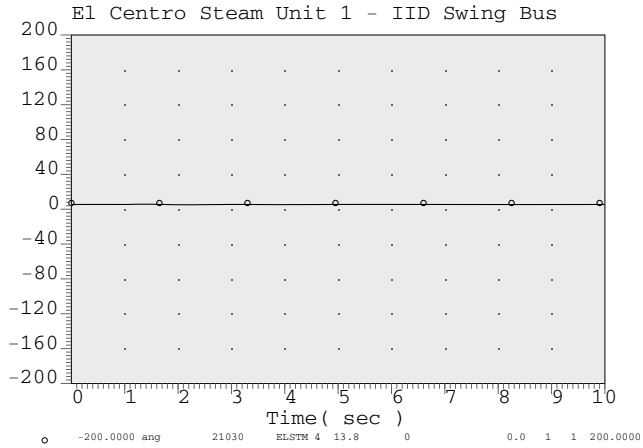
Relative Rotor Angle

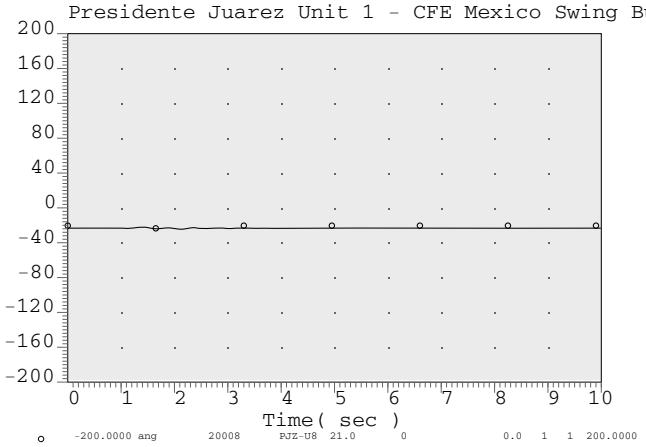


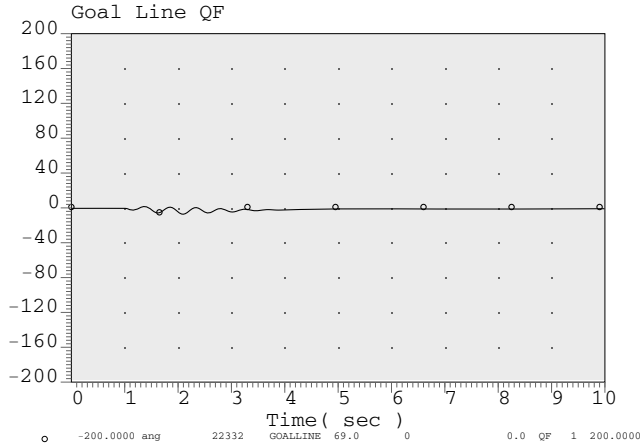
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

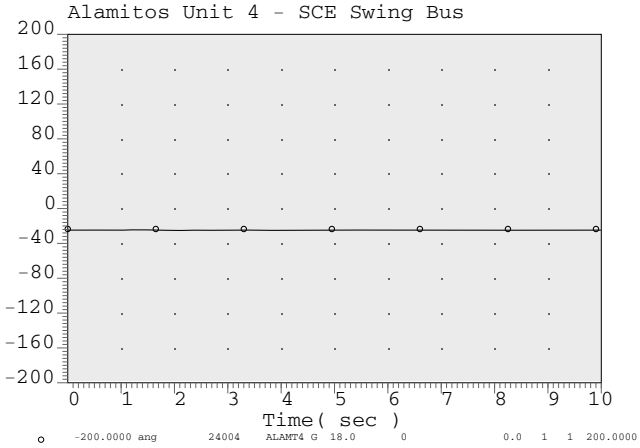
Relative Rotor Angle

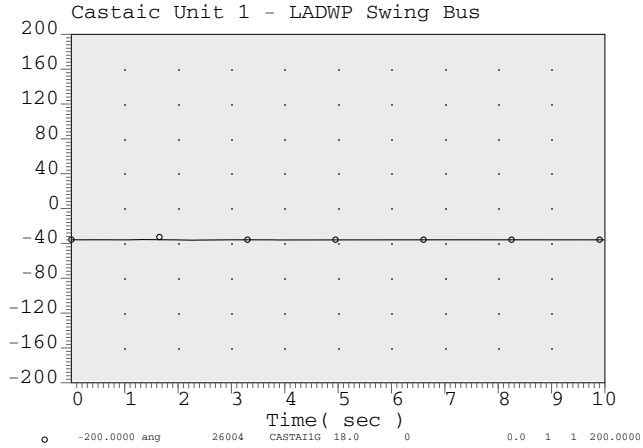






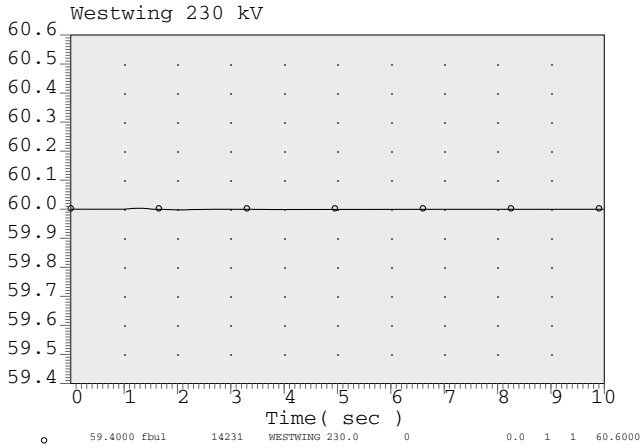


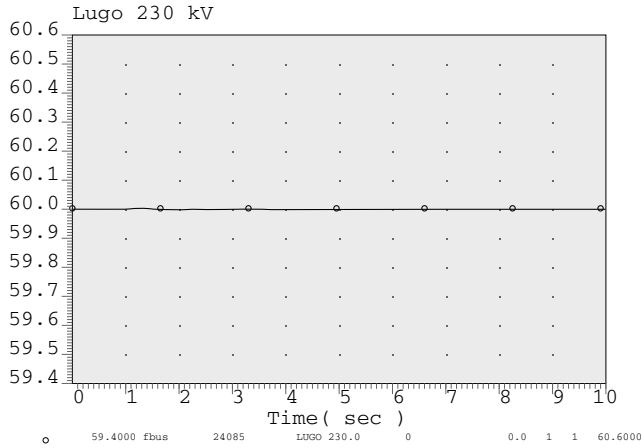


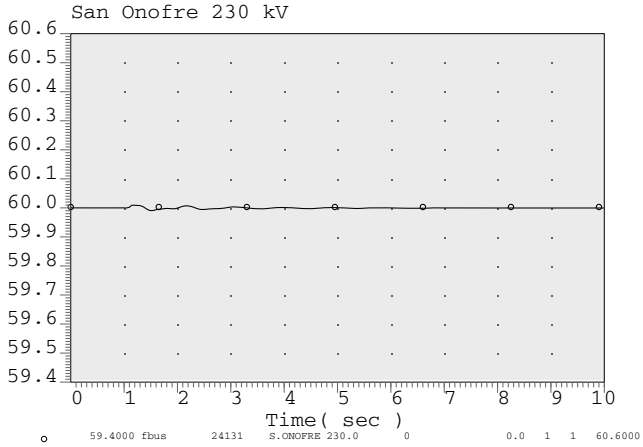


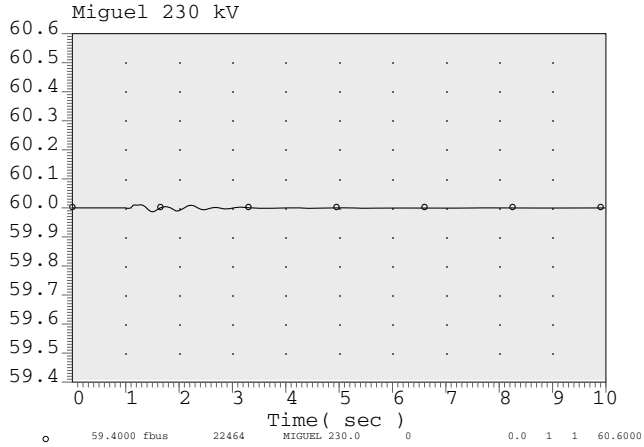
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

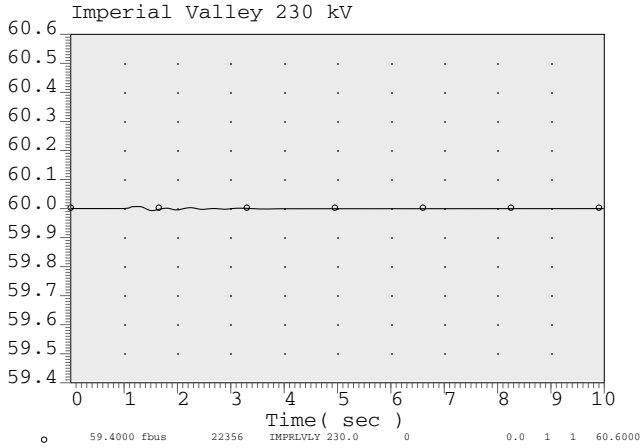
Bus Frequency

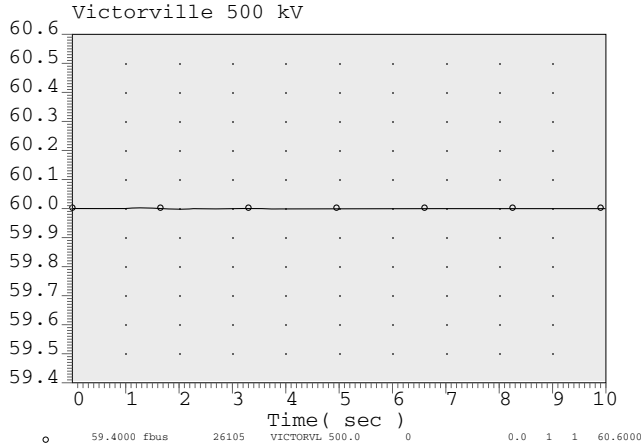






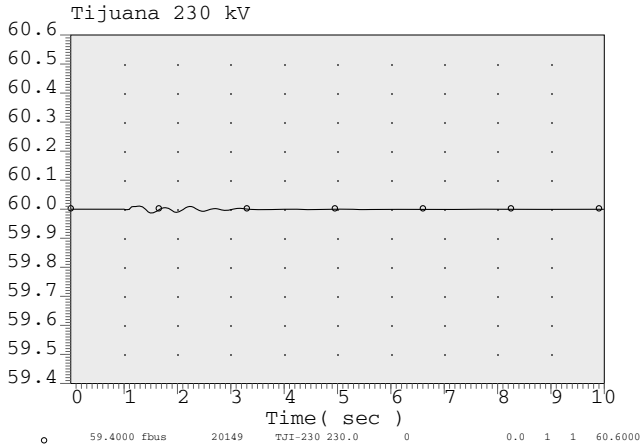


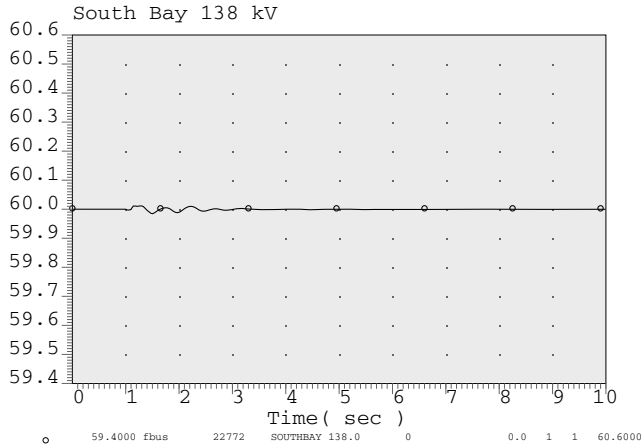


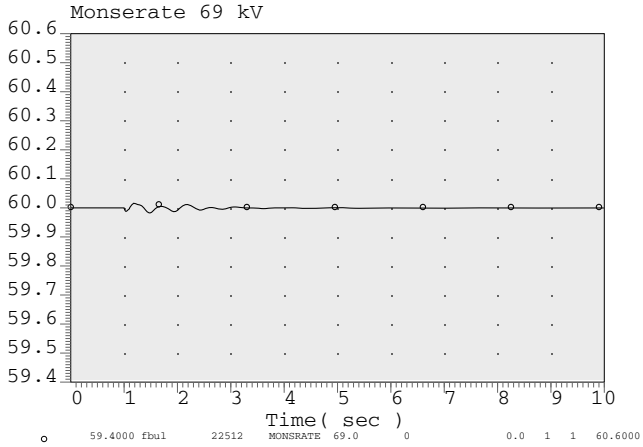


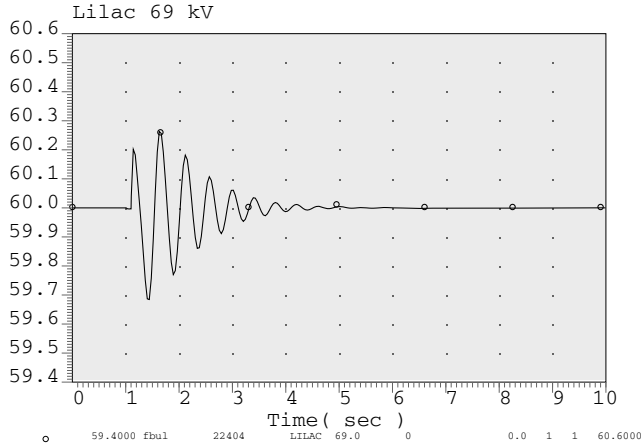
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

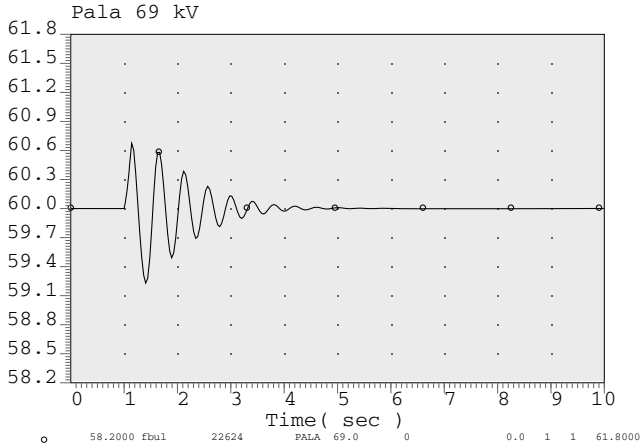
Bus Frequency

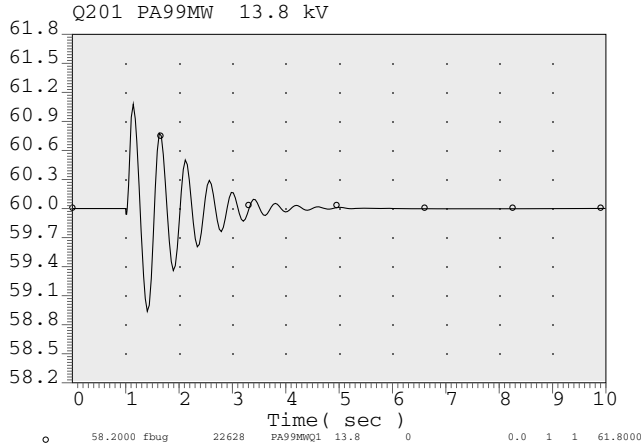






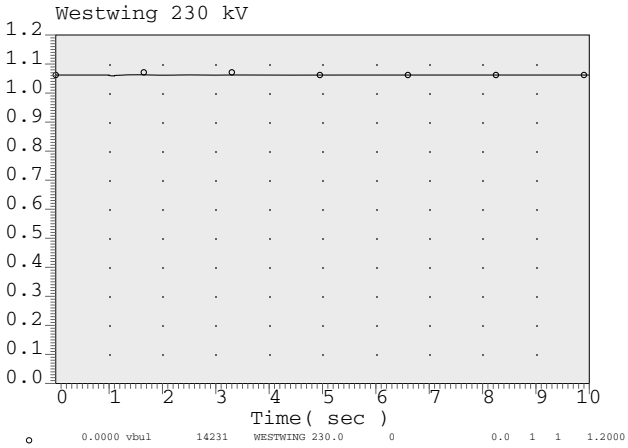


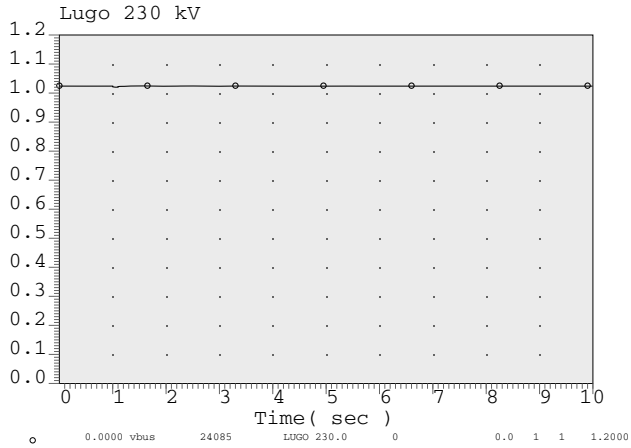


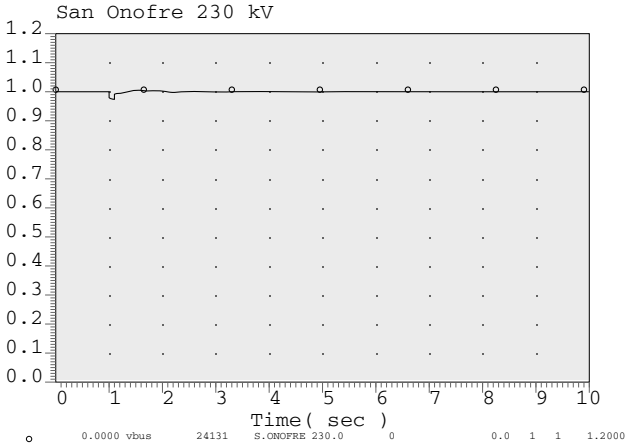


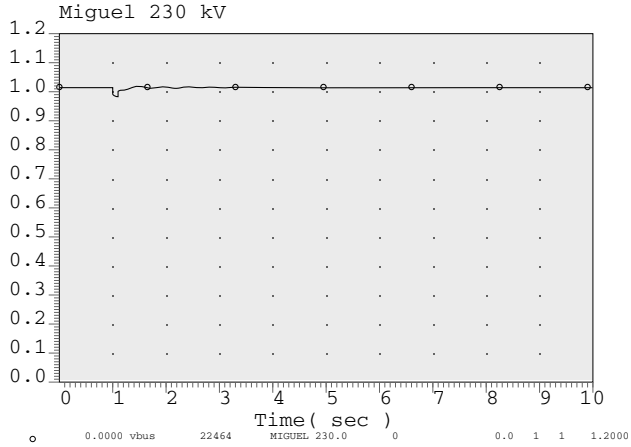
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

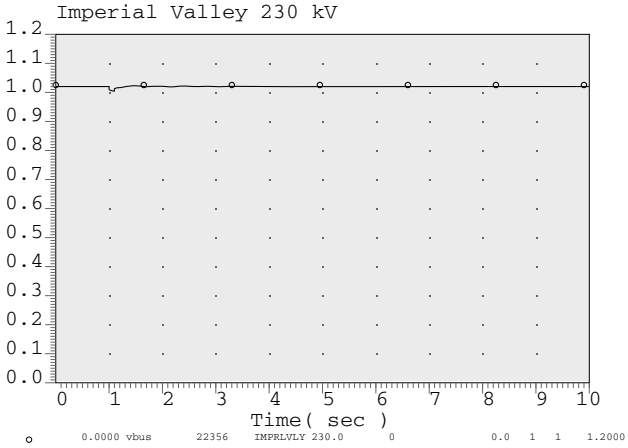
Bus Voltage

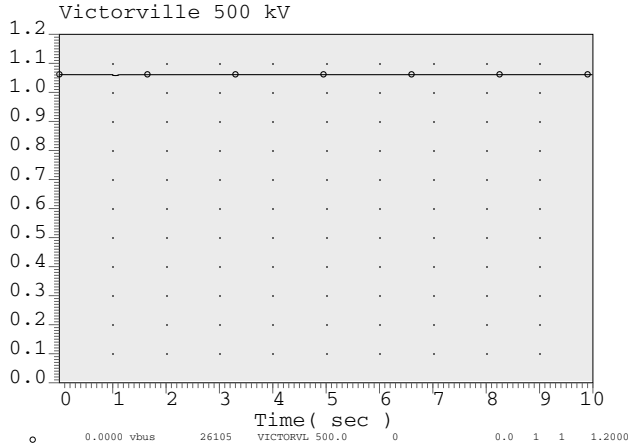






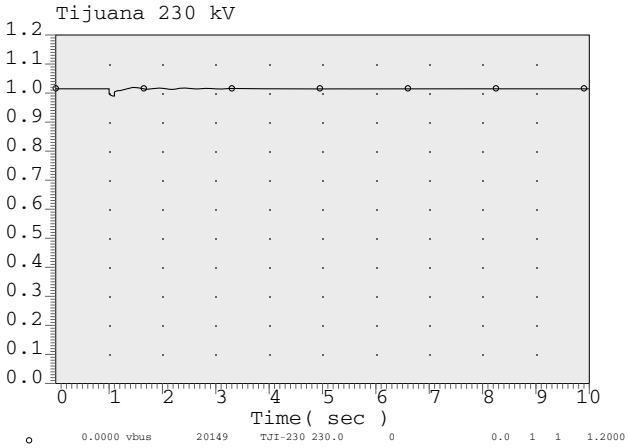


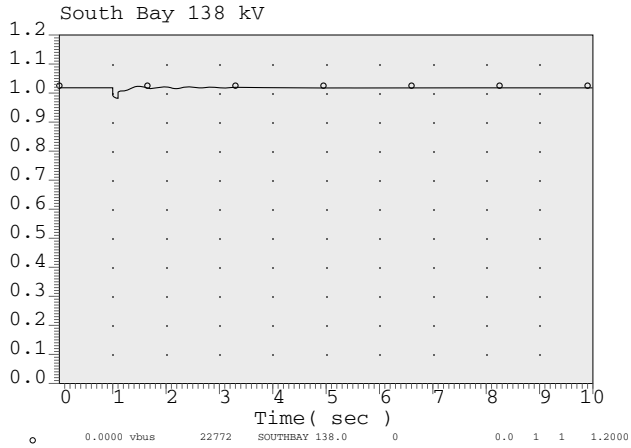


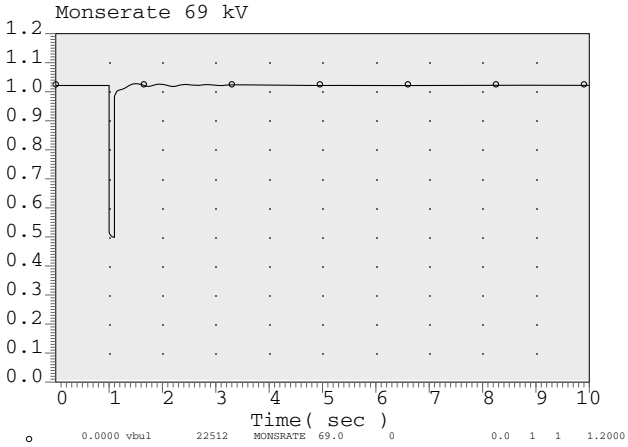


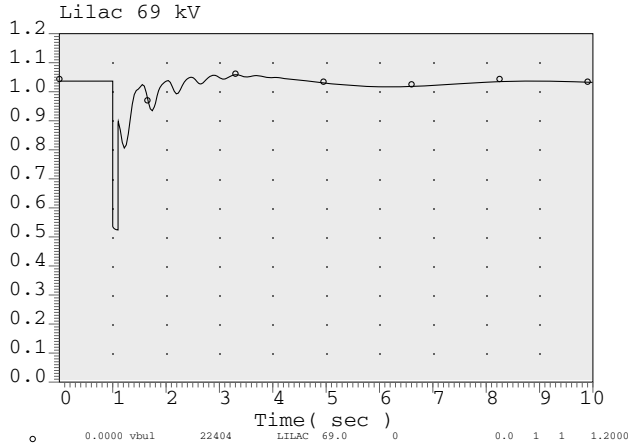
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

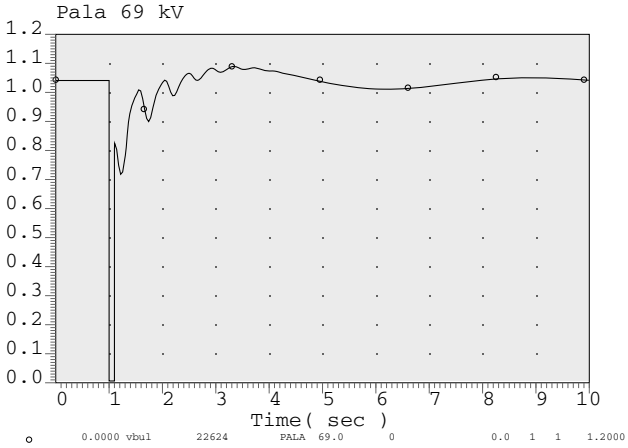
Bus Voltage

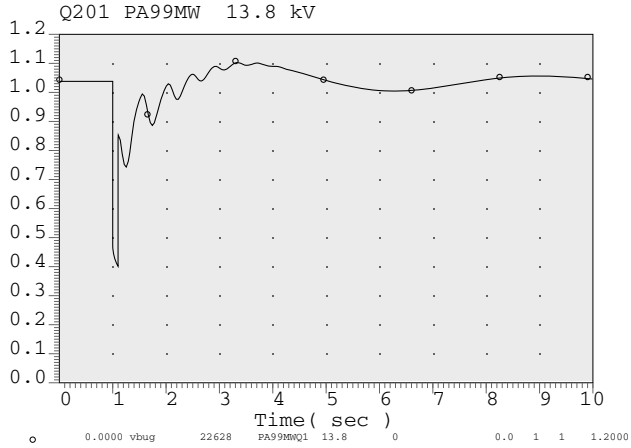






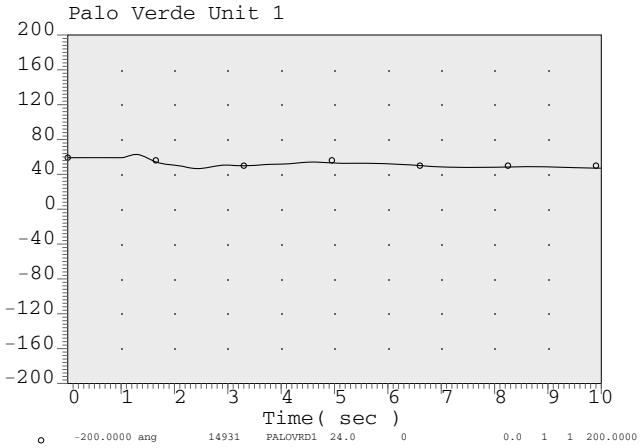


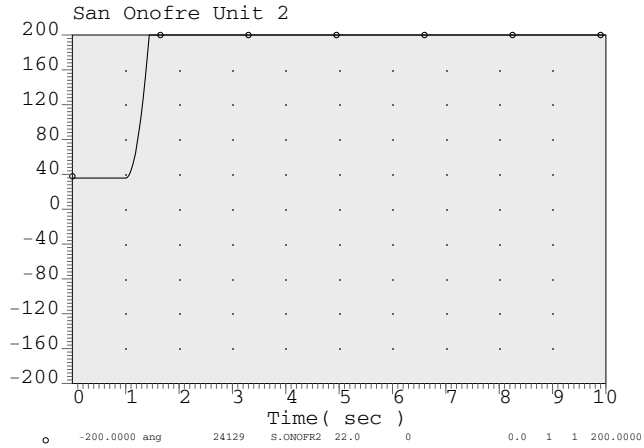


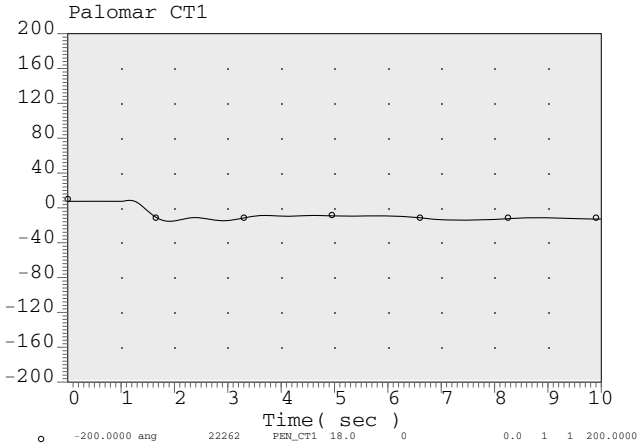


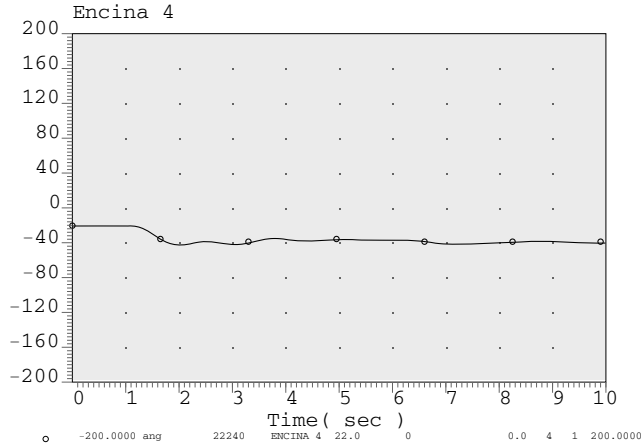
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

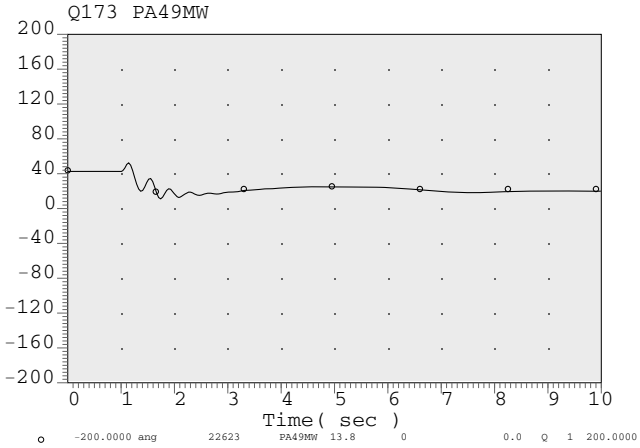
Relative Rotor Angle

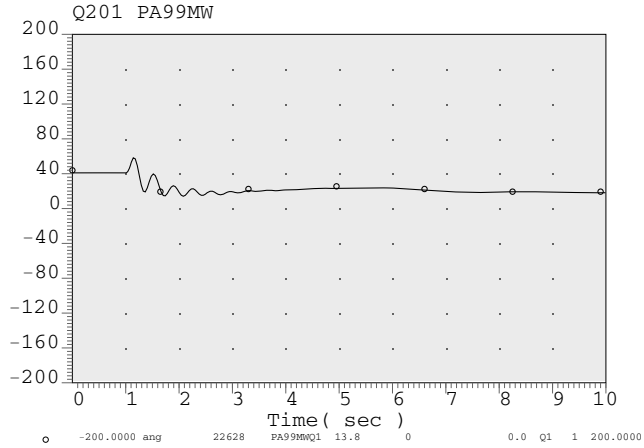






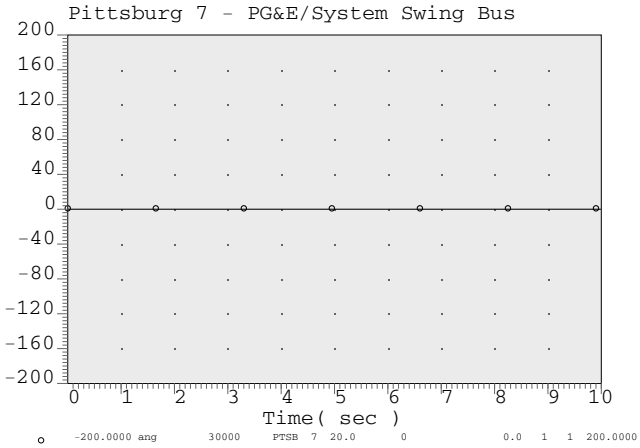


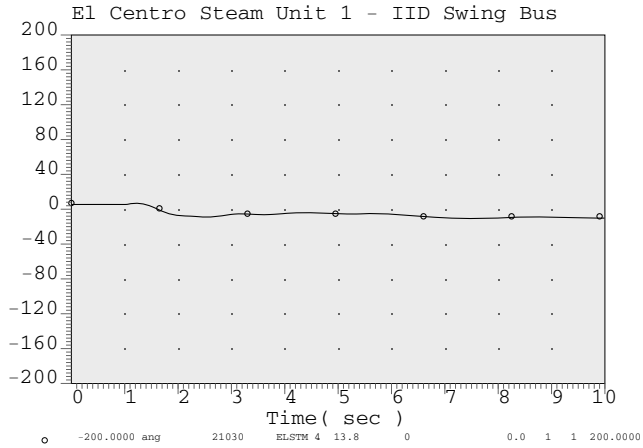


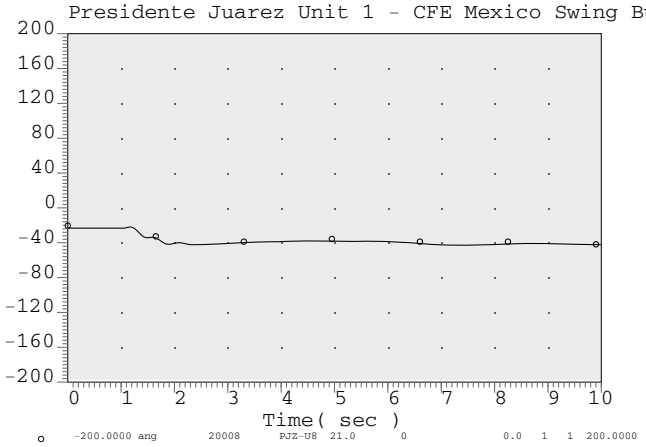


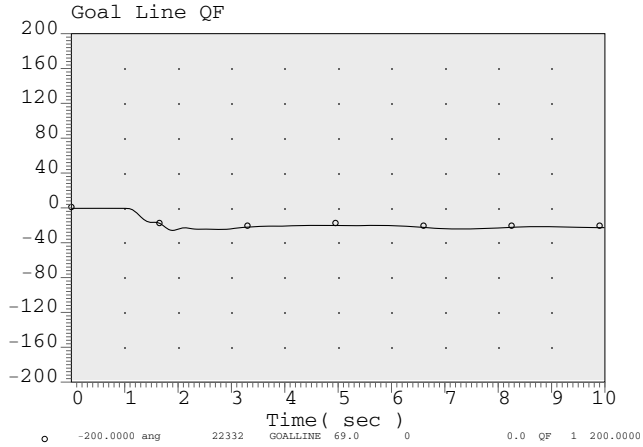
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

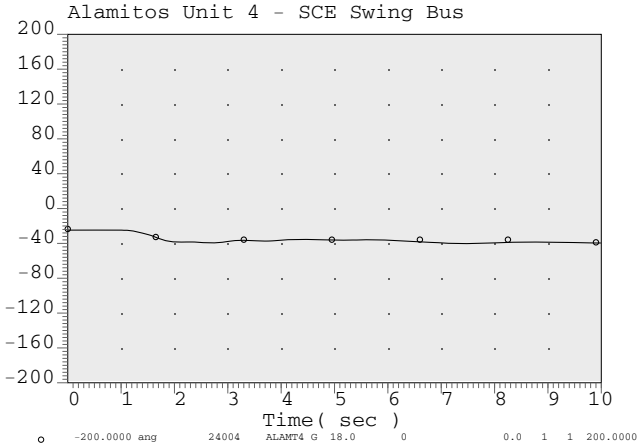
Relative Rotor Angle

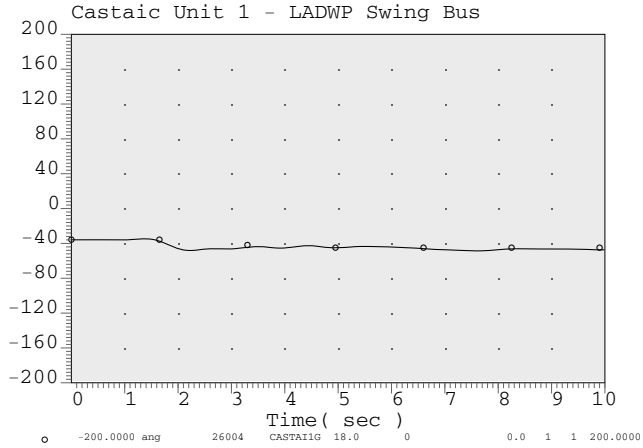






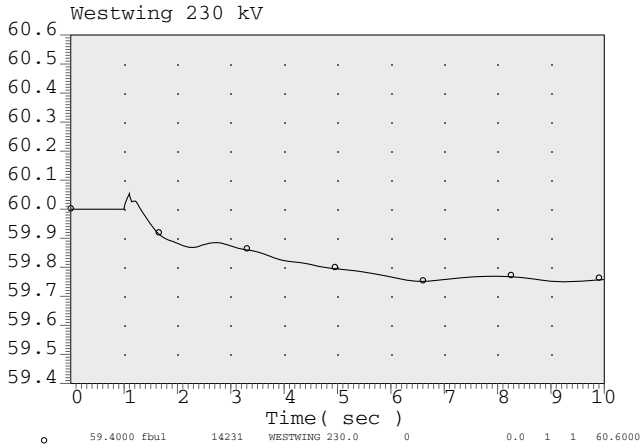


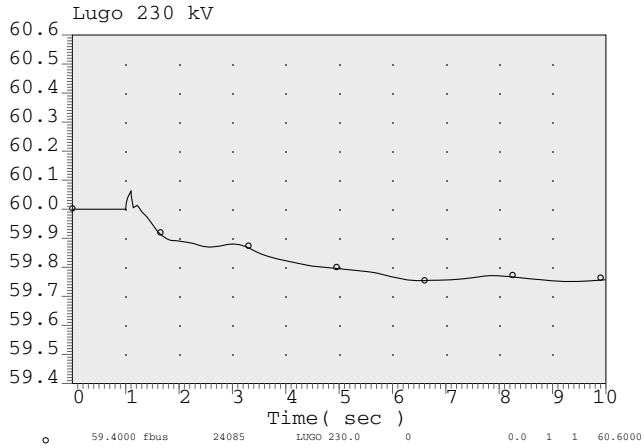


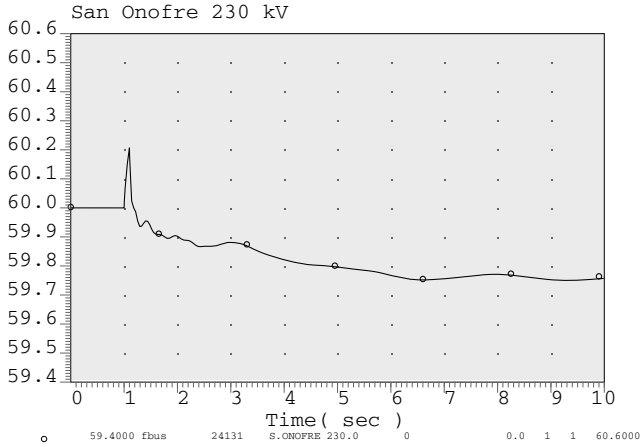


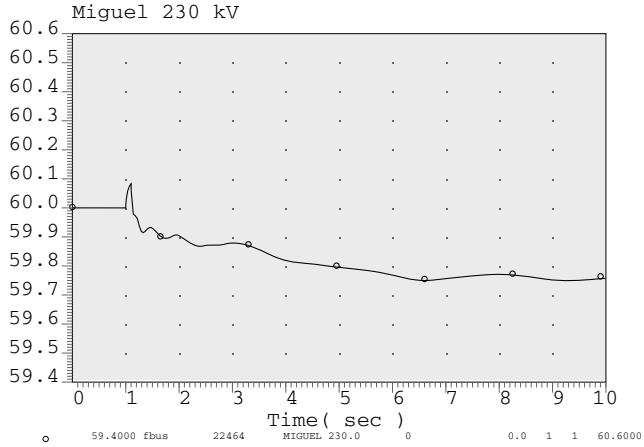
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

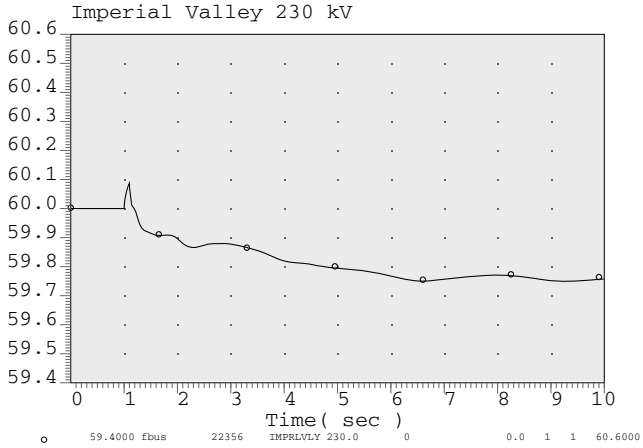
Bus Frequency

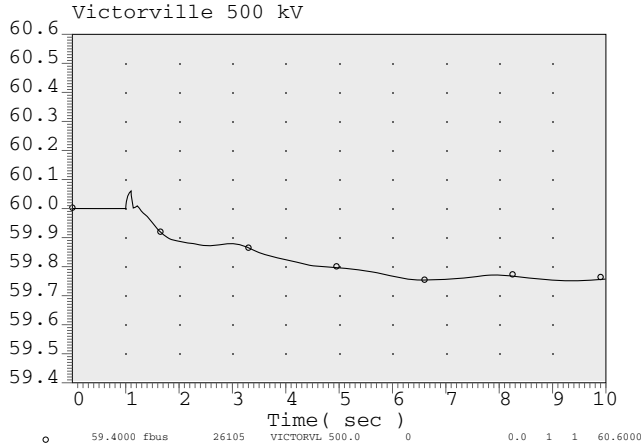






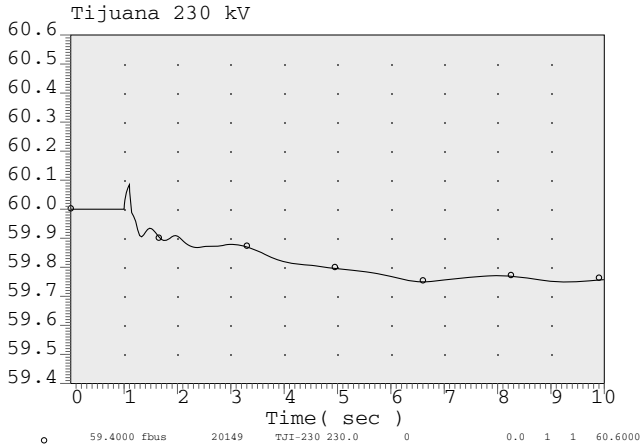


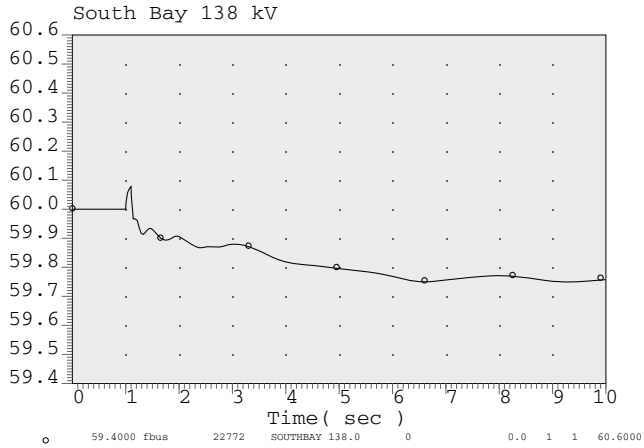


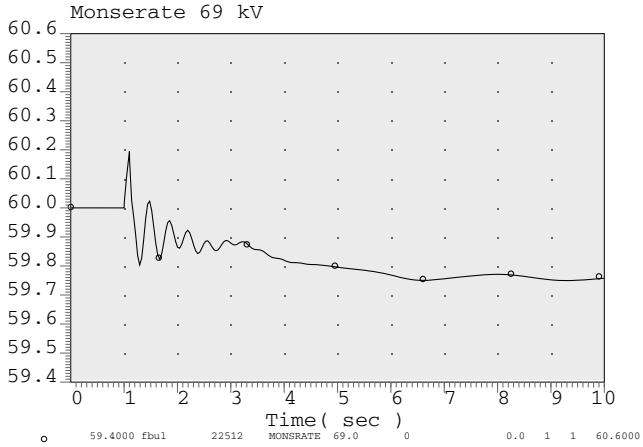


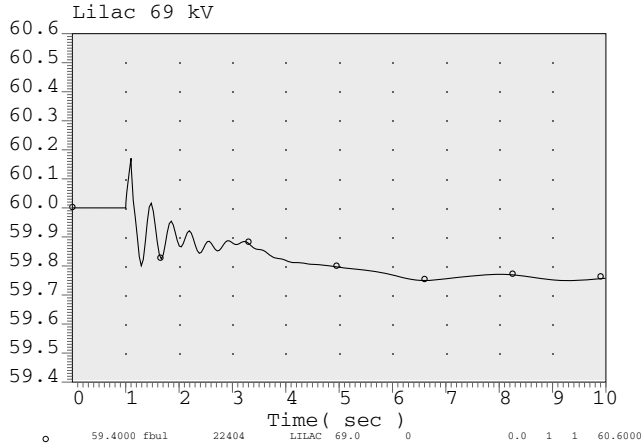
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

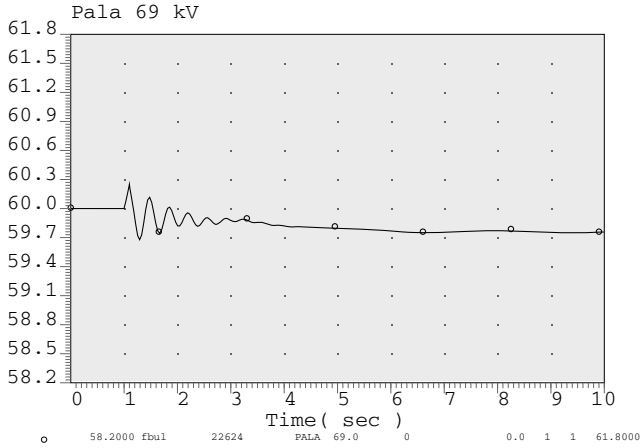
Bus Frequency

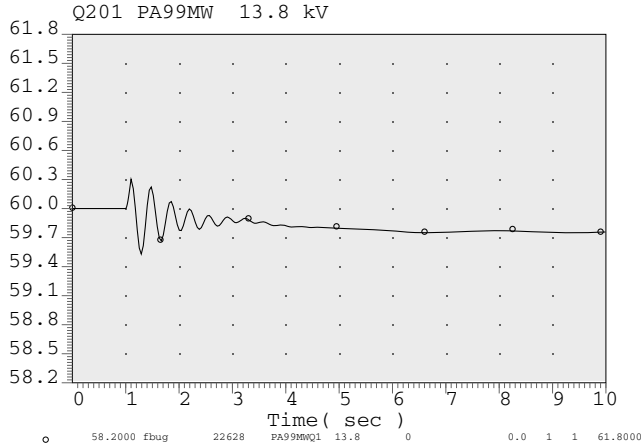






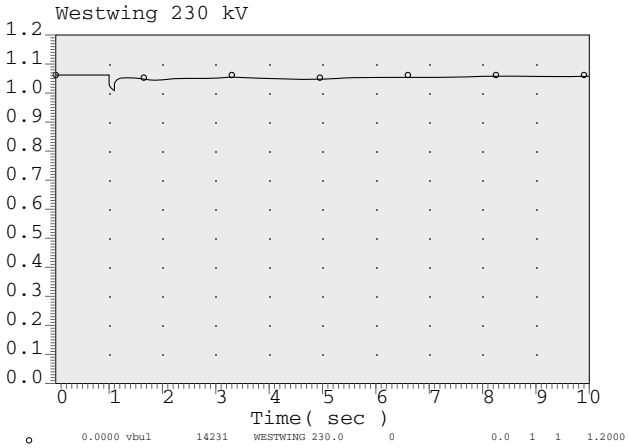


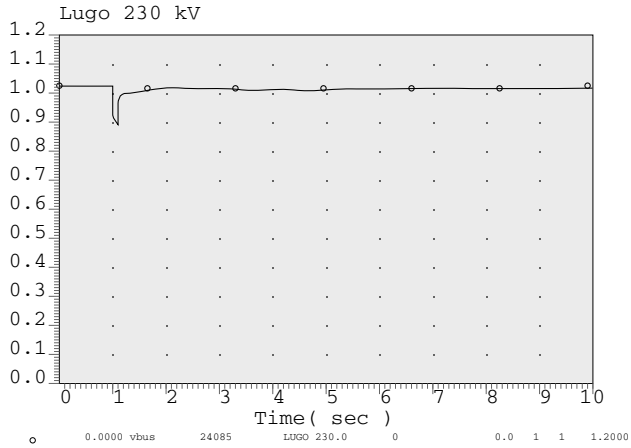


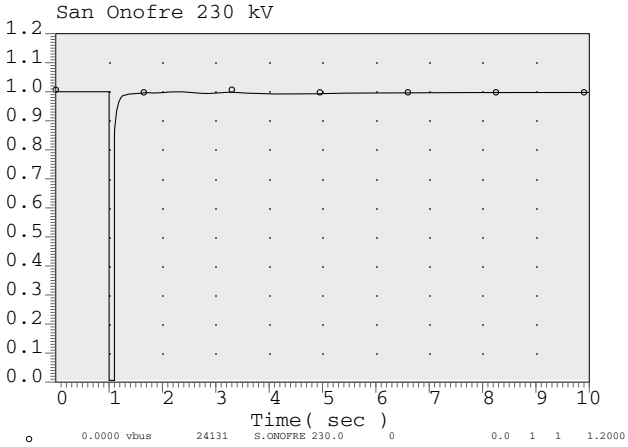


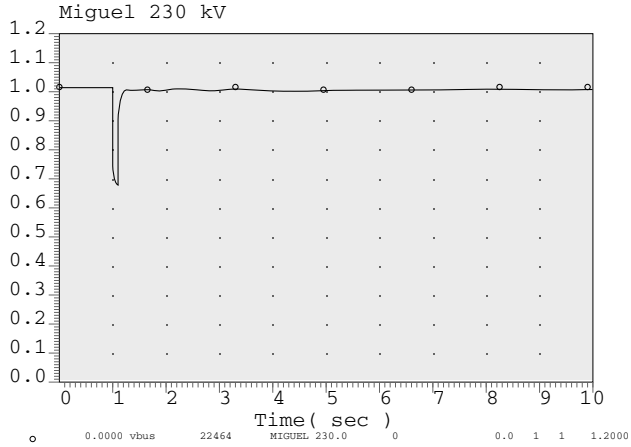
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

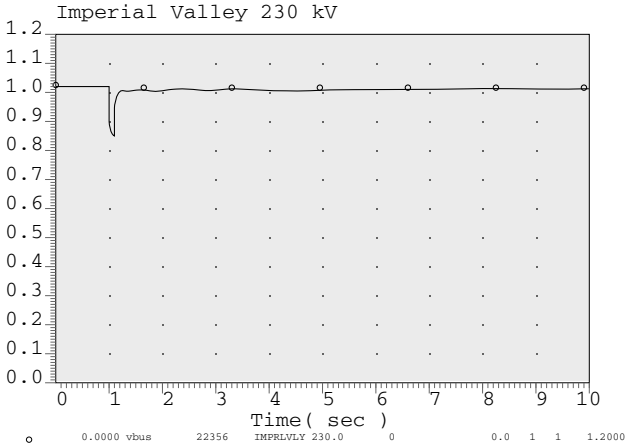
Bus Voltage

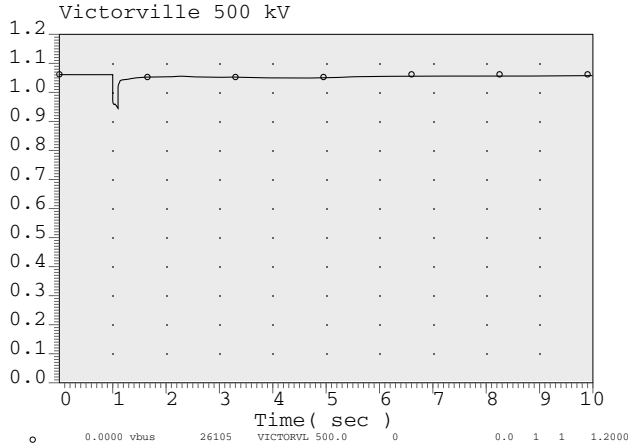






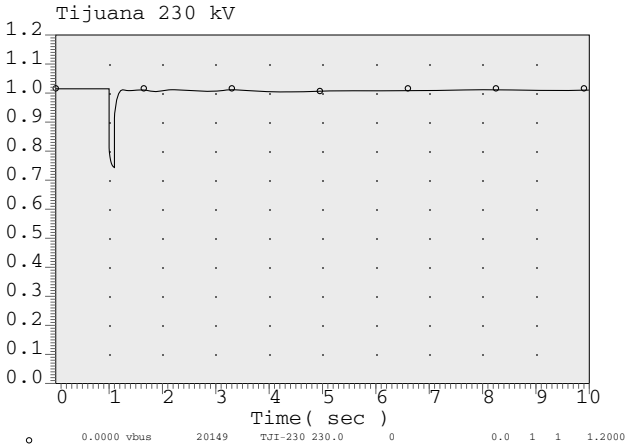


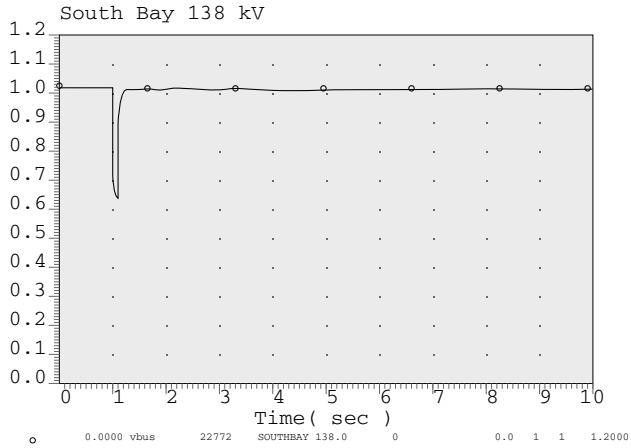


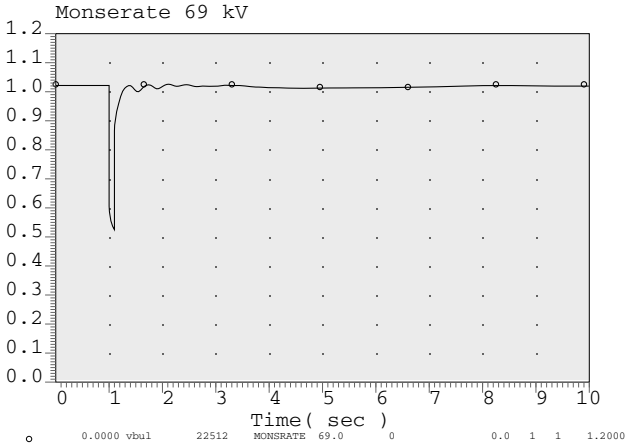


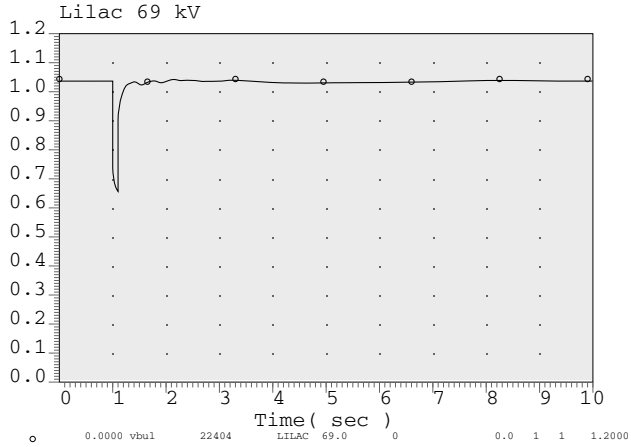
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

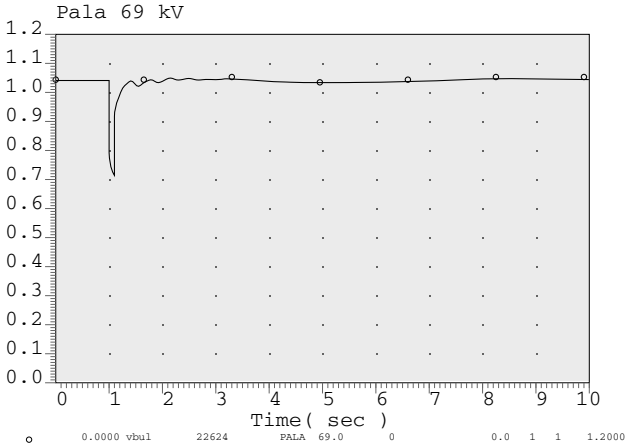
Bus Voltage

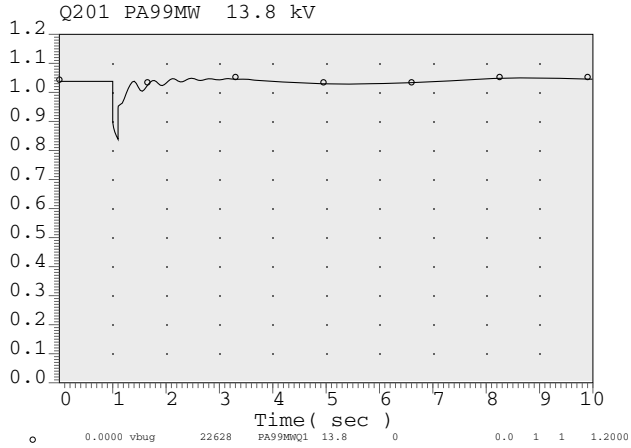






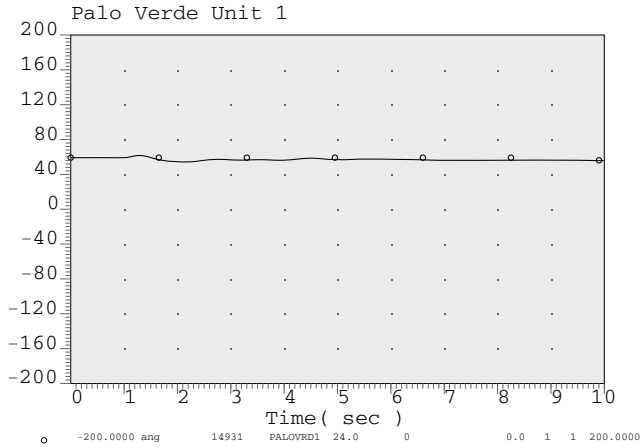


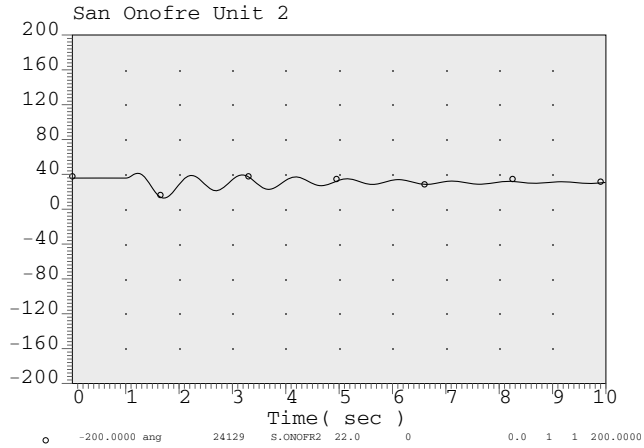


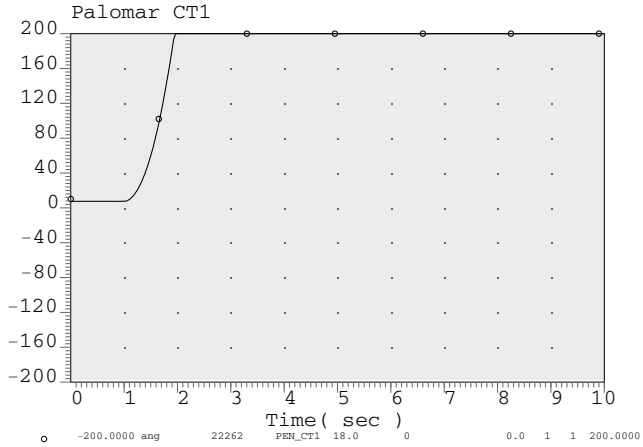


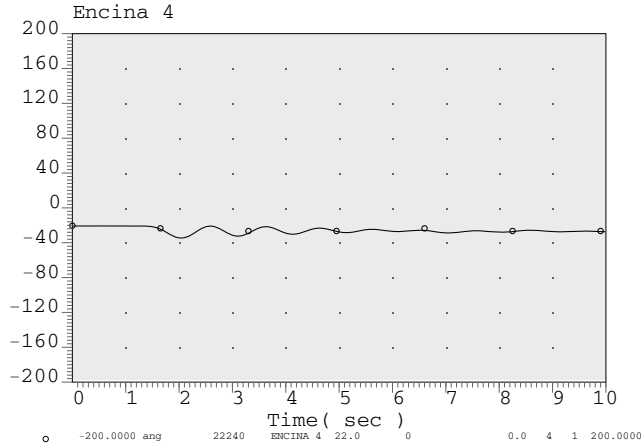
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

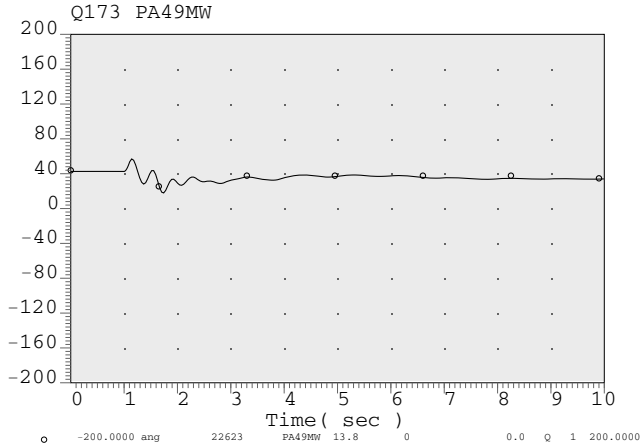
Relative Rotor Angle

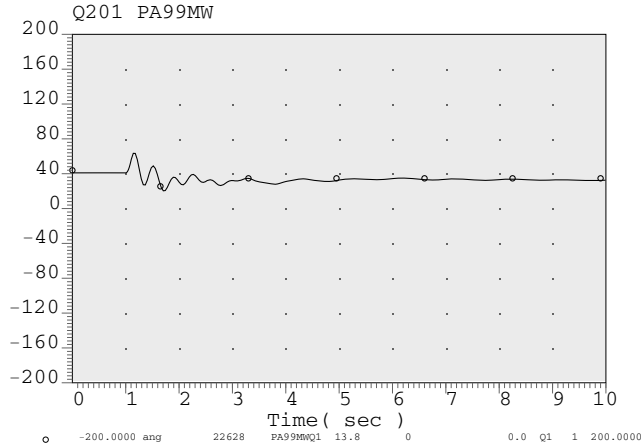






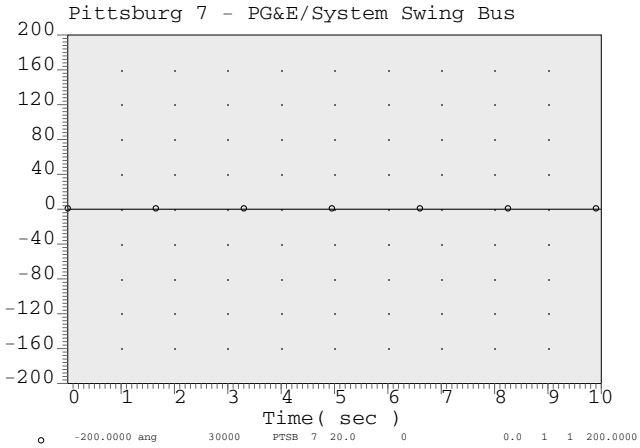


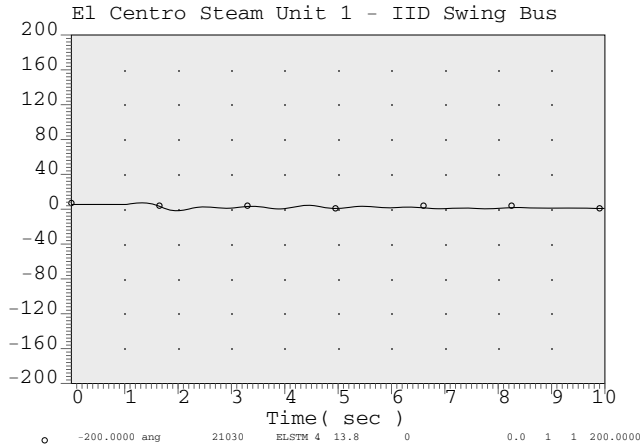


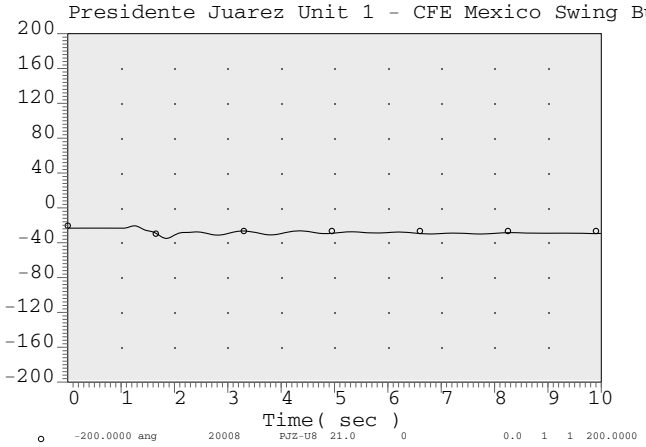


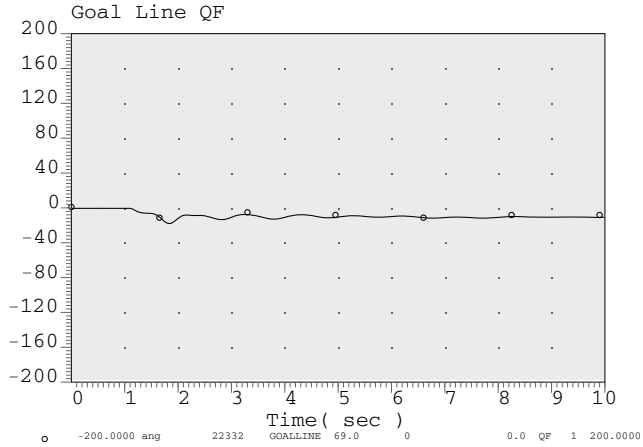
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

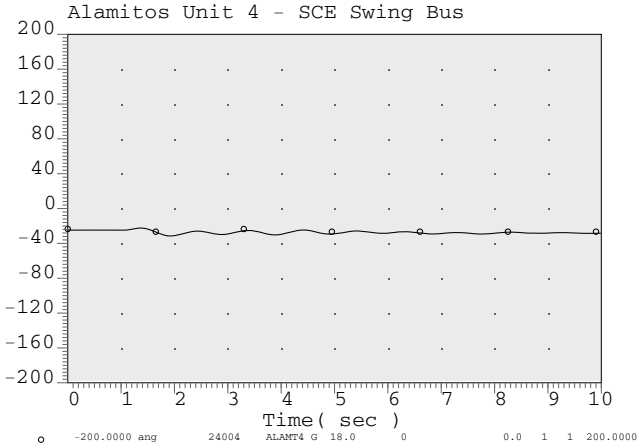
Relative Rotor Angle

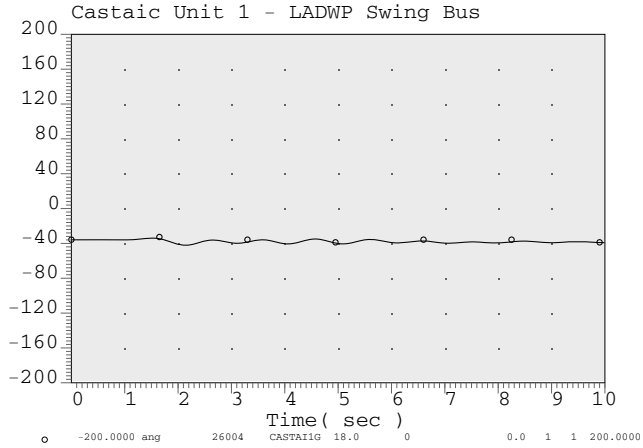






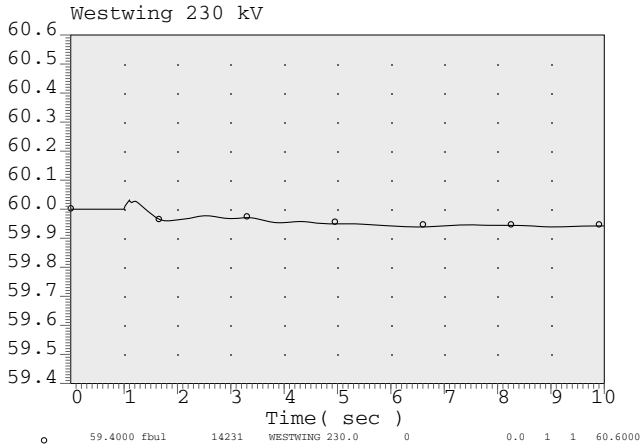


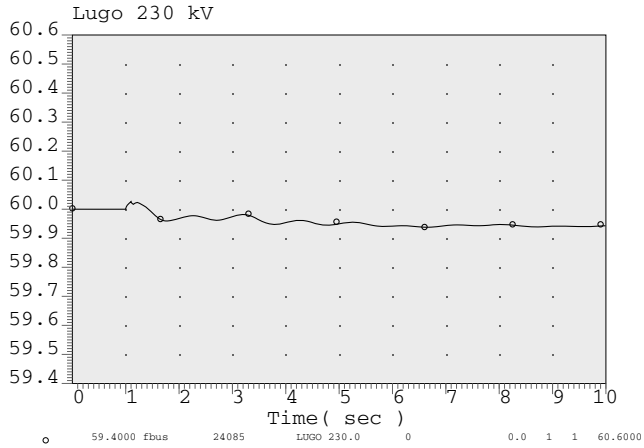


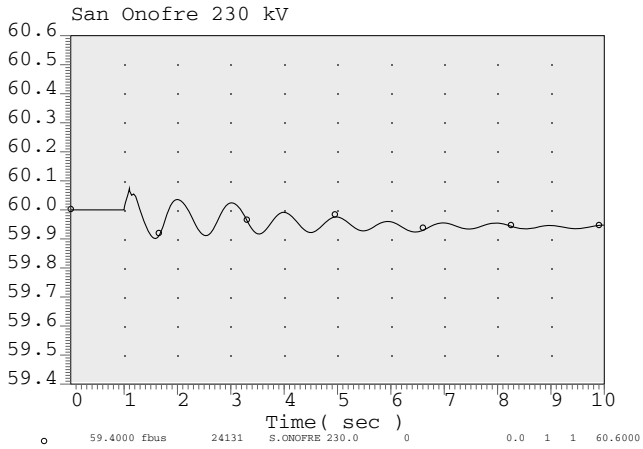


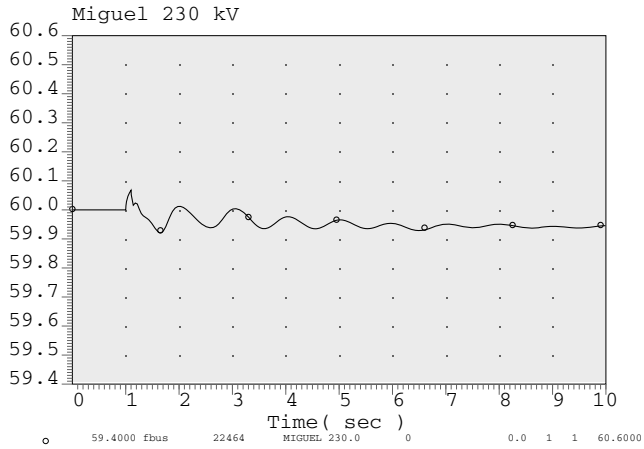
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

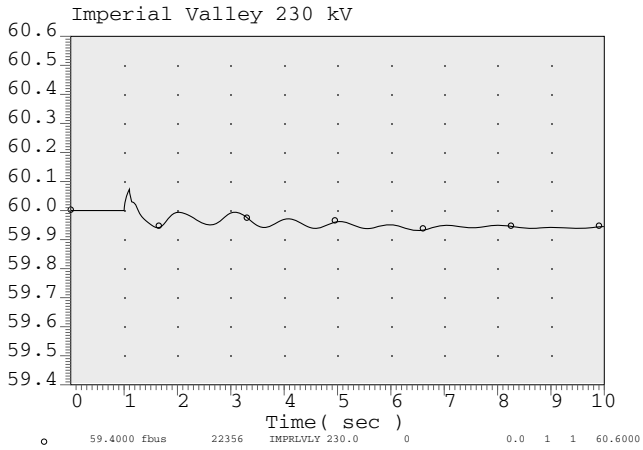
Bus Frequency

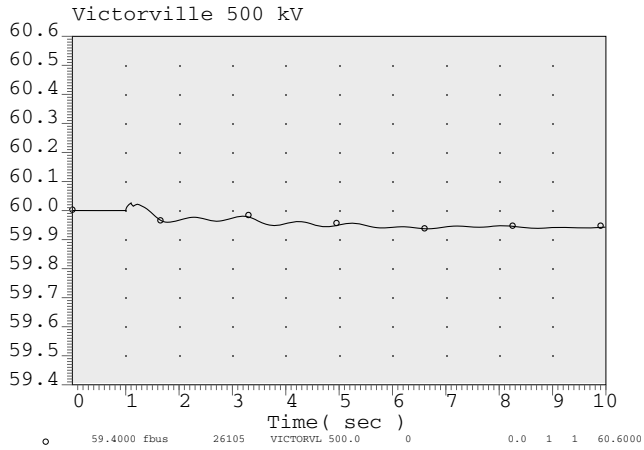






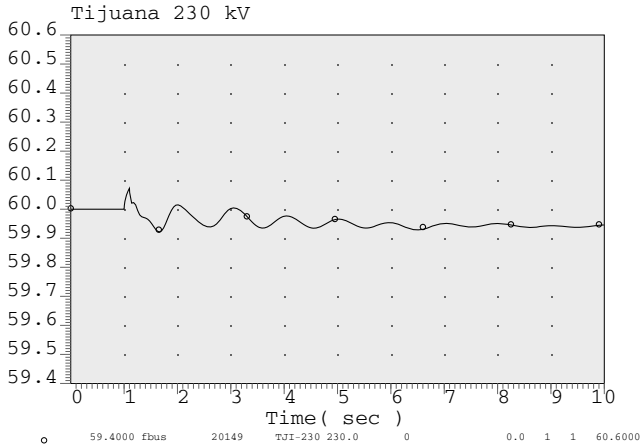


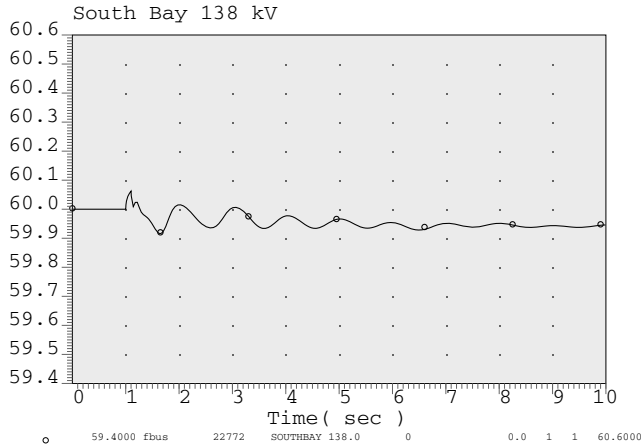


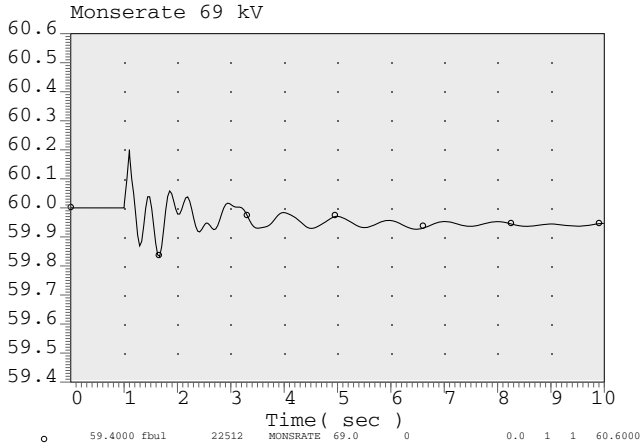


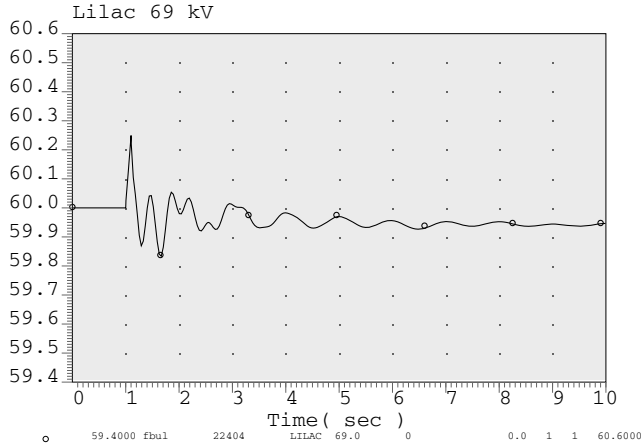
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

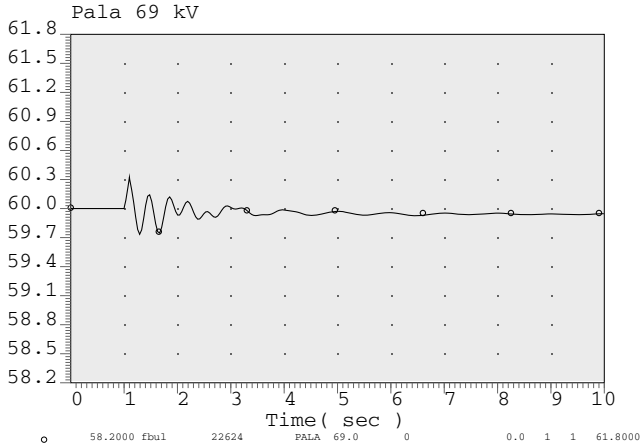
Bus Frequency

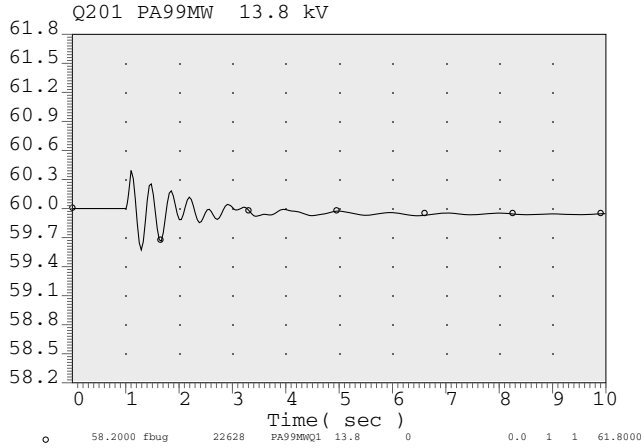






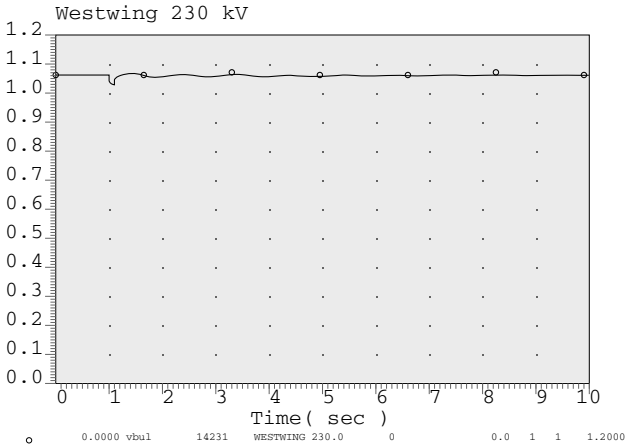


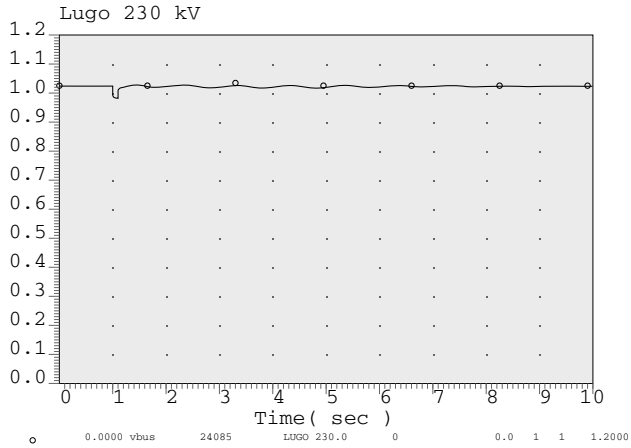


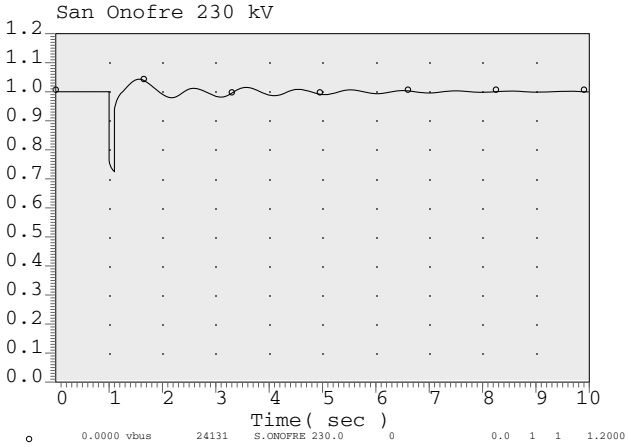


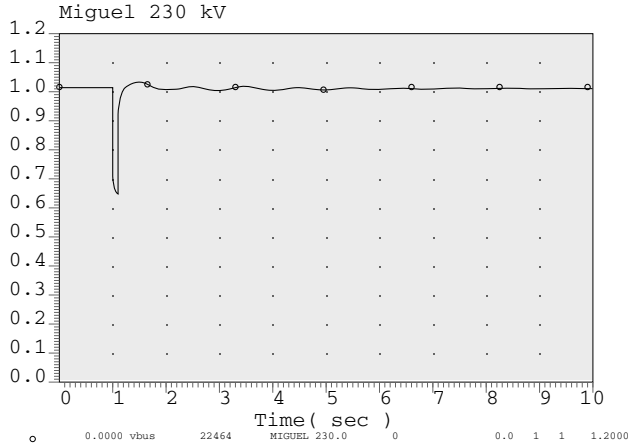
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

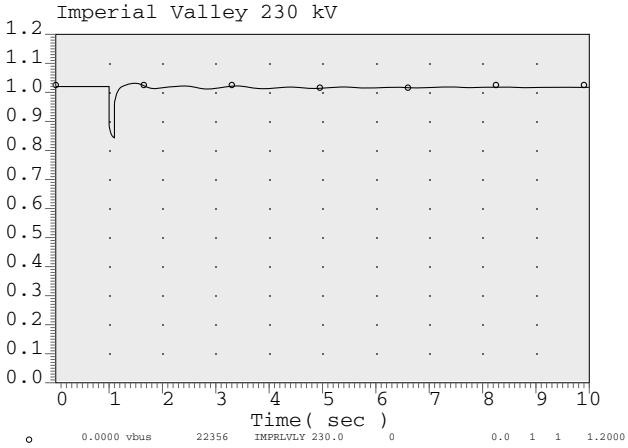
Bus Voltage

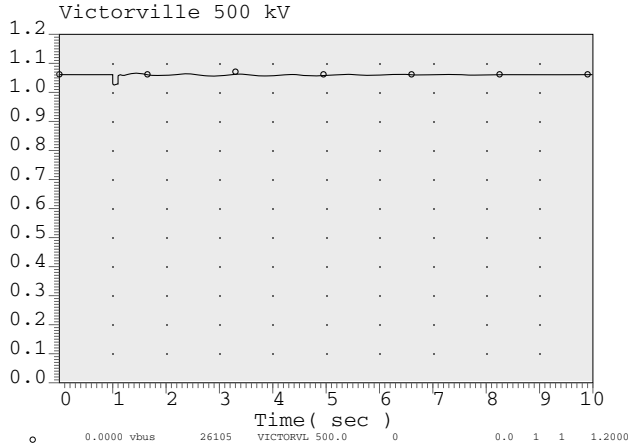






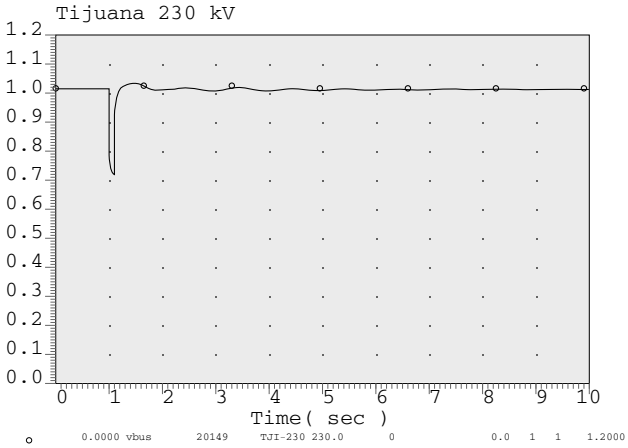


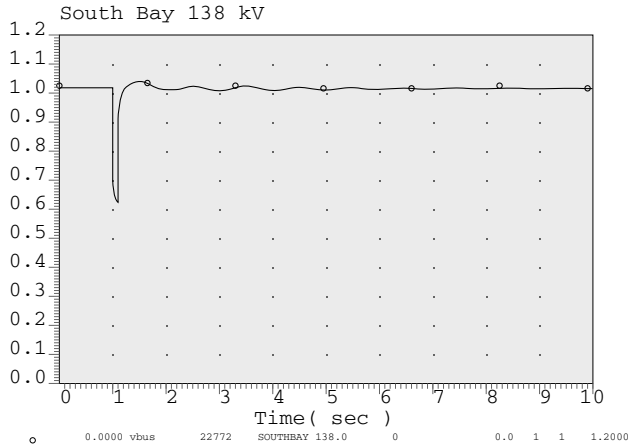


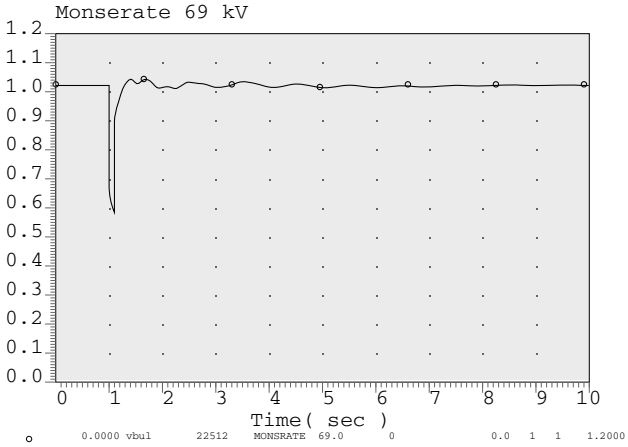


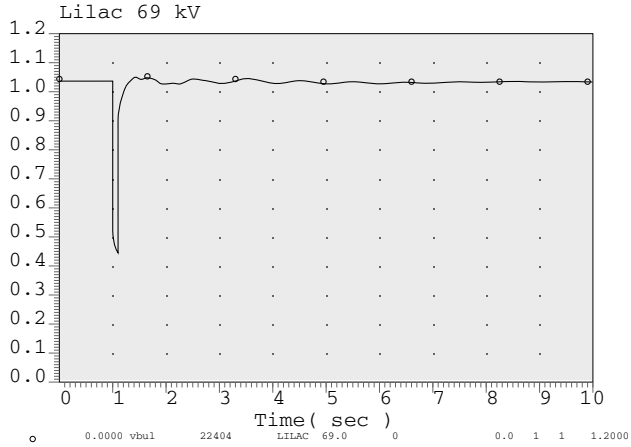
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

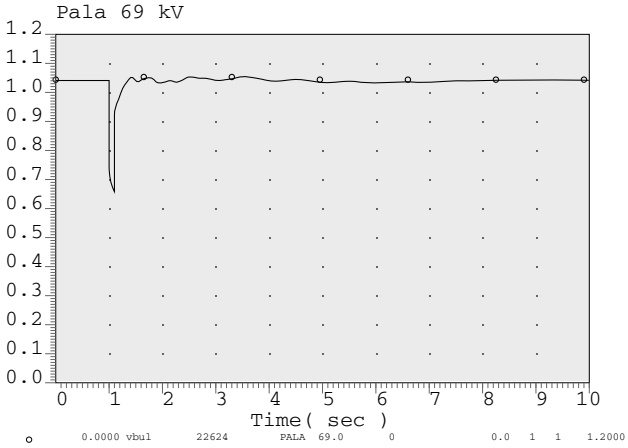
Bus Voltage

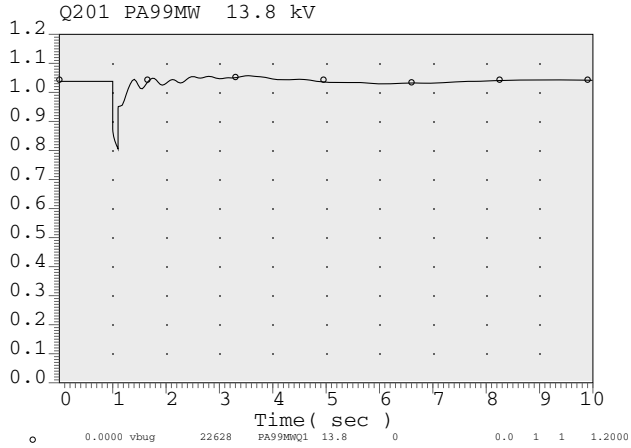






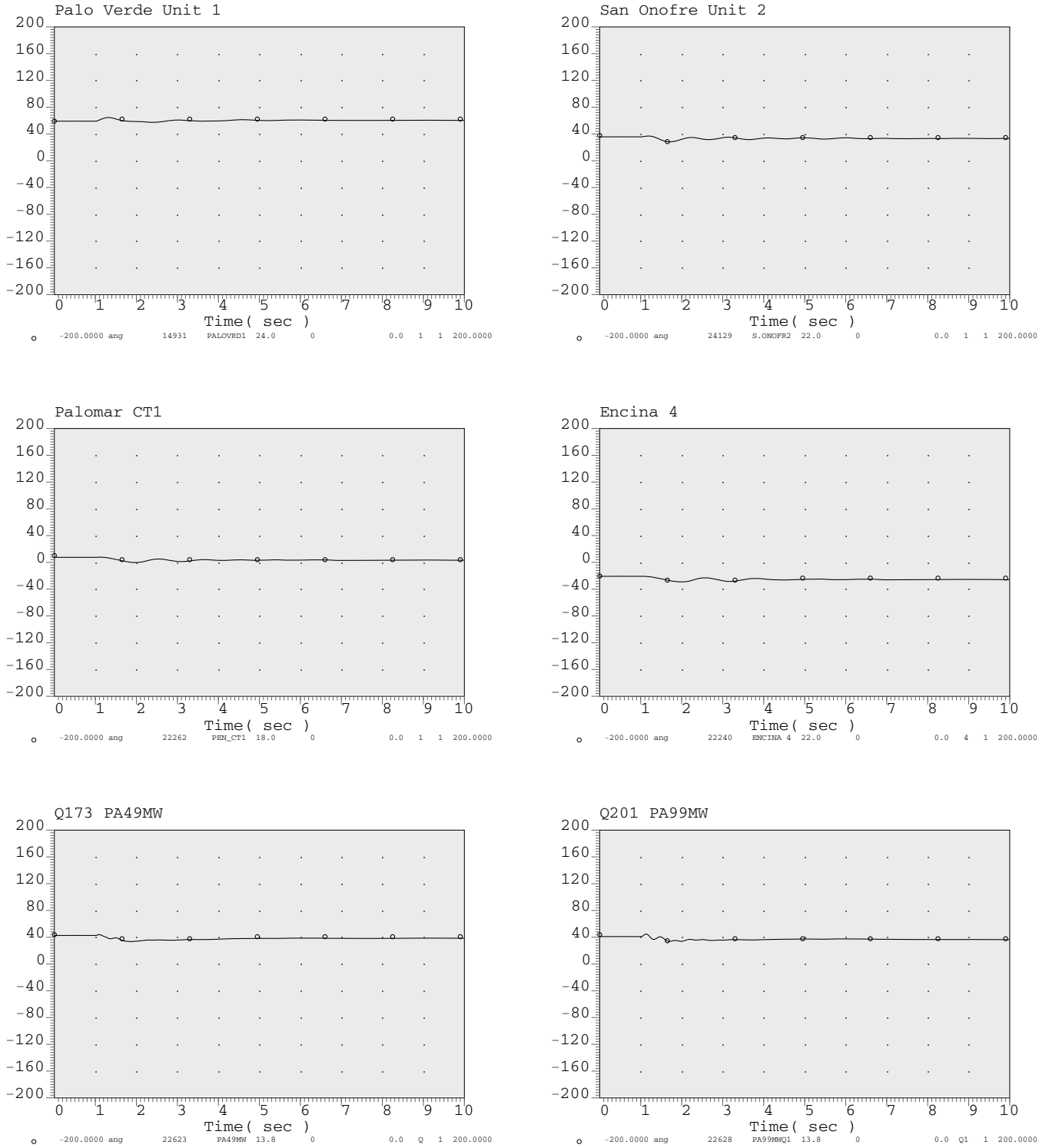






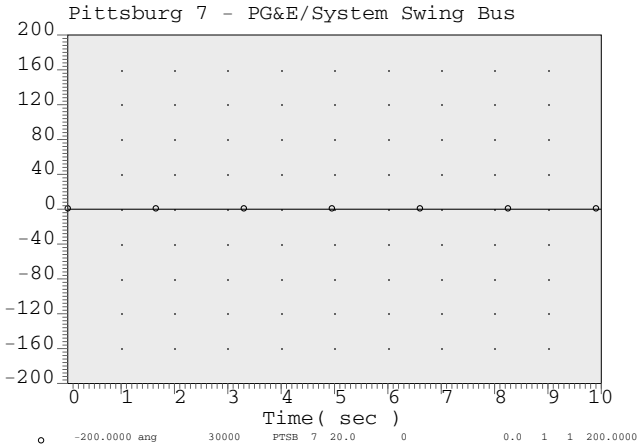
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

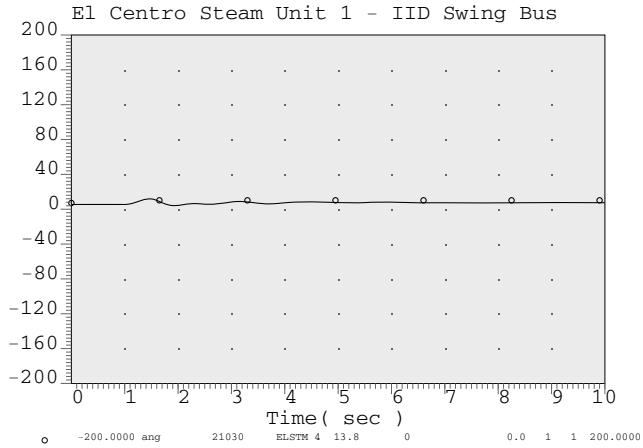
Relative Rotor Angle

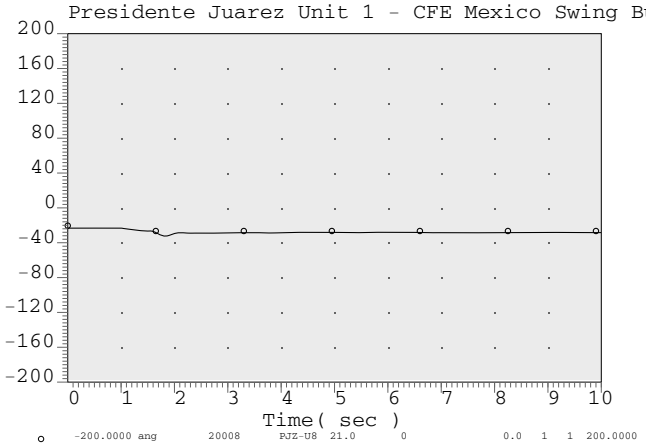


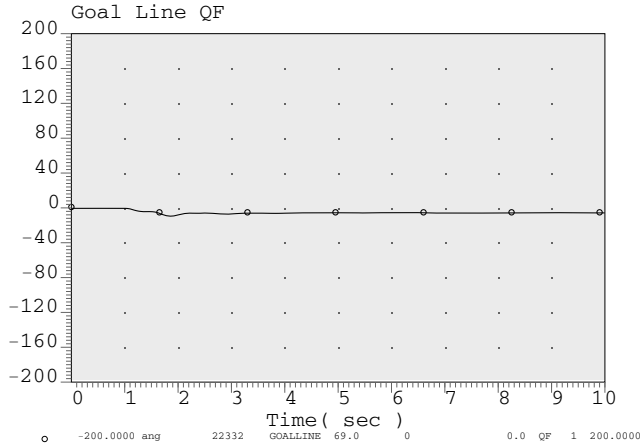
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

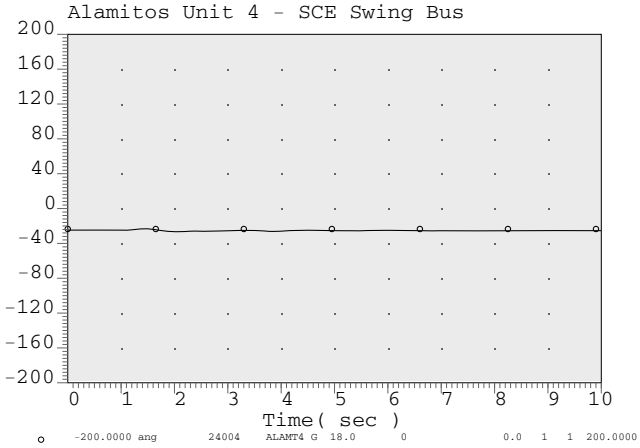
Relative Rotor Angle

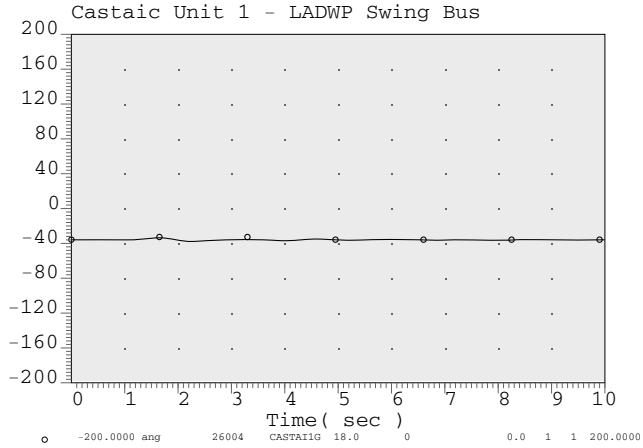






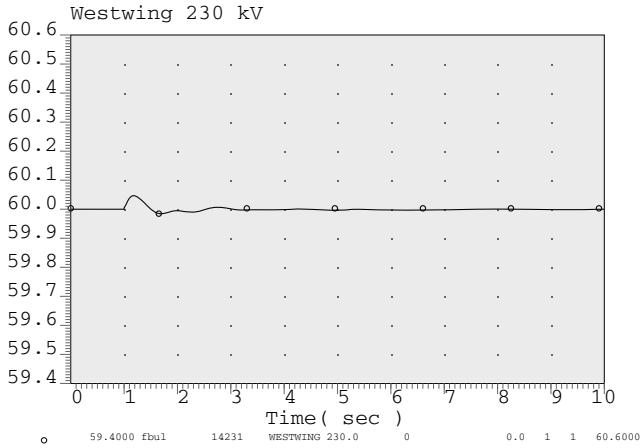


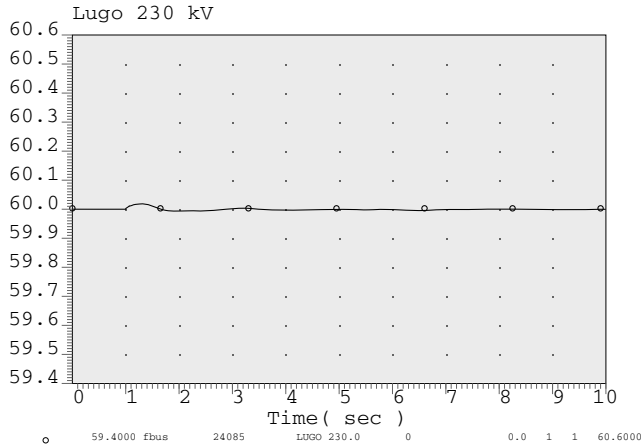


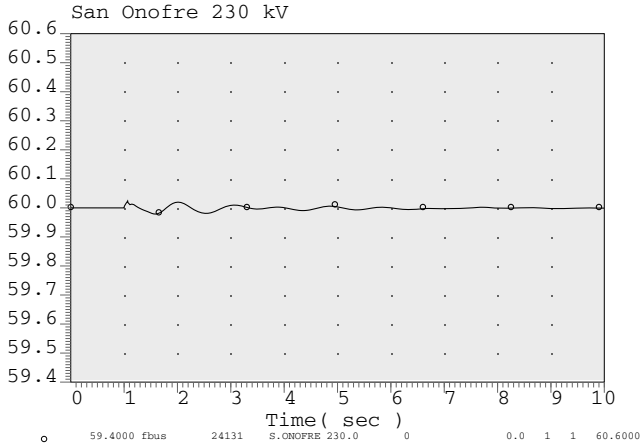


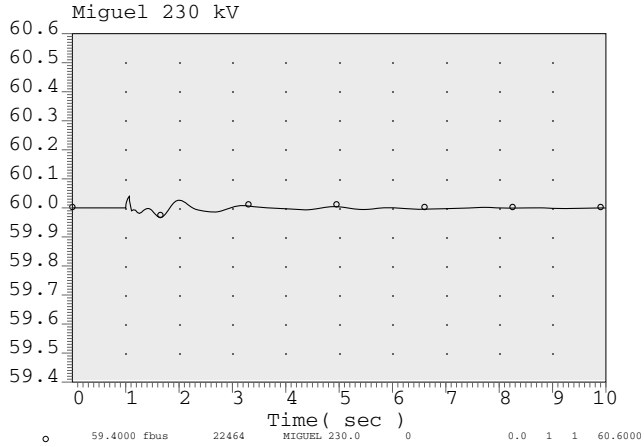
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

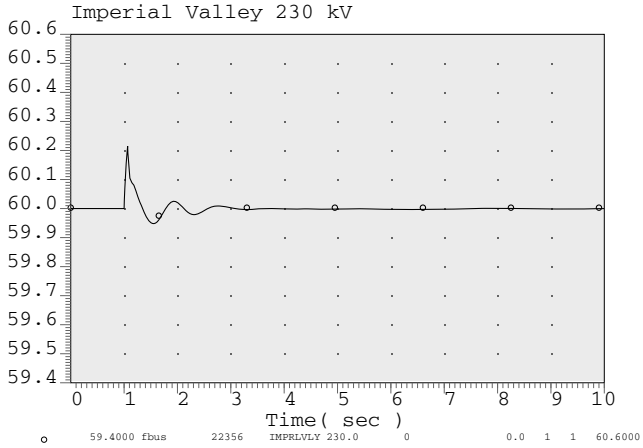
Bus Frequency

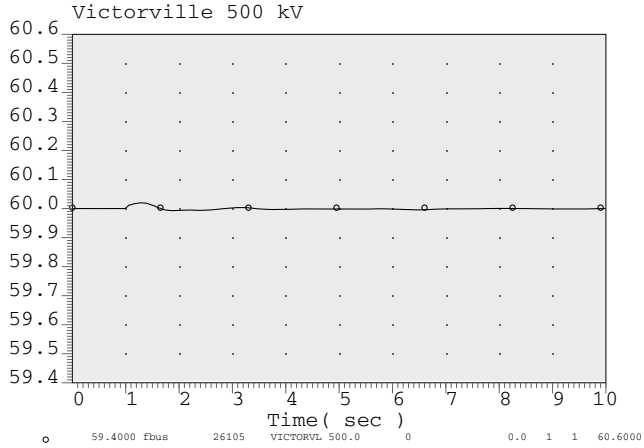






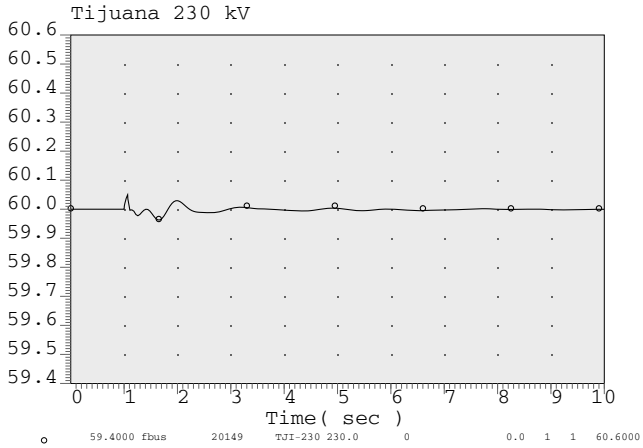


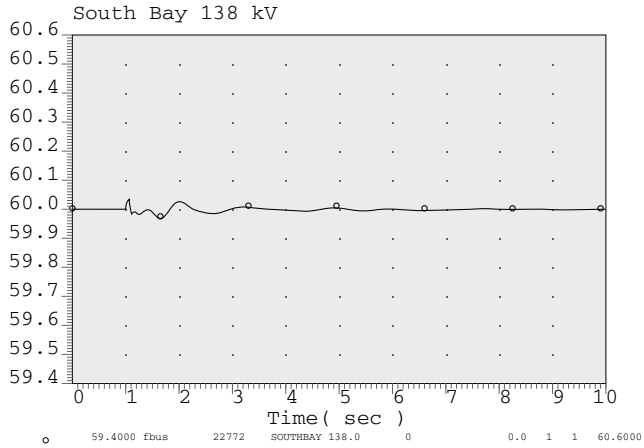


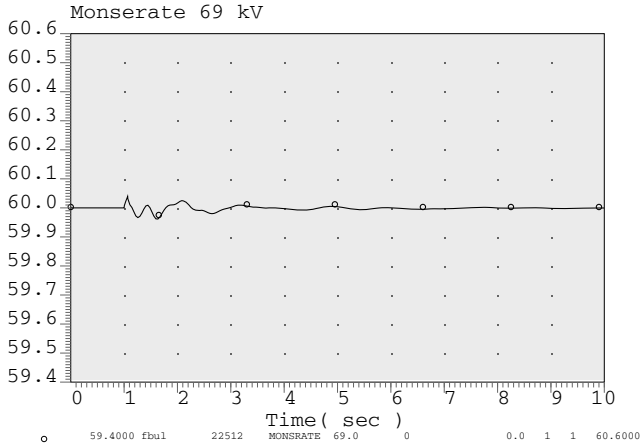


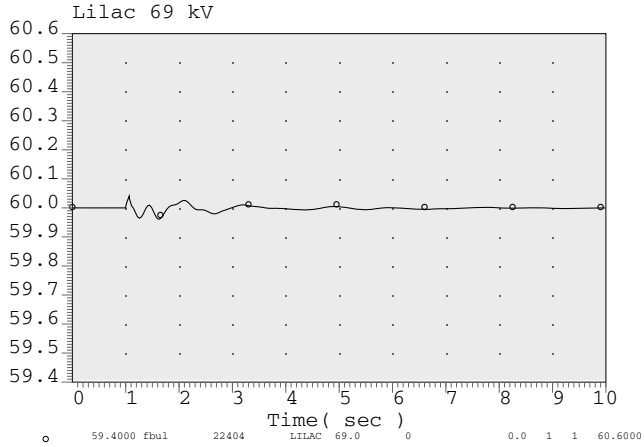
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

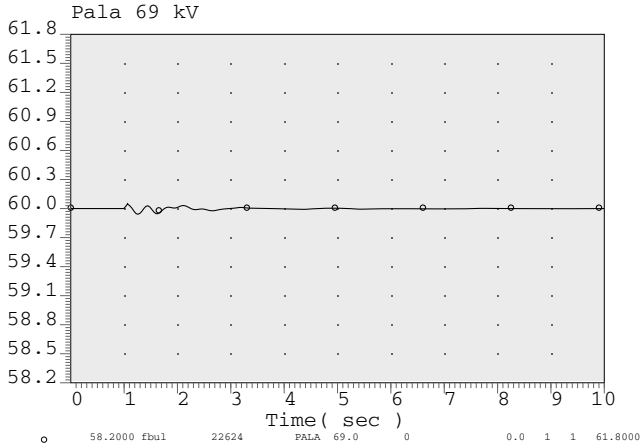
Bus Frequency

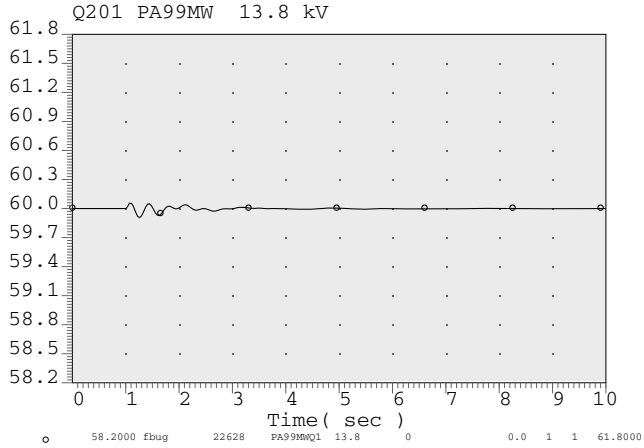






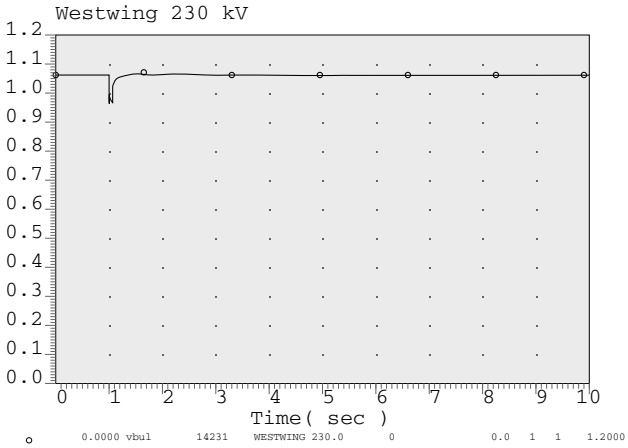


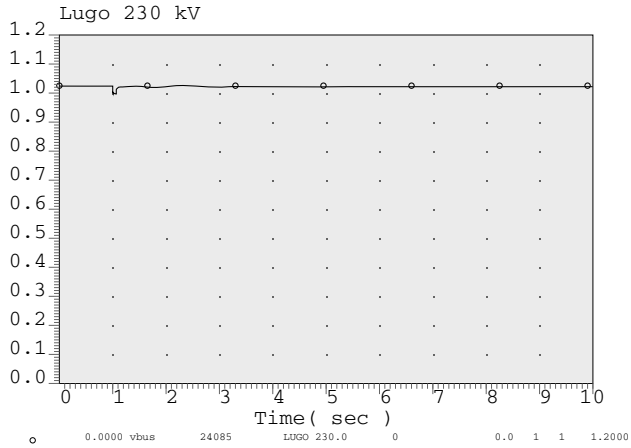


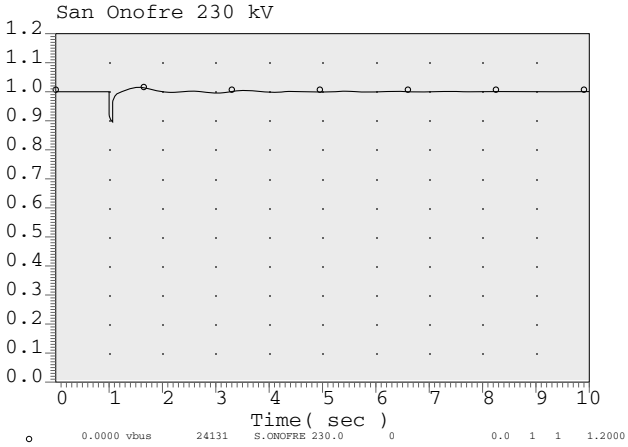


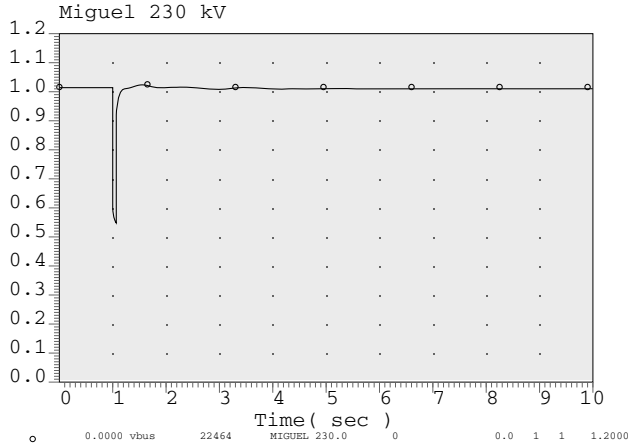
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

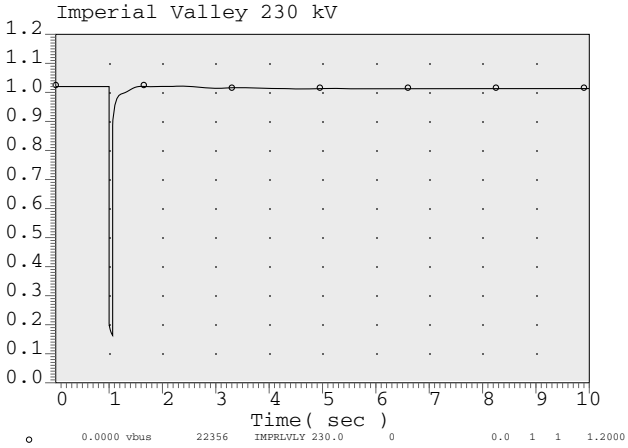
Bus Voltage

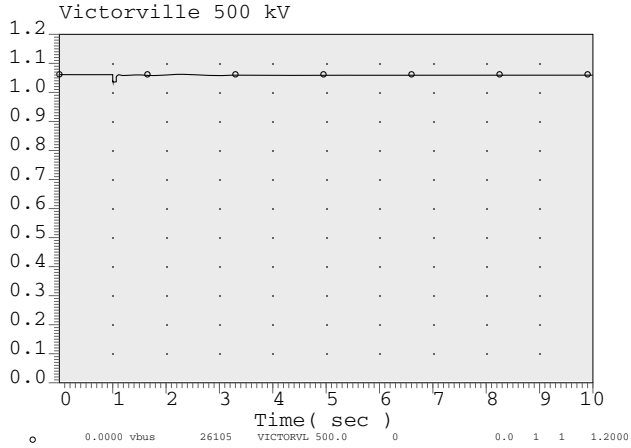






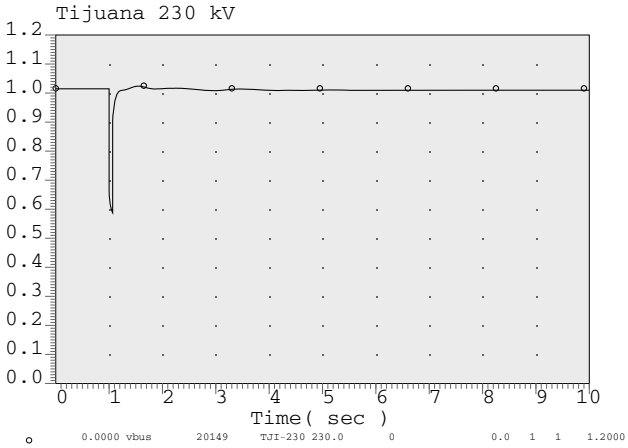


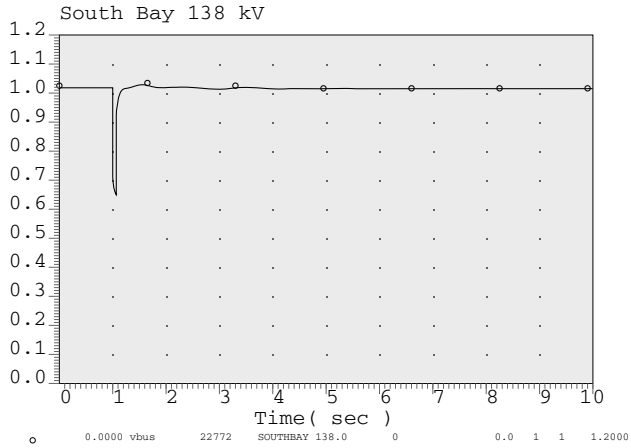


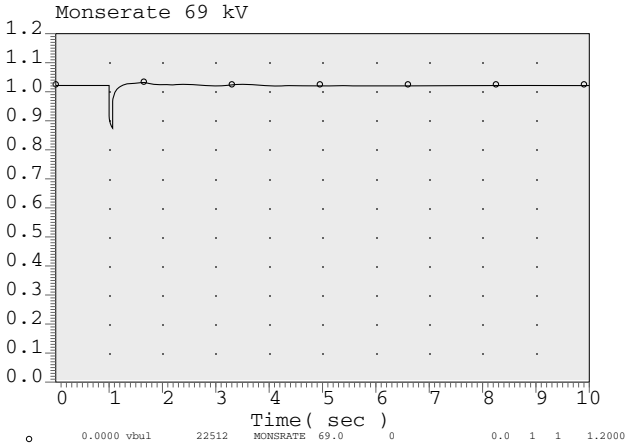


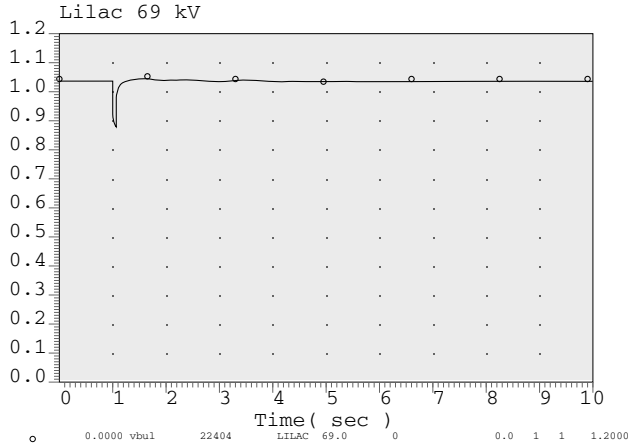
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

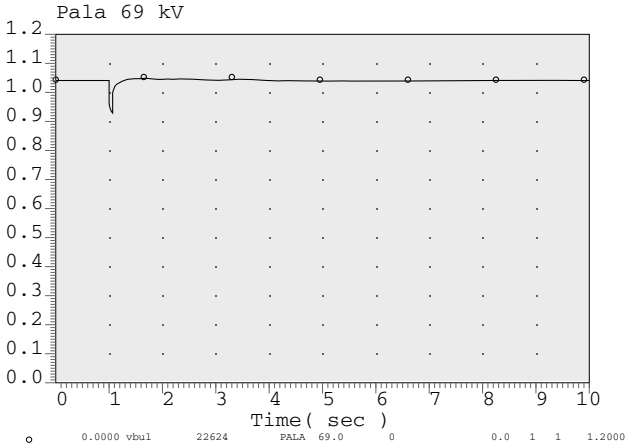
Bus Voltage

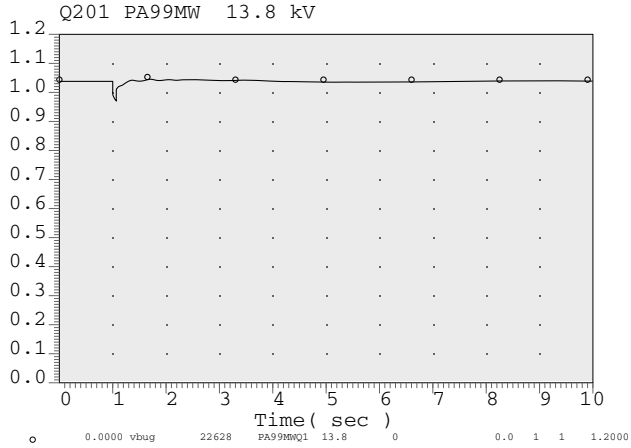






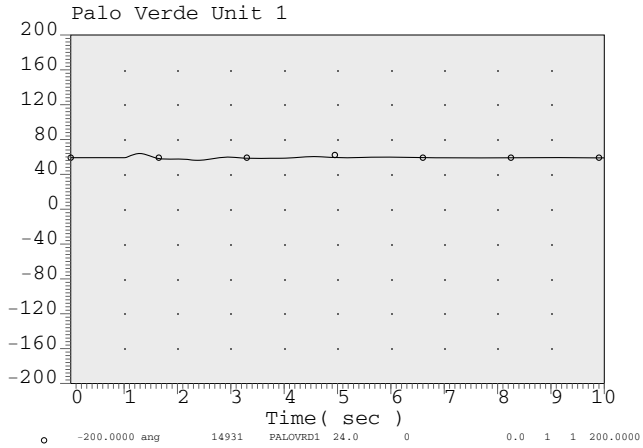


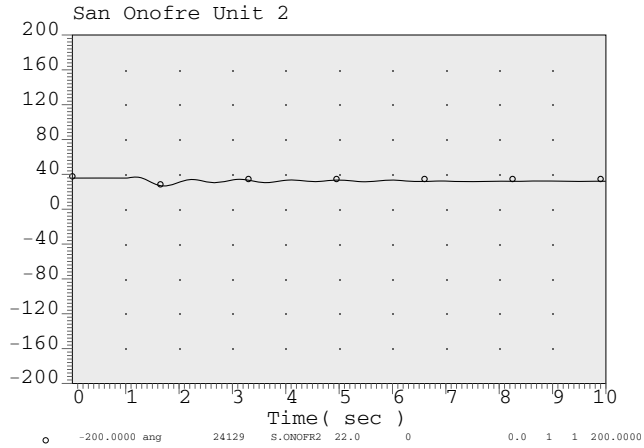


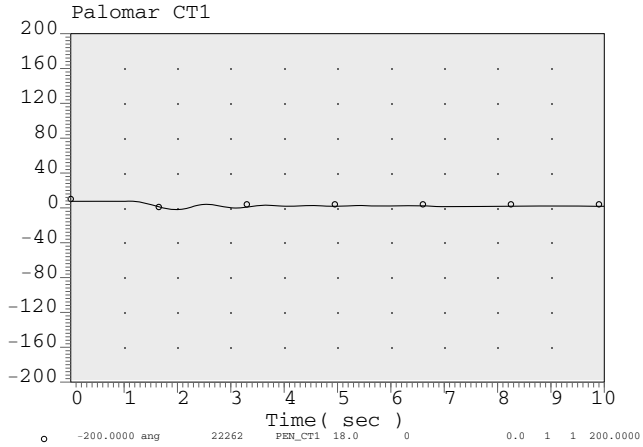


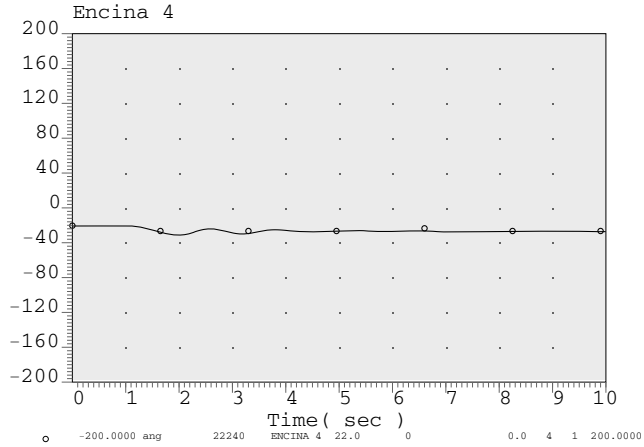
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

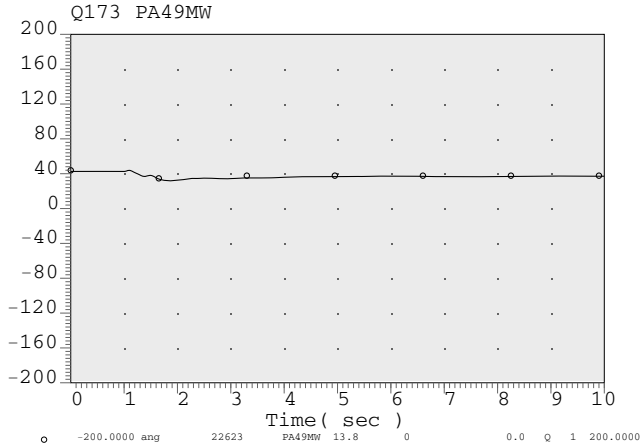
Relative Rotor Angle

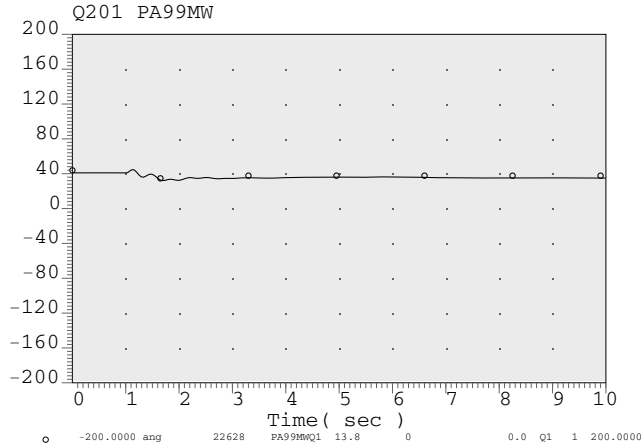






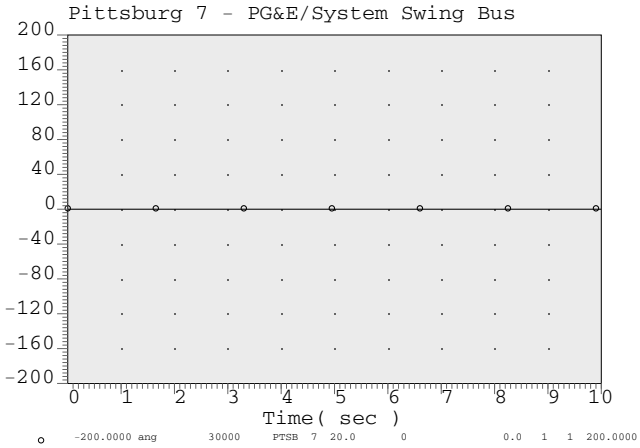


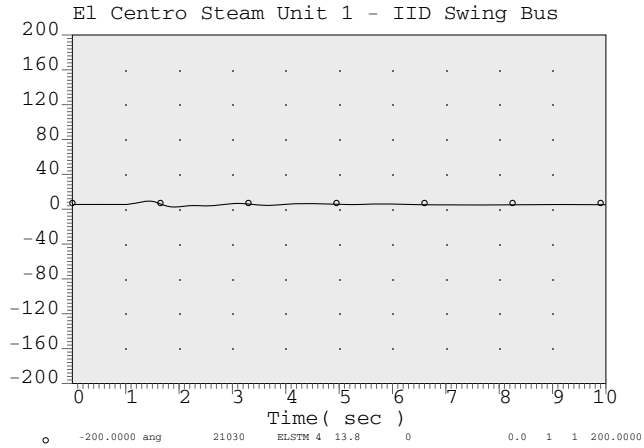


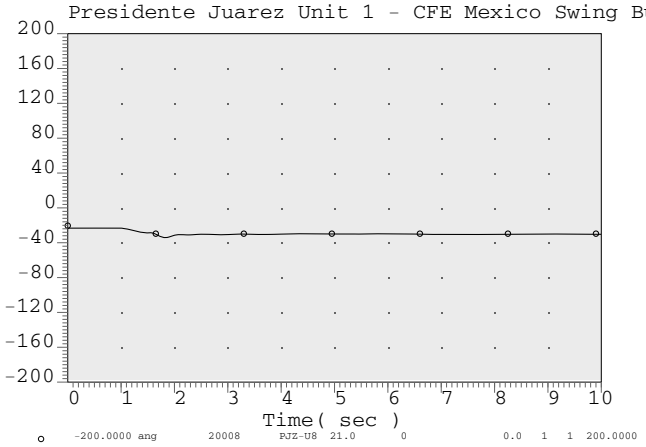


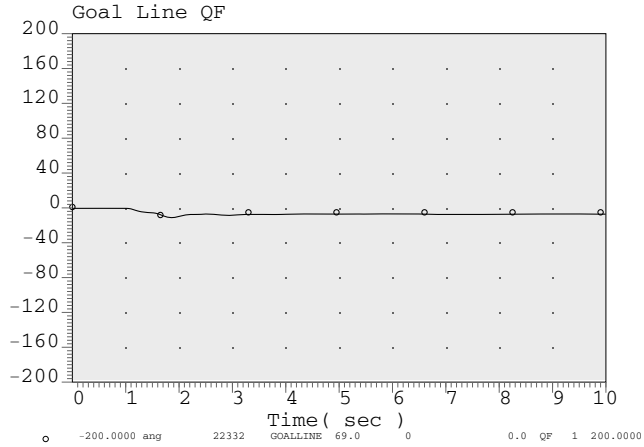
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

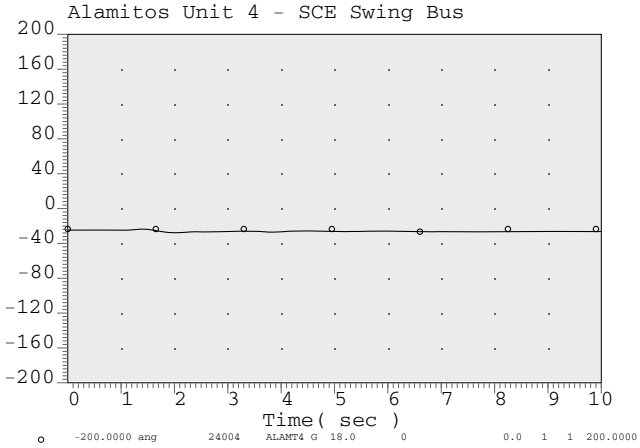
Relative Rotor Angle

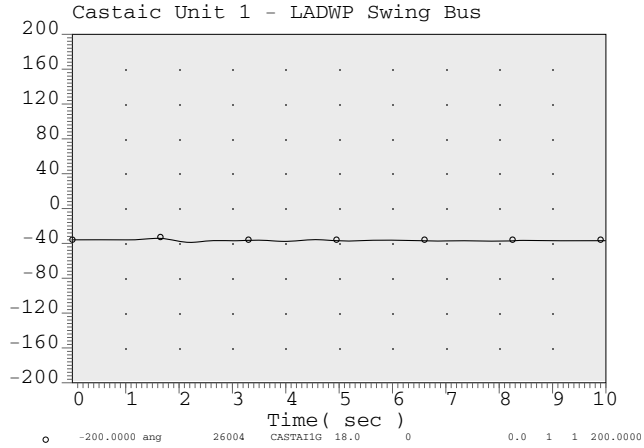






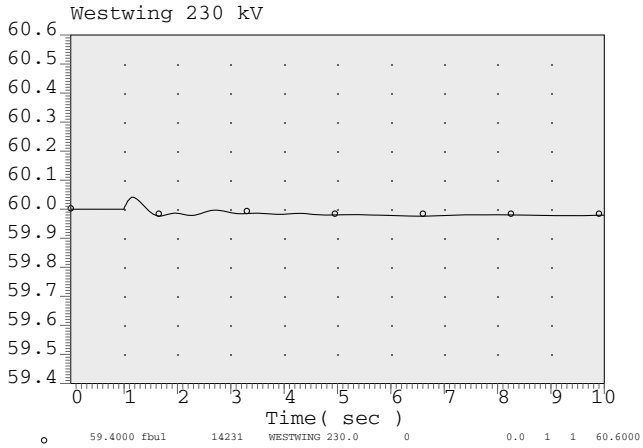


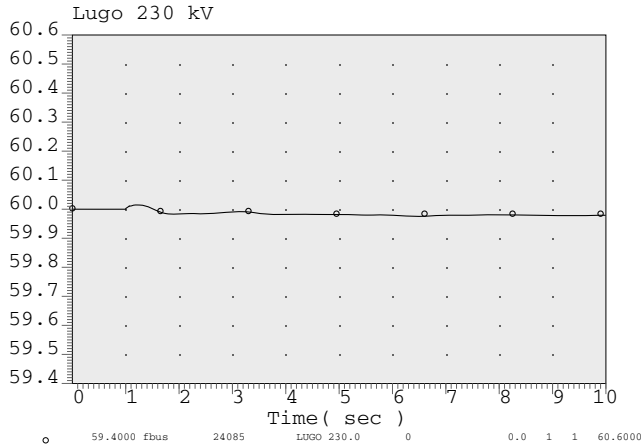


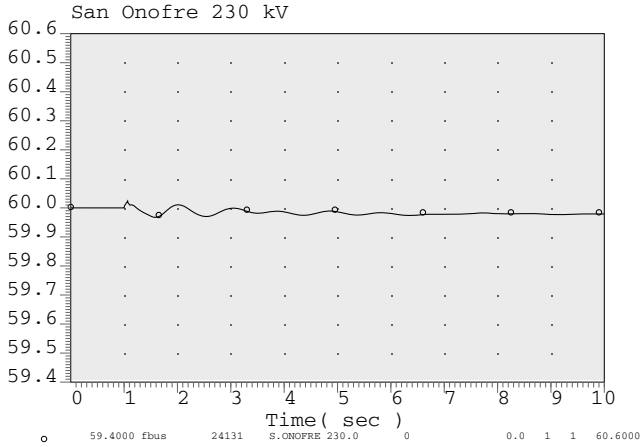


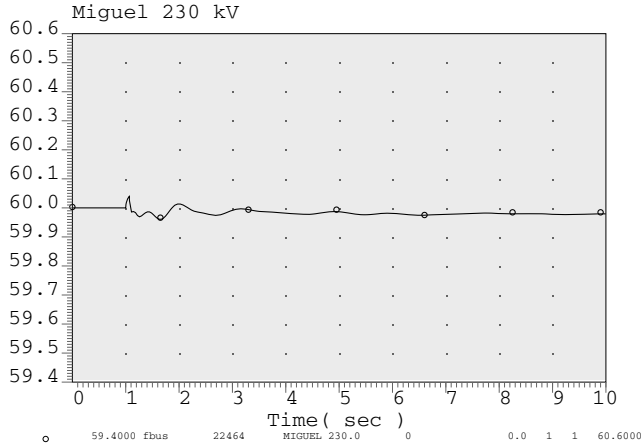
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

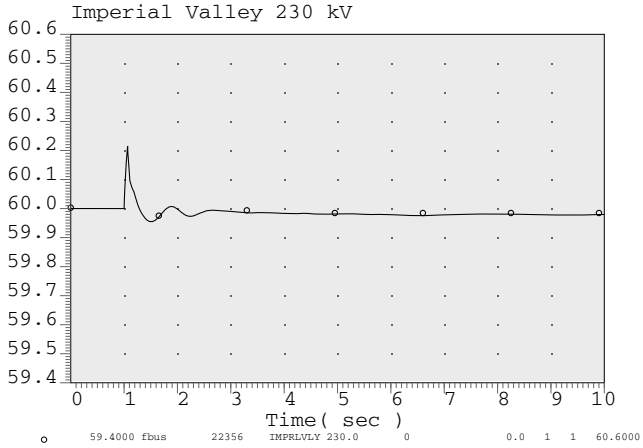
Bus Frequency

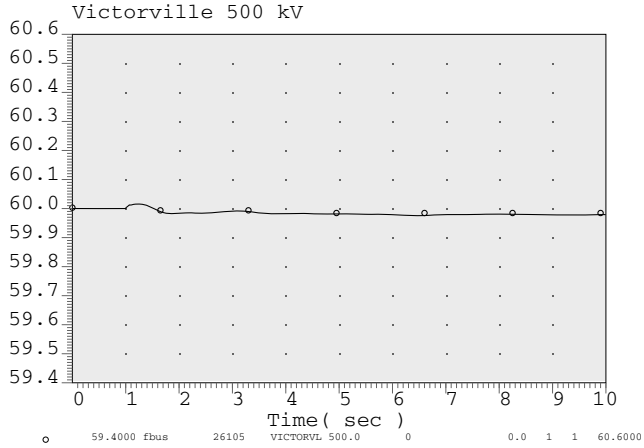






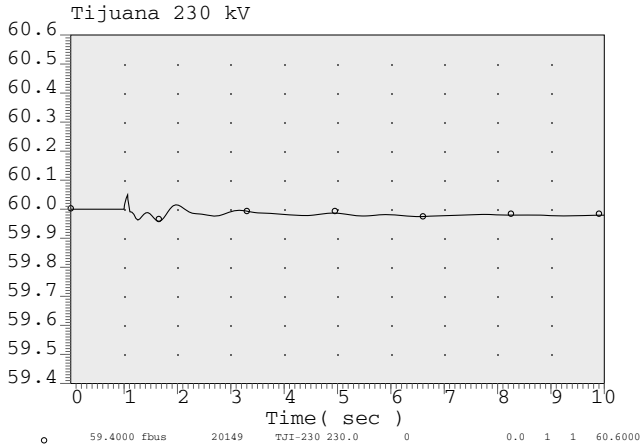


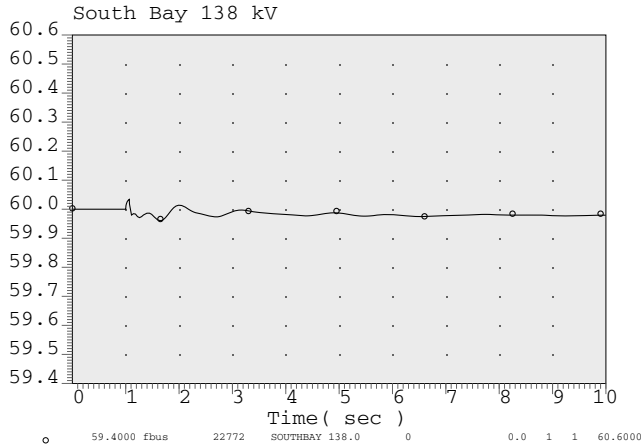


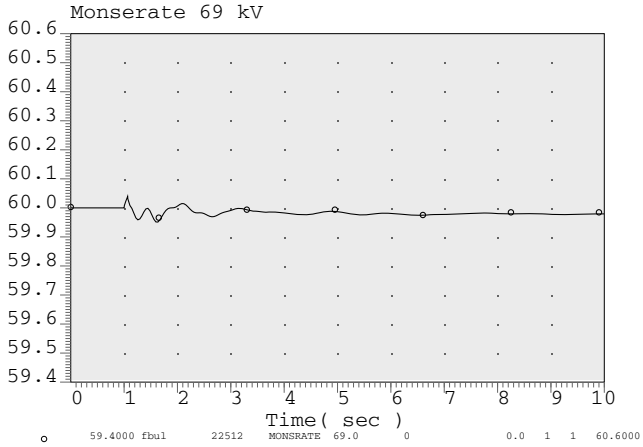


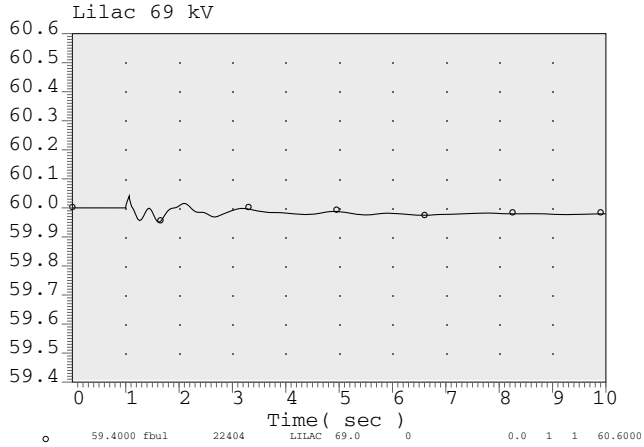
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

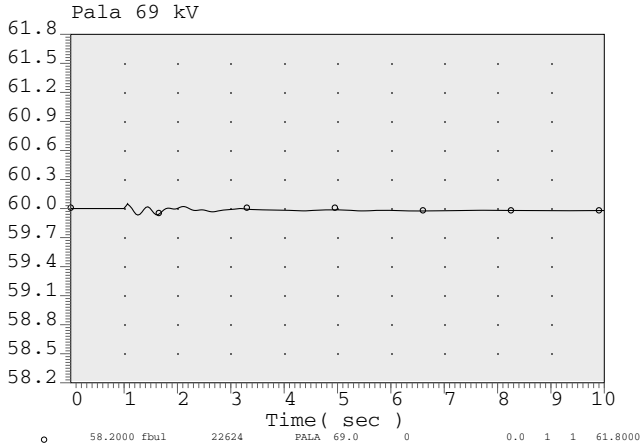
Bus Frequency

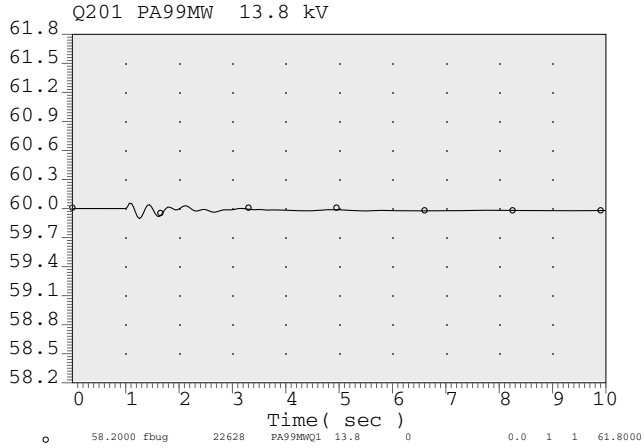






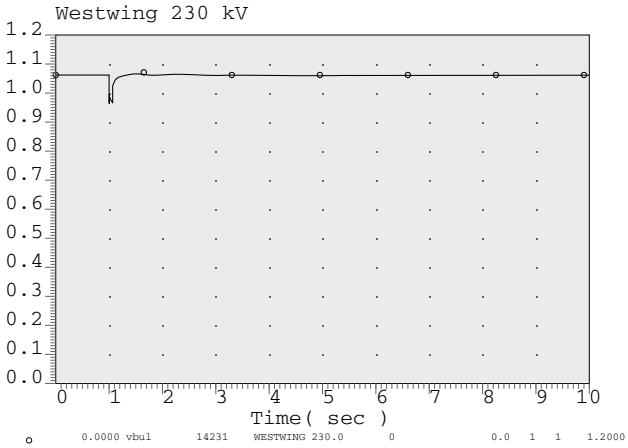


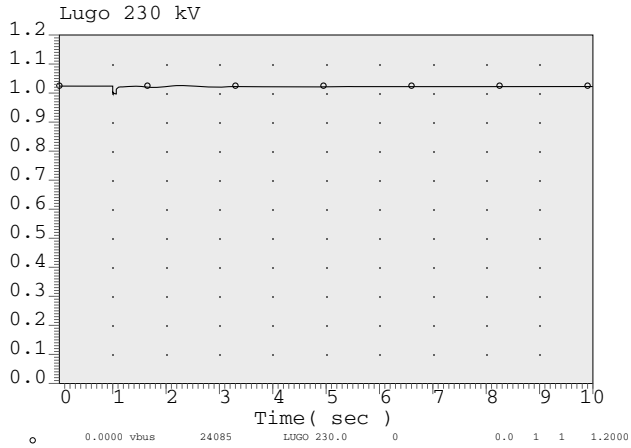


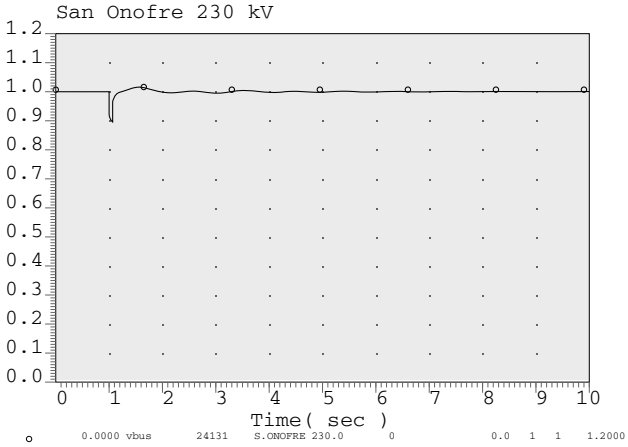


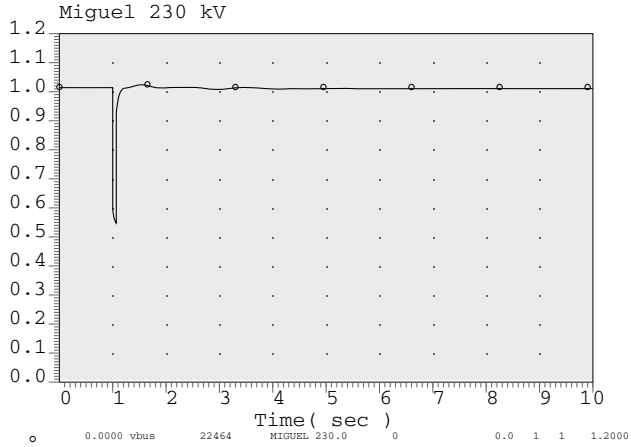
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

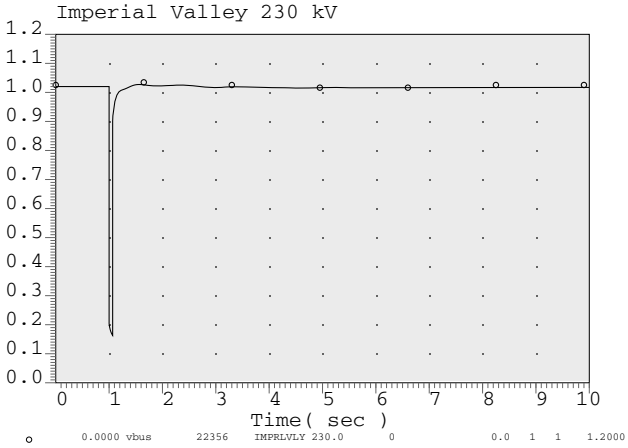
Bus Voltage

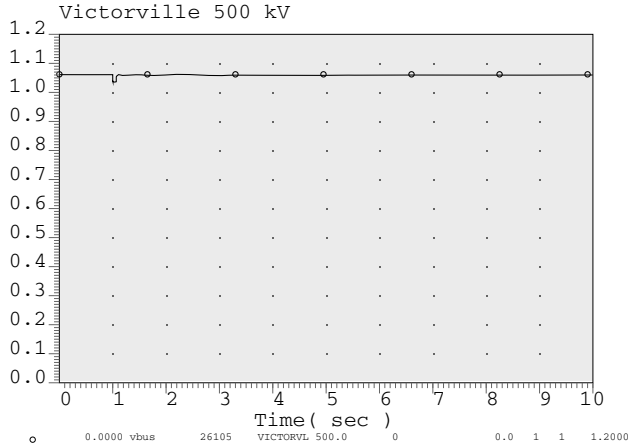






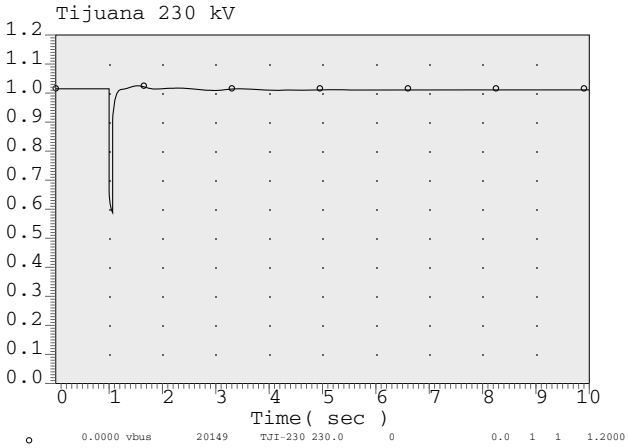


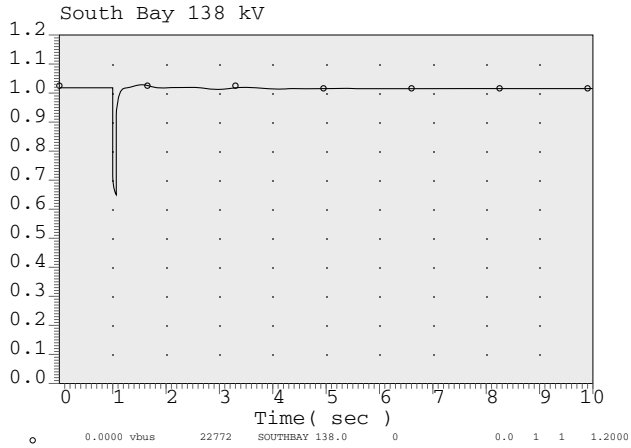


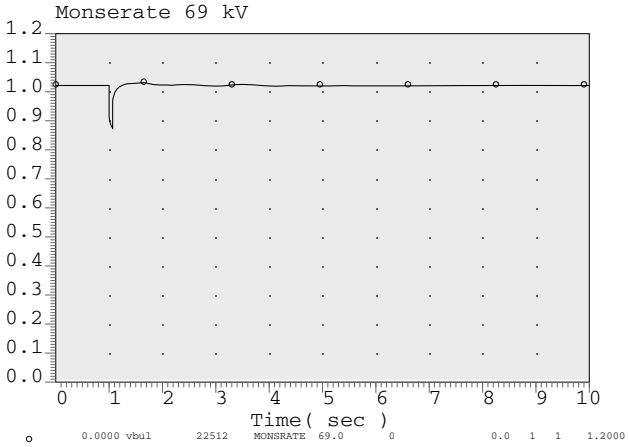


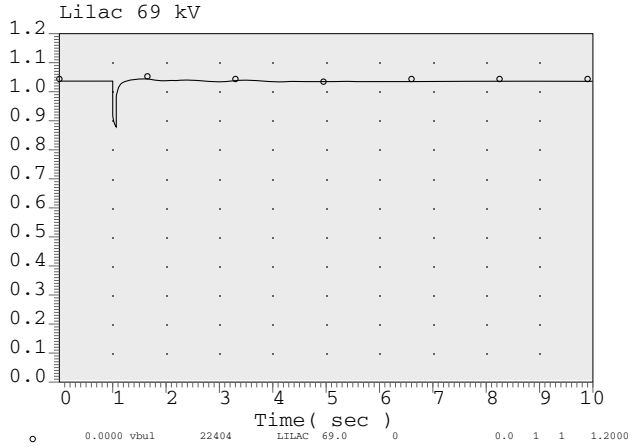
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

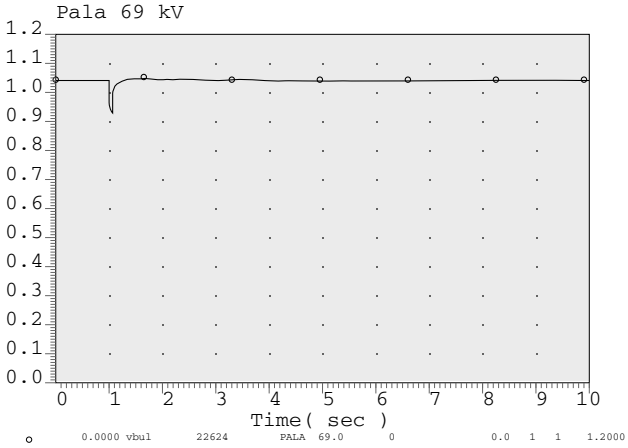
Bus Voltage

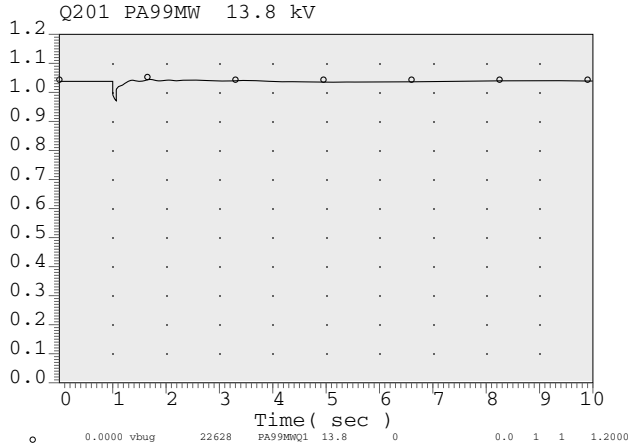






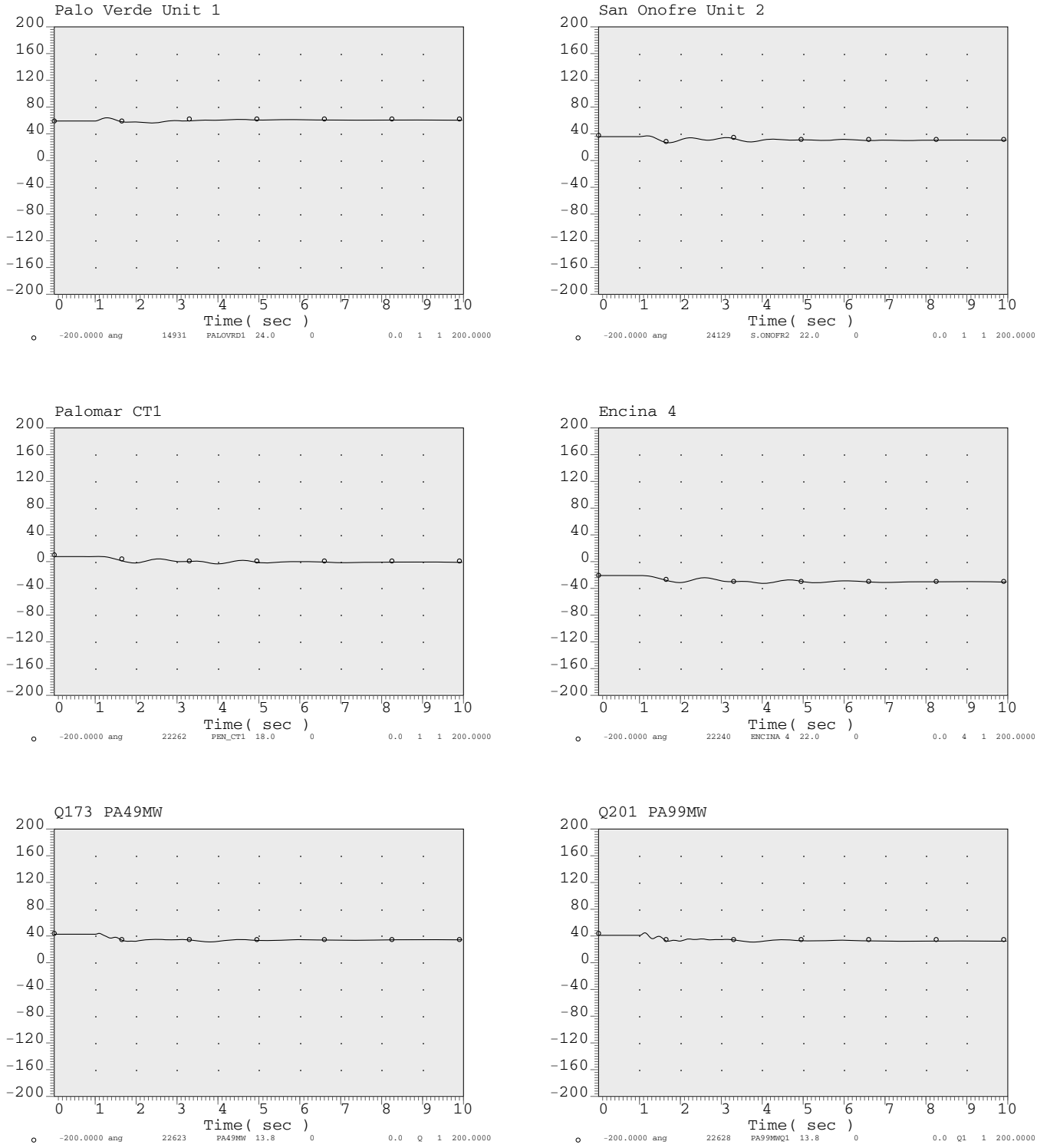






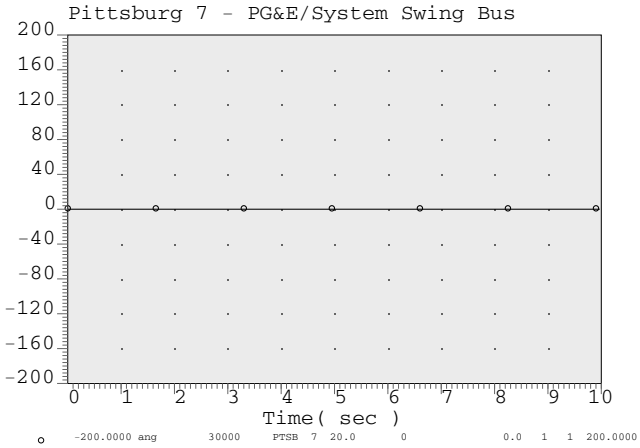
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

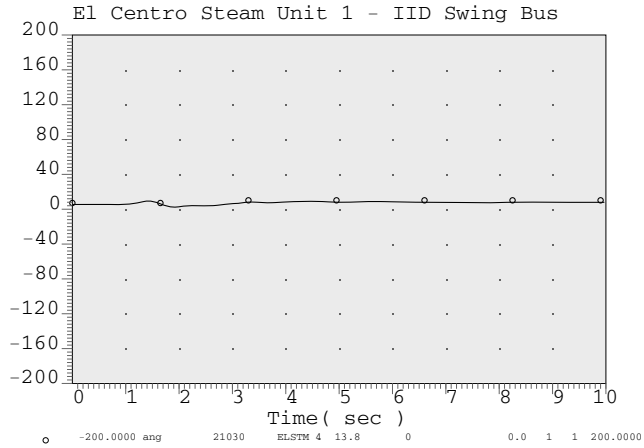
Relative Rotor Angle

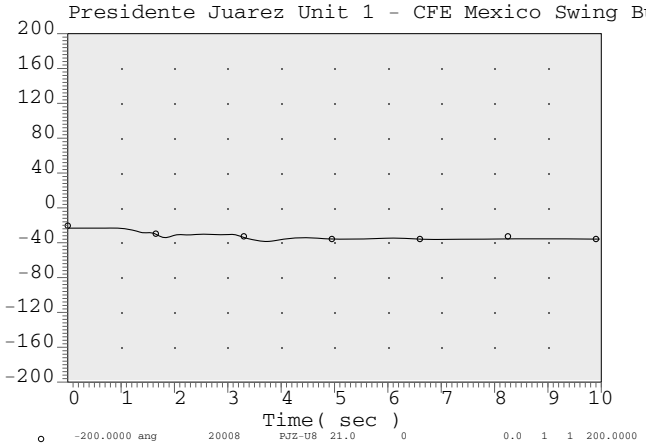


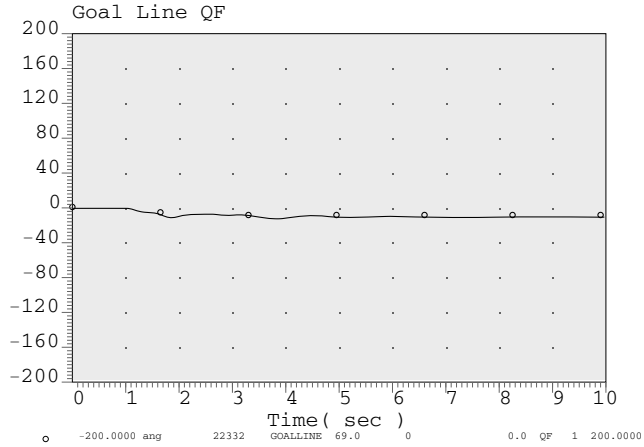
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

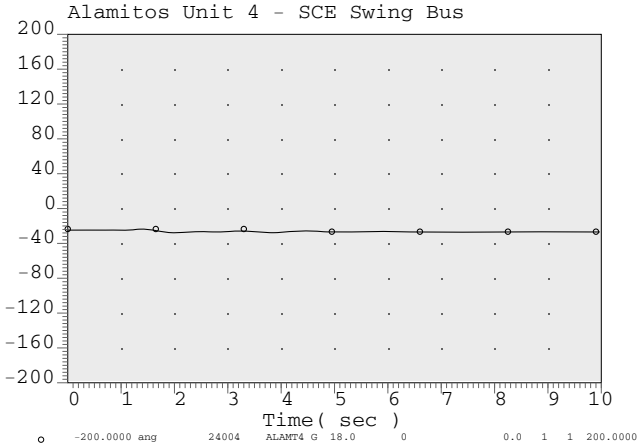
Relative Rotor Angle

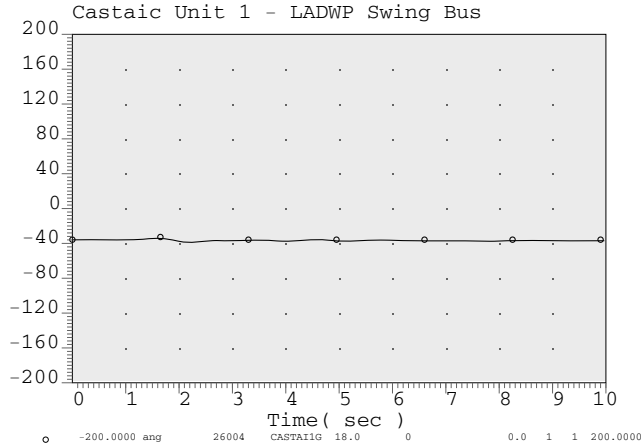






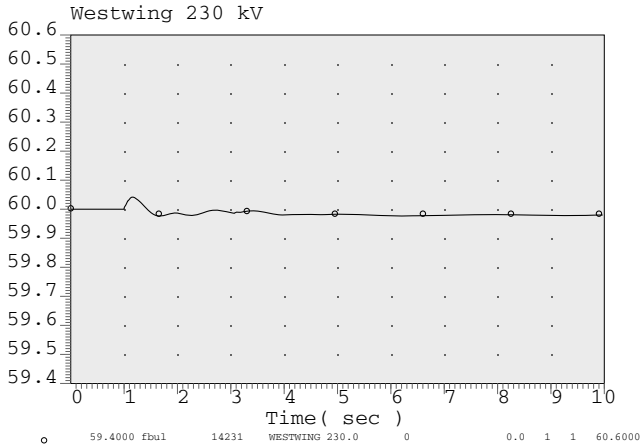


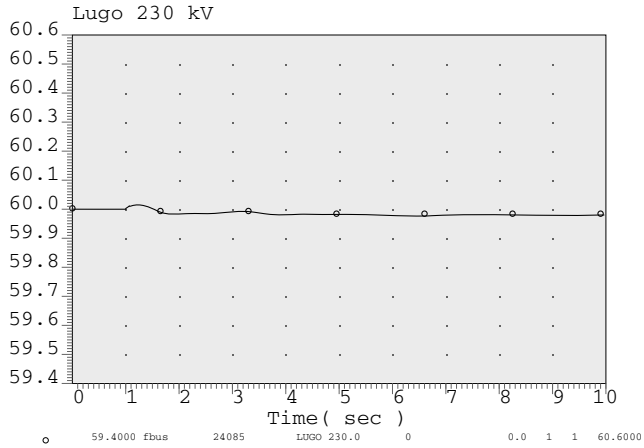


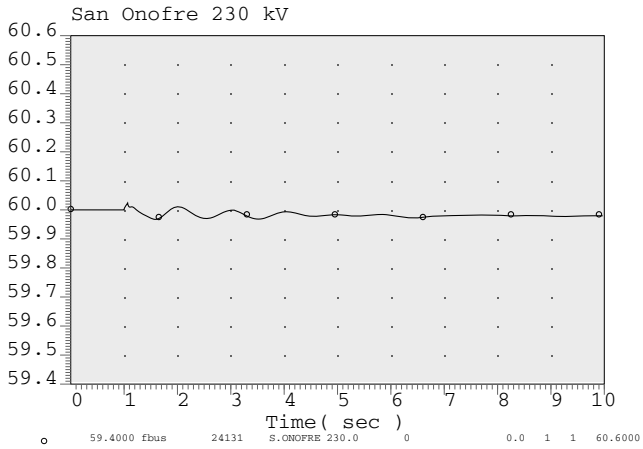


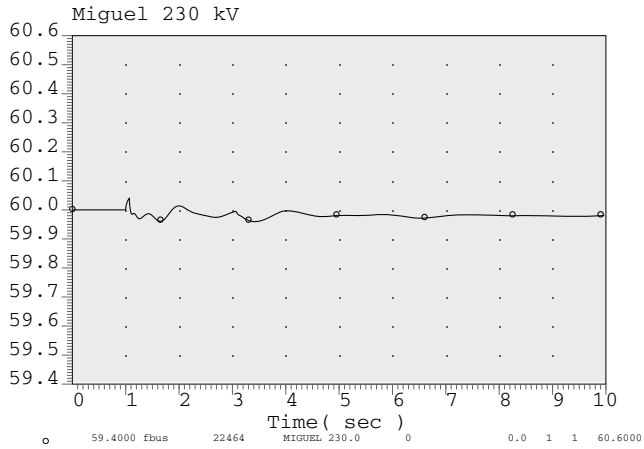
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

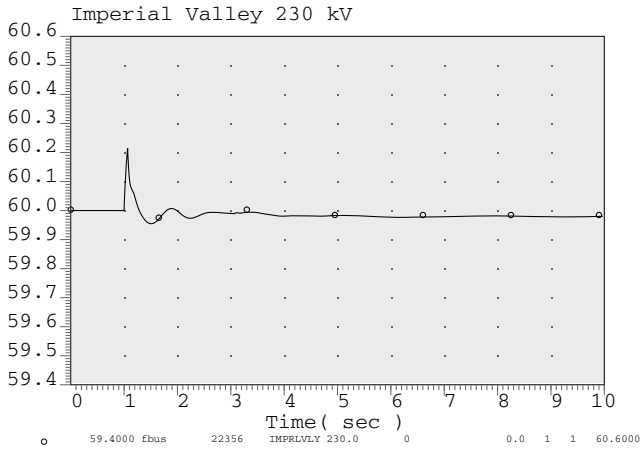
Bus Frequency

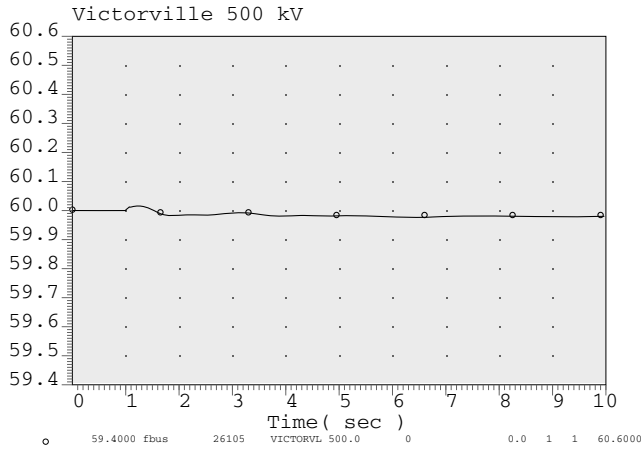






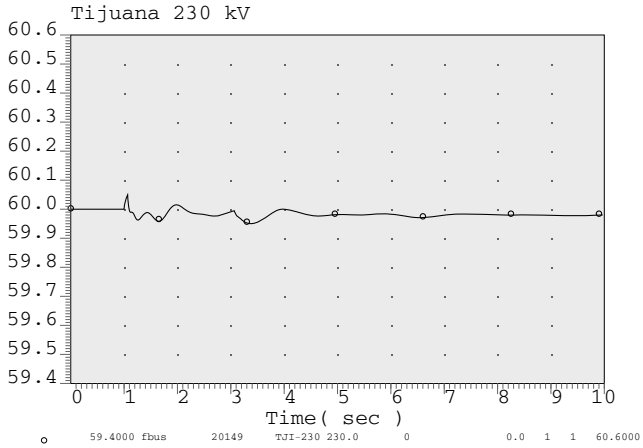


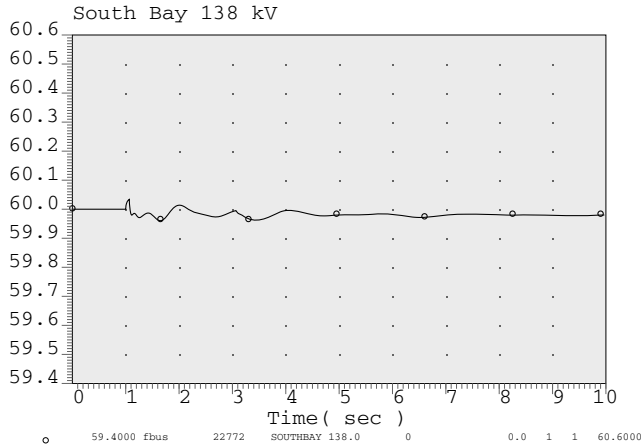


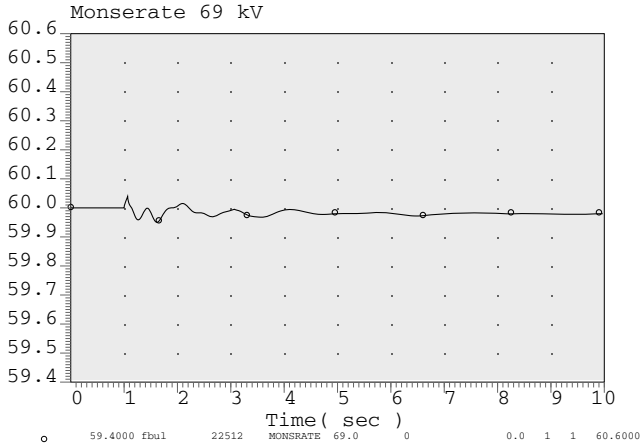


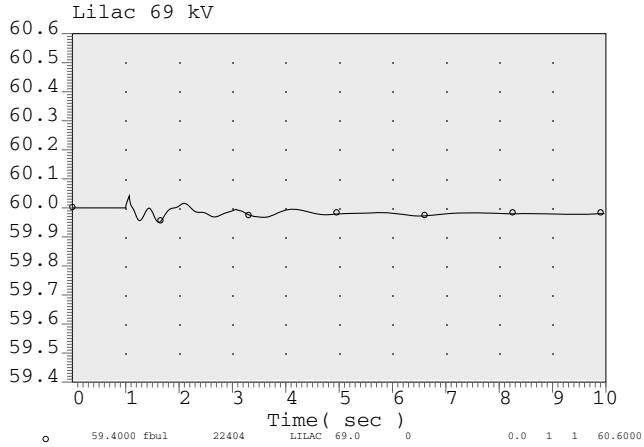
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

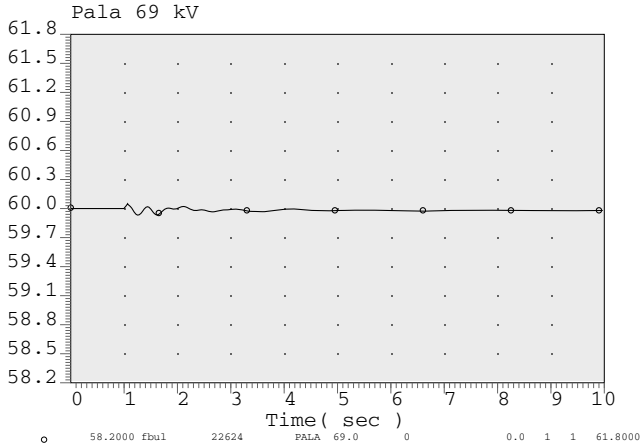
Bus Frequency

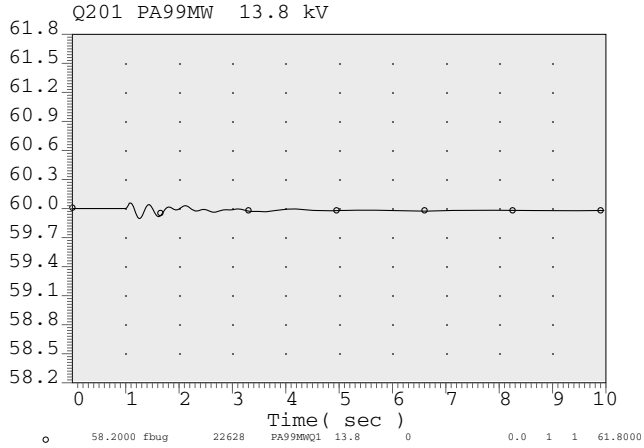






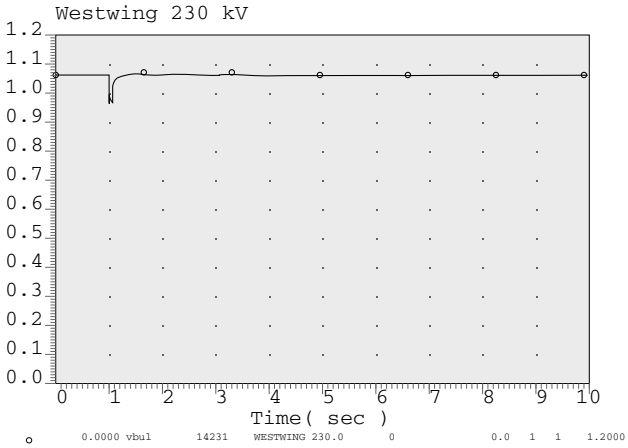


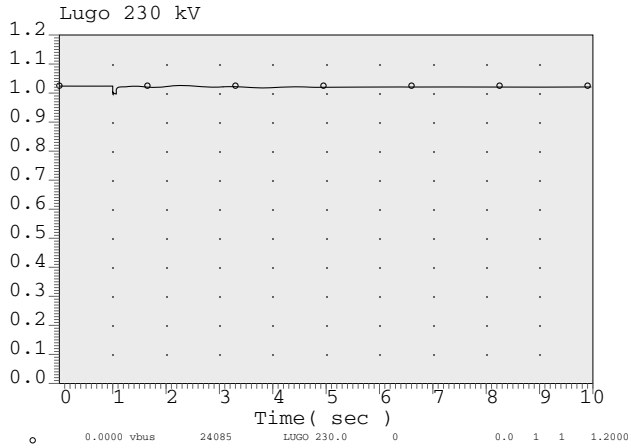


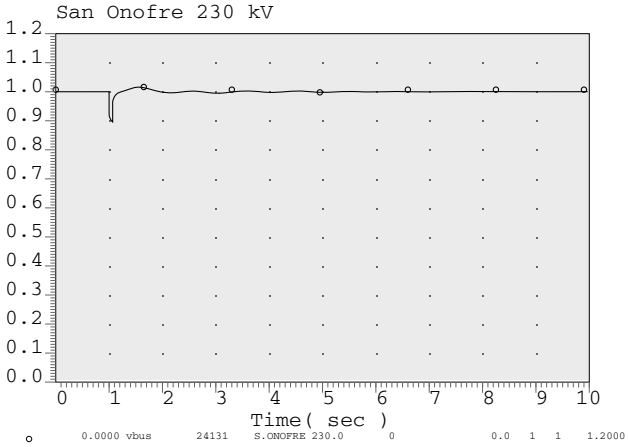


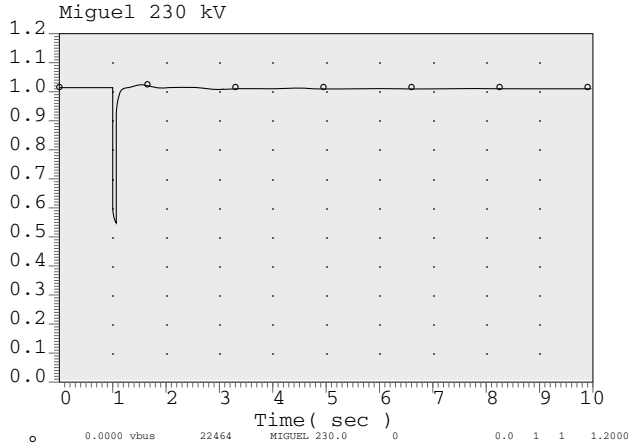
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

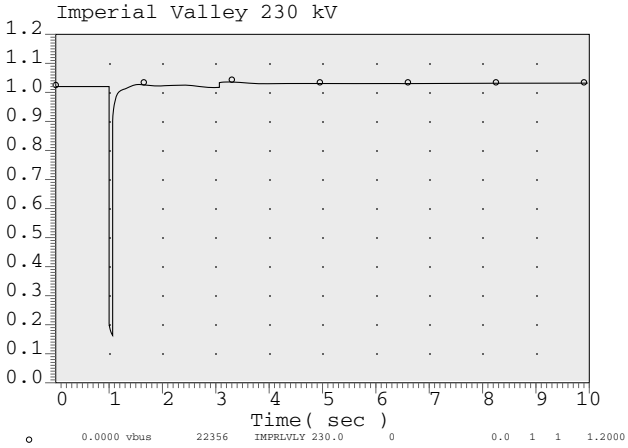
Bus Voltage

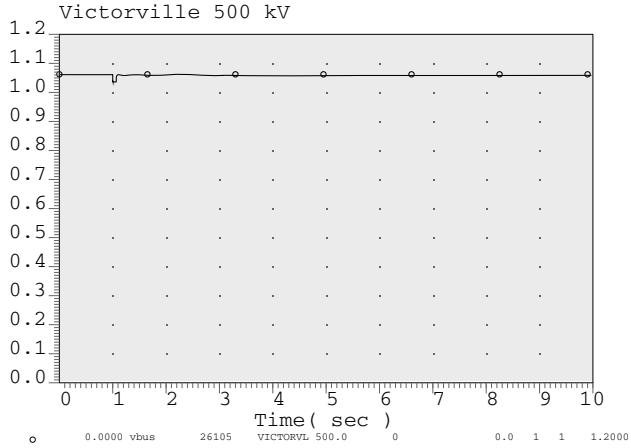






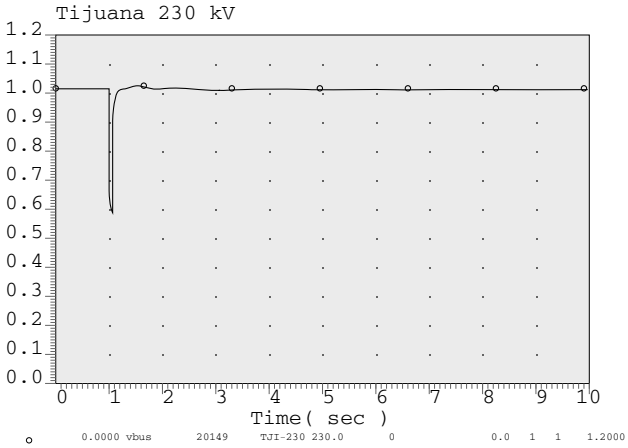


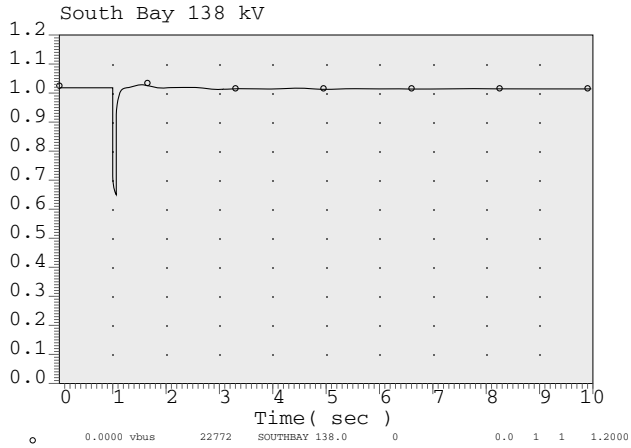


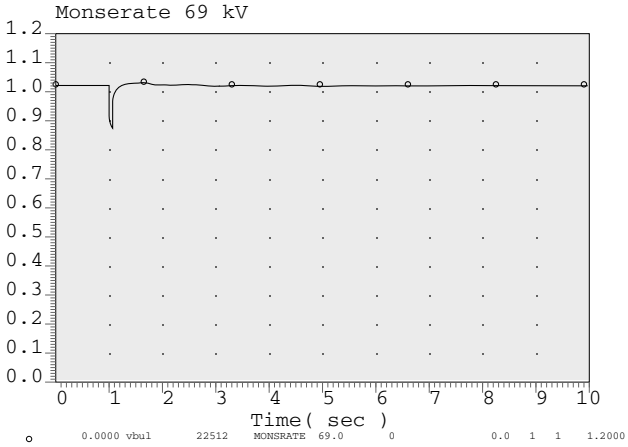


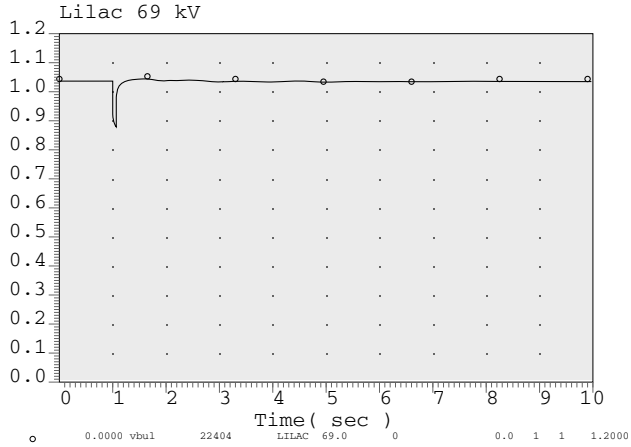
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

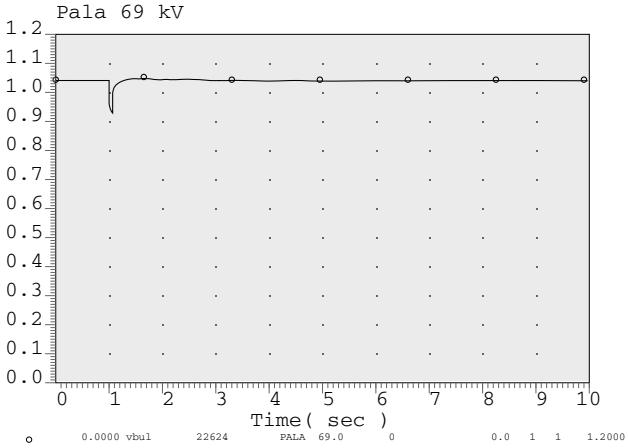
Bus Voltage

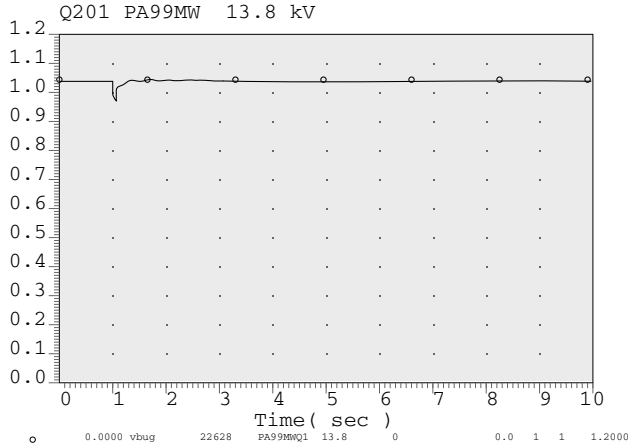








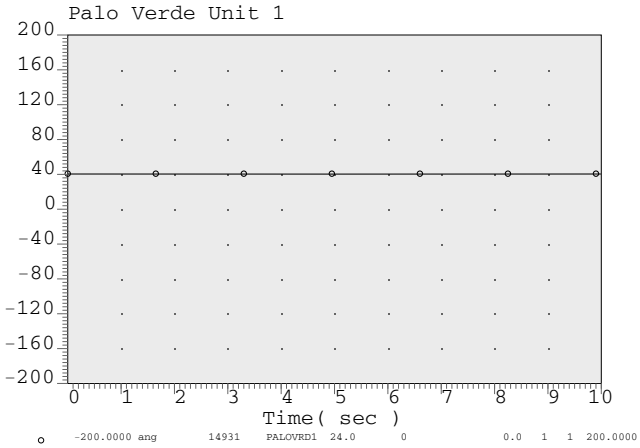


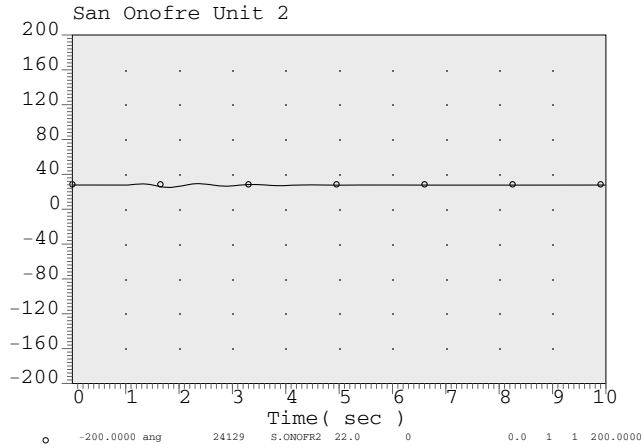


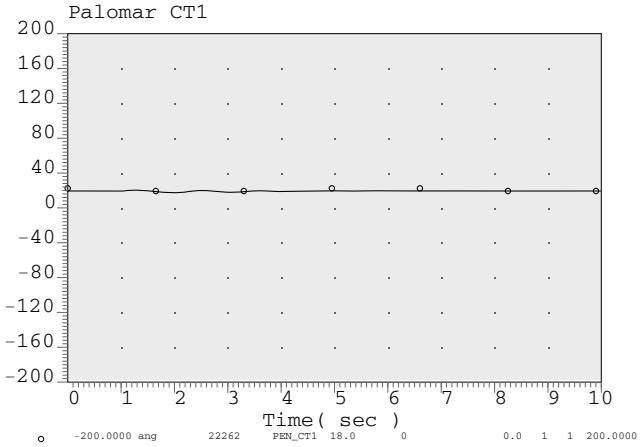
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

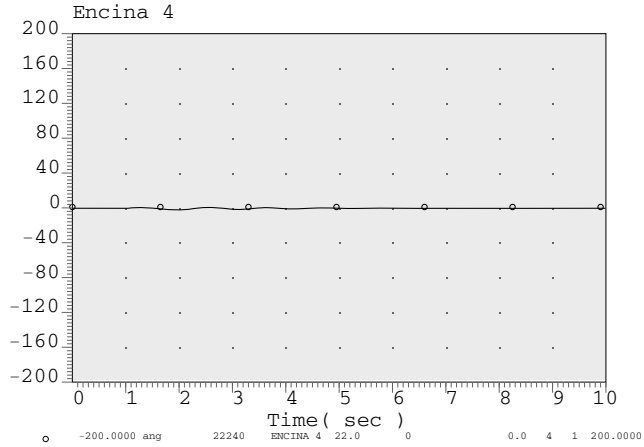
Revised Transient Stability Analysis Results
Without Q173

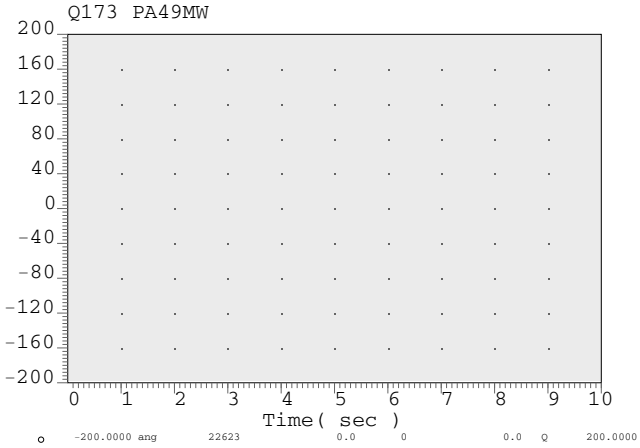
Relative Rotor Angle

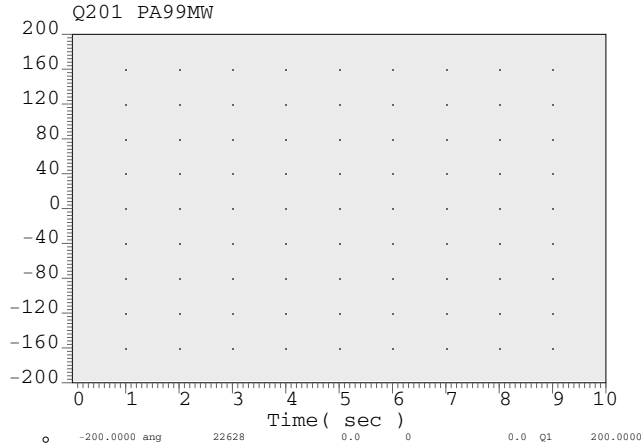






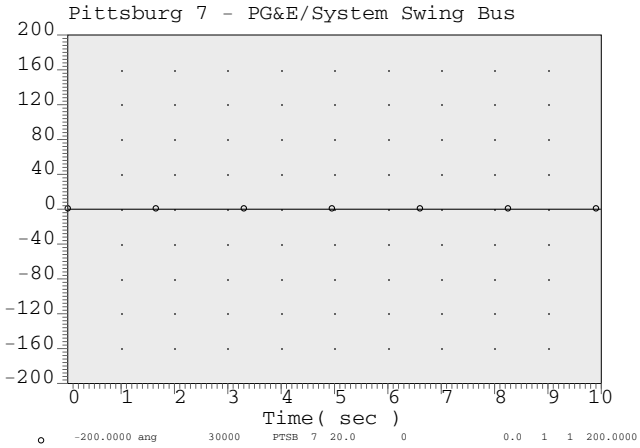


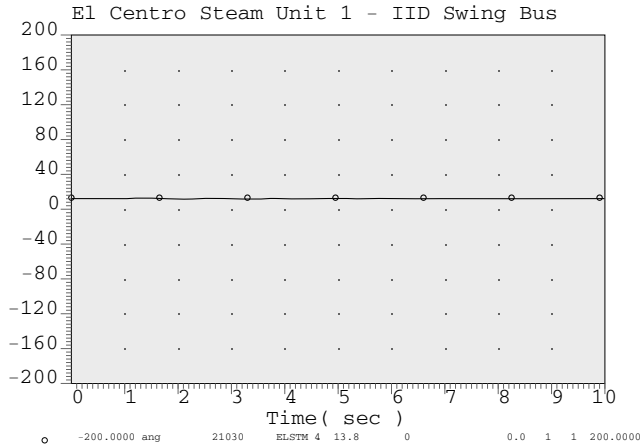


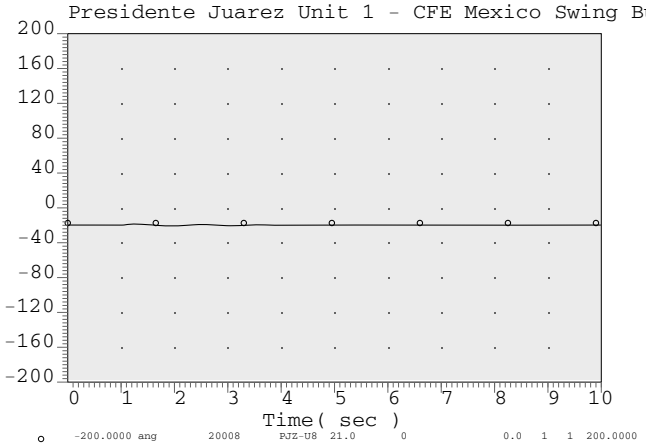


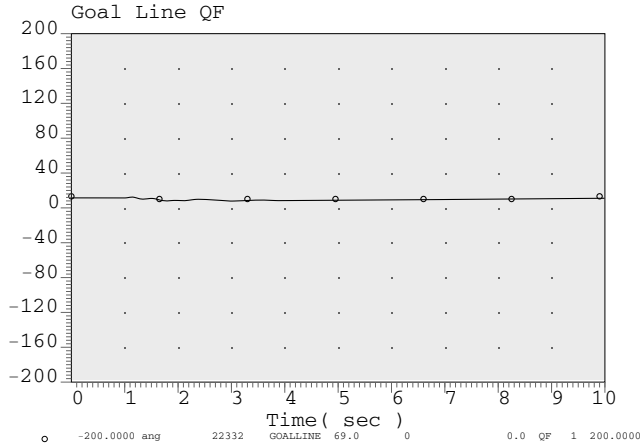
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

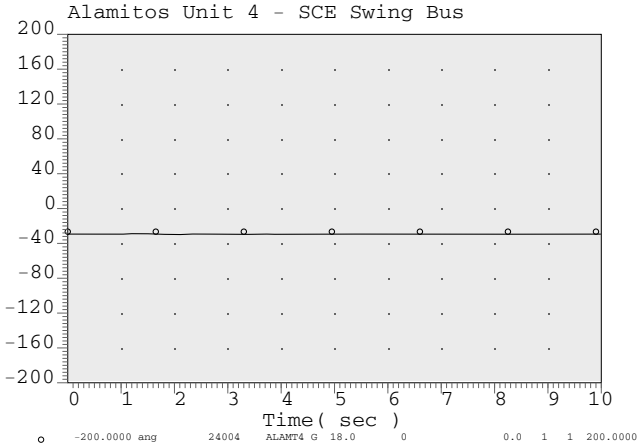
Relative Rotor Angle

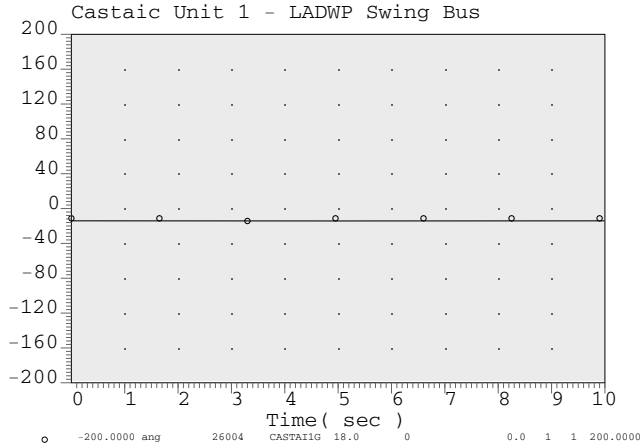






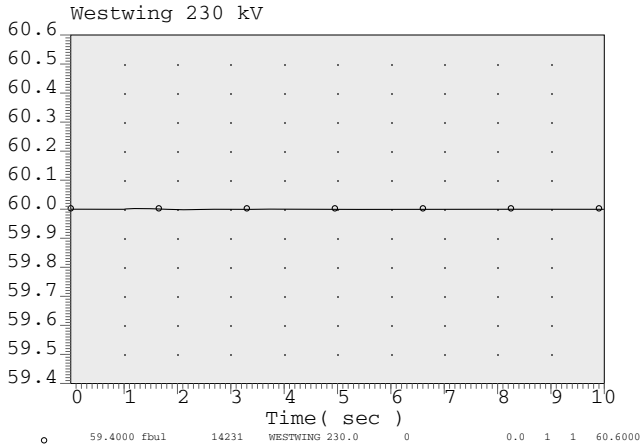


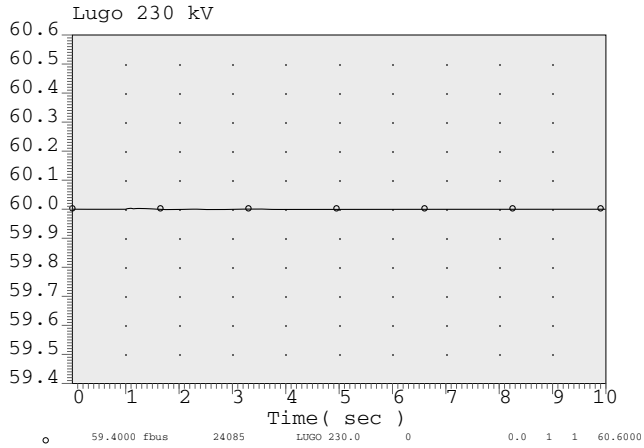


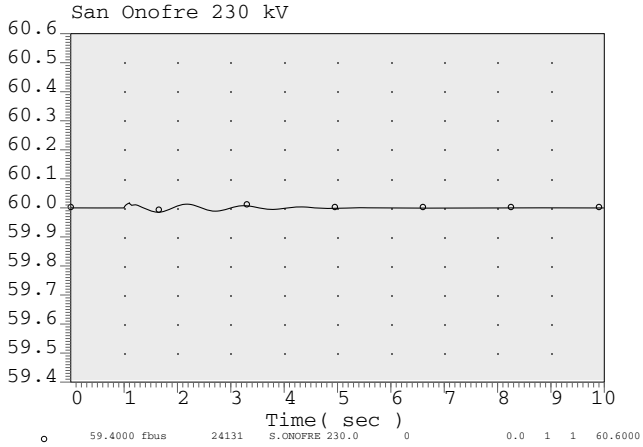


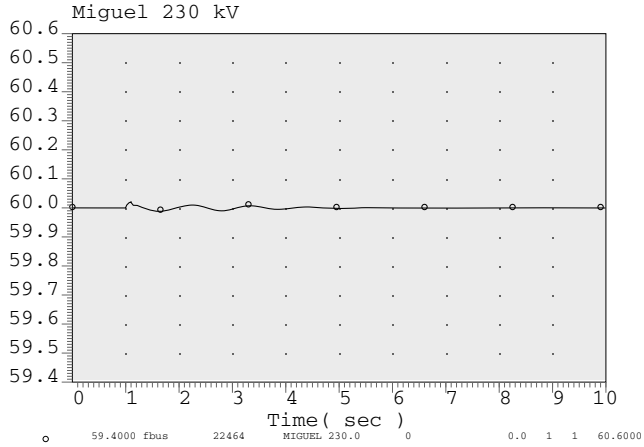
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

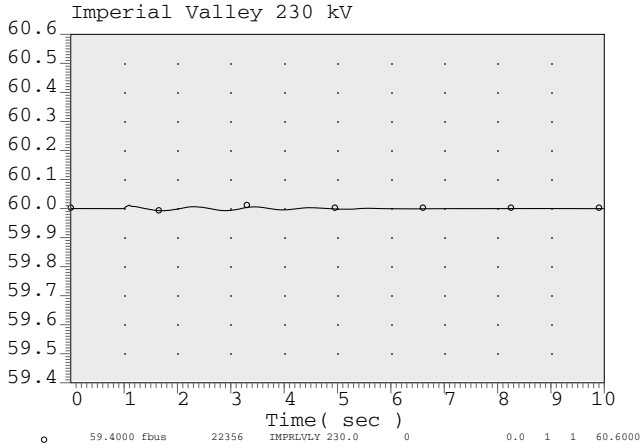
Bus Frequency

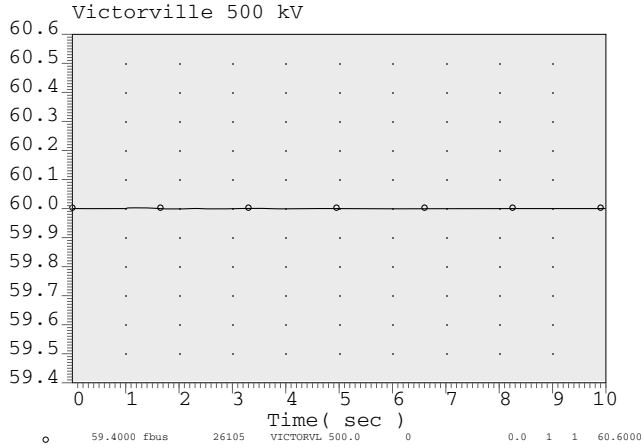






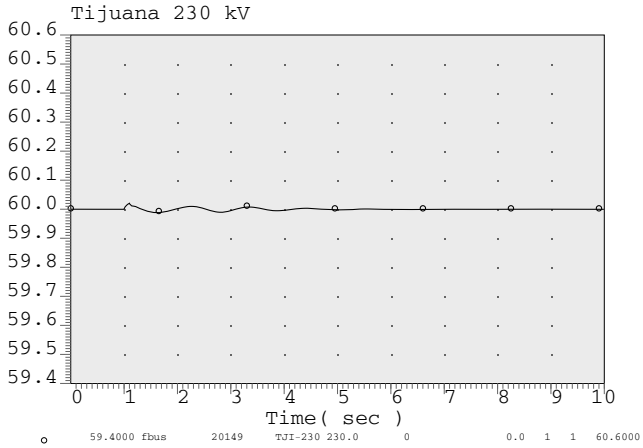


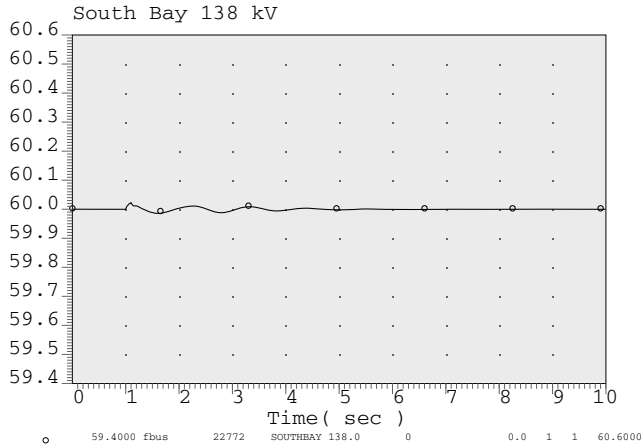


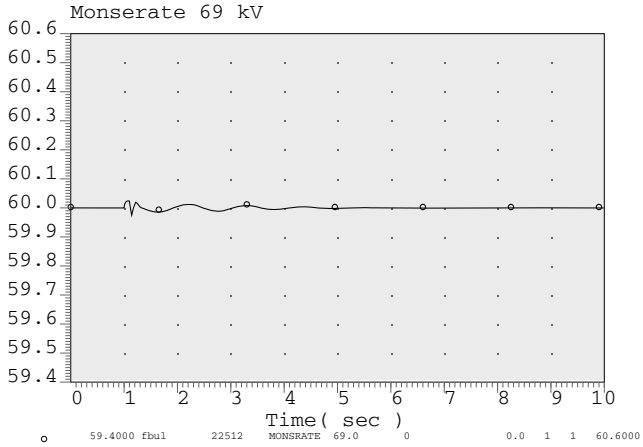


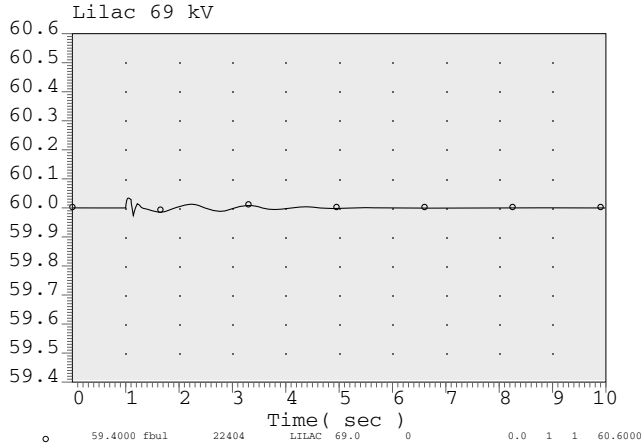
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

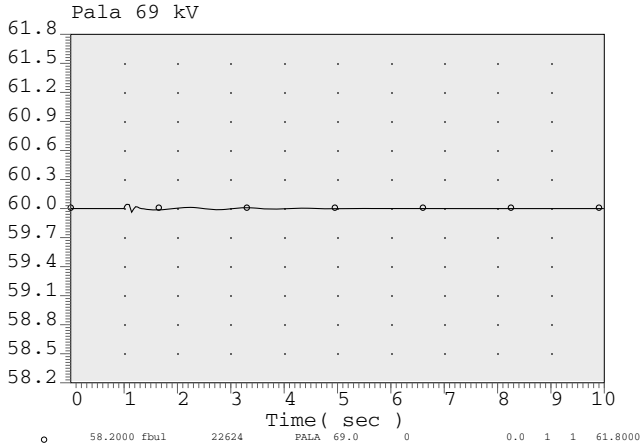
Bus Frequency

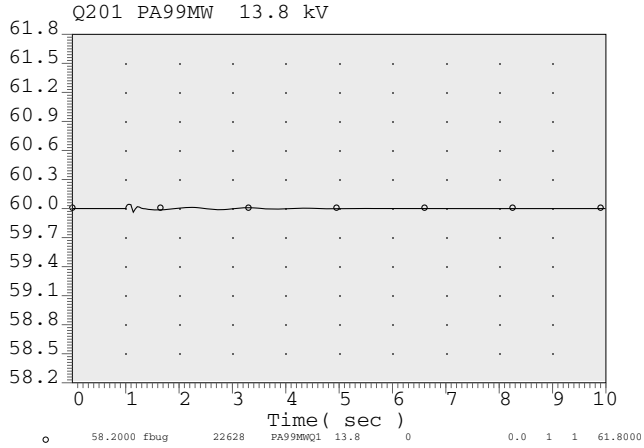






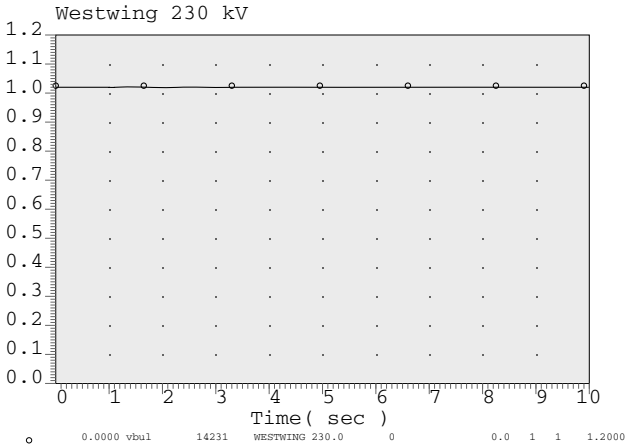


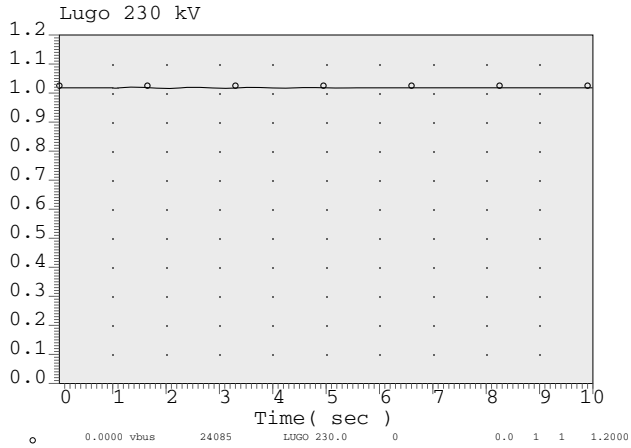


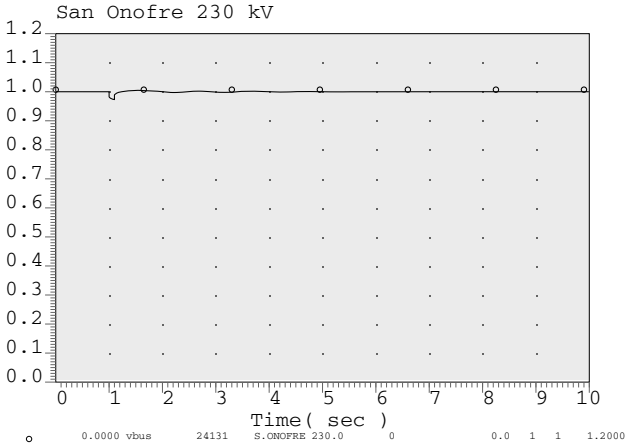


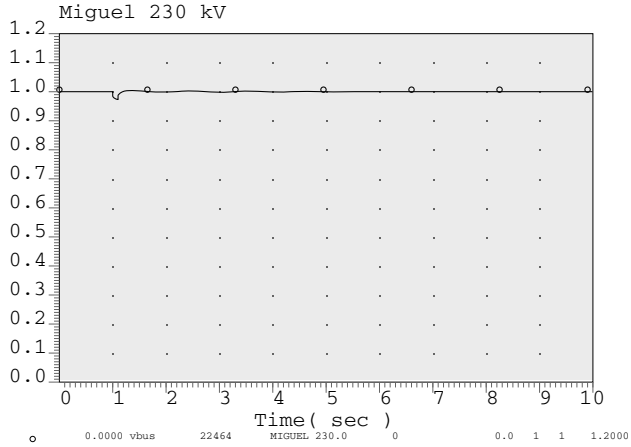
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

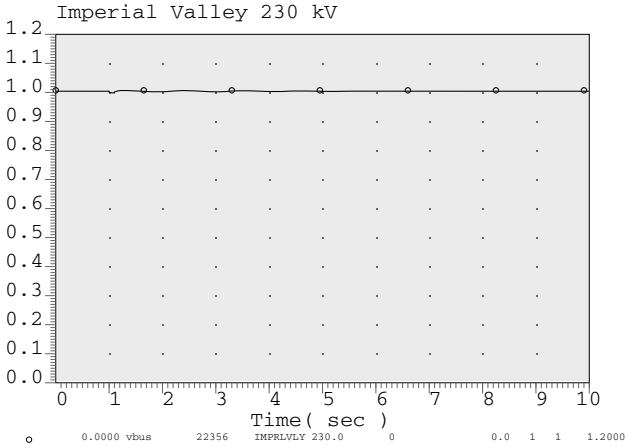
Bus Voltage

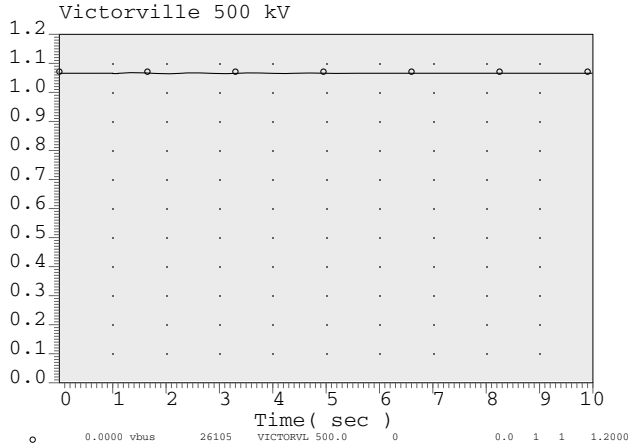






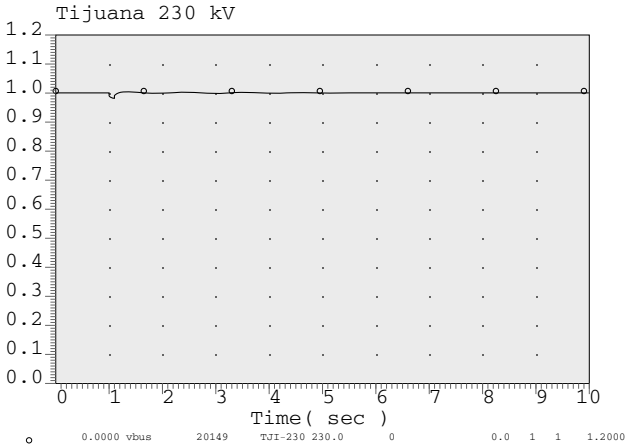


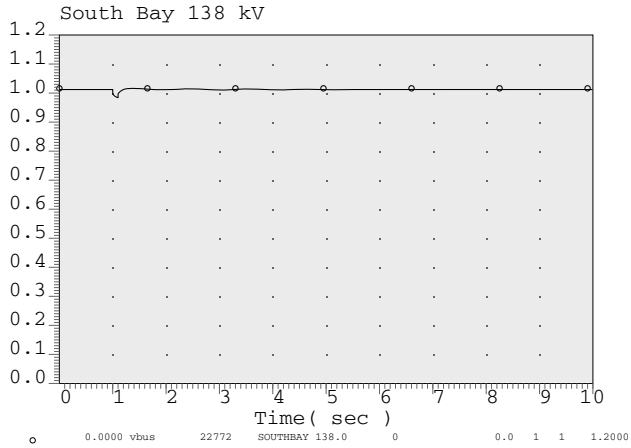


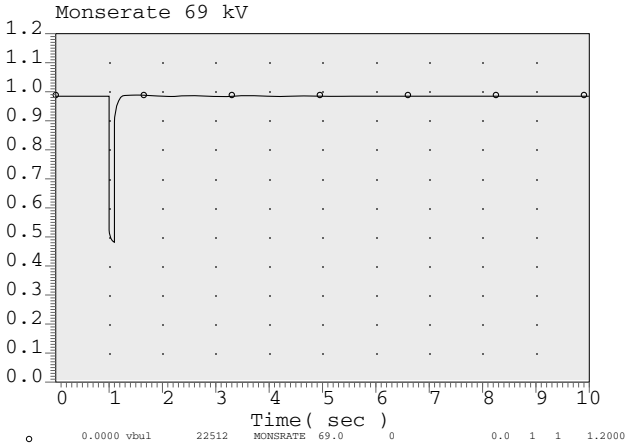


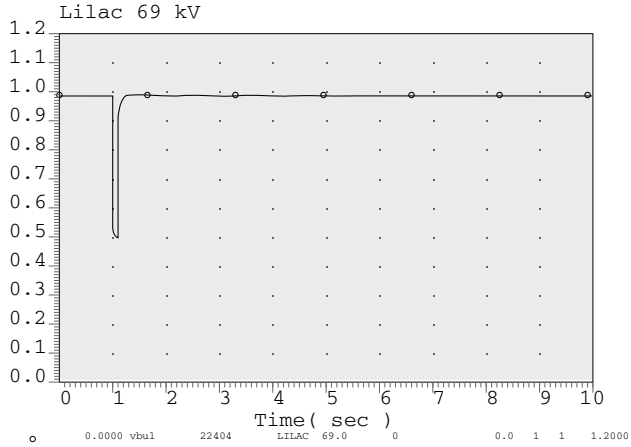
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

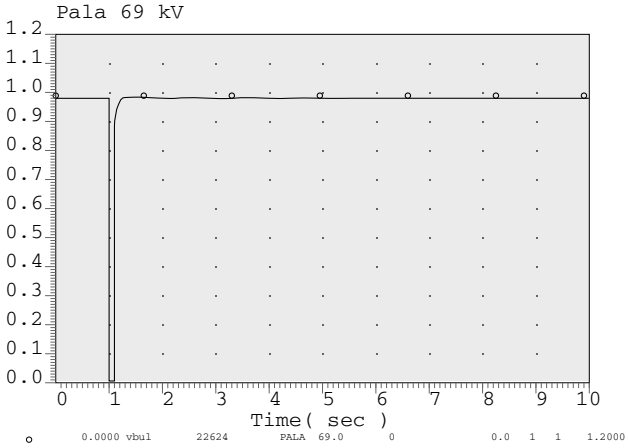
Bus Voltage

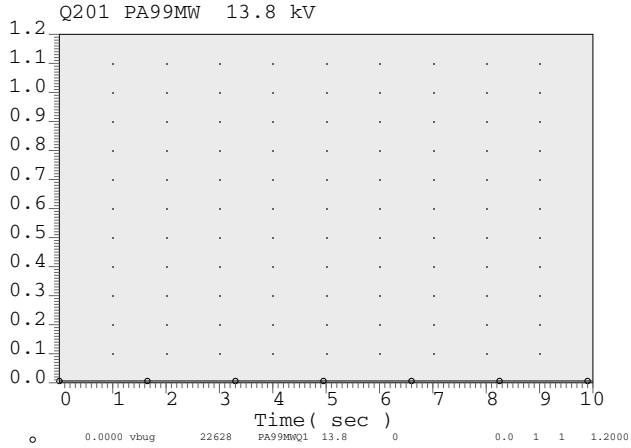






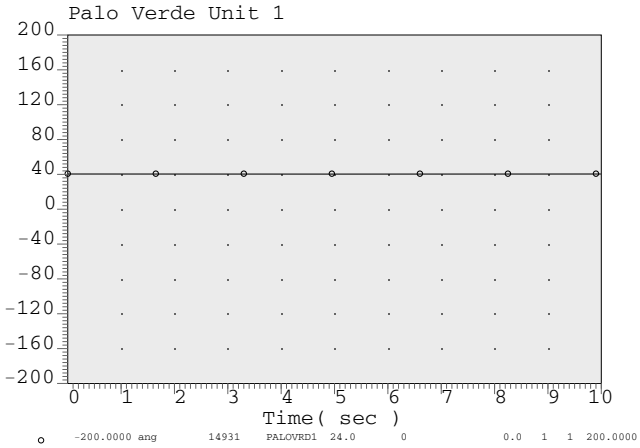


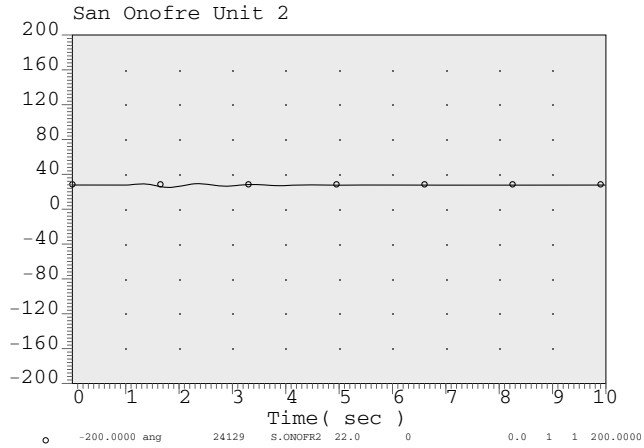


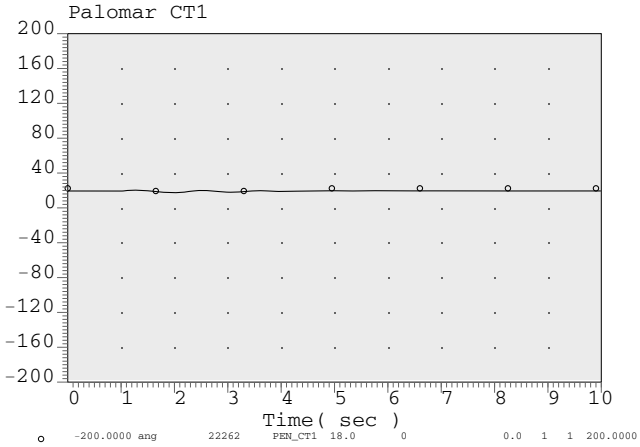


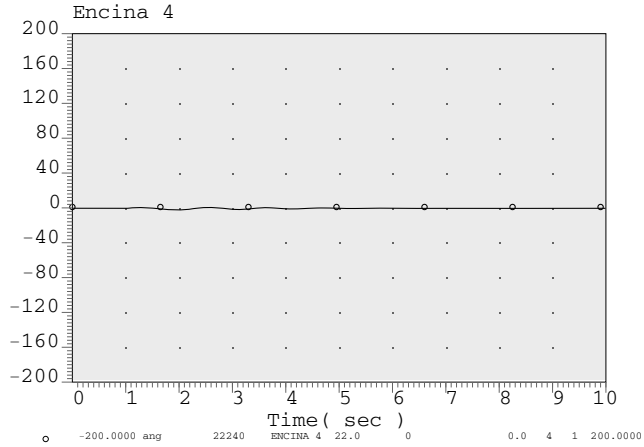
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

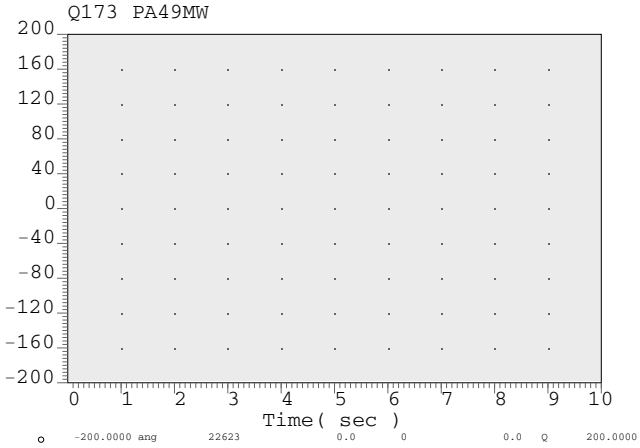
Relative Rotor Angle

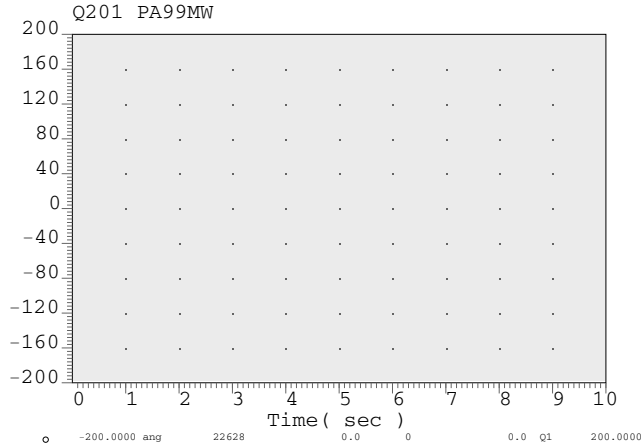






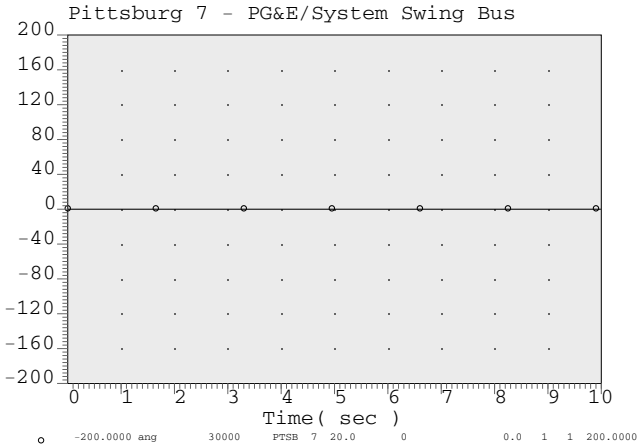


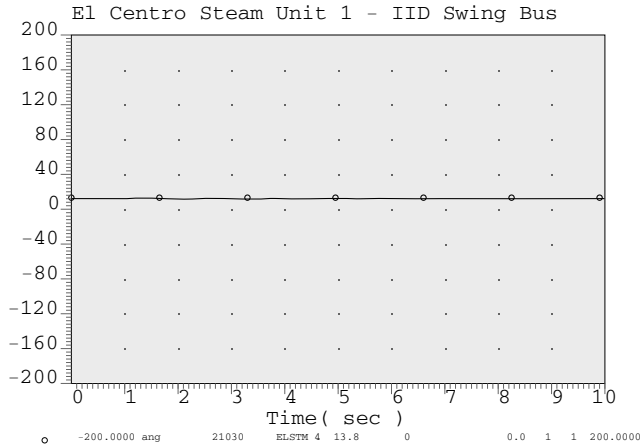


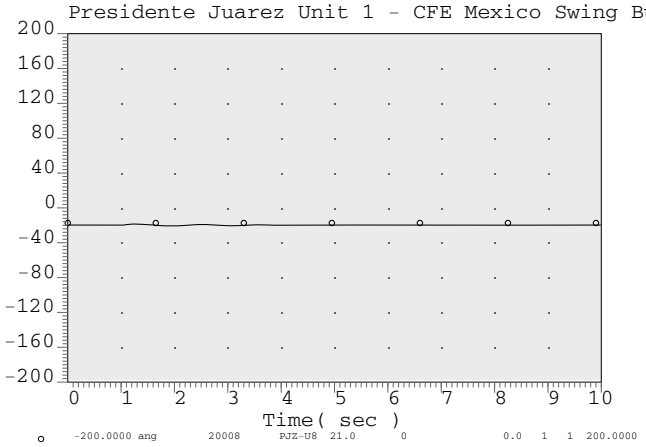


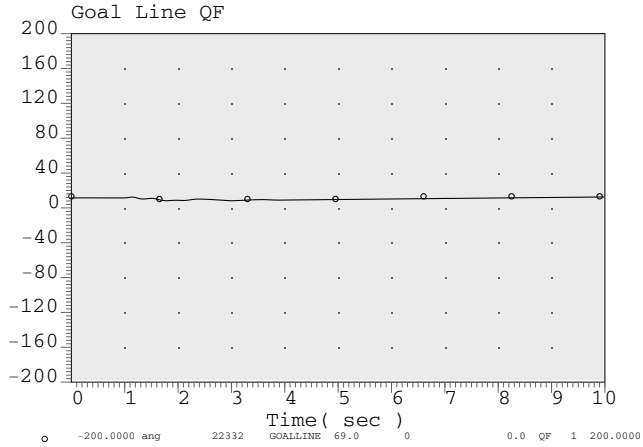
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

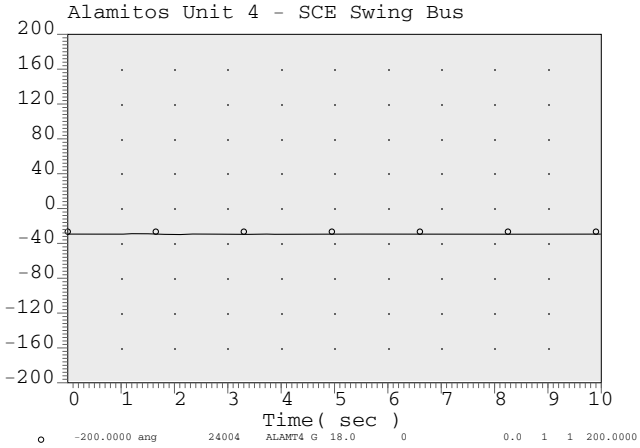
Relative Rotor Angle

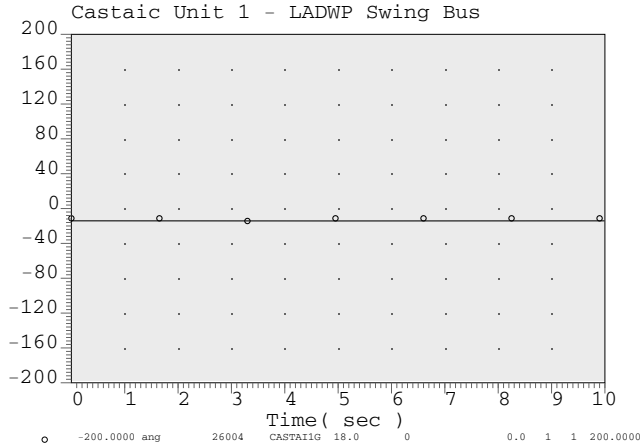






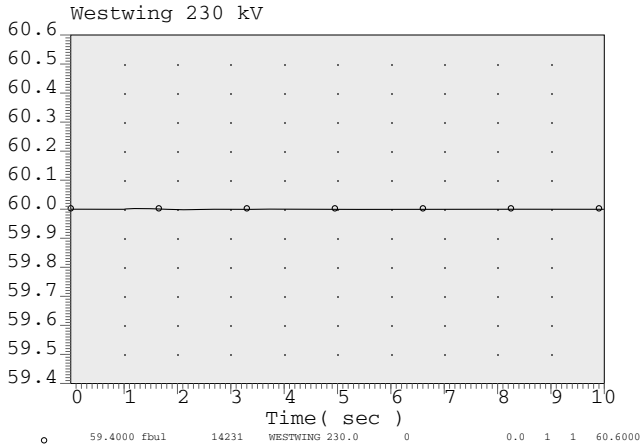


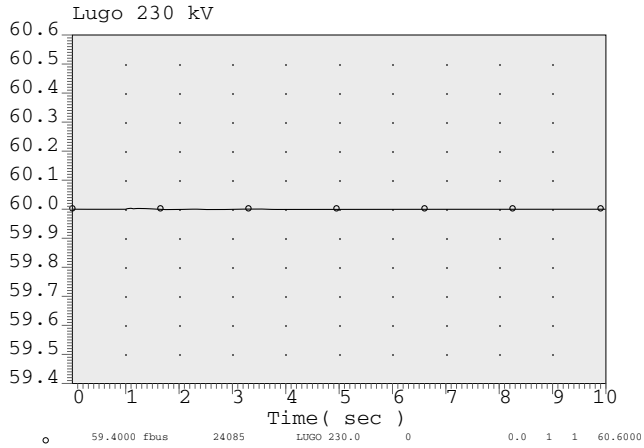


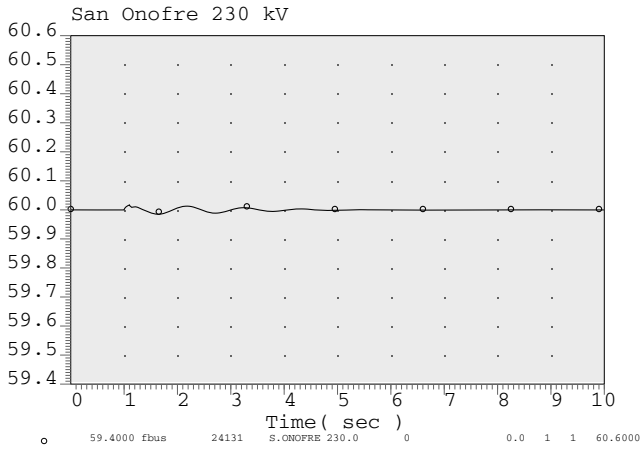


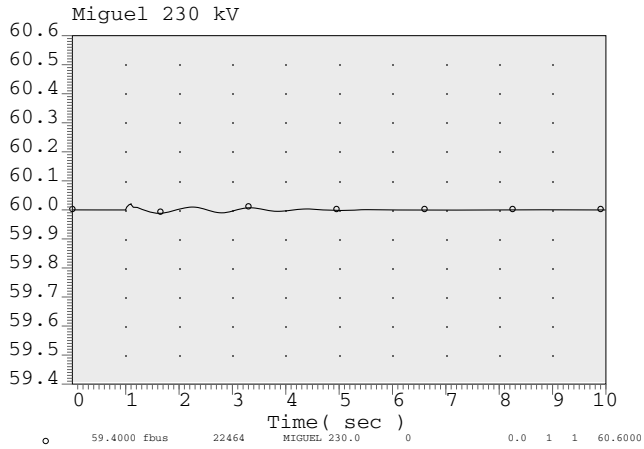
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

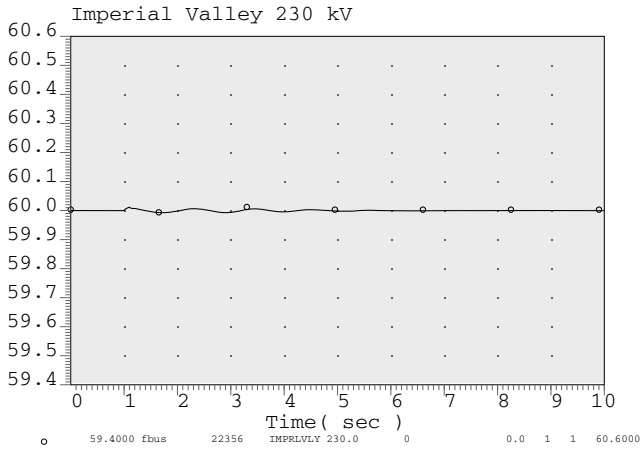
Bus Frequency

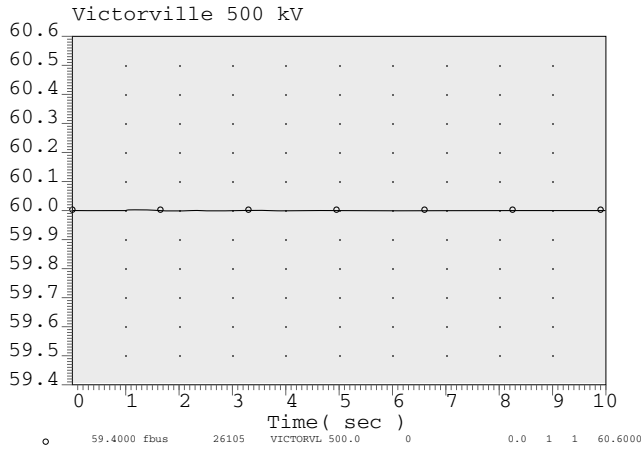






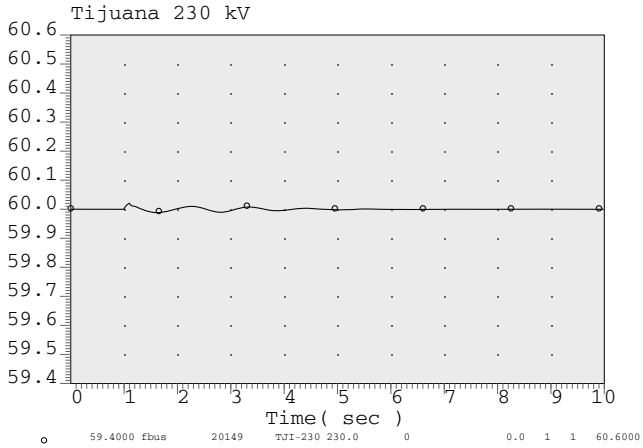


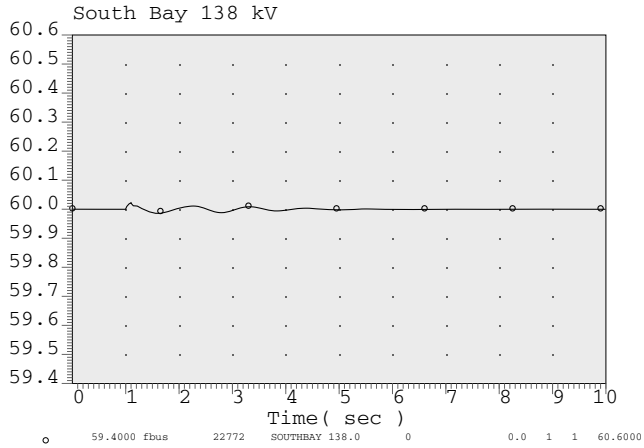


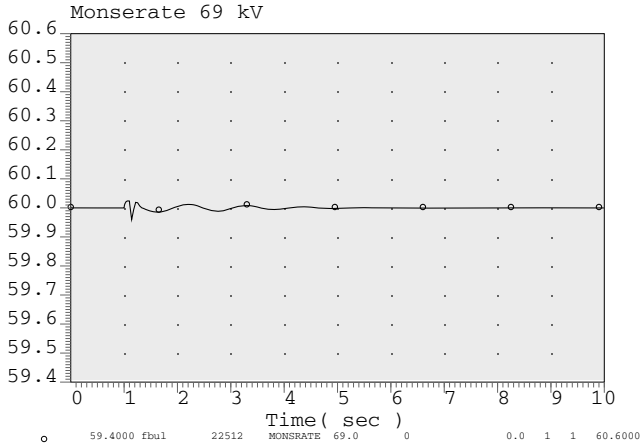


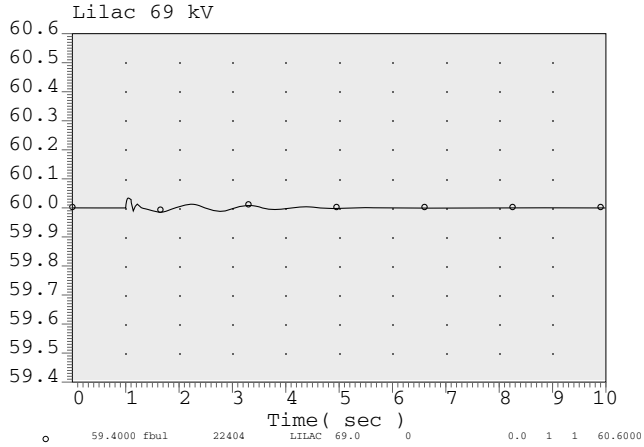
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

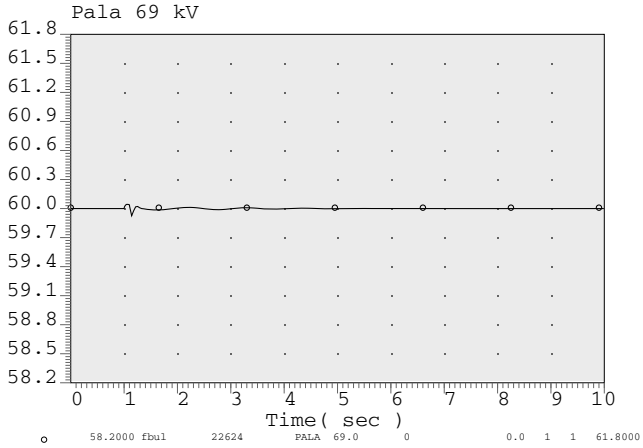
Bus Frequency

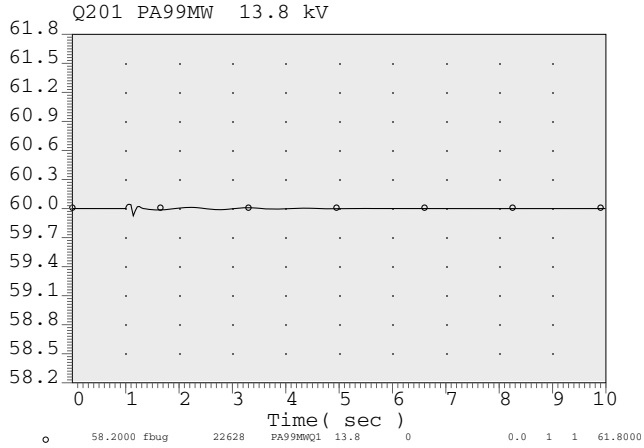






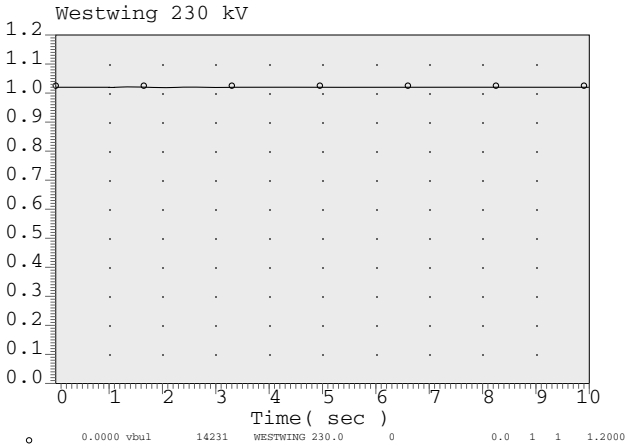


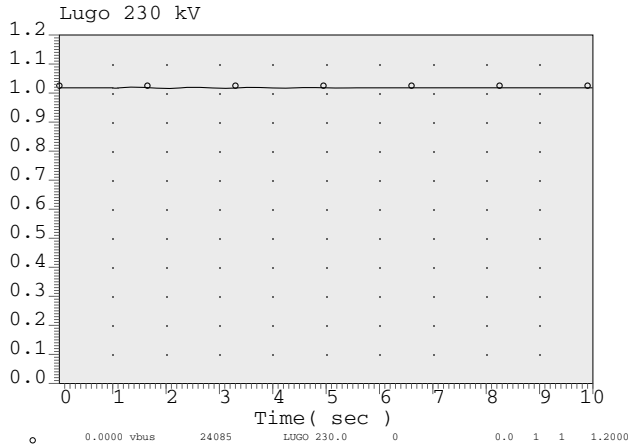


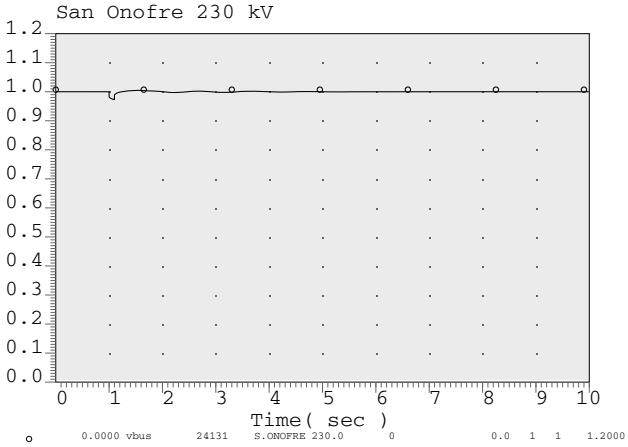


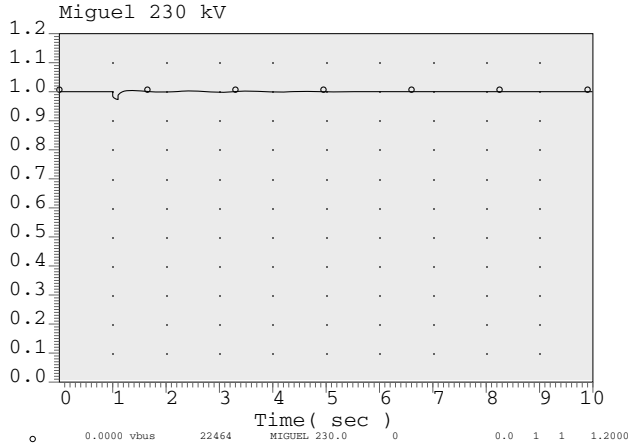
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

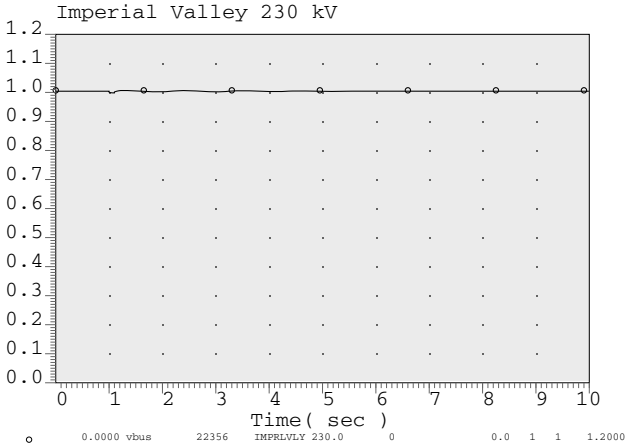
Bus Voltage

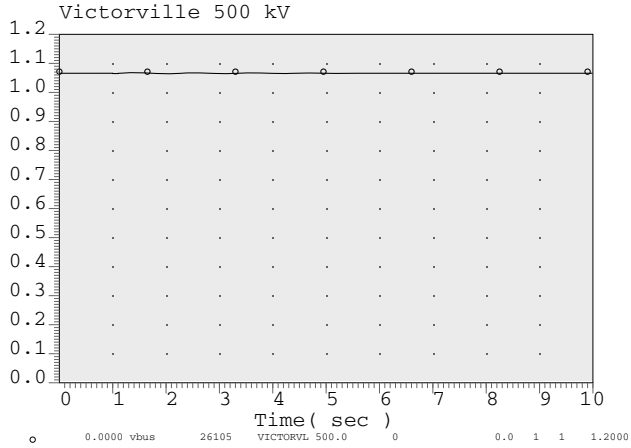






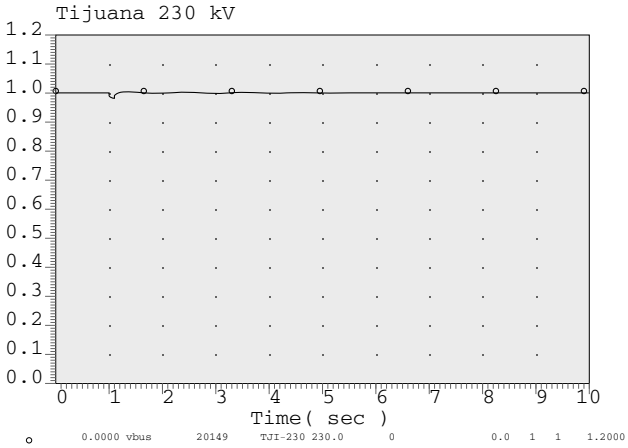


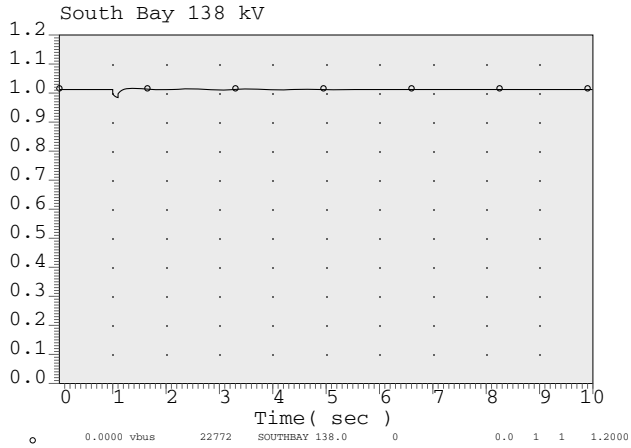


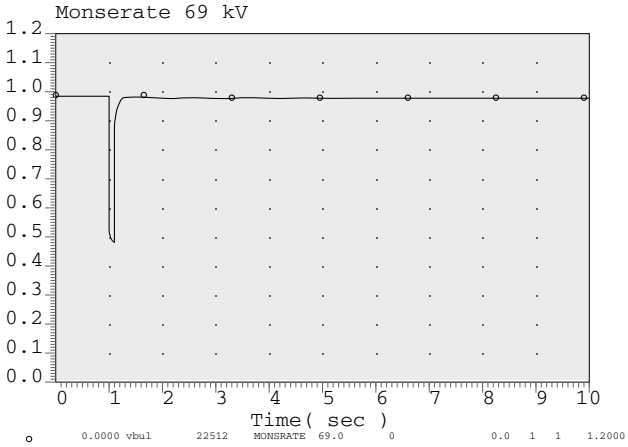


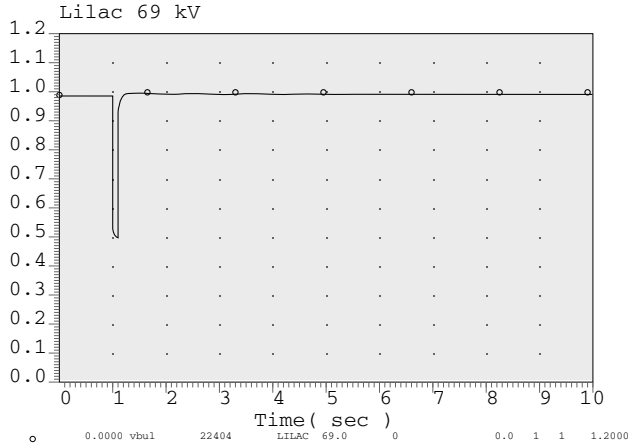
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

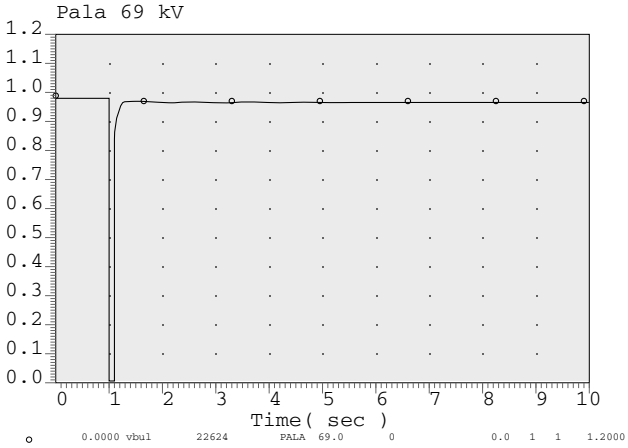
Bus Voltage

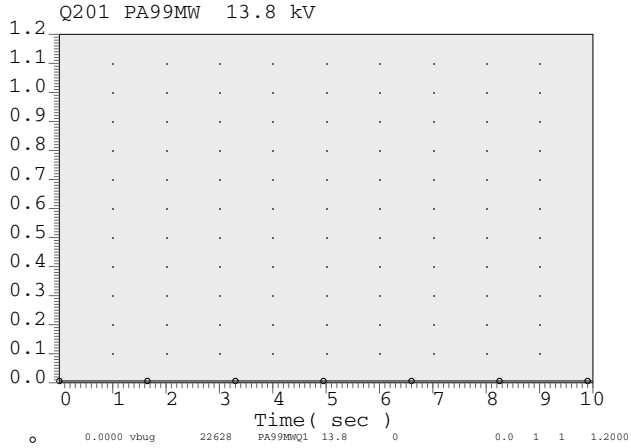






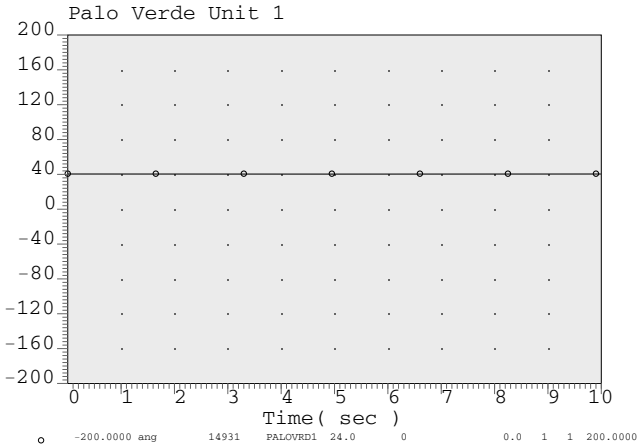


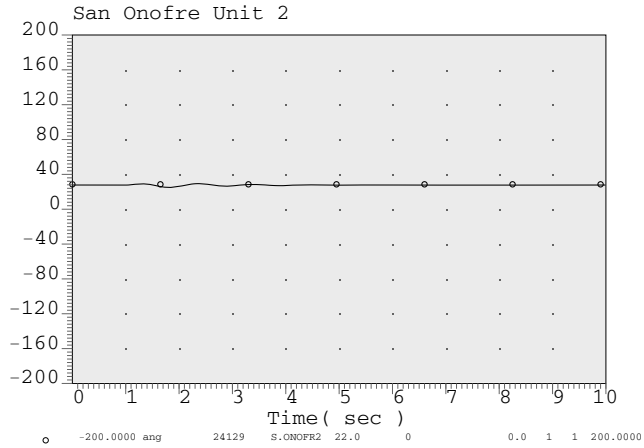


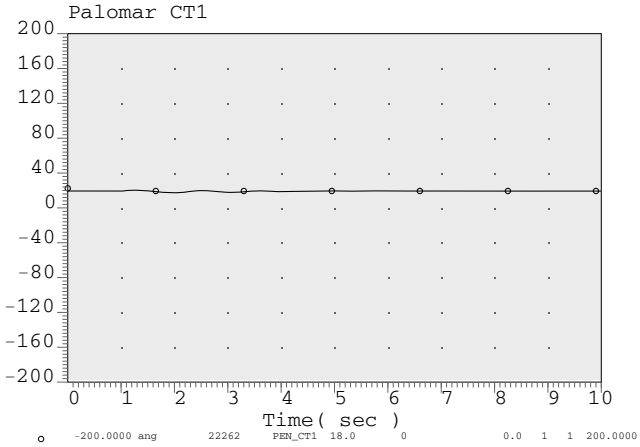


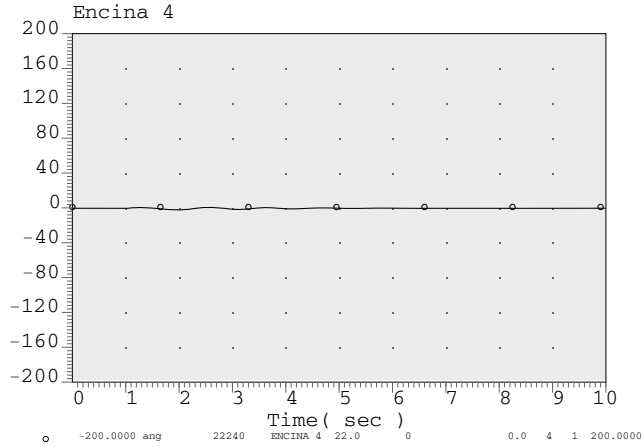
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

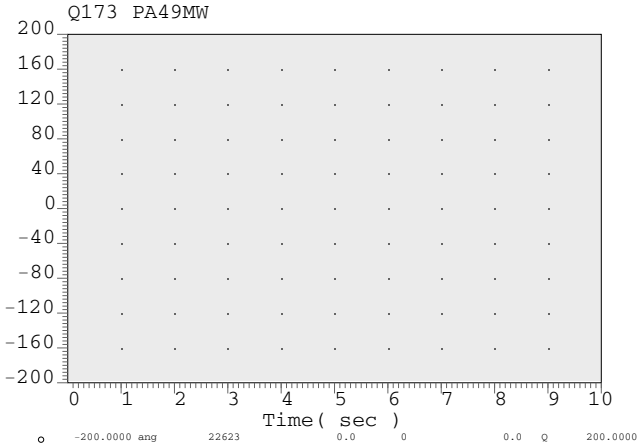
Relative Rotor Angle

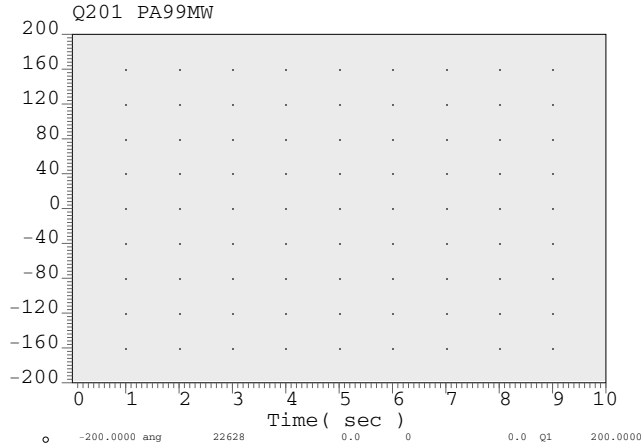






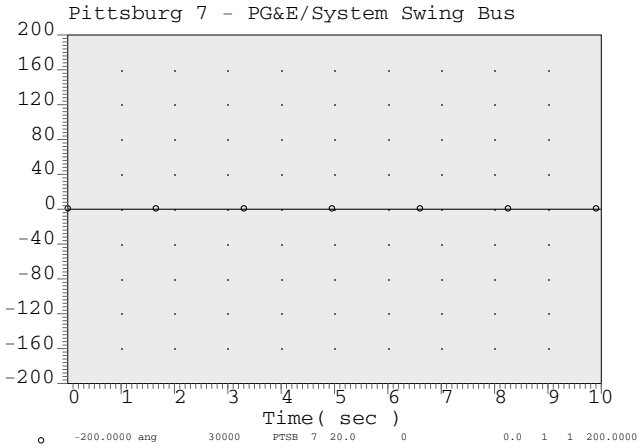


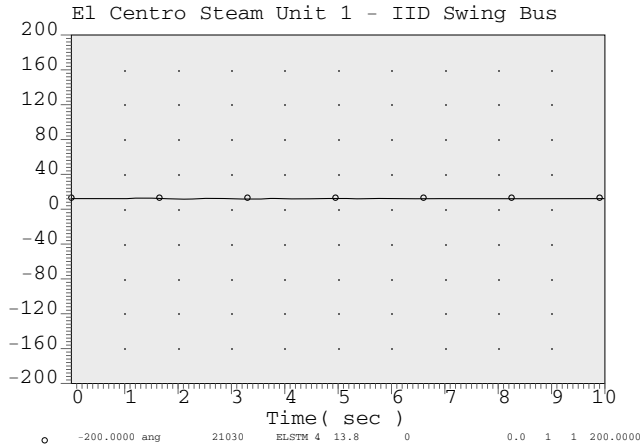


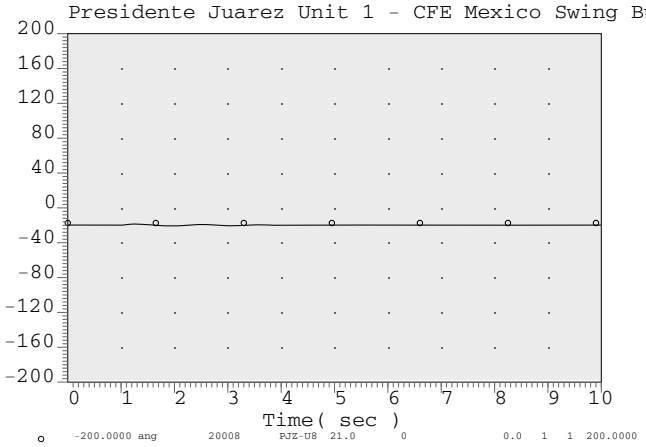


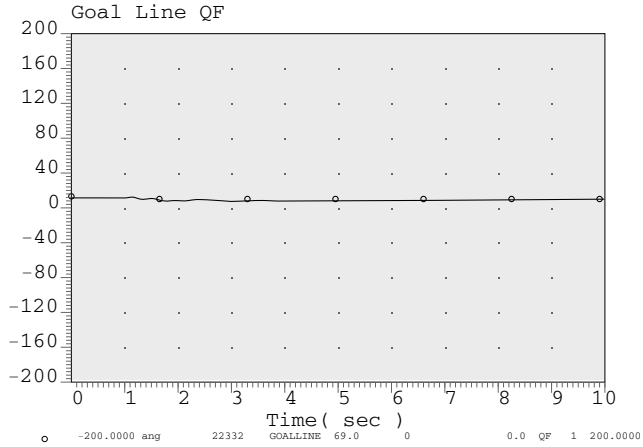
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

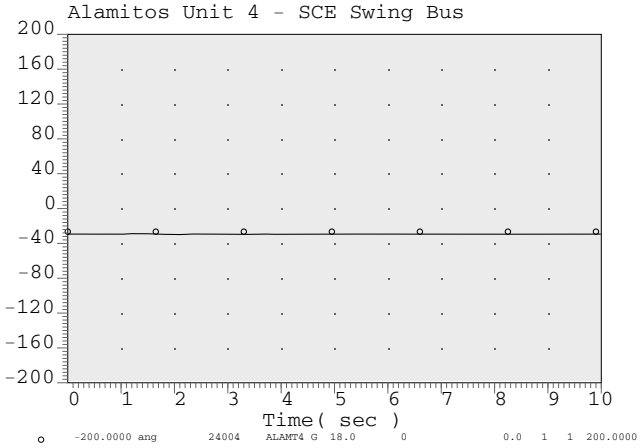
Relative Rotor Angle

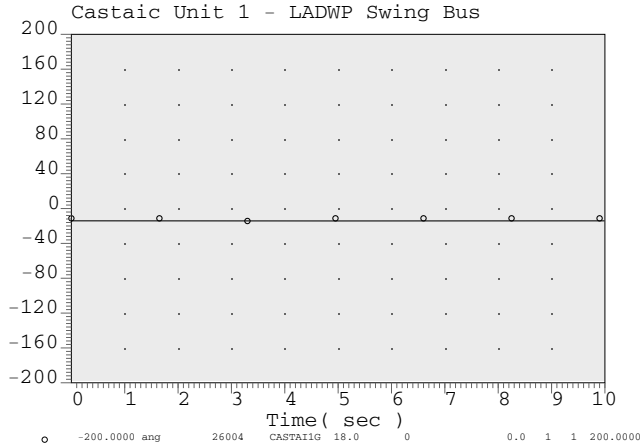






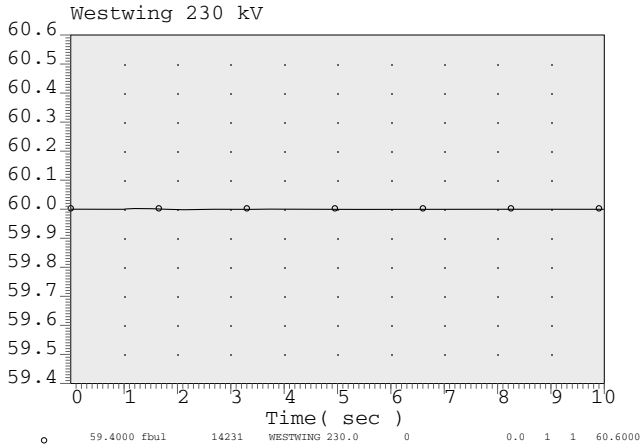


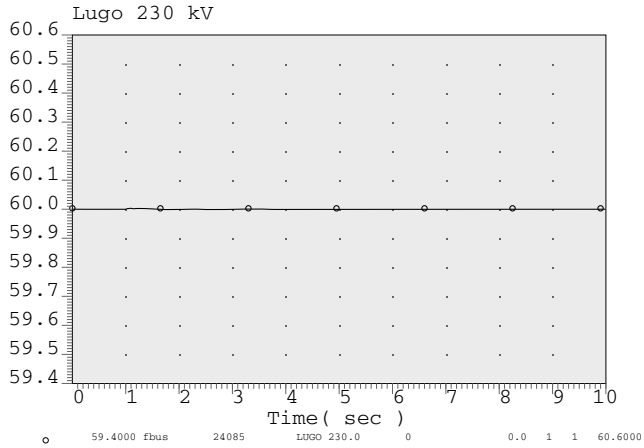


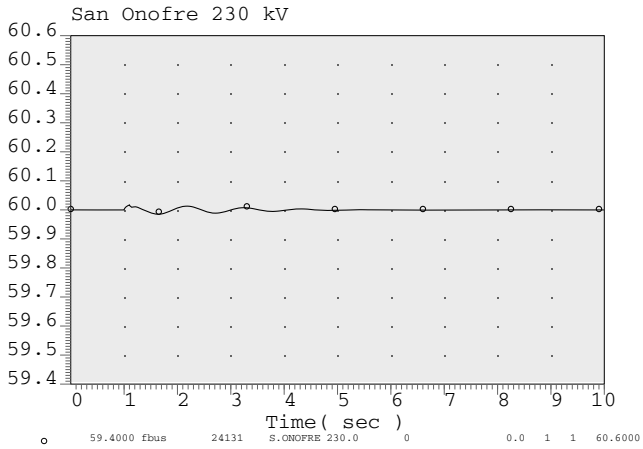


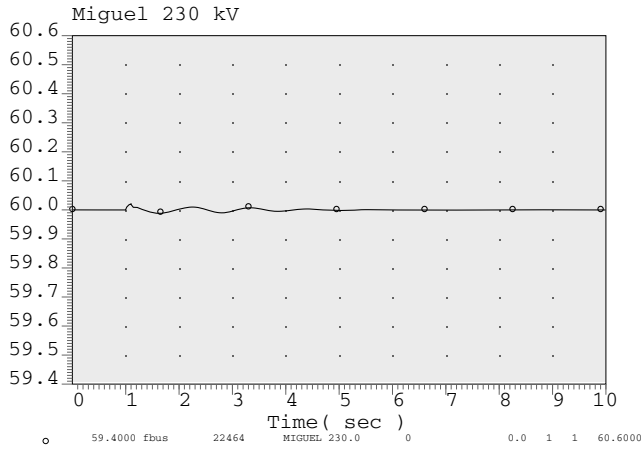
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

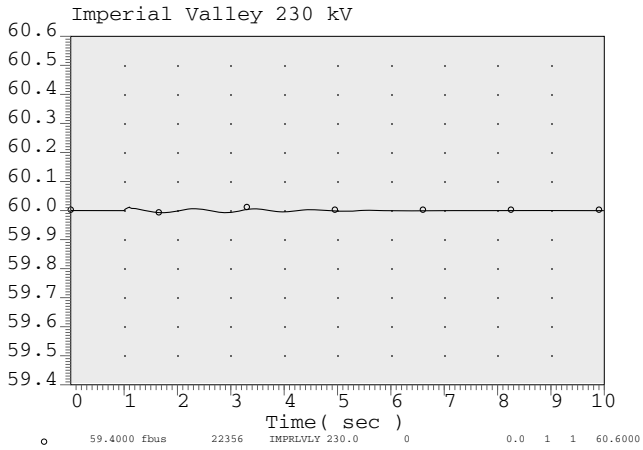
Bus Frequency

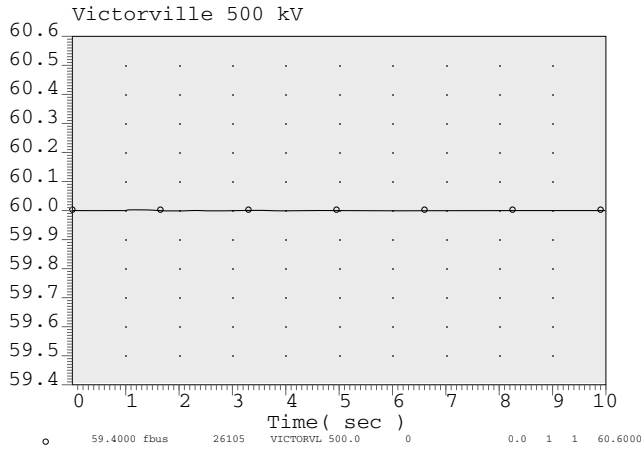






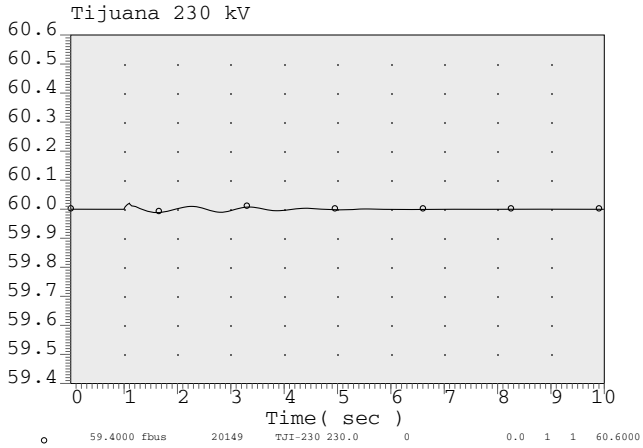


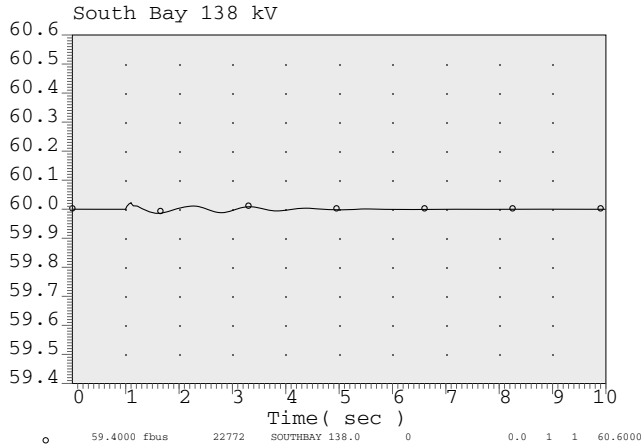


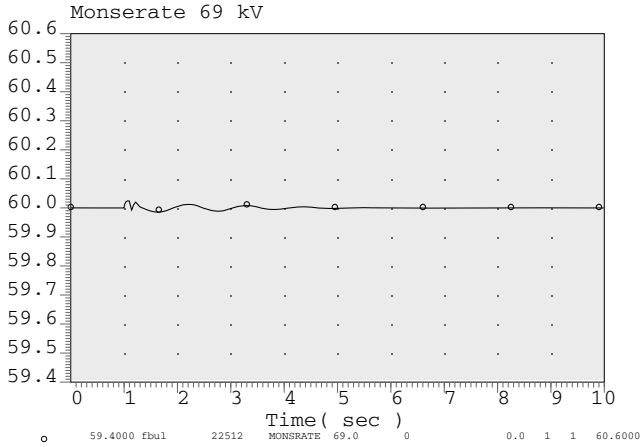


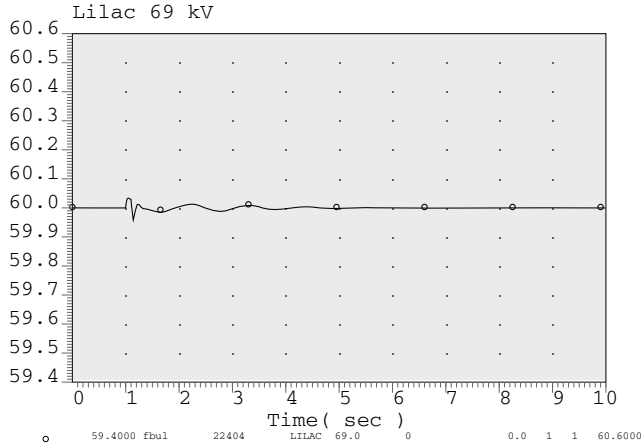
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

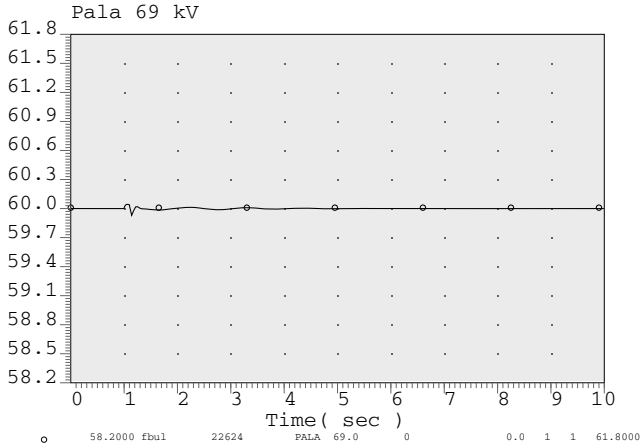
Bus Frequency

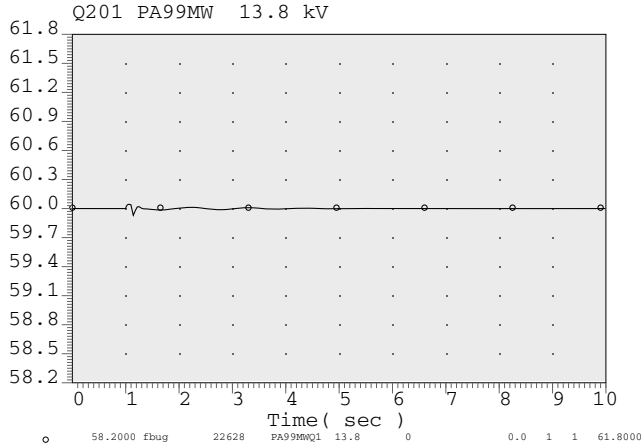






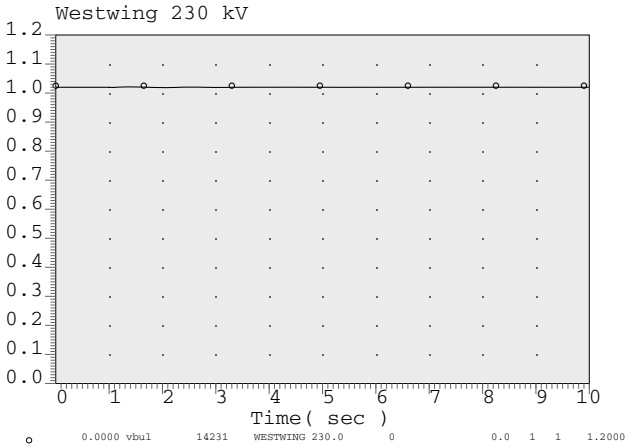


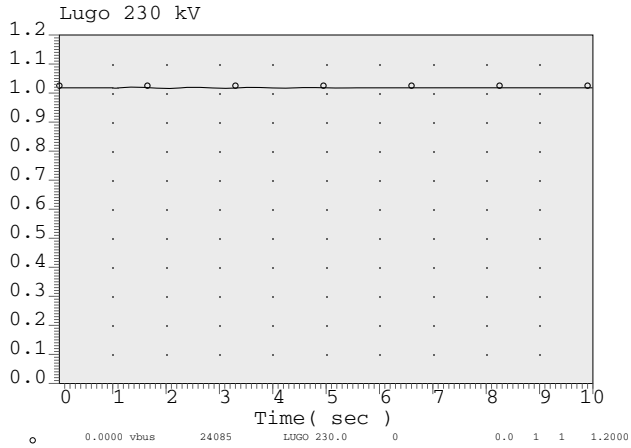


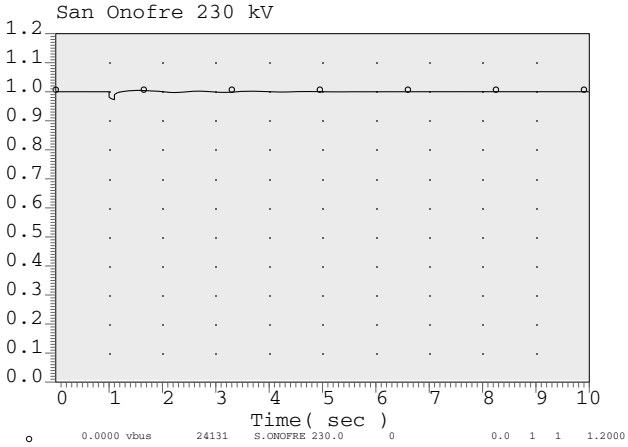


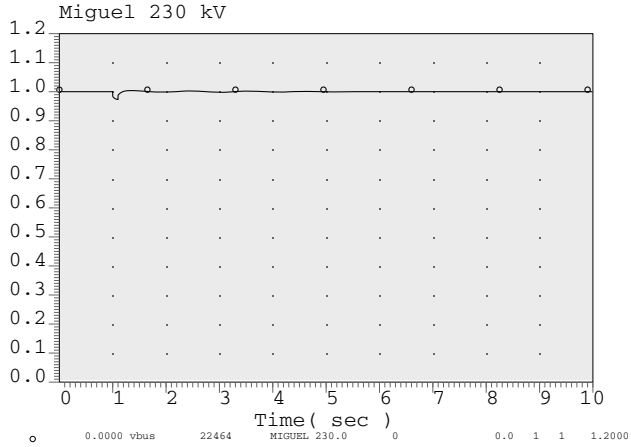
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

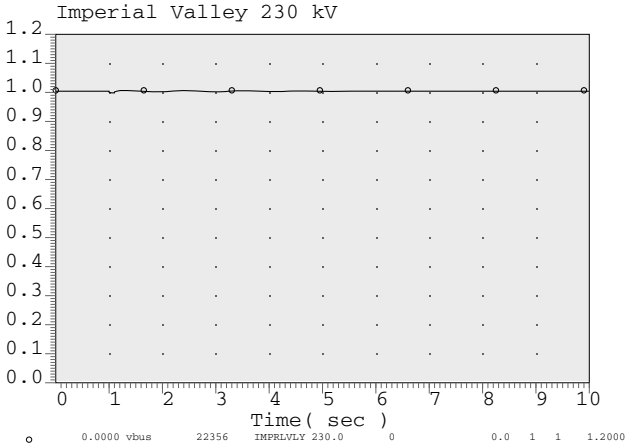
Bus Voltage

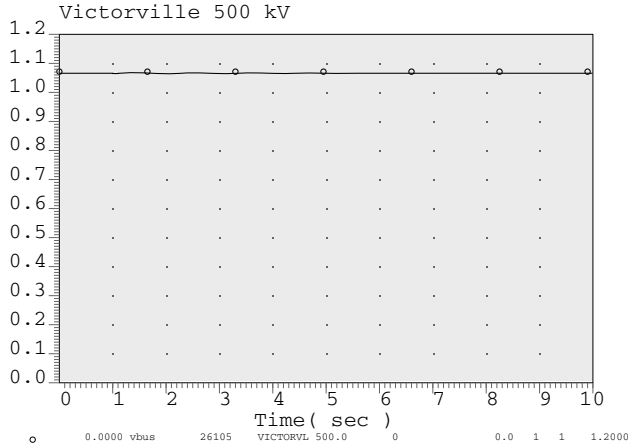






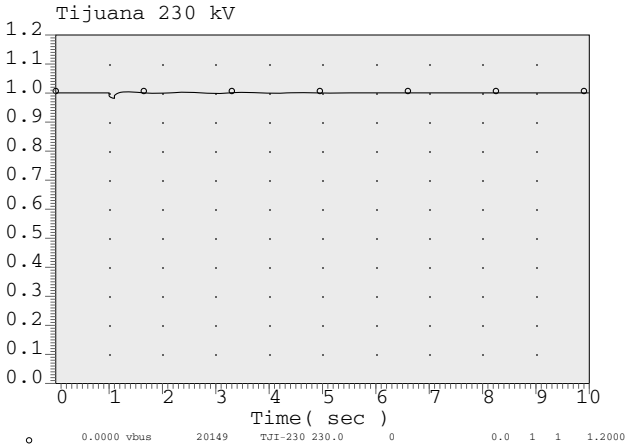


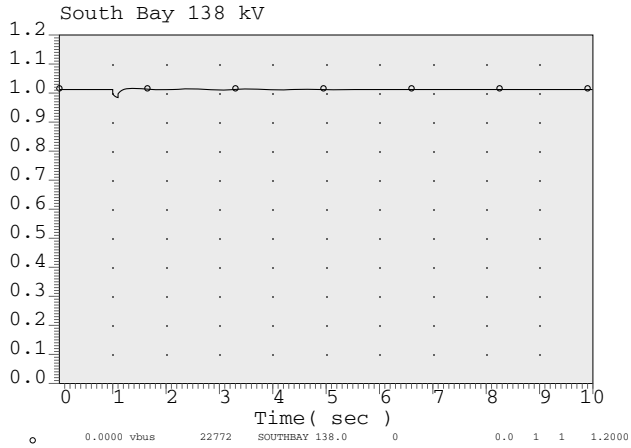


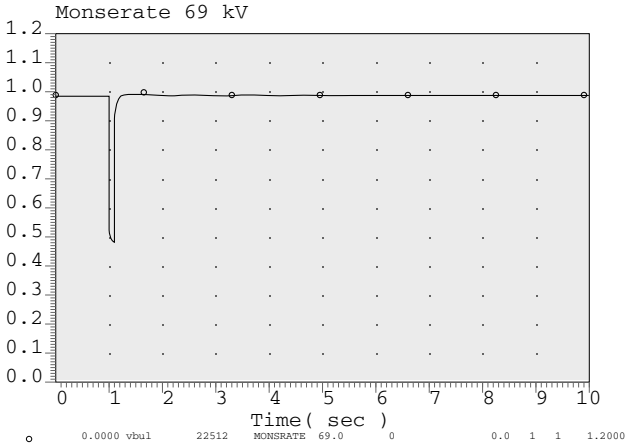


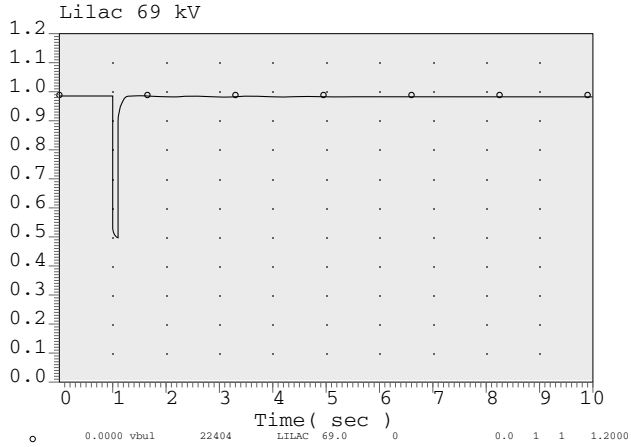
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

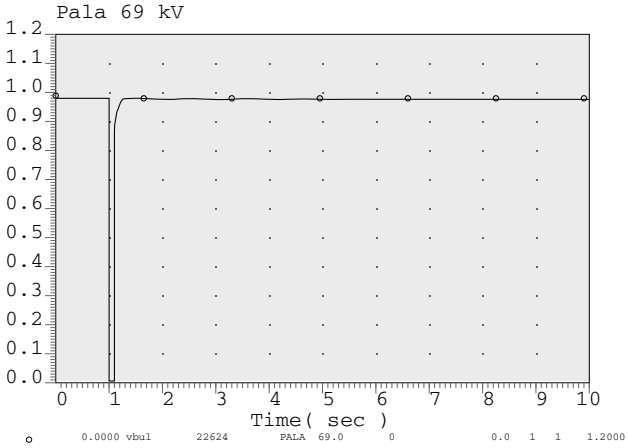
Bus Voltage

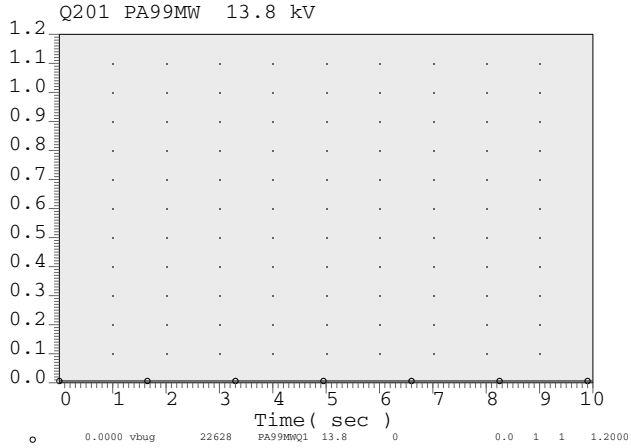






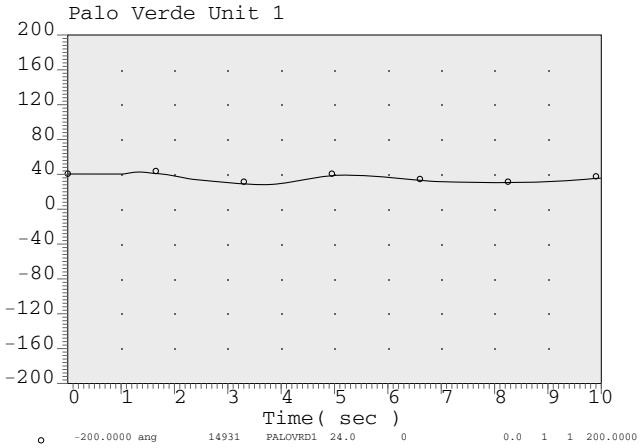


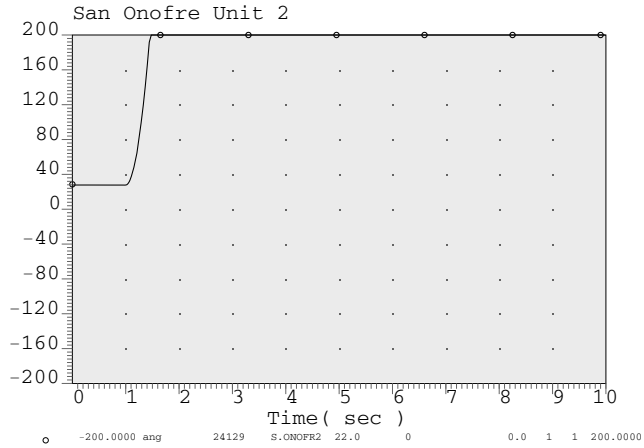


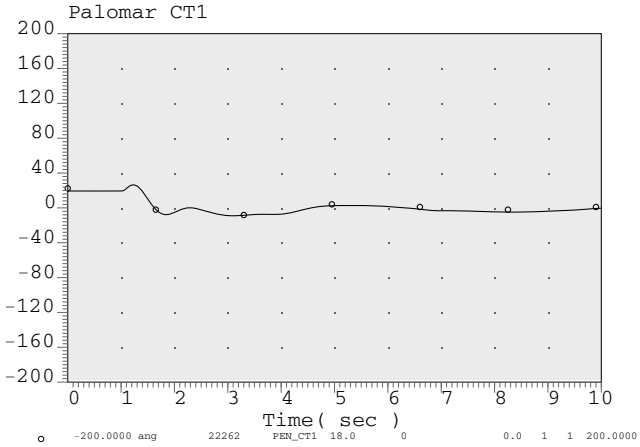


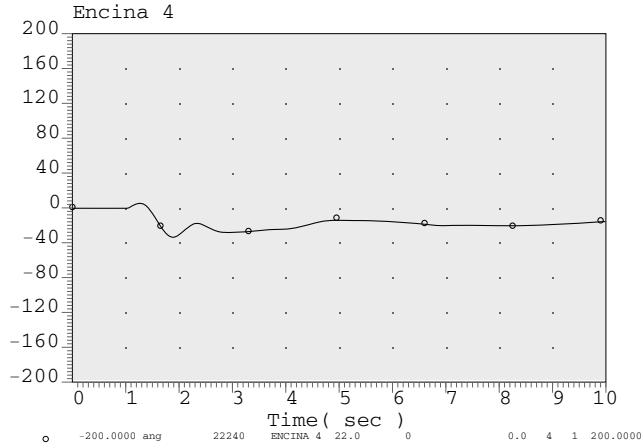
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

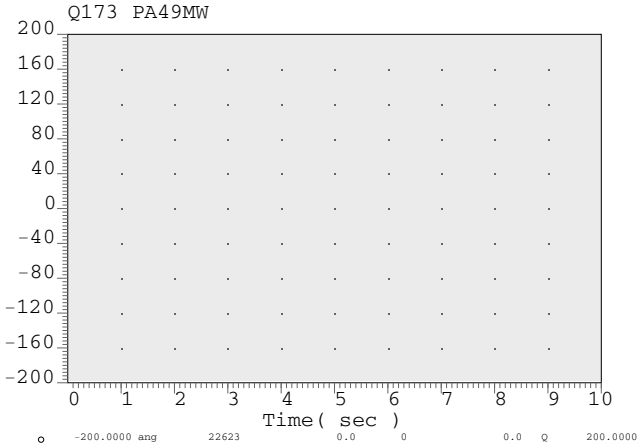
Relative Rotor Angle

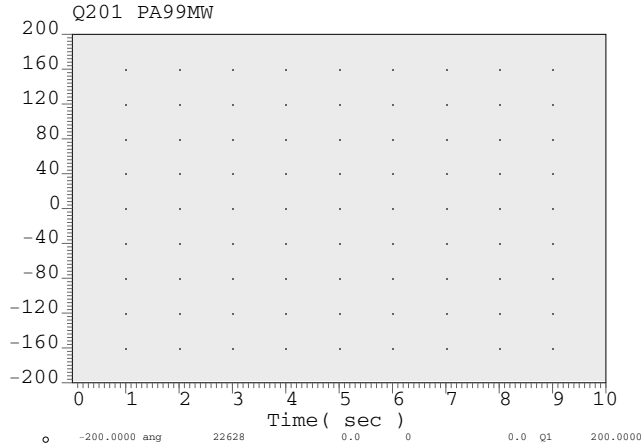






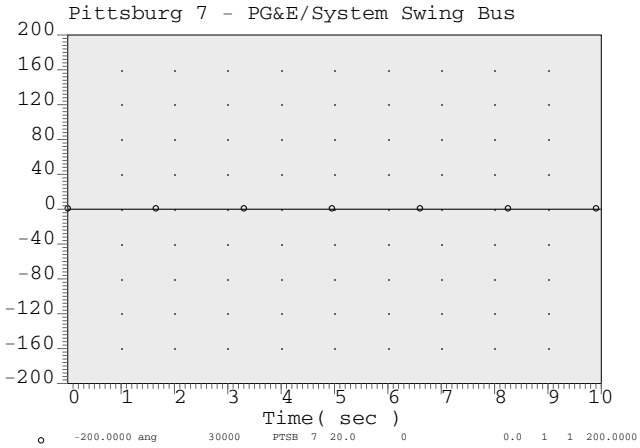


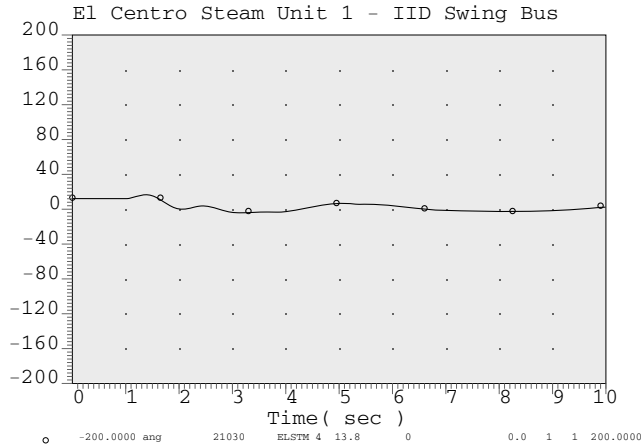


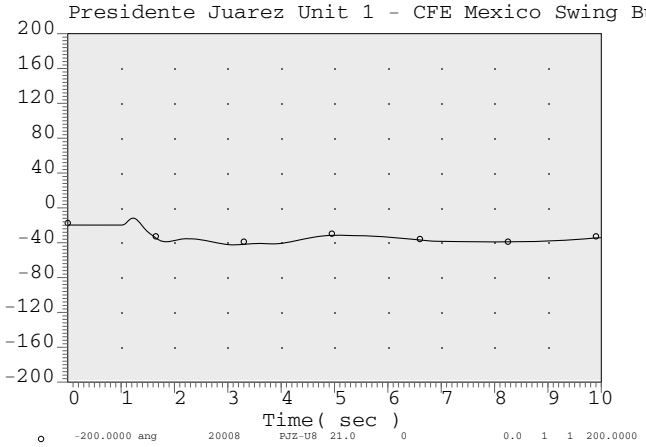


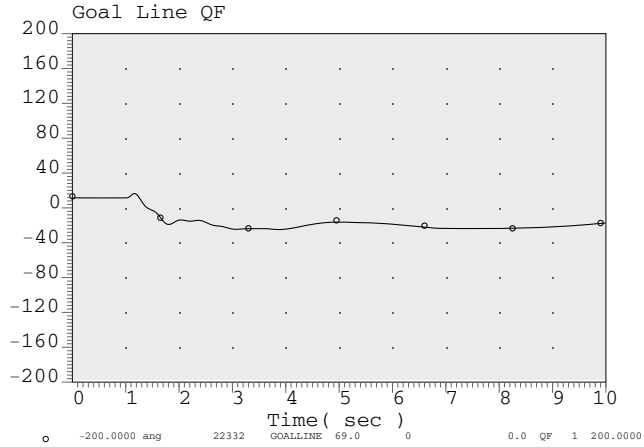
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

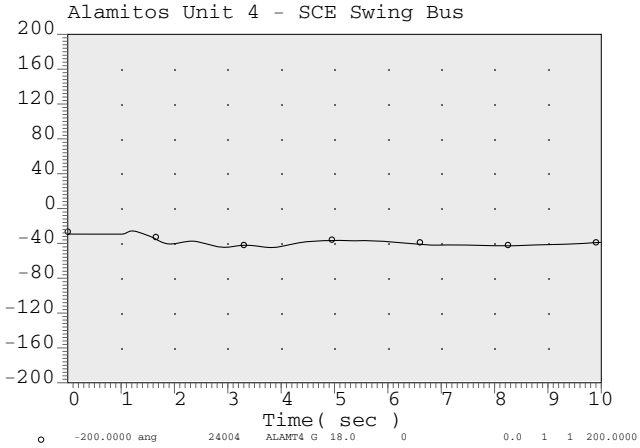
Relative Rotor Angle

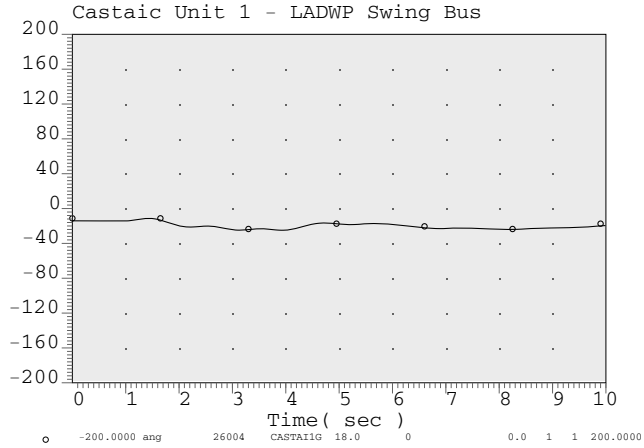






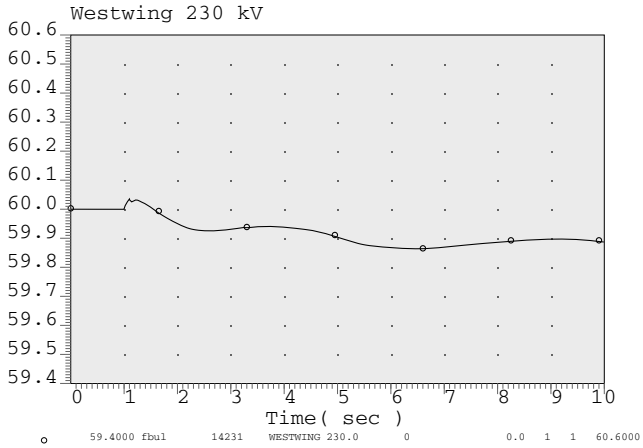


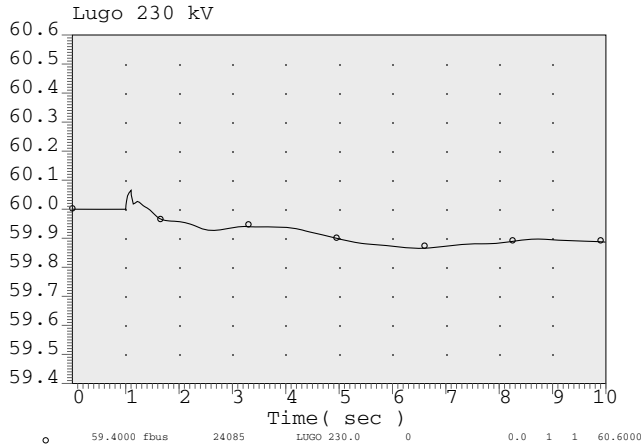


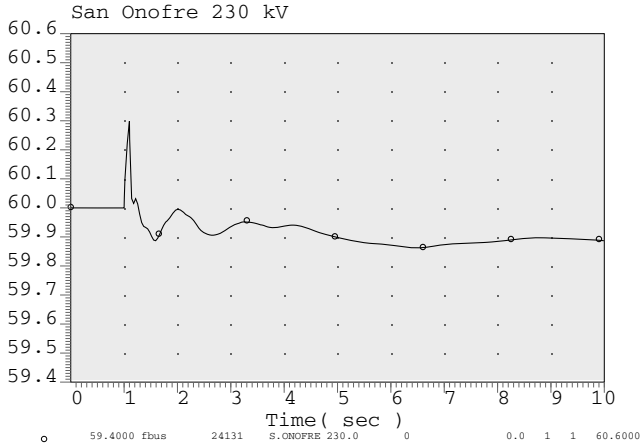


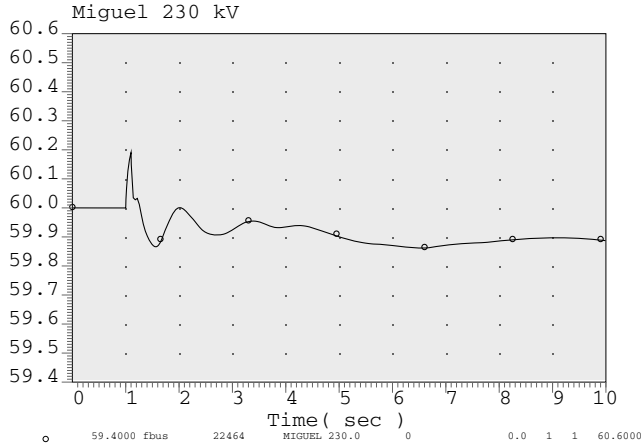
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

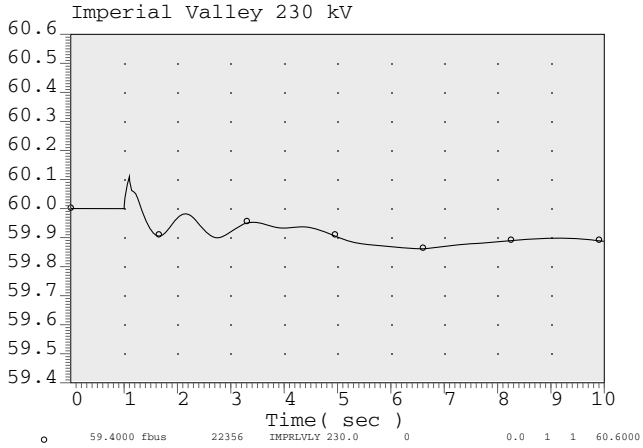
Bus Frequency

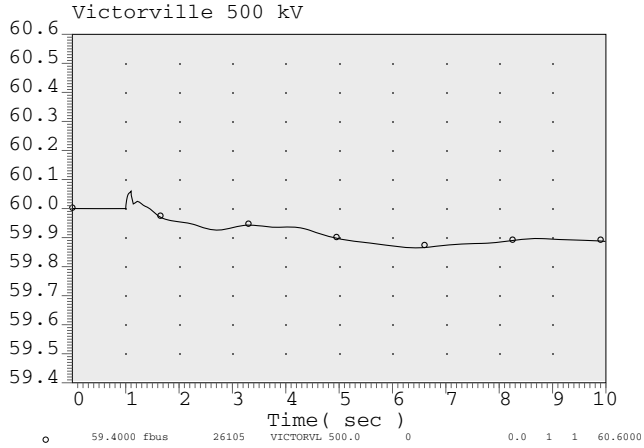






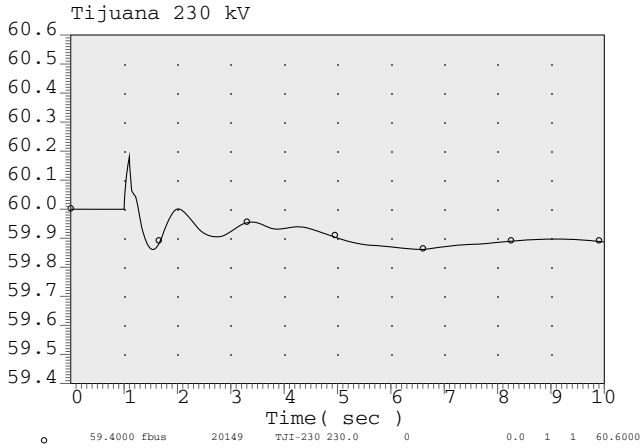


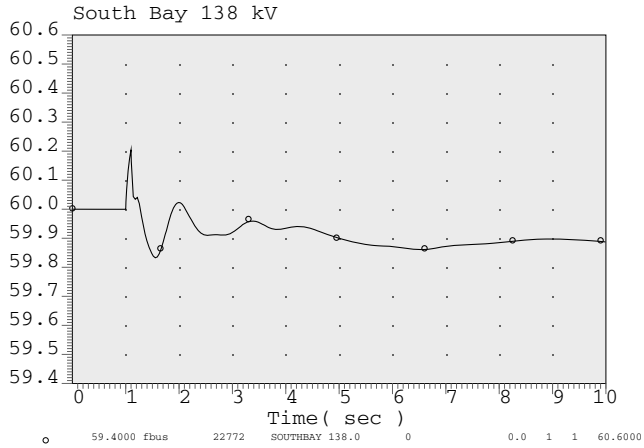


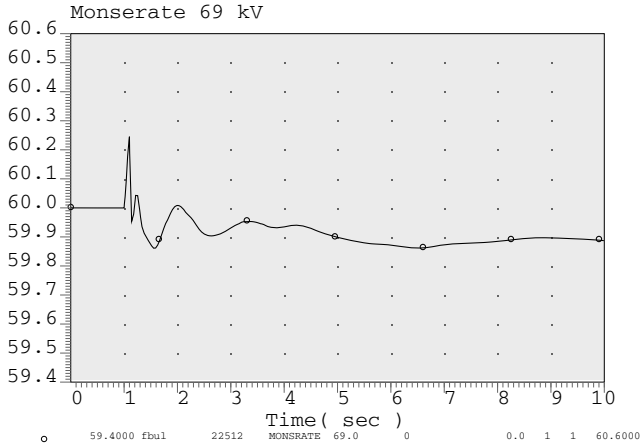


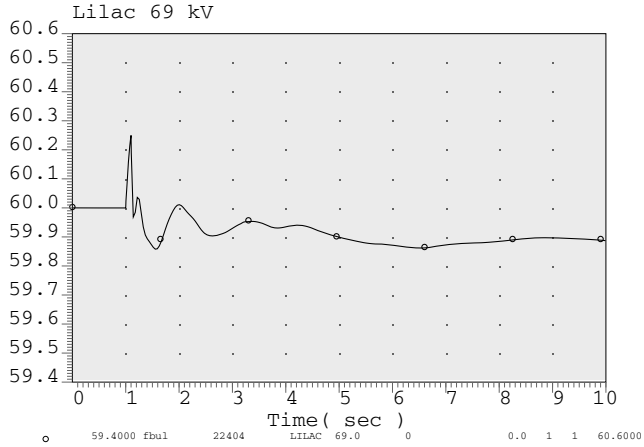
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

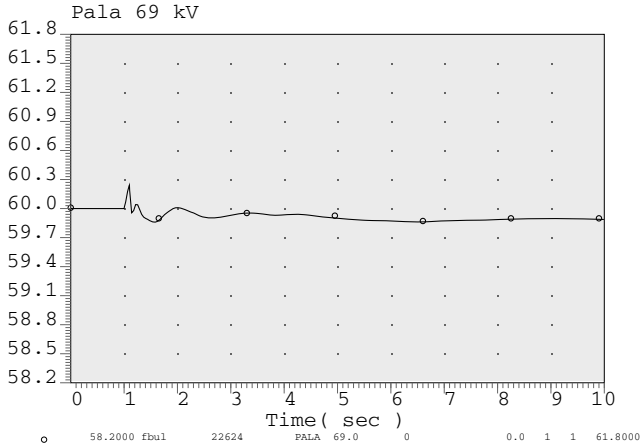
Bus Frequency

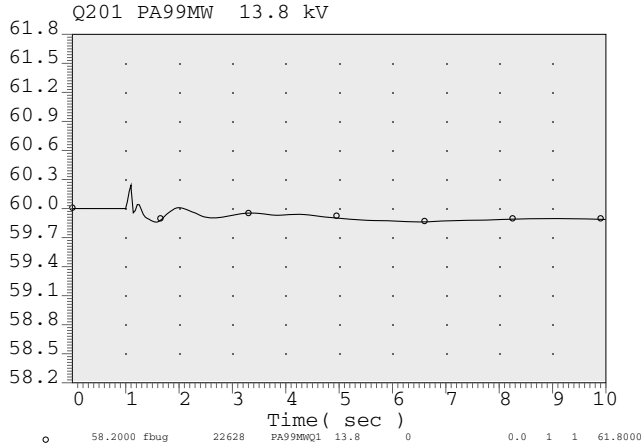






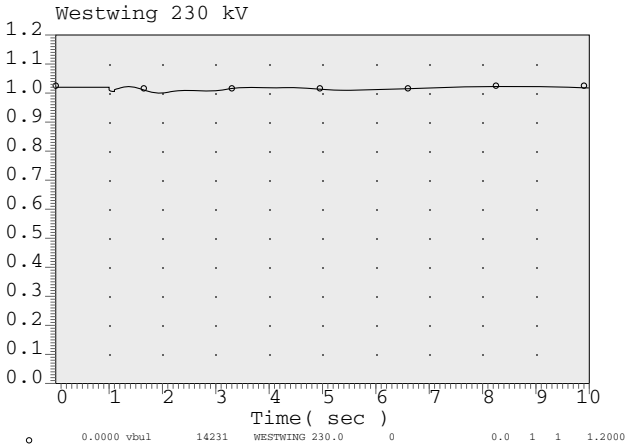


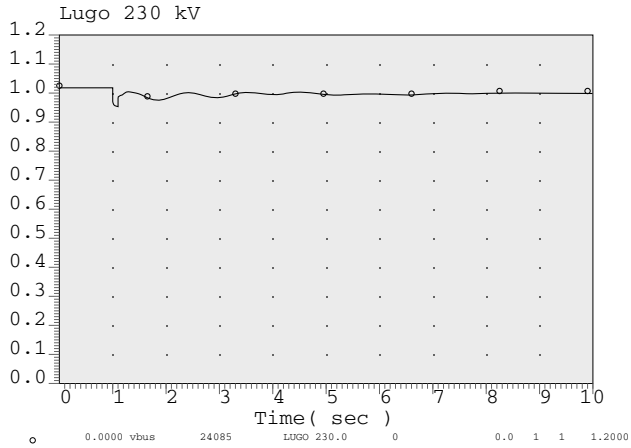


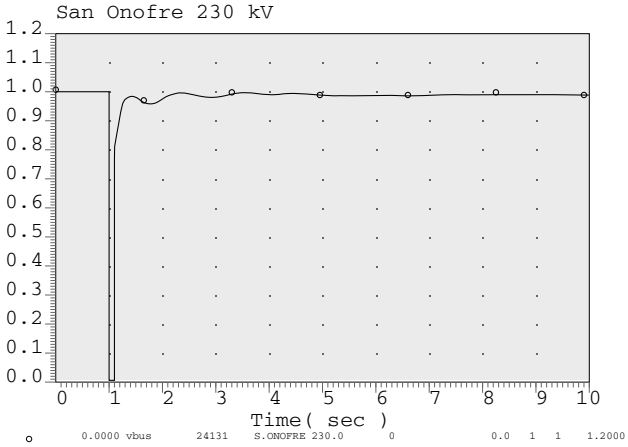


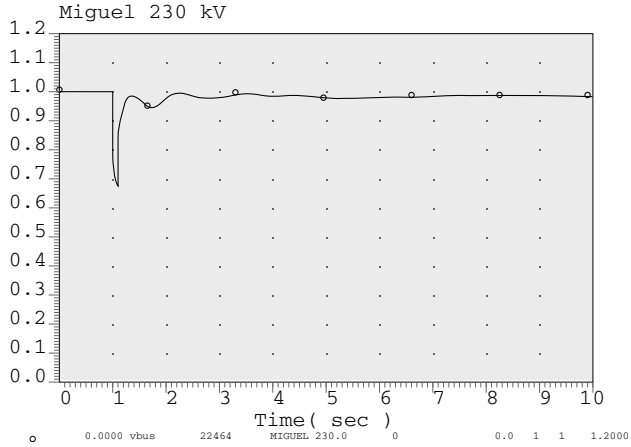
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

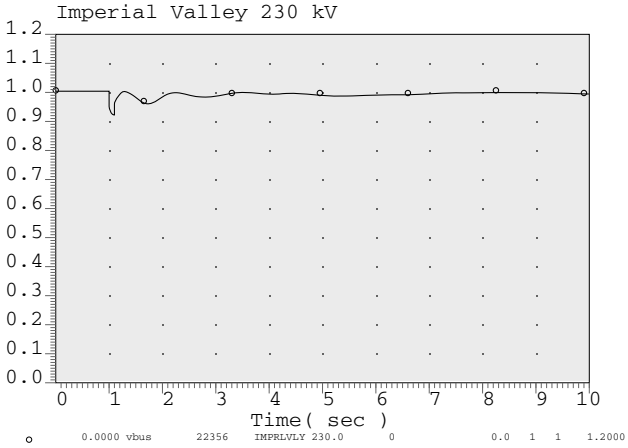
Bus Voltage

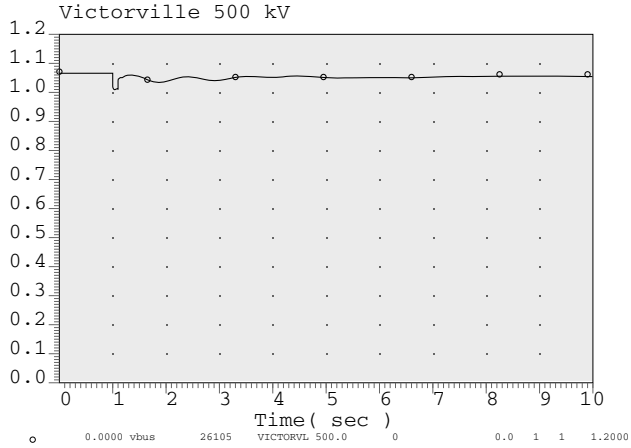






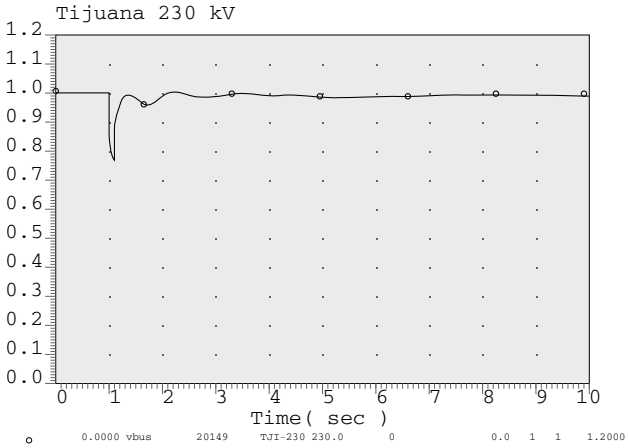


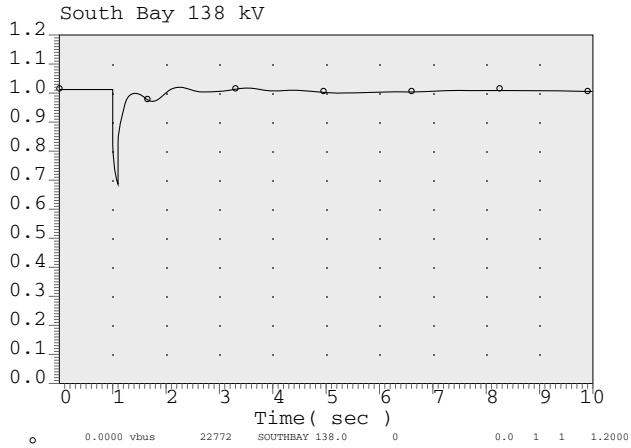


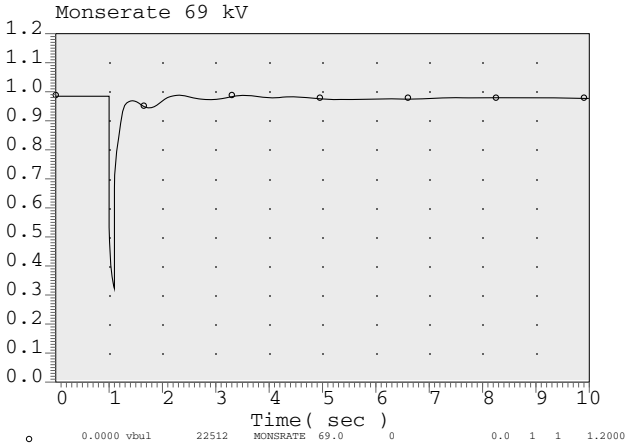


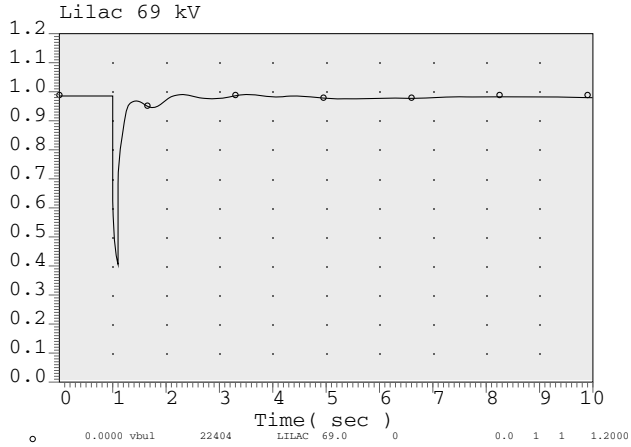
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

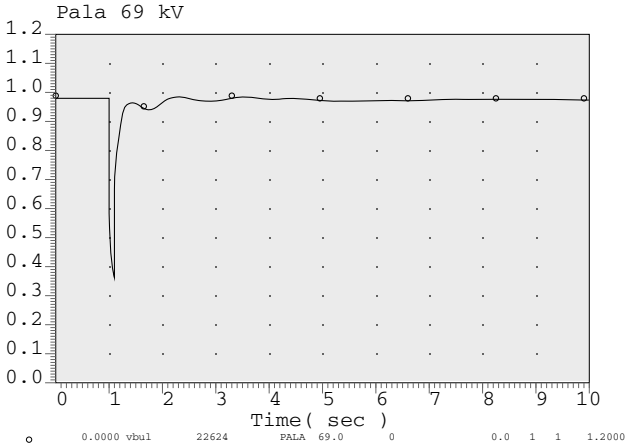
Bus Voltage

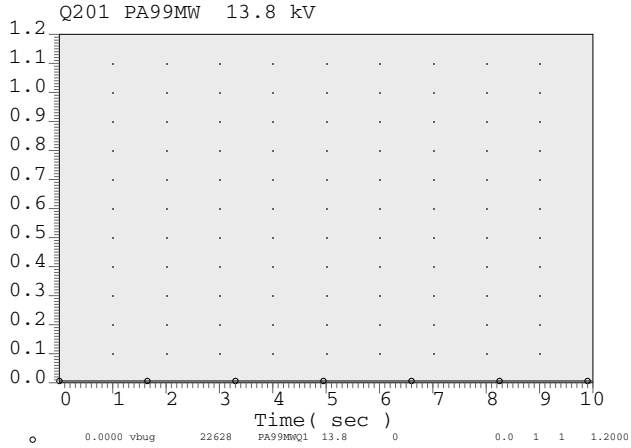






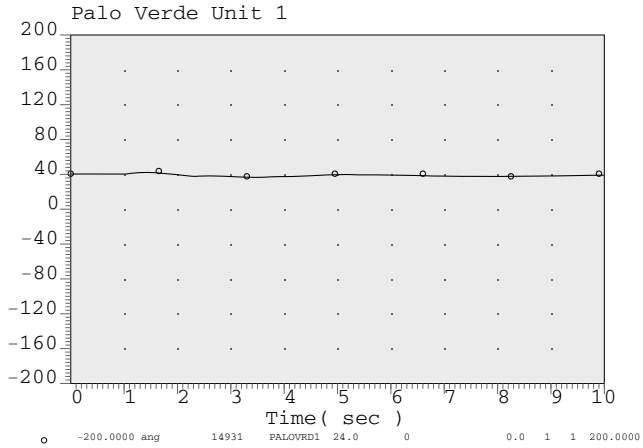


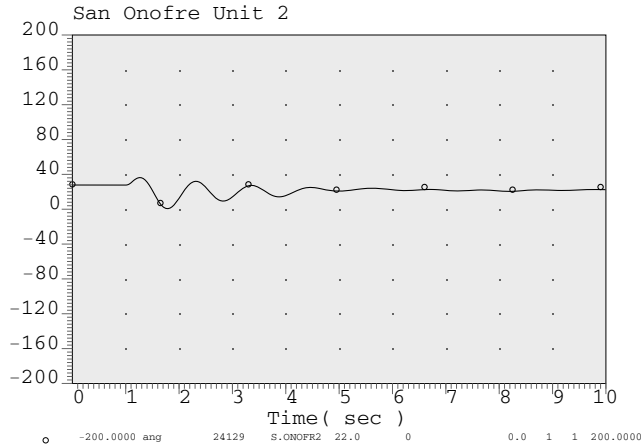


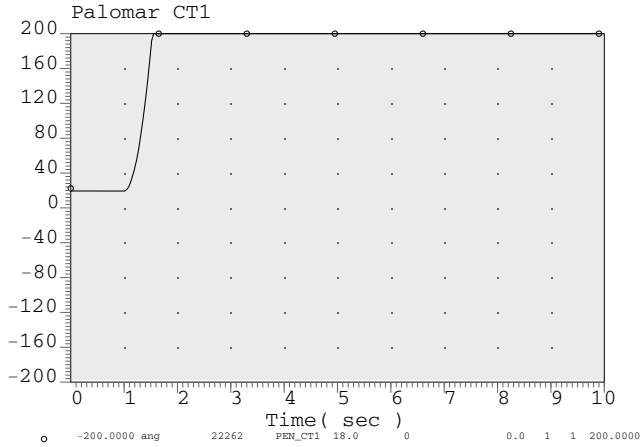


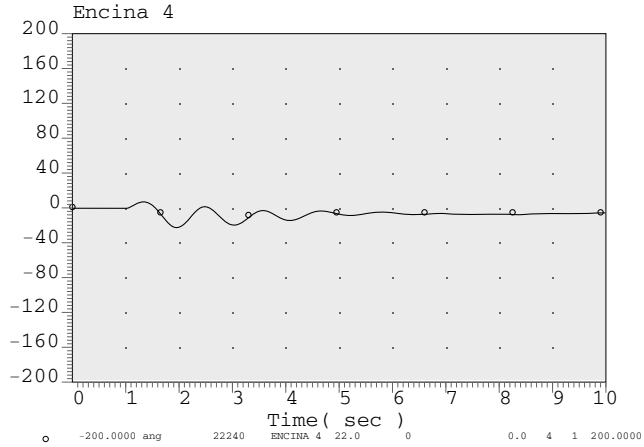
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

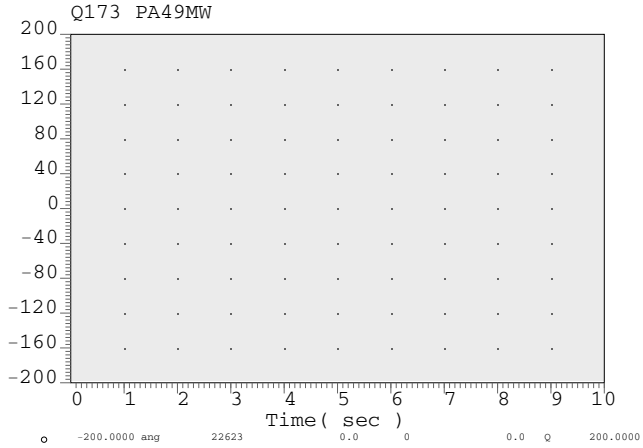
Relative Rotor Angle

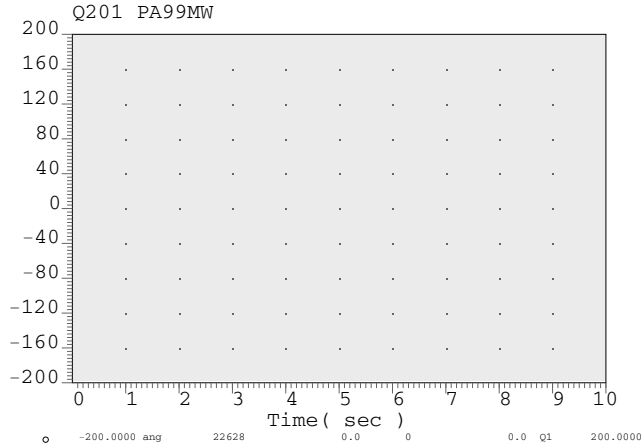






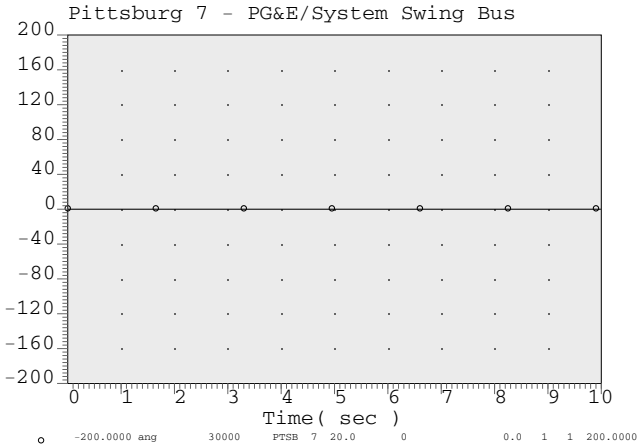


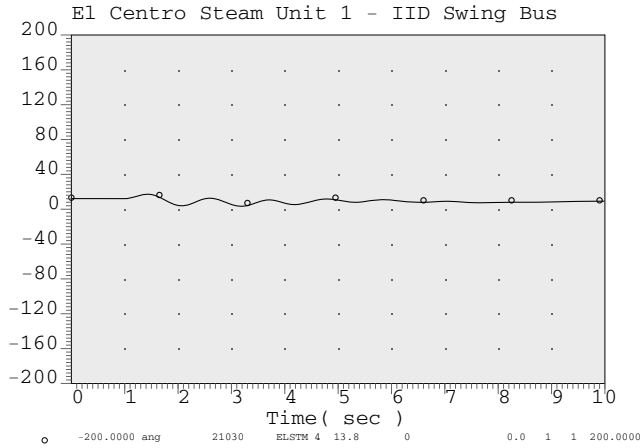


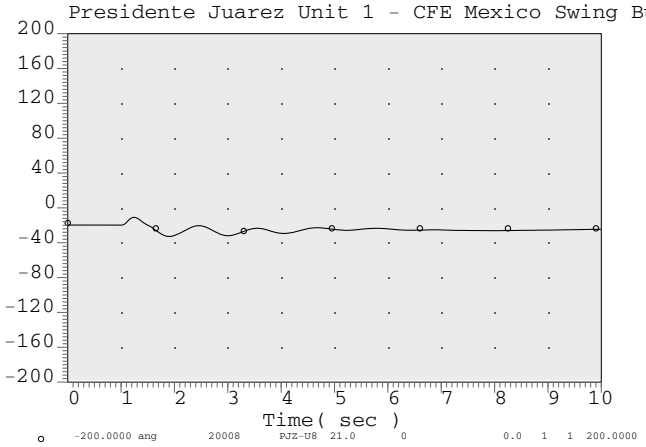


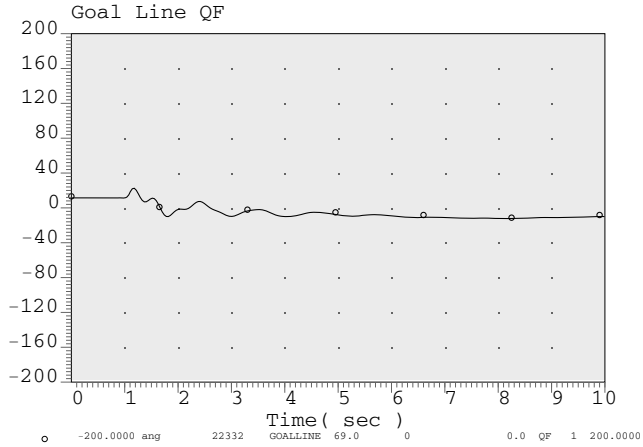
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

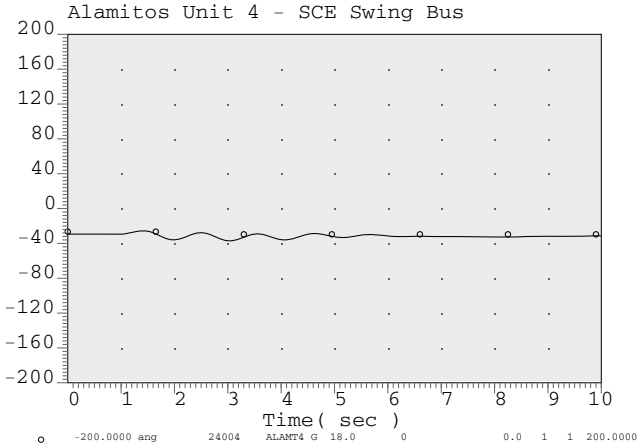
Relative Rotor Angle

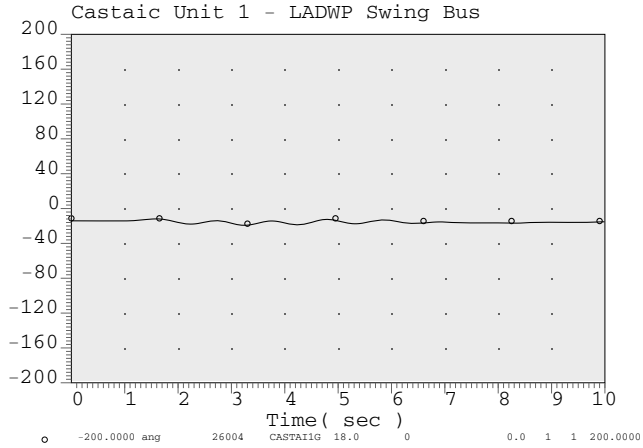






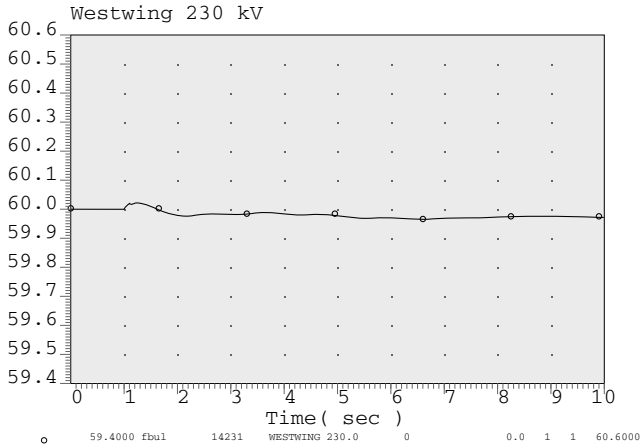


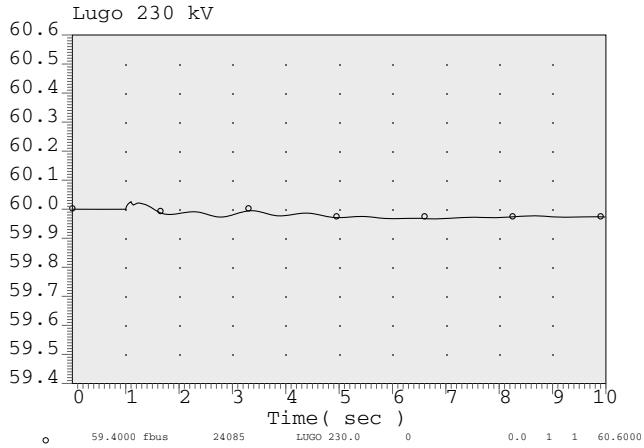


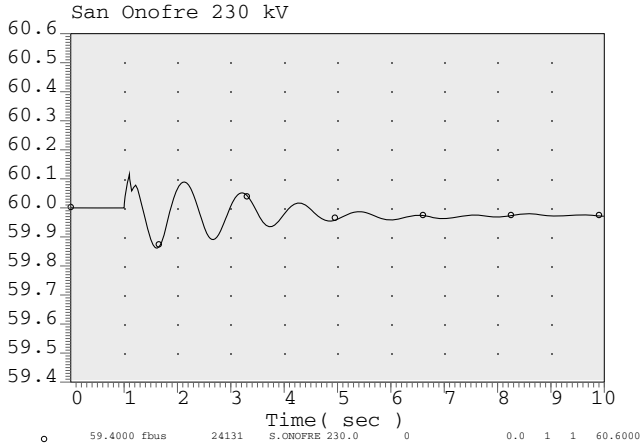


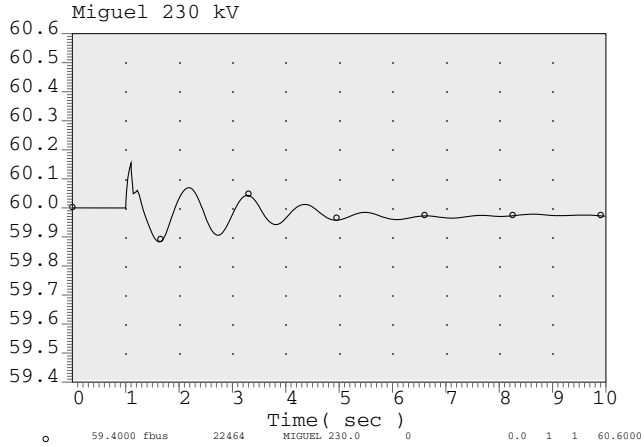
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

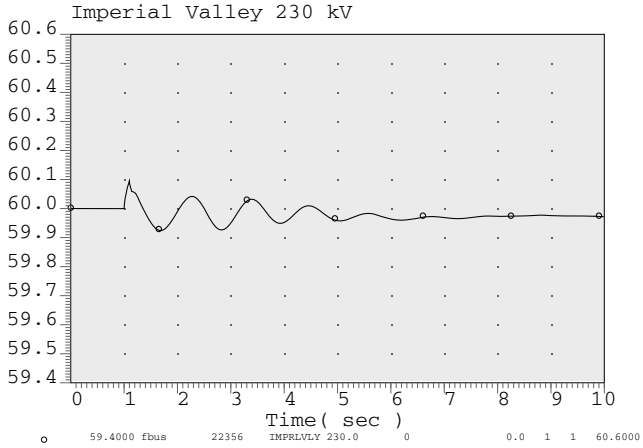
Bus Frequency

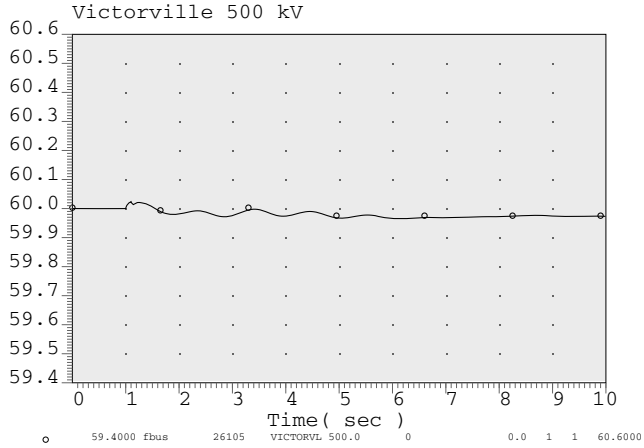






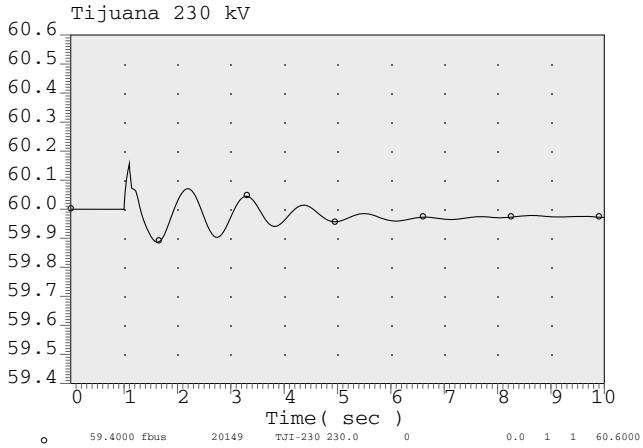


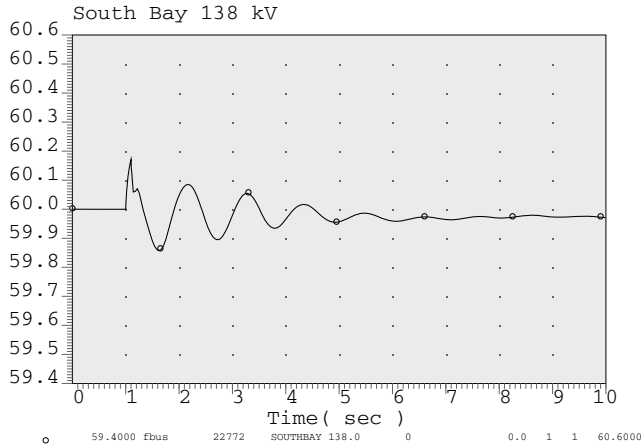


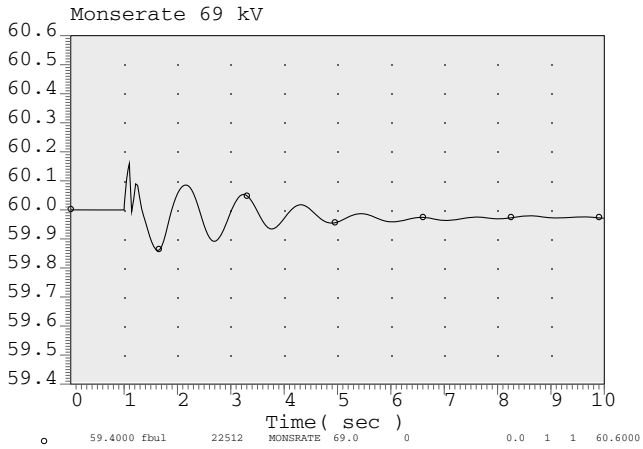


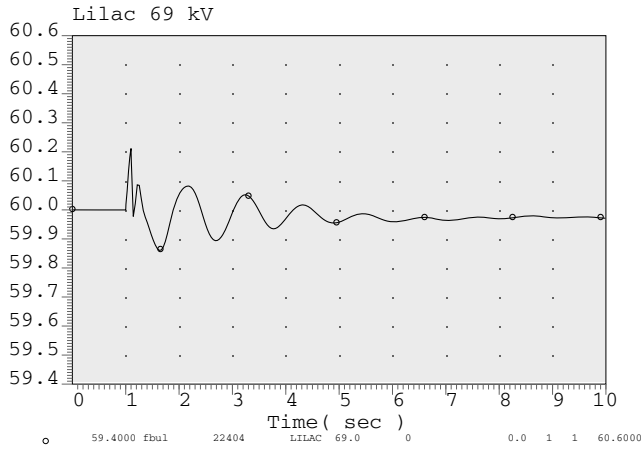
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

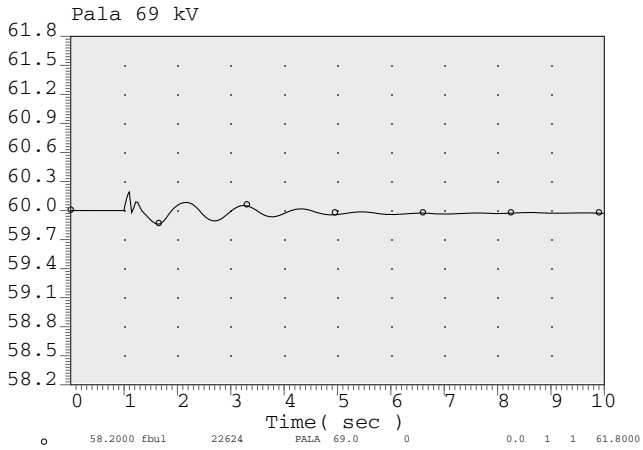
Bus Frequency

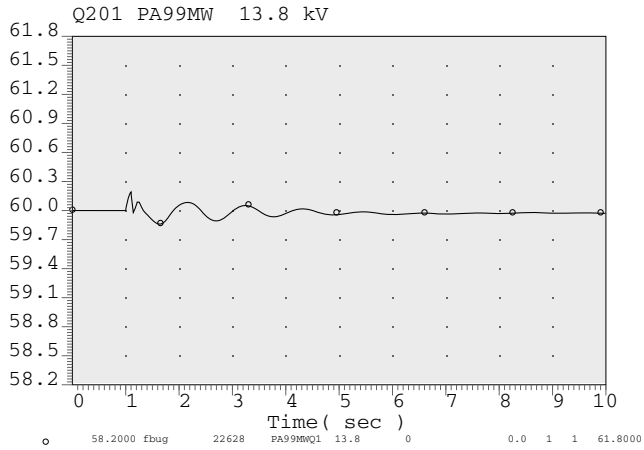






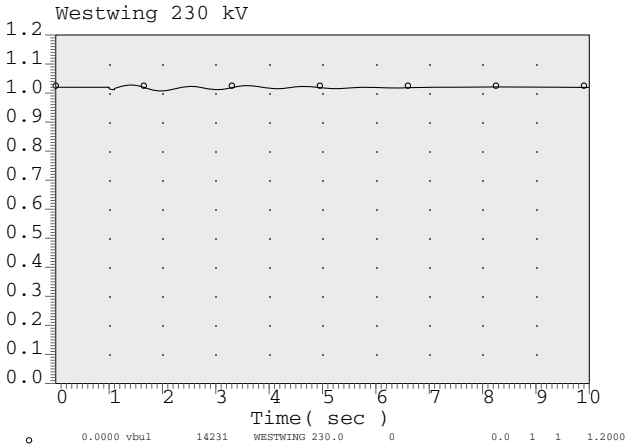


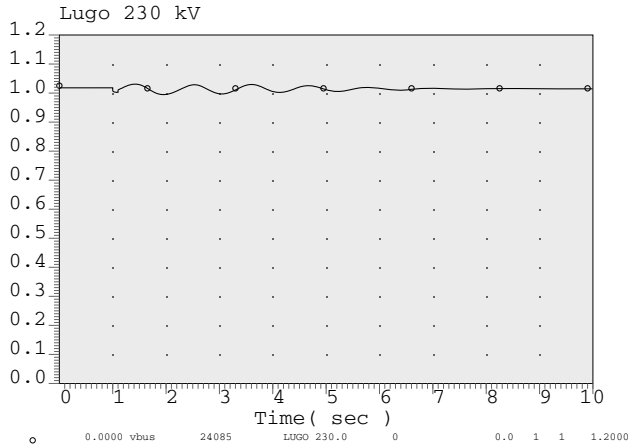


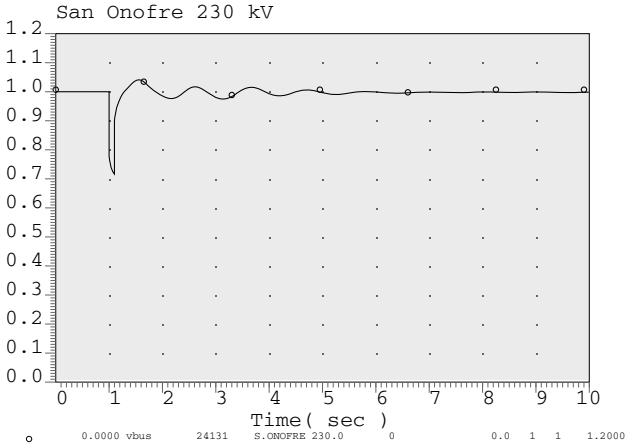


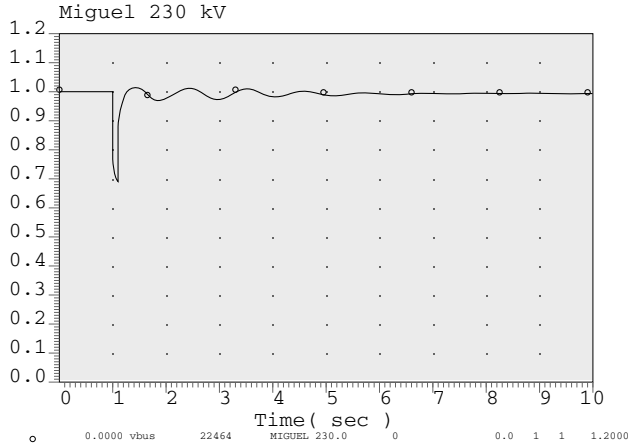
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

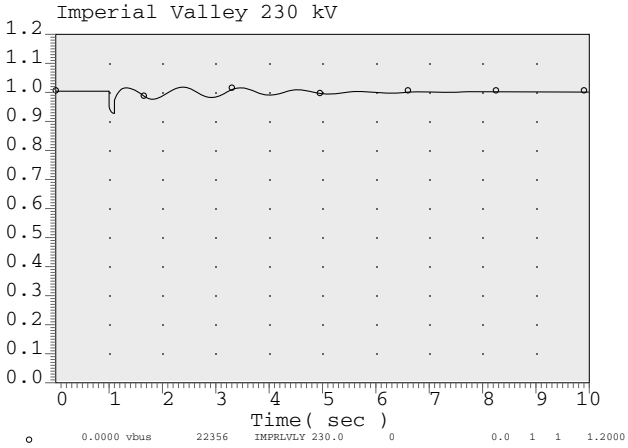
Bus Voltage

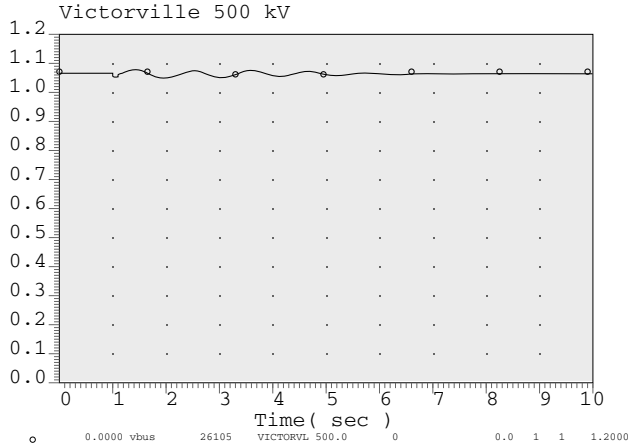






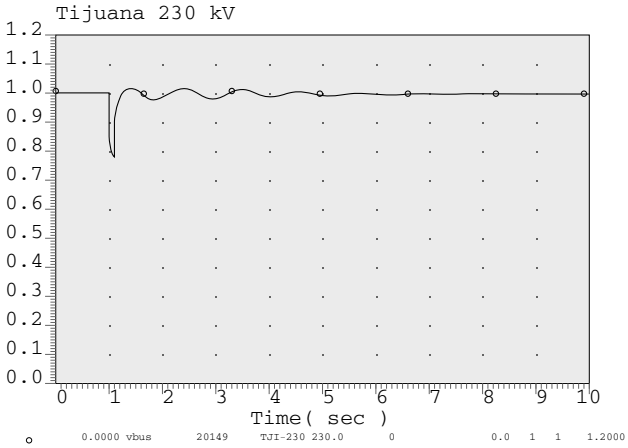


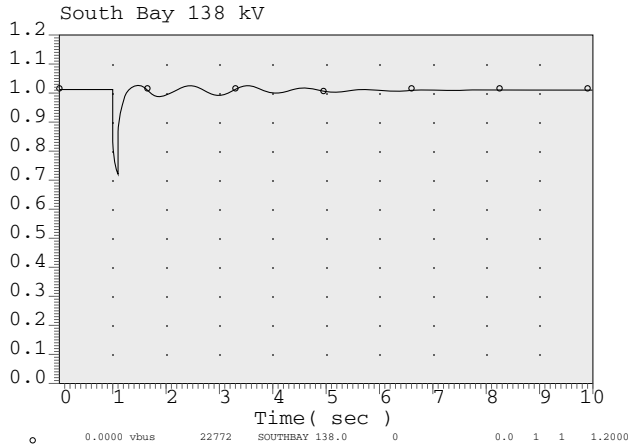


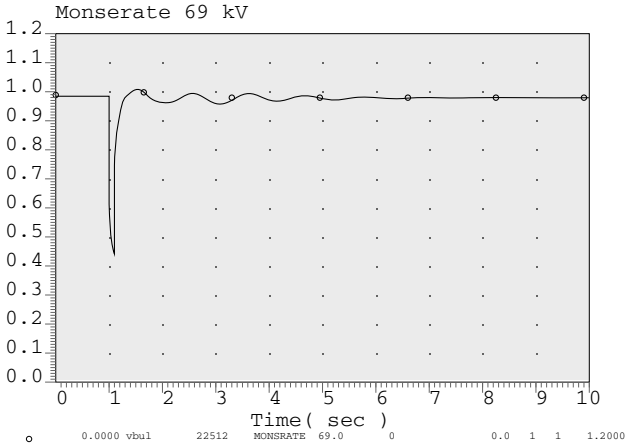


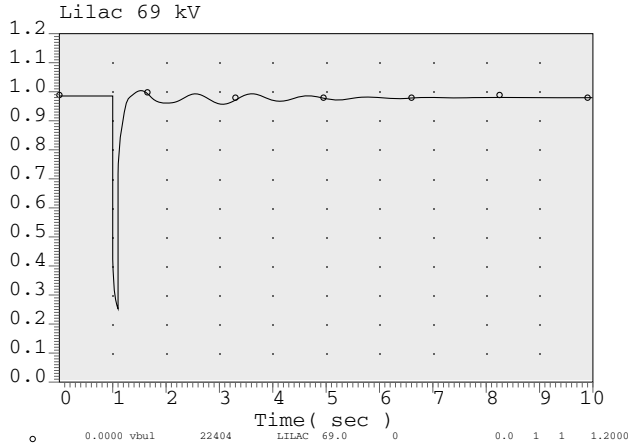
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

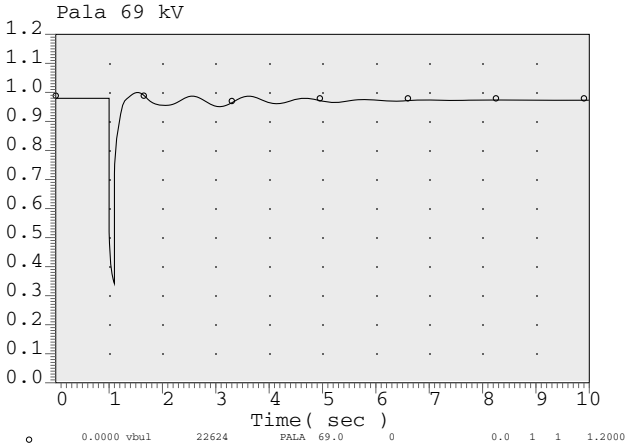
Bus Voltage

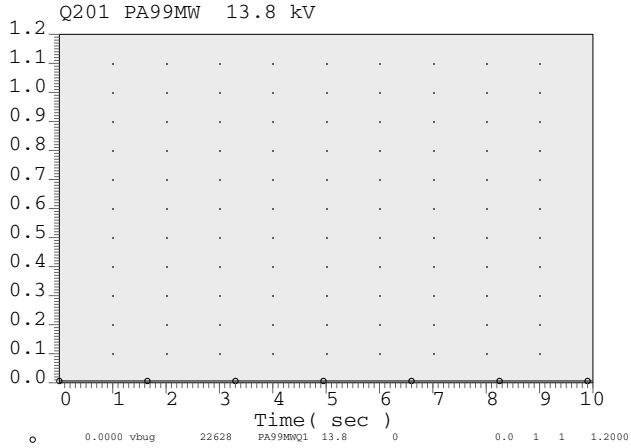






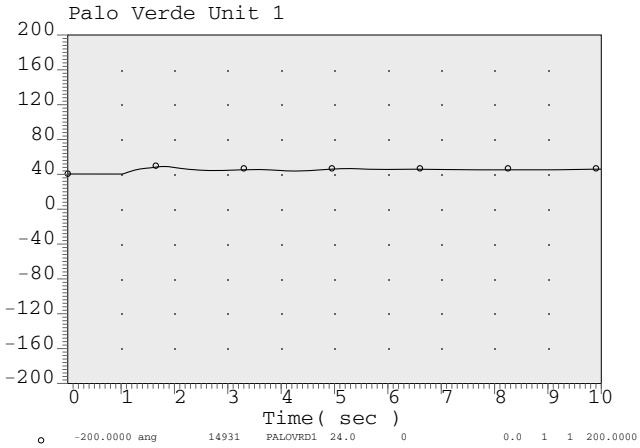


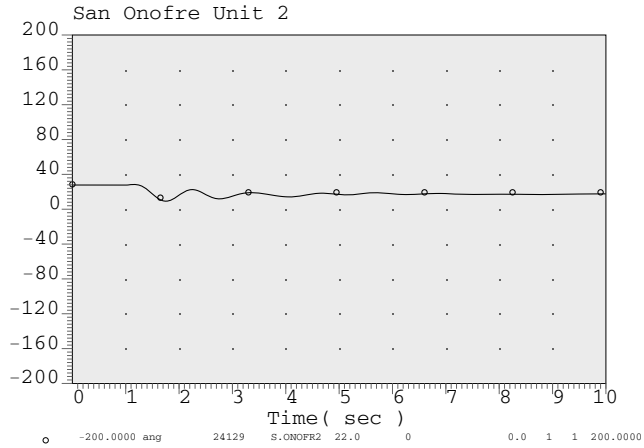


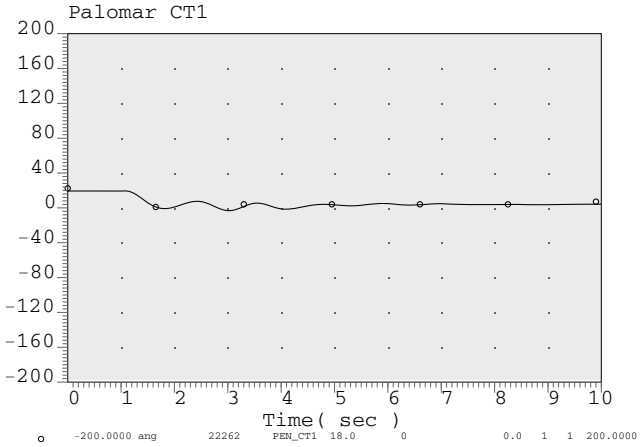


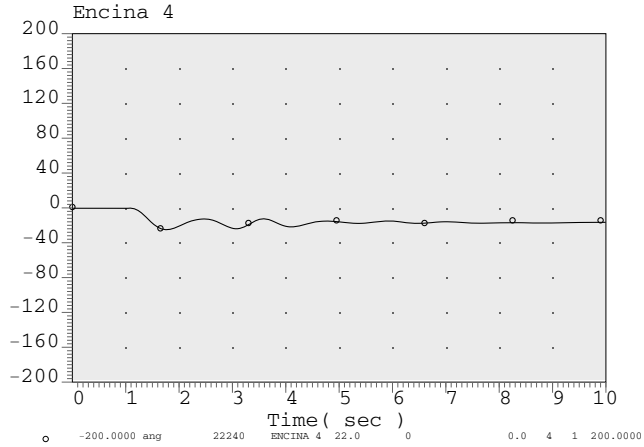
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

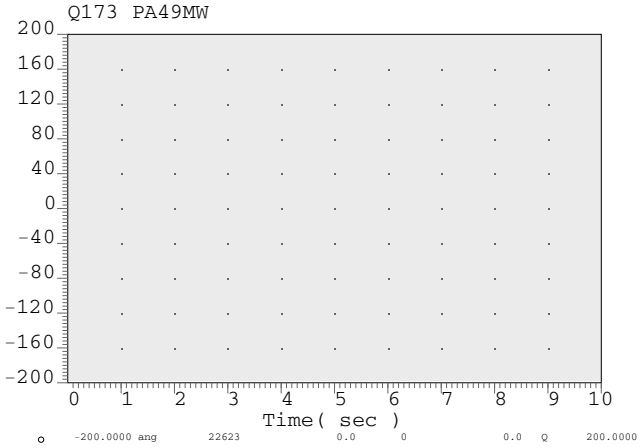
Relative Rotor Angle

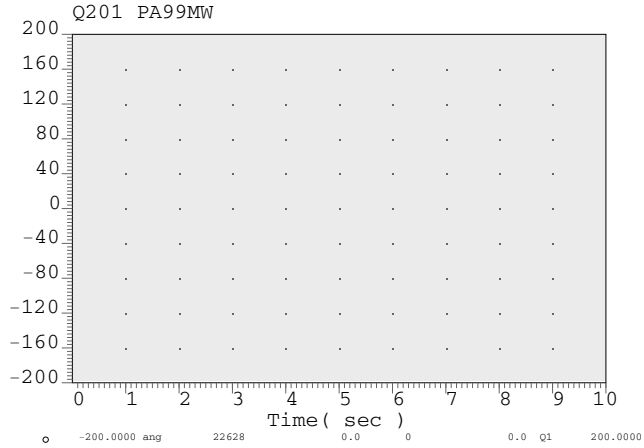






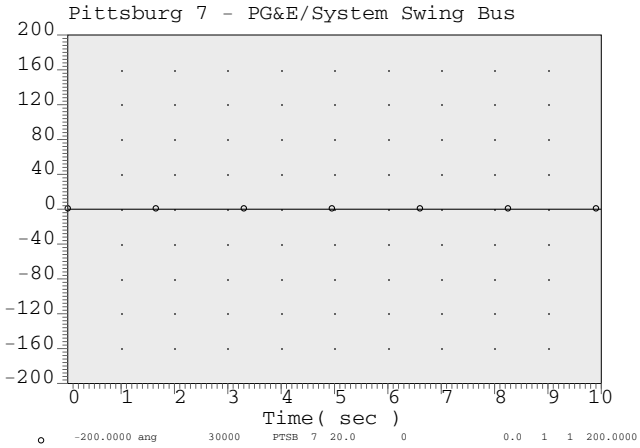


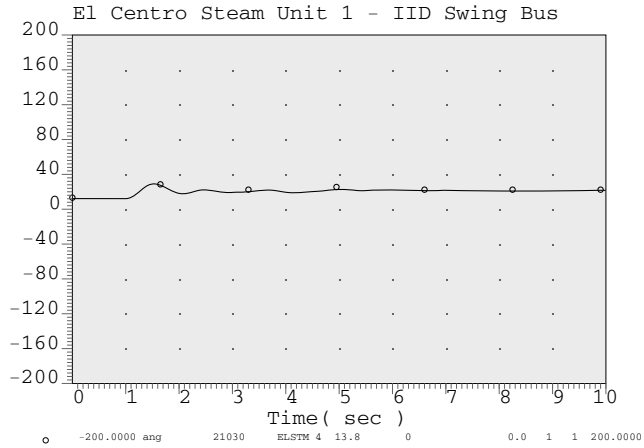


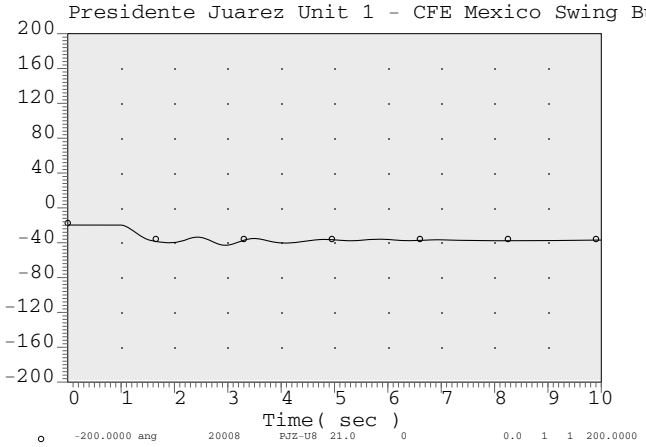


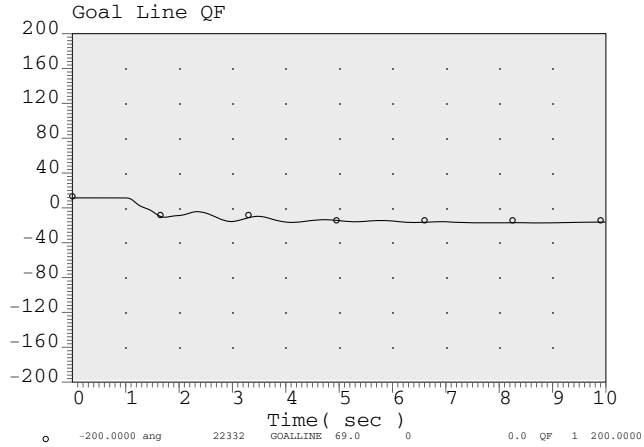
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

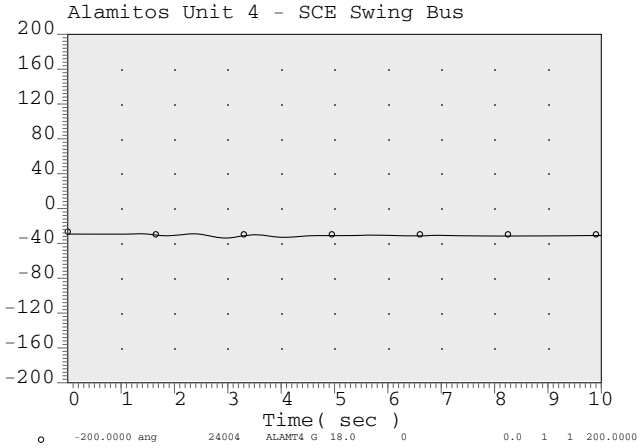
Relative Rotor Angle

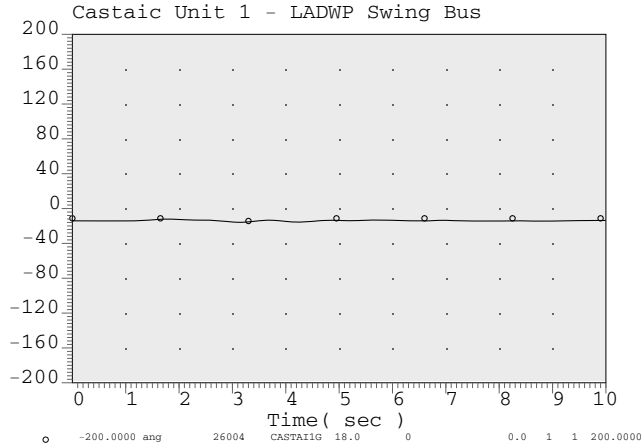






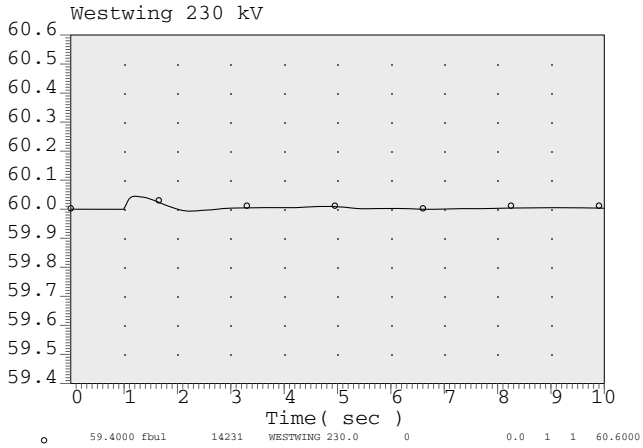


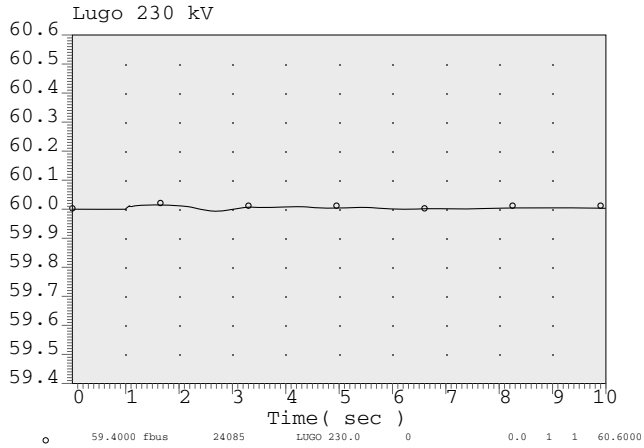


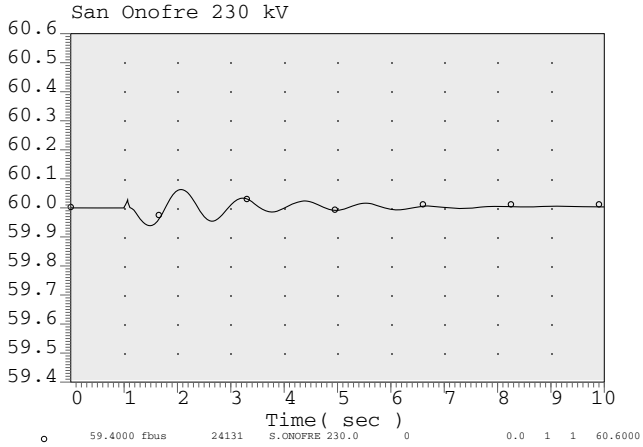


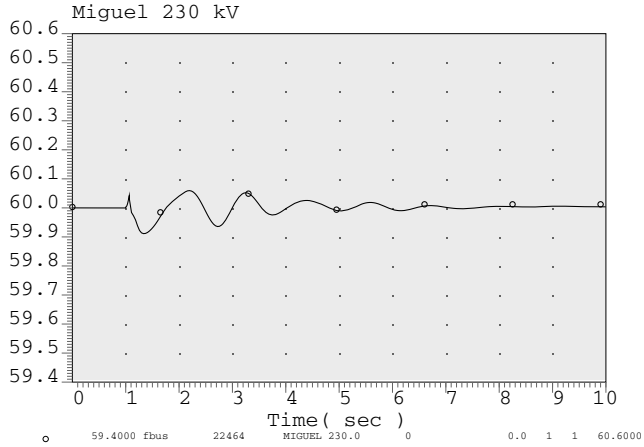
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

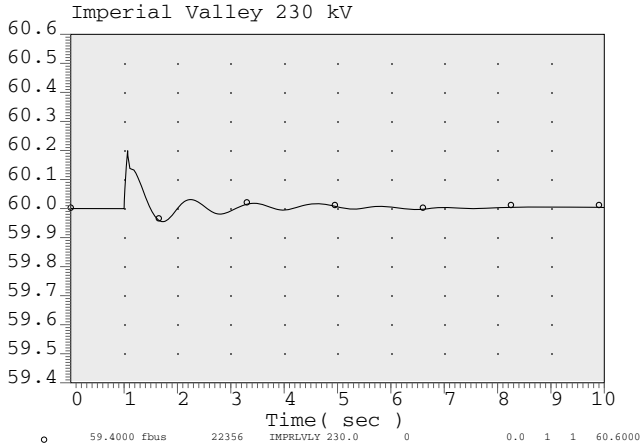
Bus Frequency

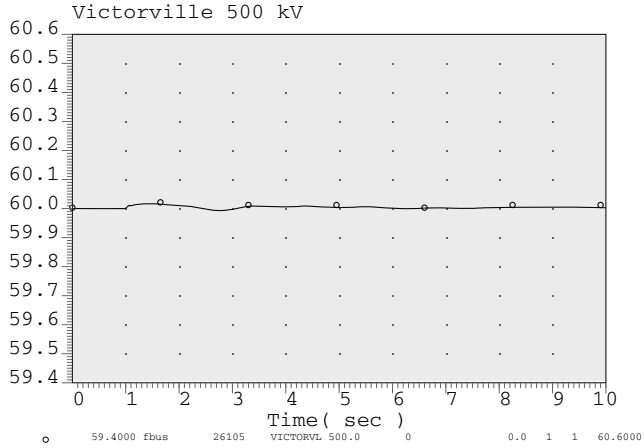






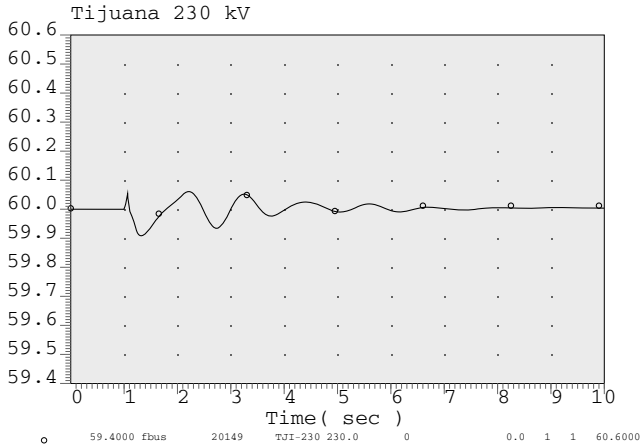


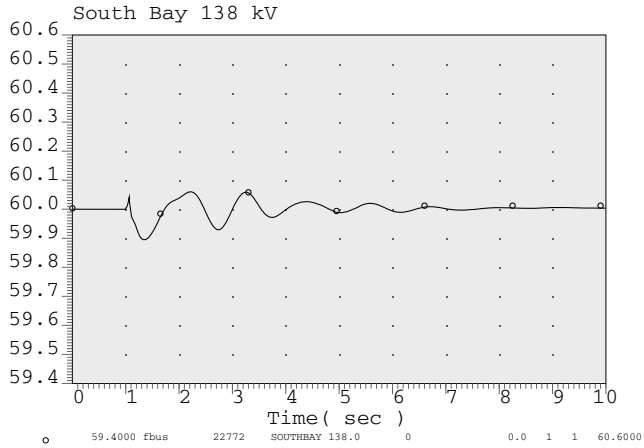


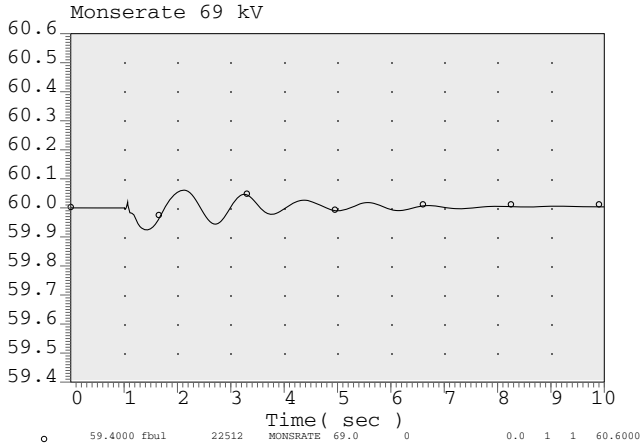


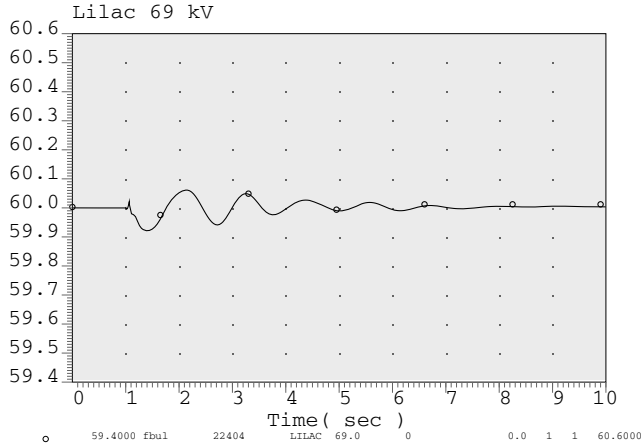
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

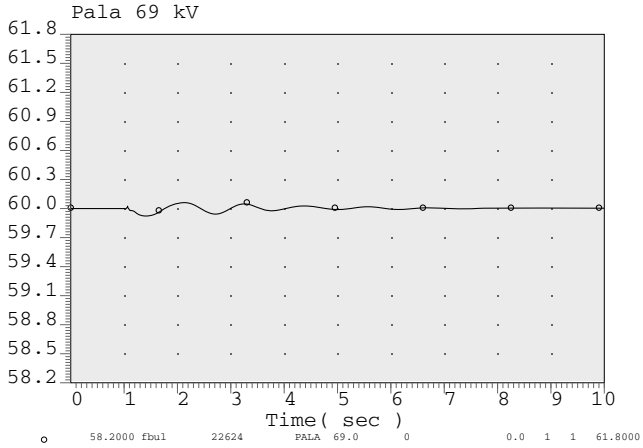
Bus Frequency

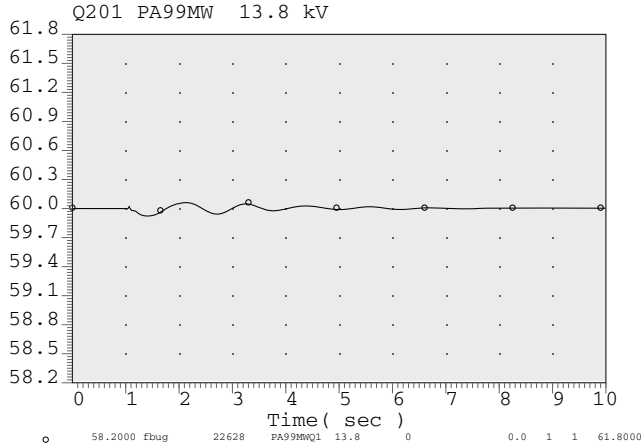






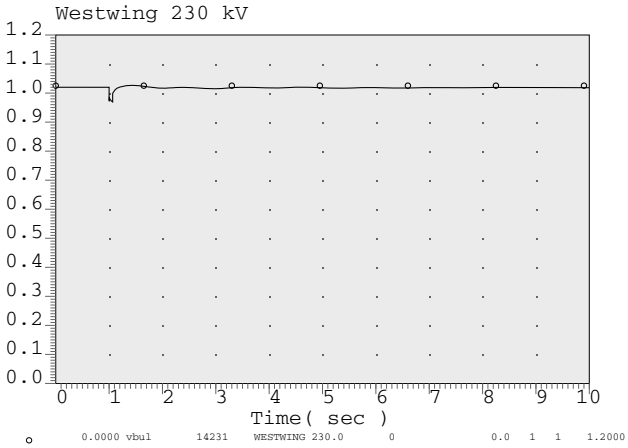


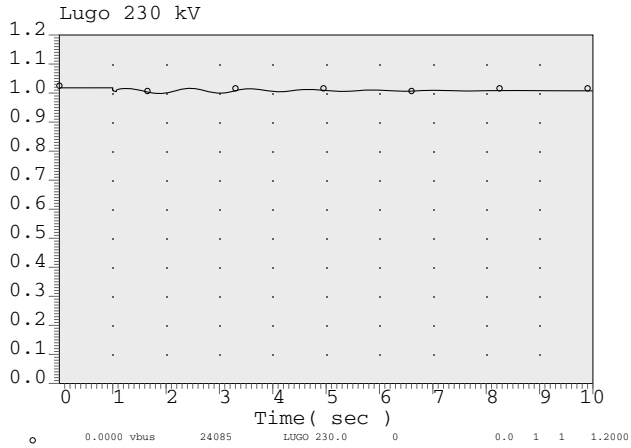


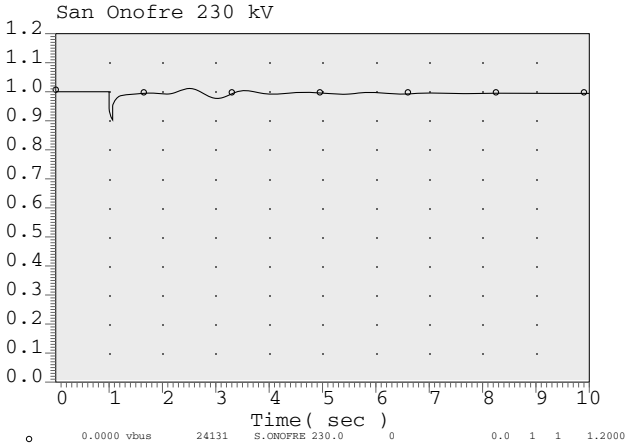


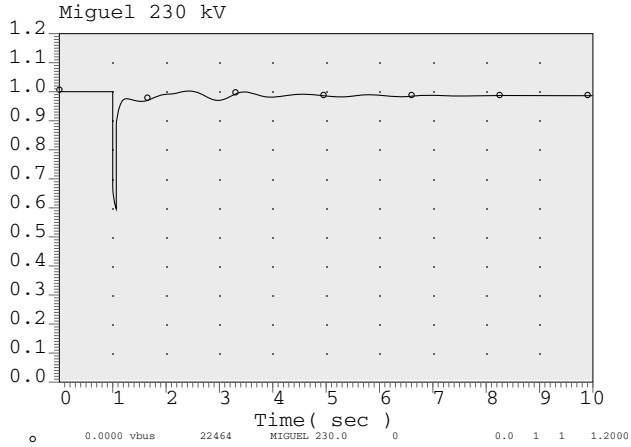
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

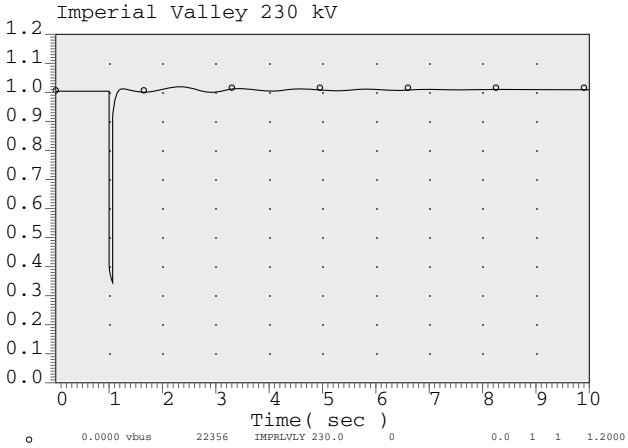
Bus Voltage

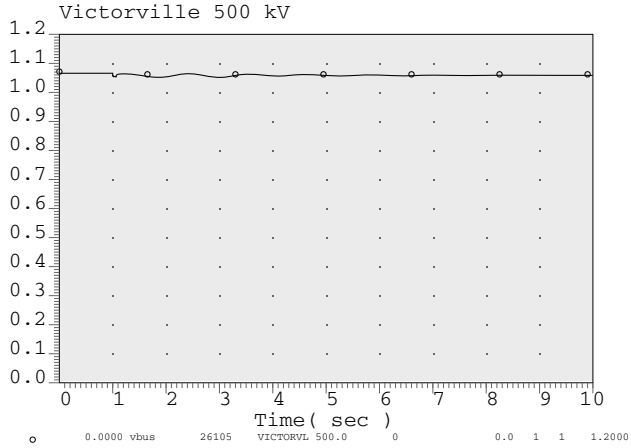






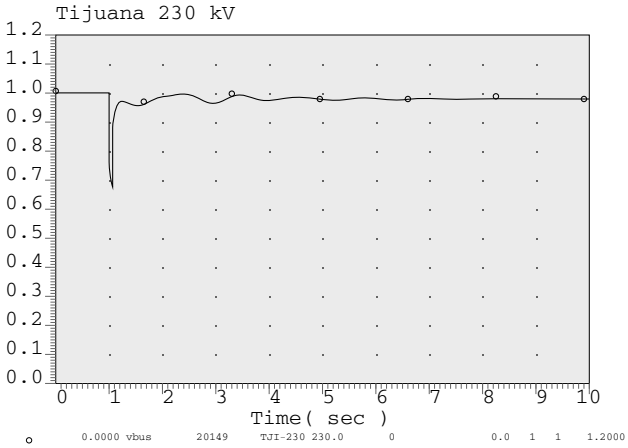


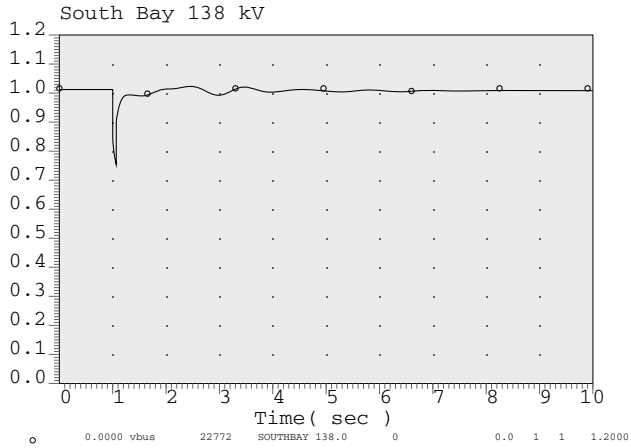


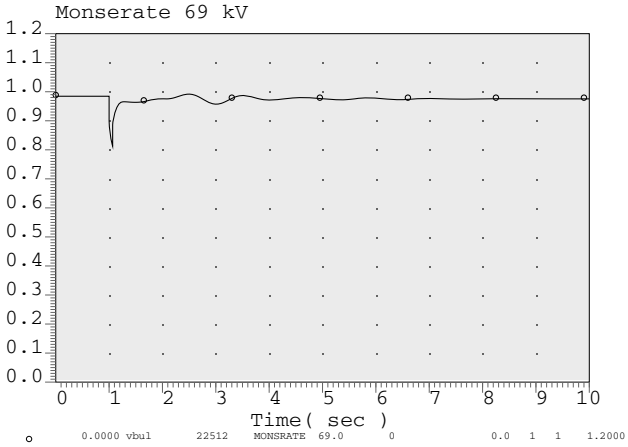


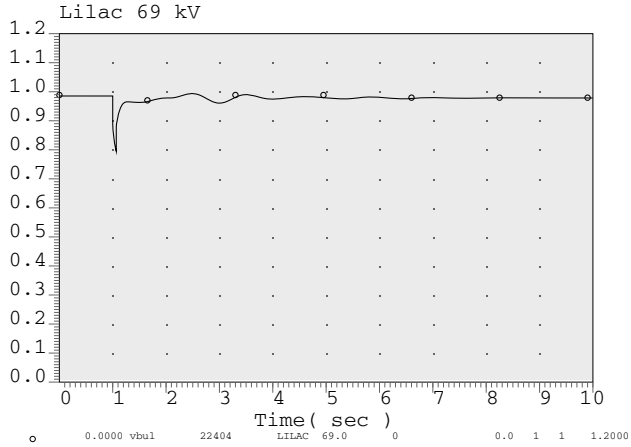
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

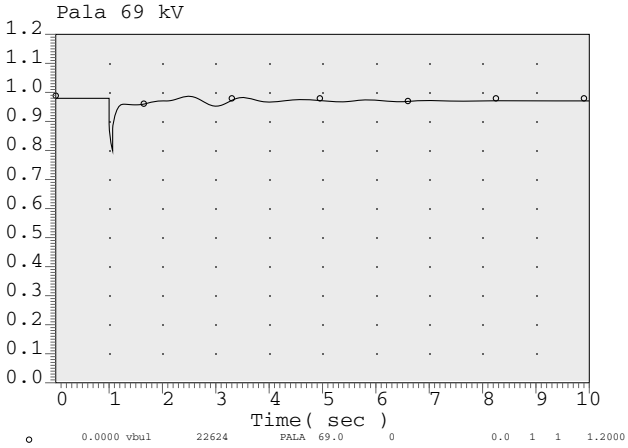
Bus Voltage

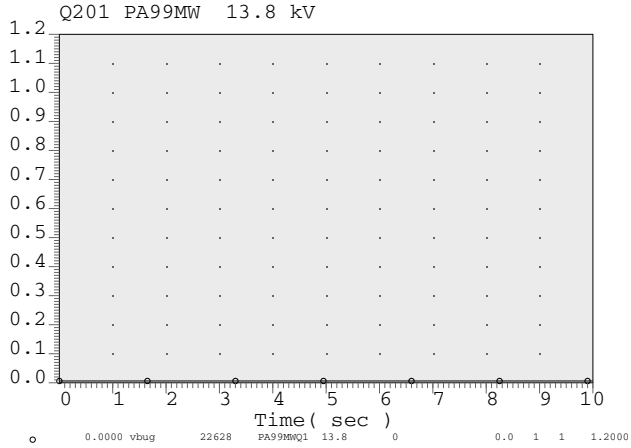






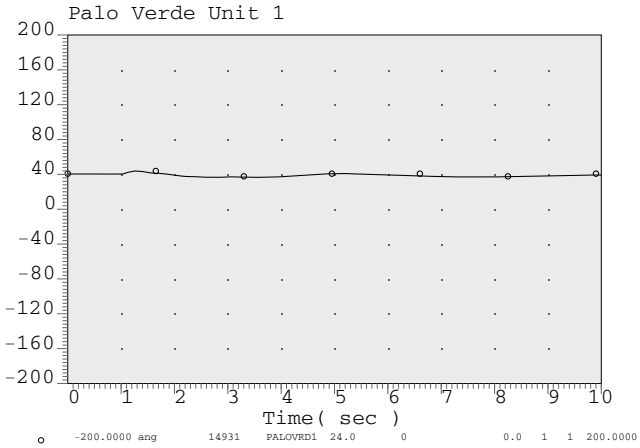


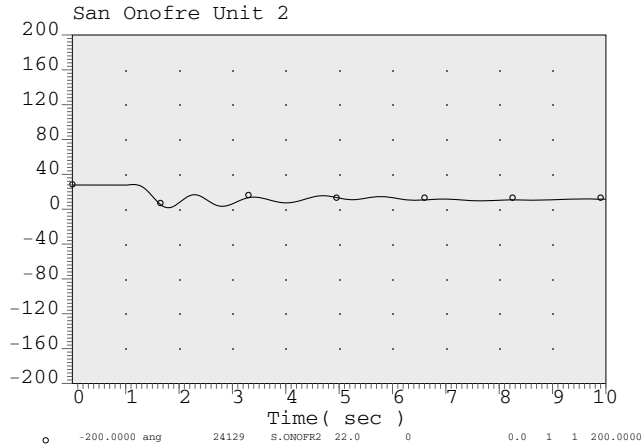


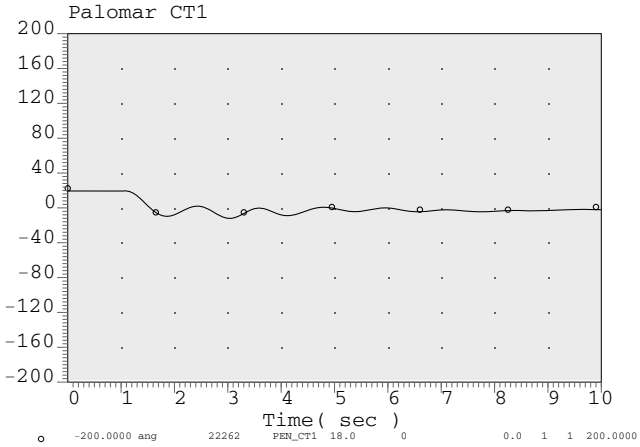


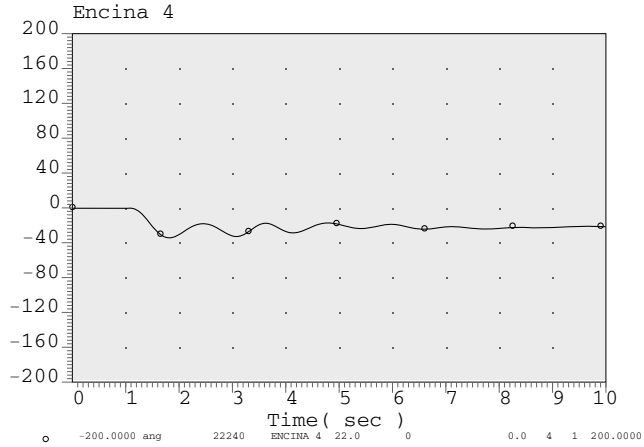
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

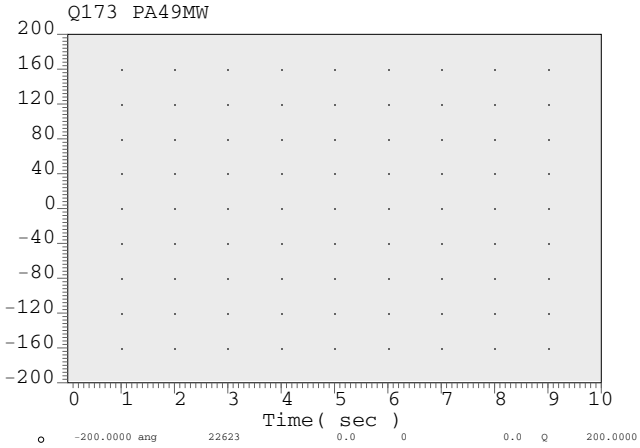
Relative Rotor Angle

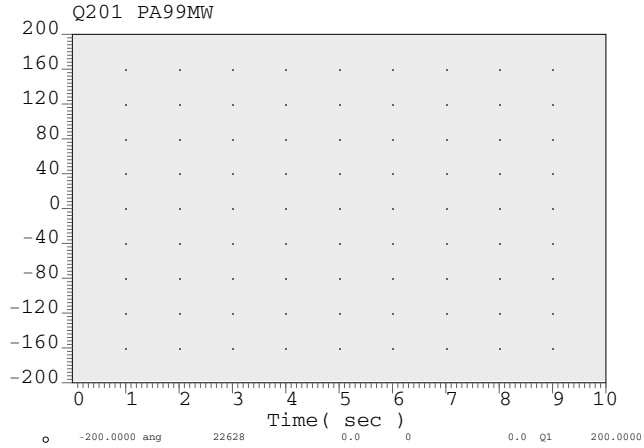






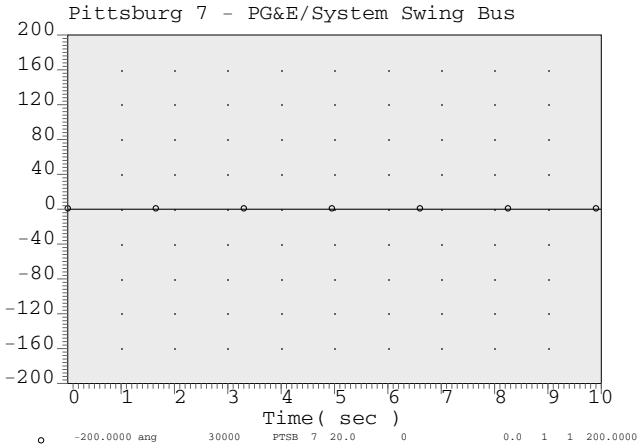


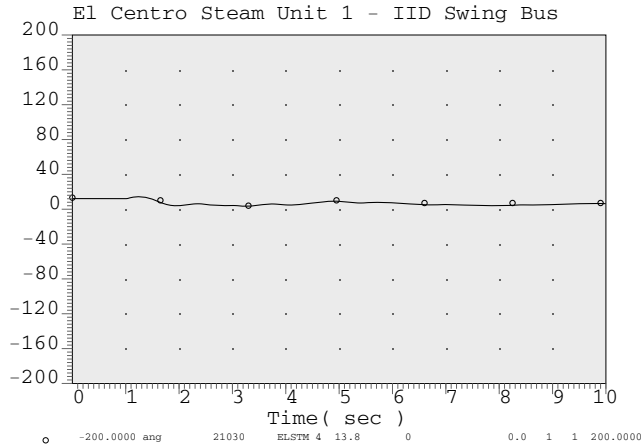


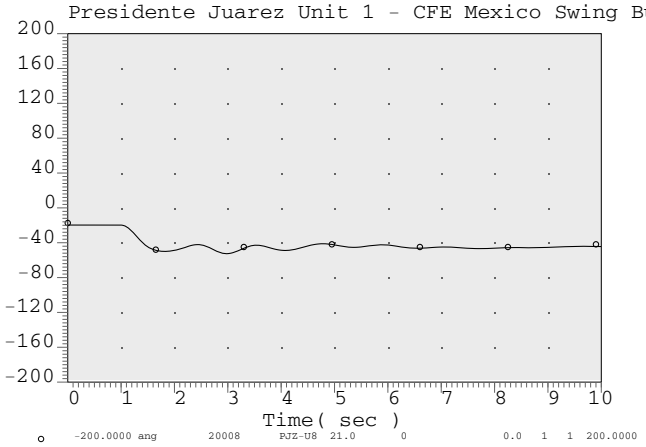


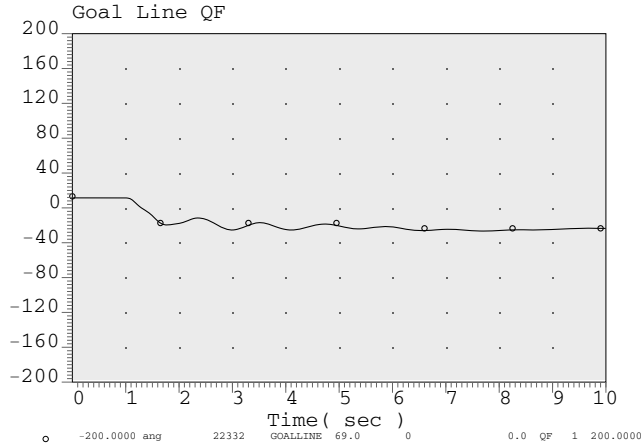
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

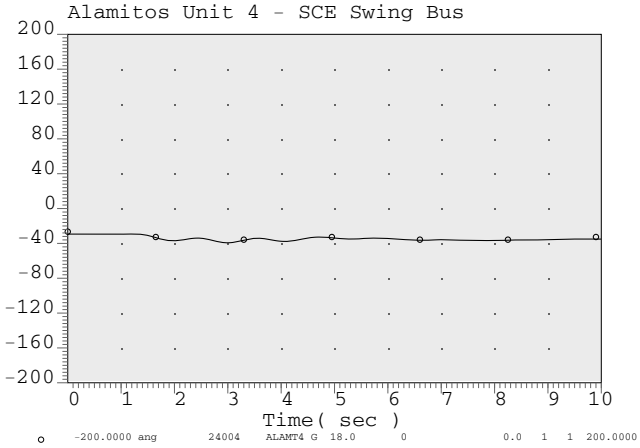
Relative Rotor Angle

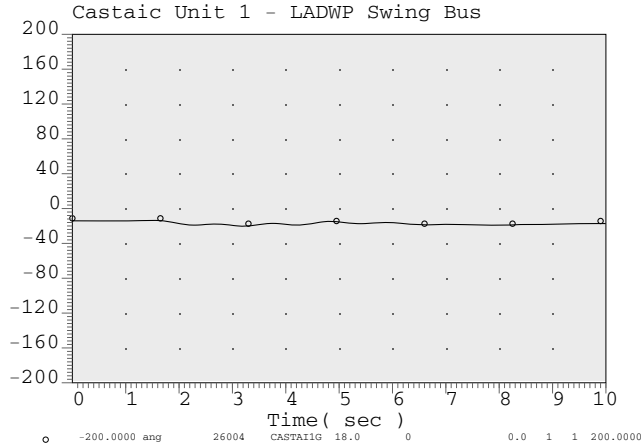






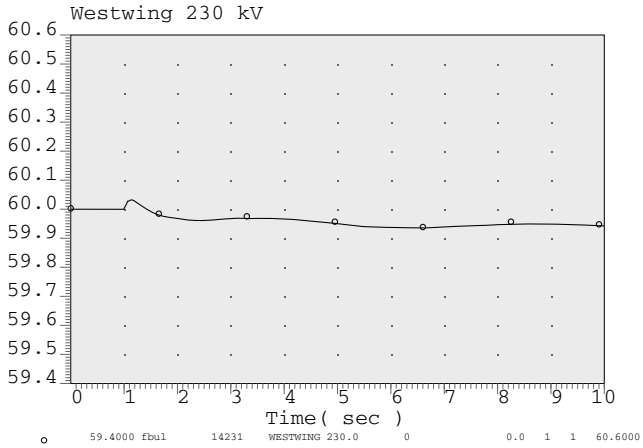


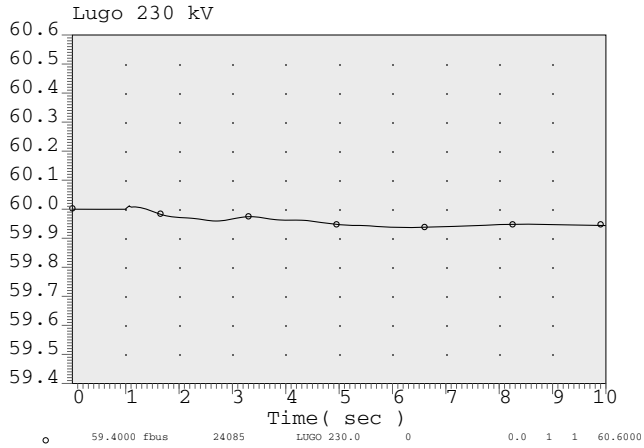


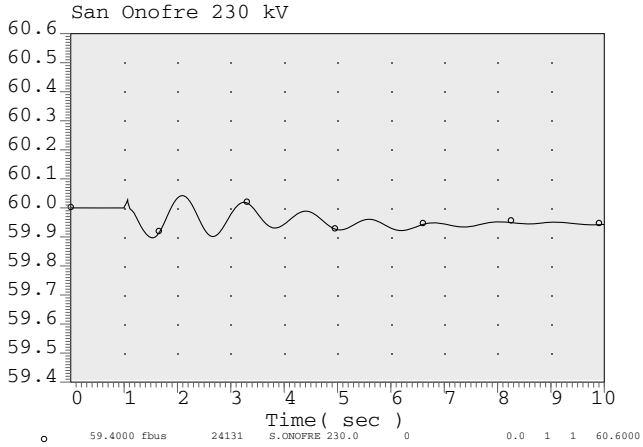


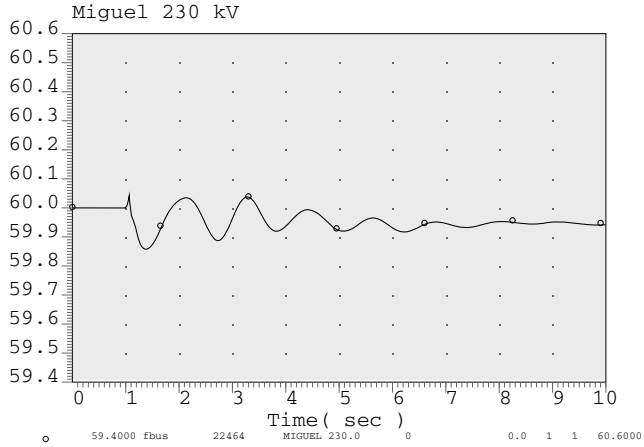
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

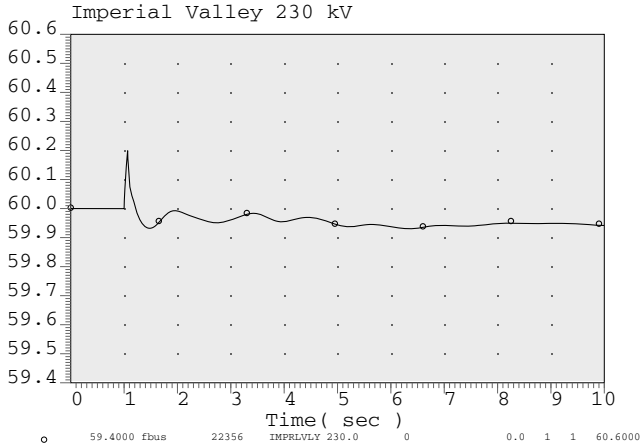
Bus Frequency

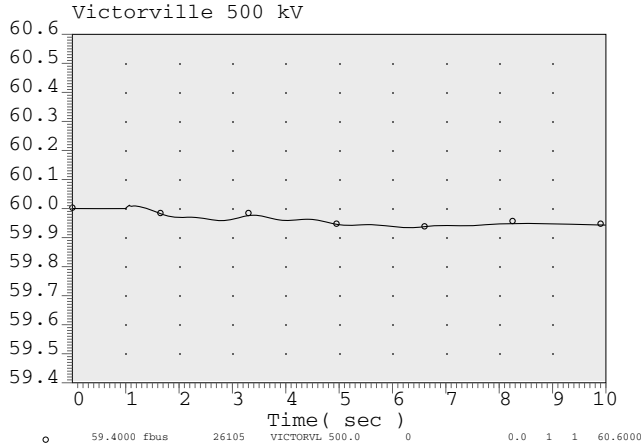






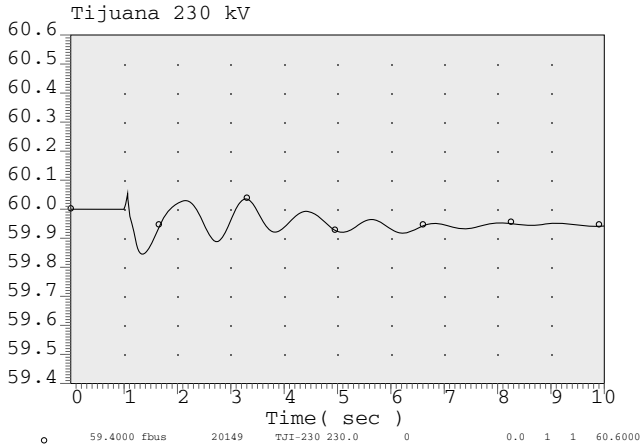


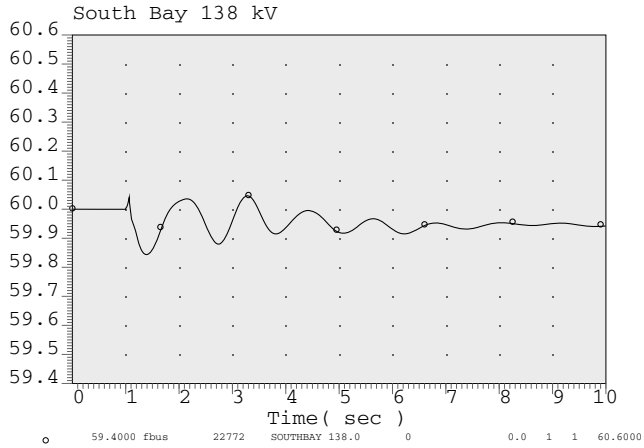


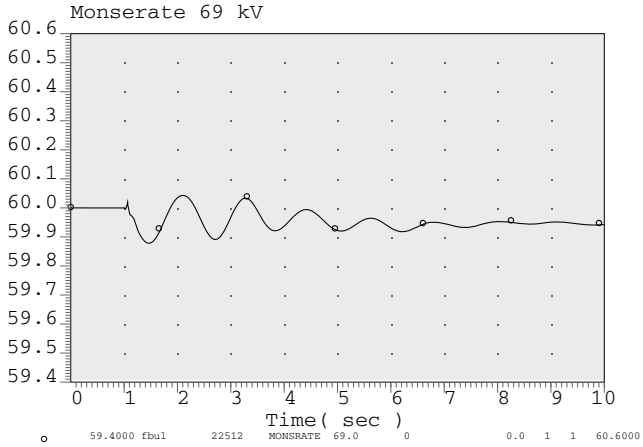


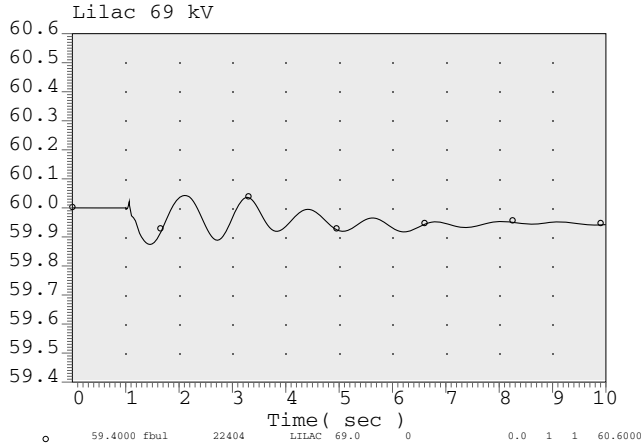
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

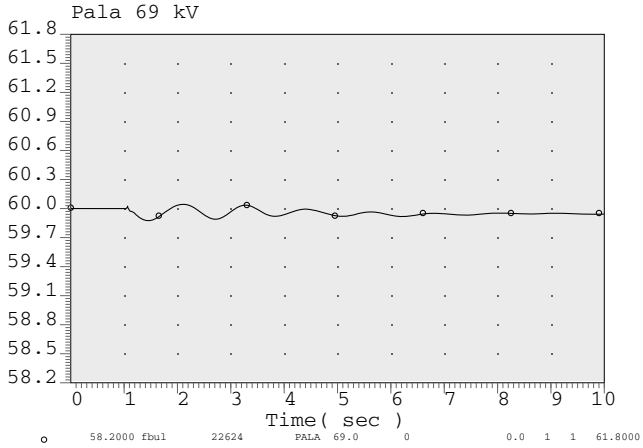
Bus Frequency

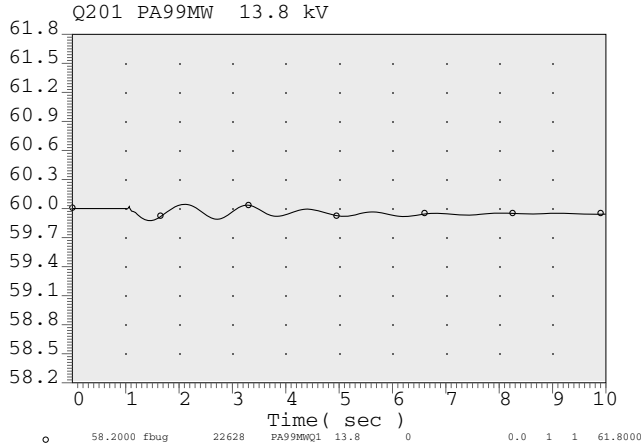






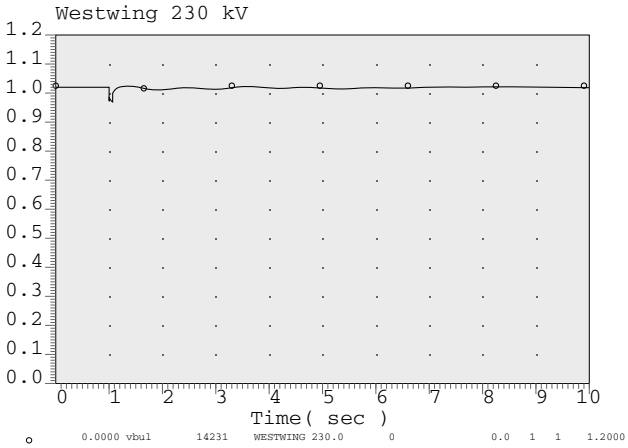


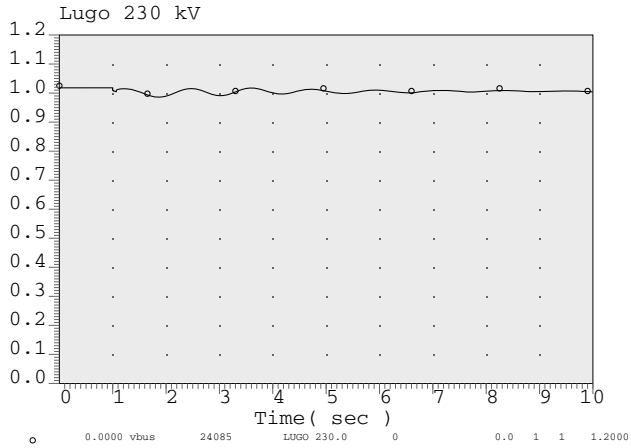


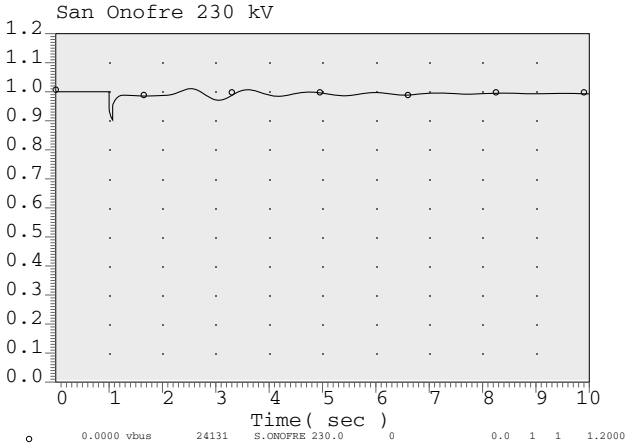


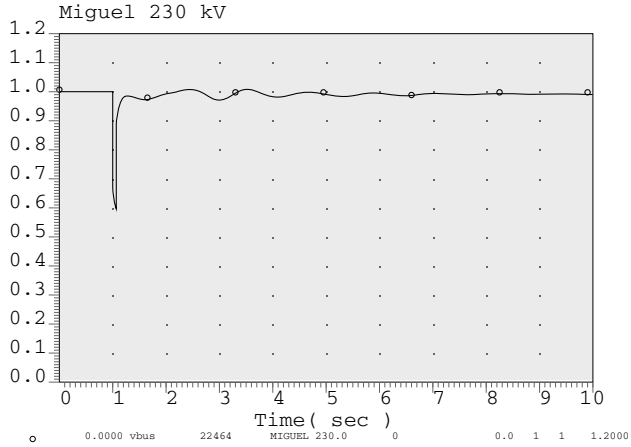
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

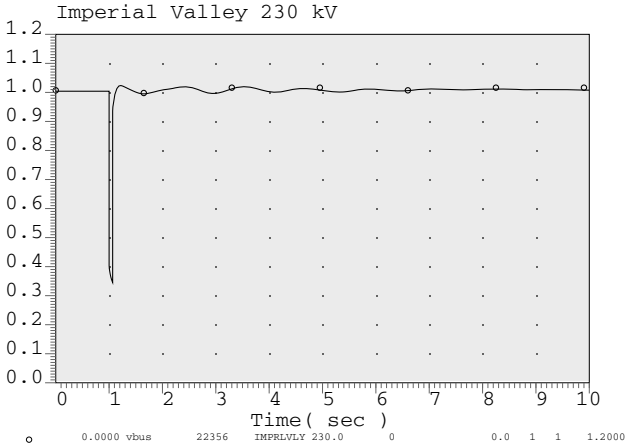
Bus Voltage

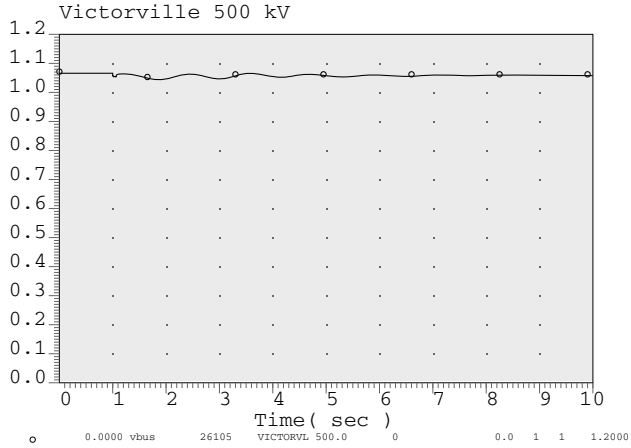






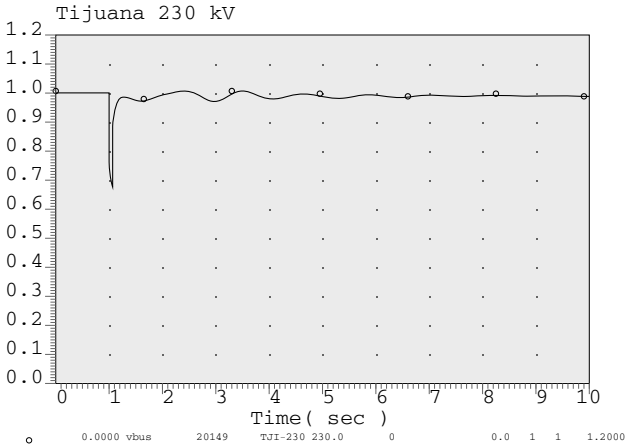


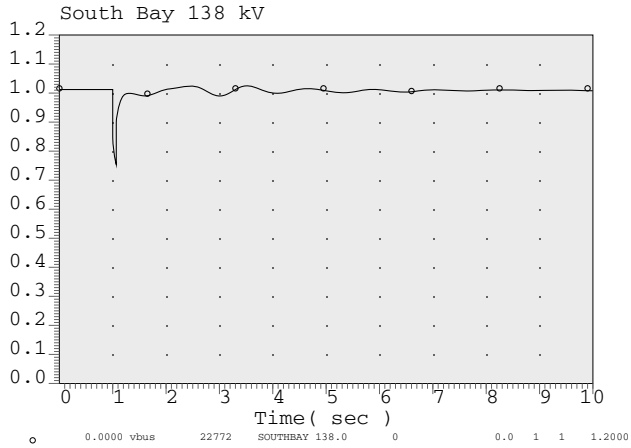


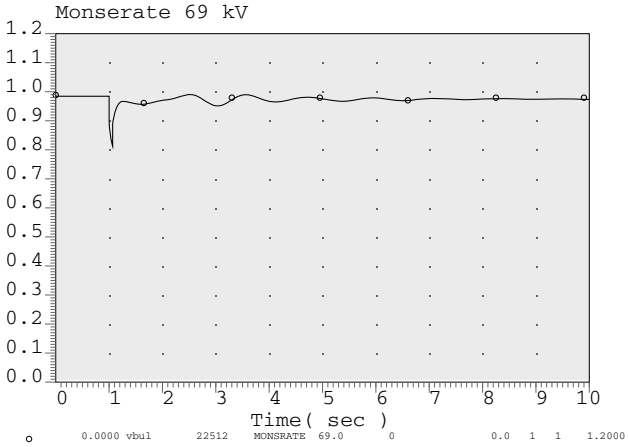


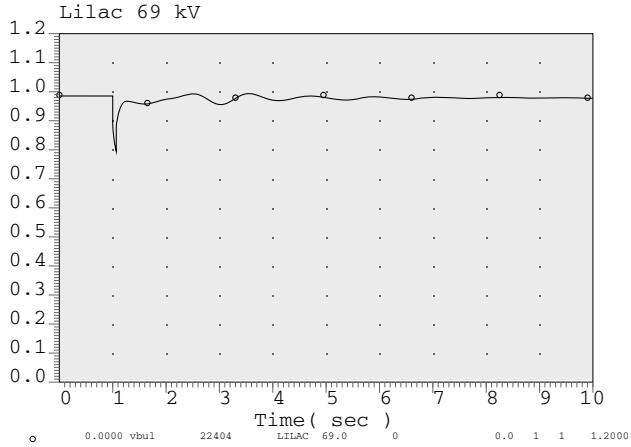
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

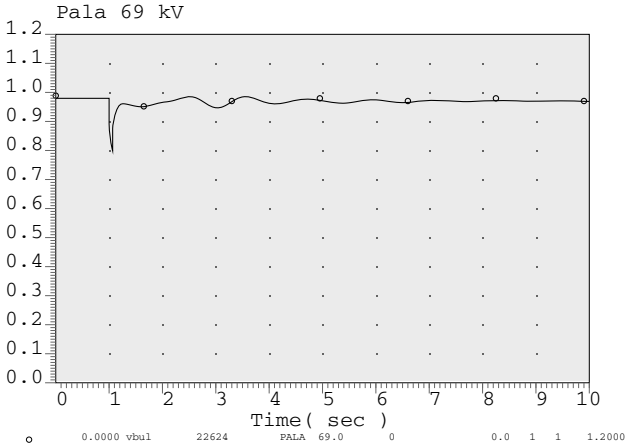
Bus Voltage

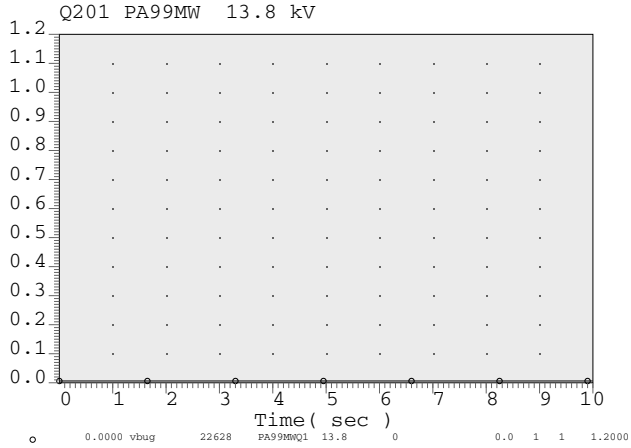






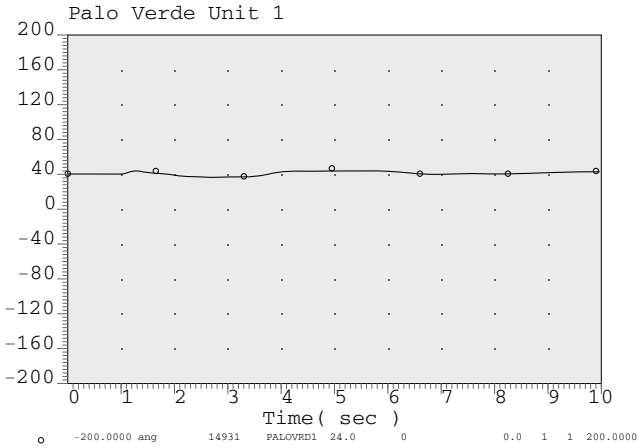


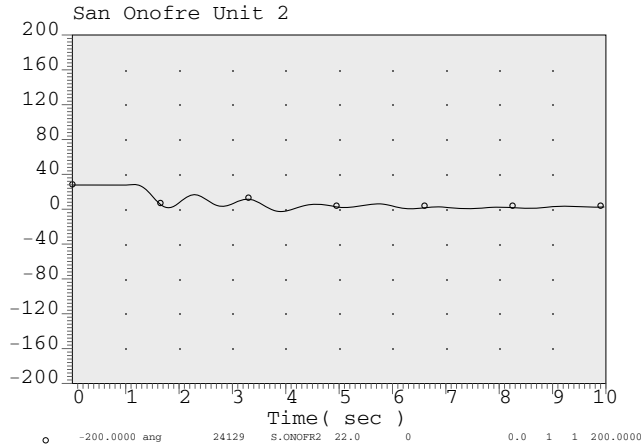


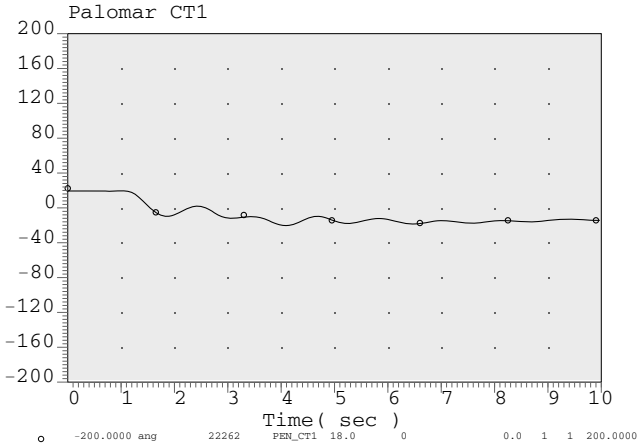


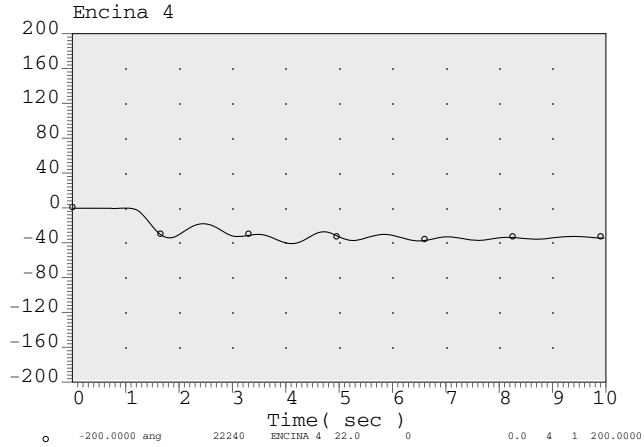
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

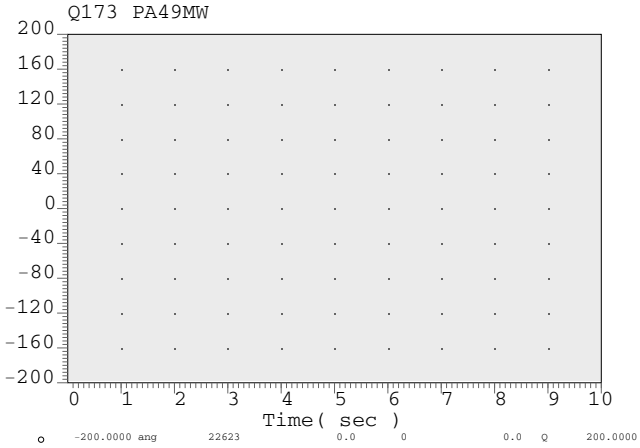
Relative Rotor Angle

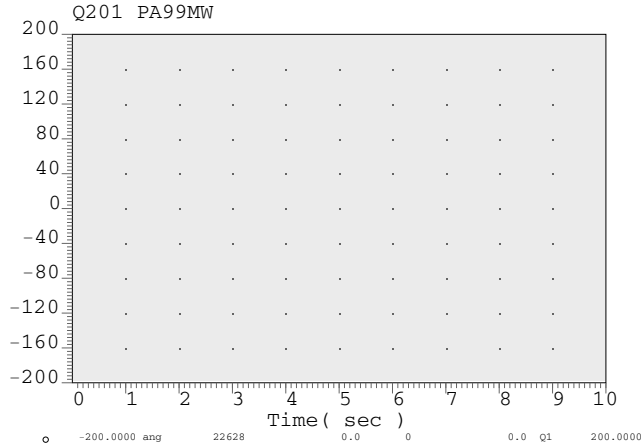






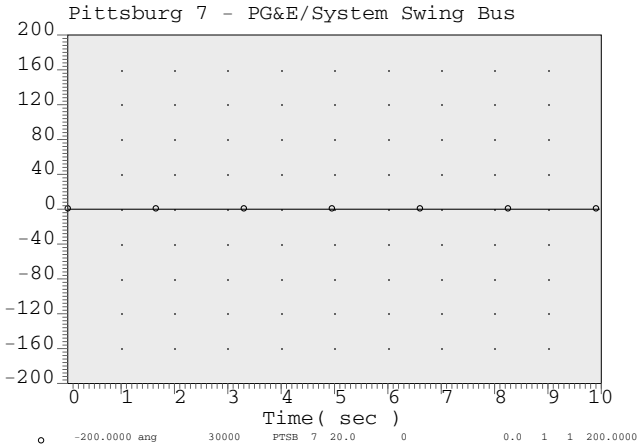


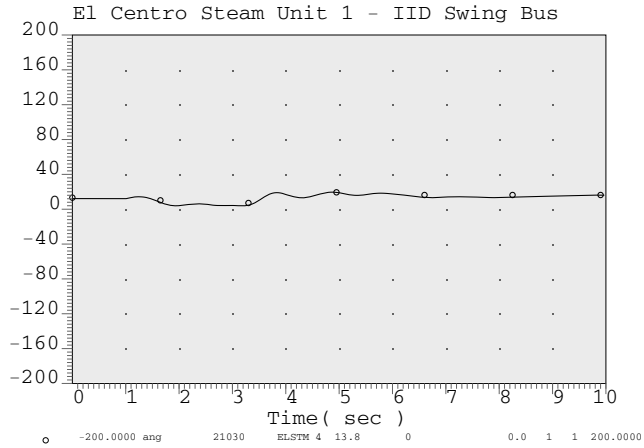


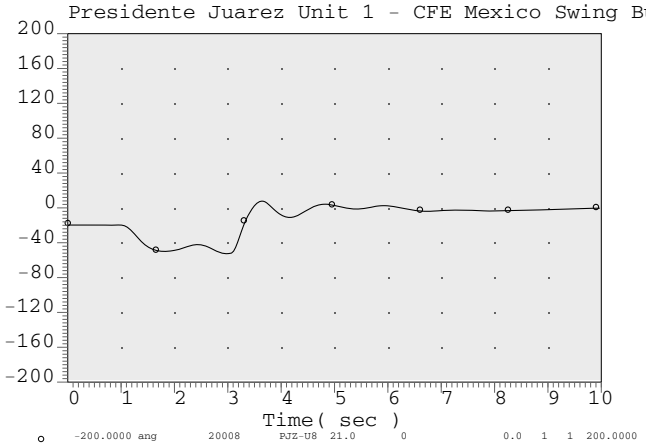


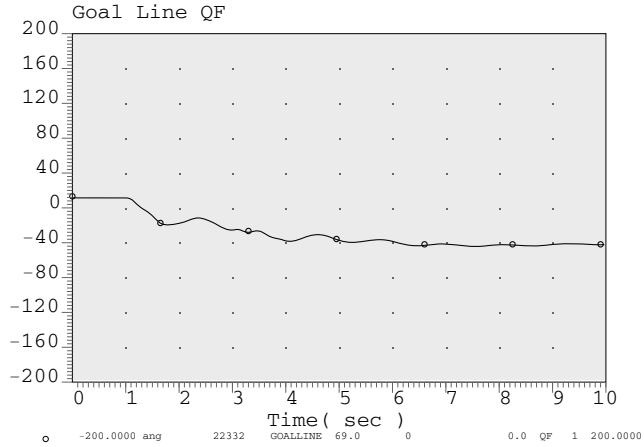
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

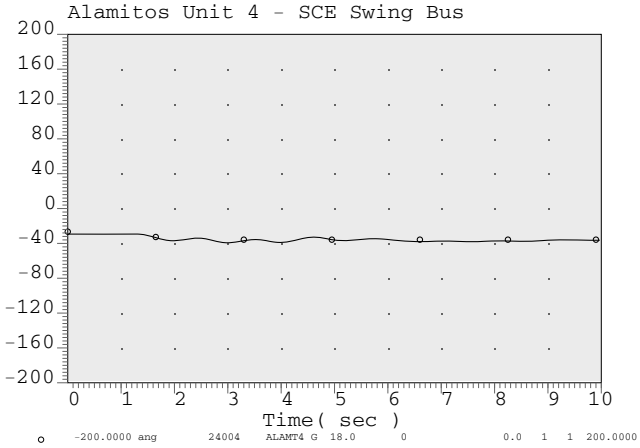
Relative Rotor Angle

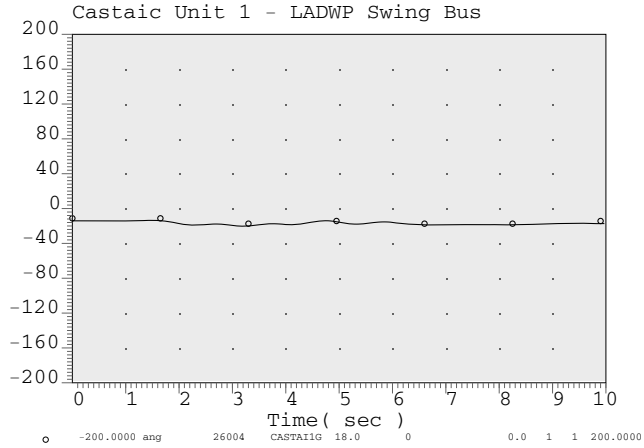






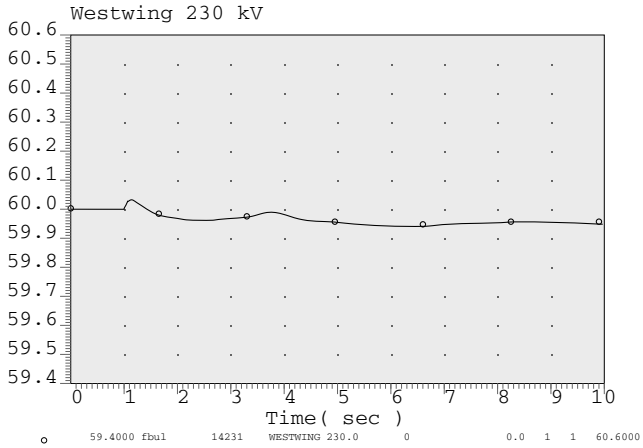


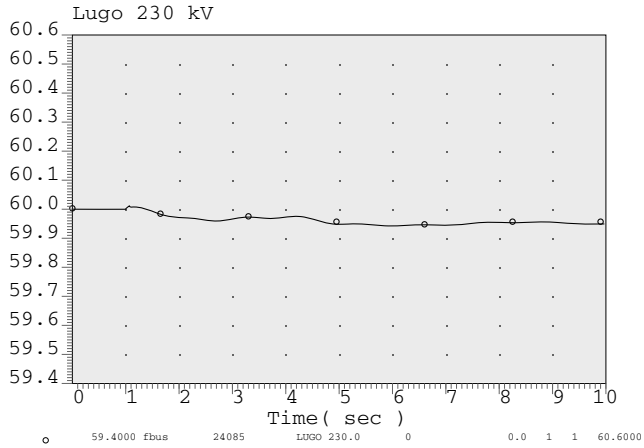


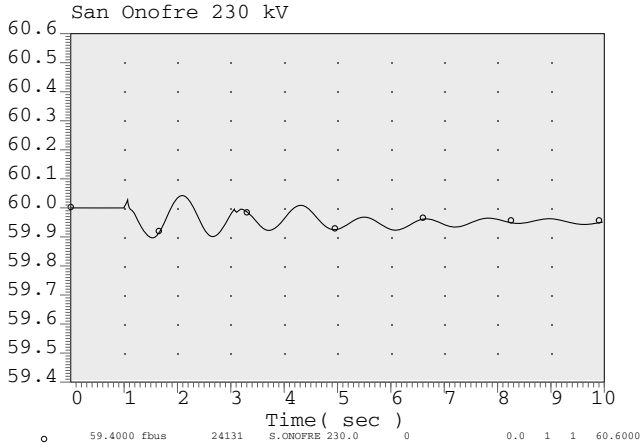


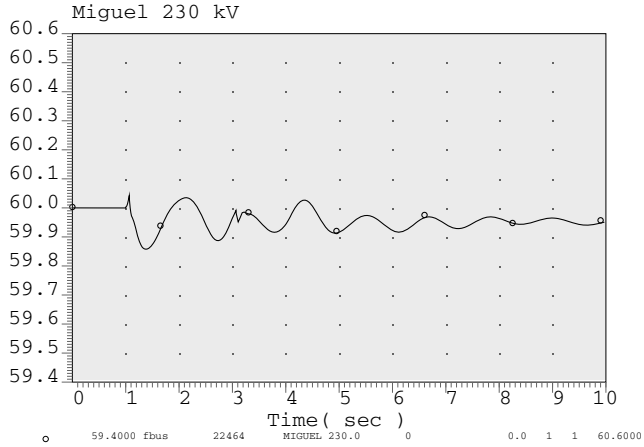
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

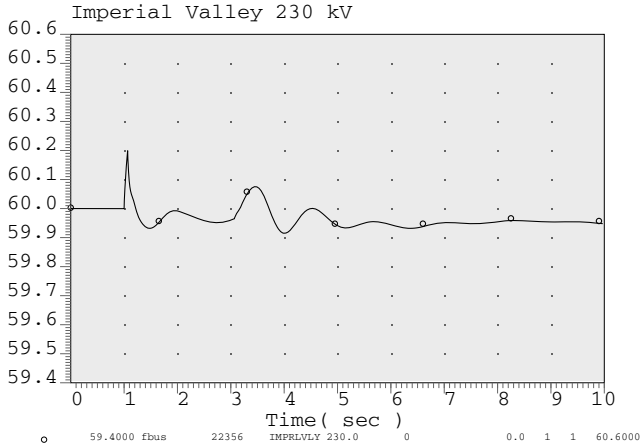
Bus Frequency

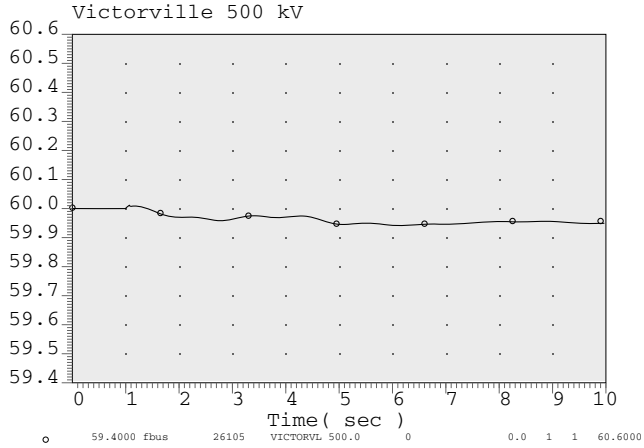






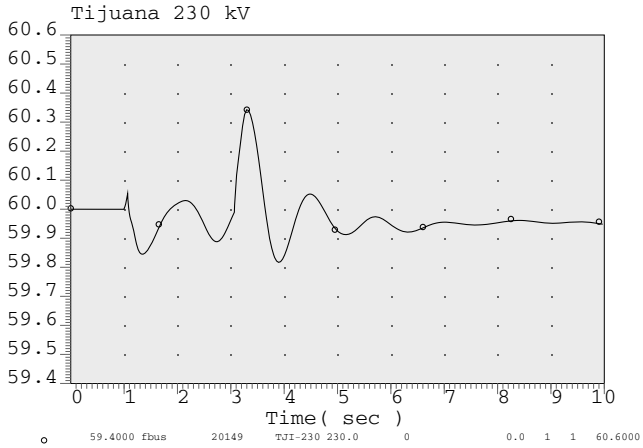


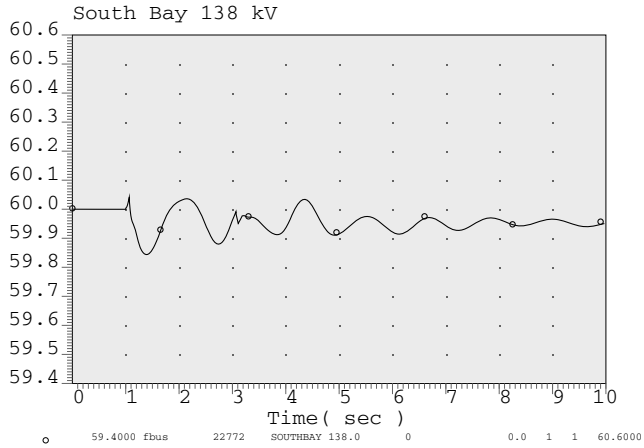


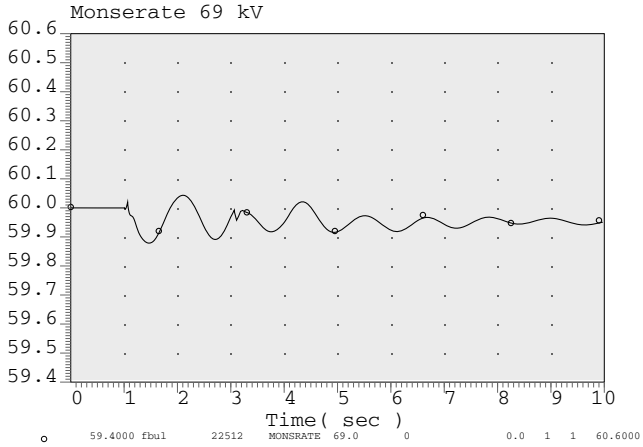


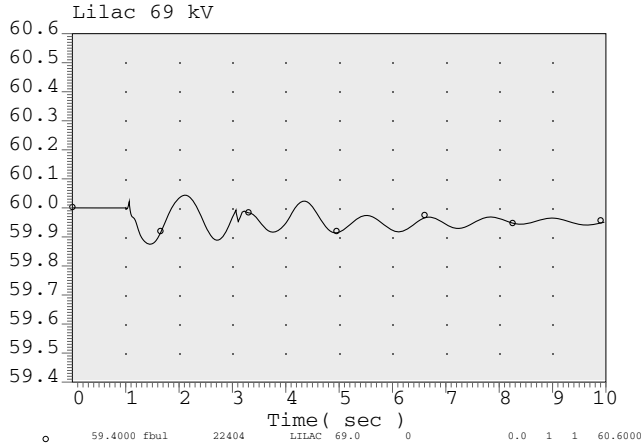
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

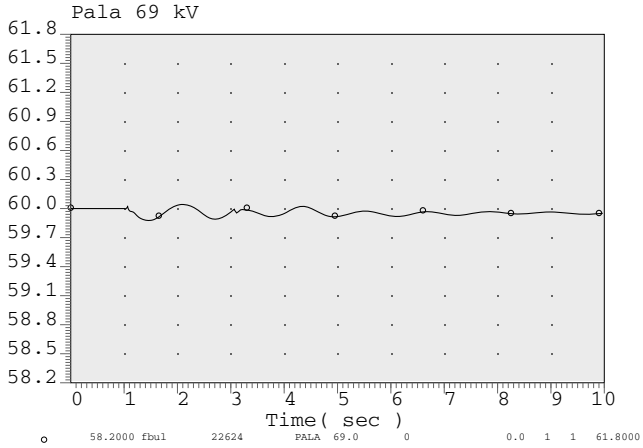
Bus Frequency

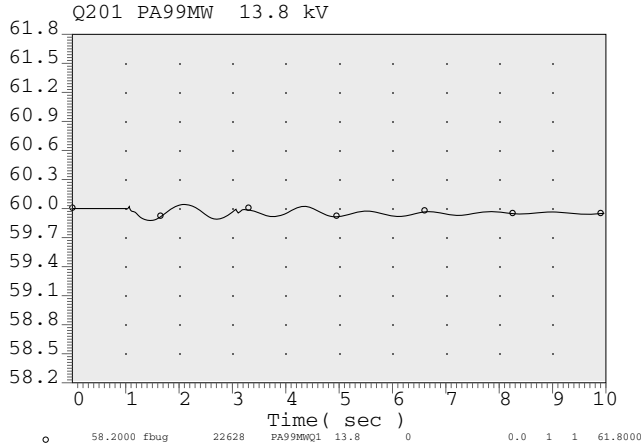






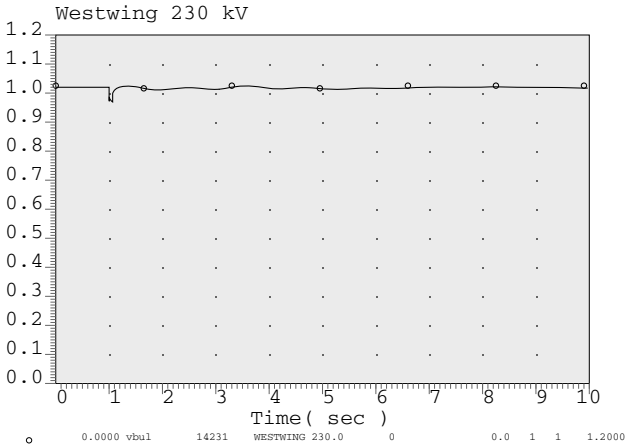


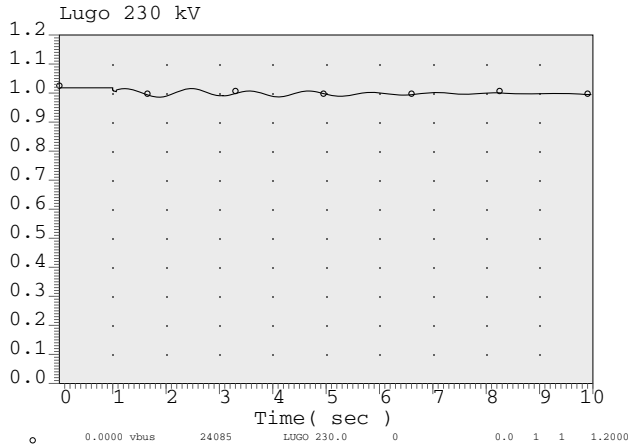


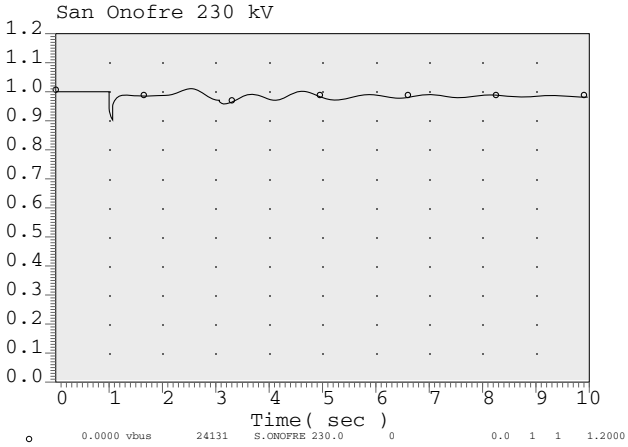


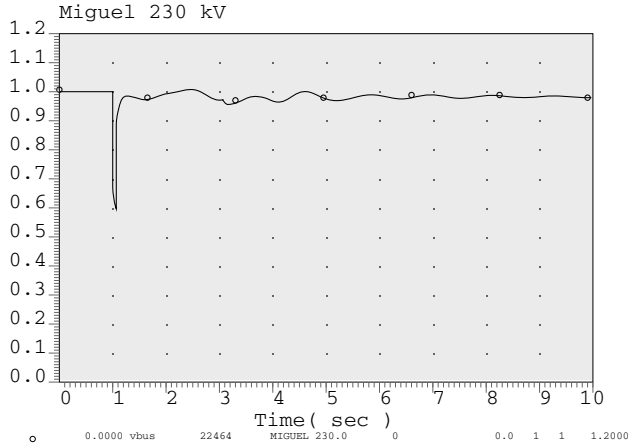
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

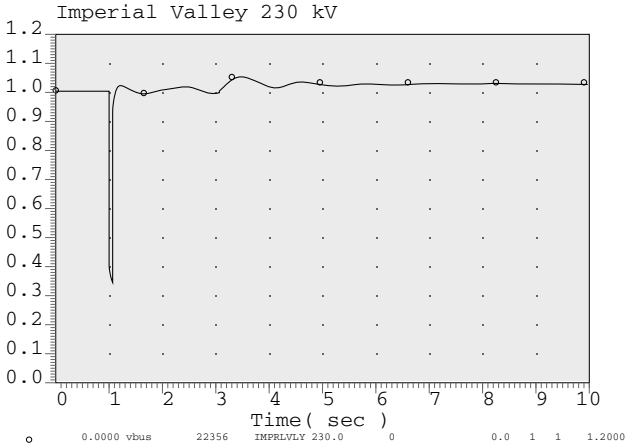
Bus Voltage

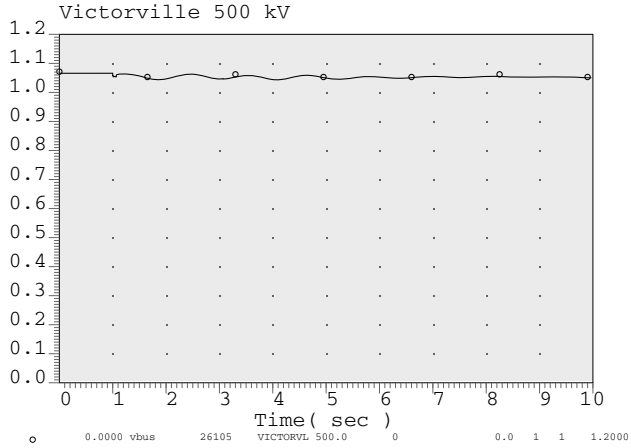






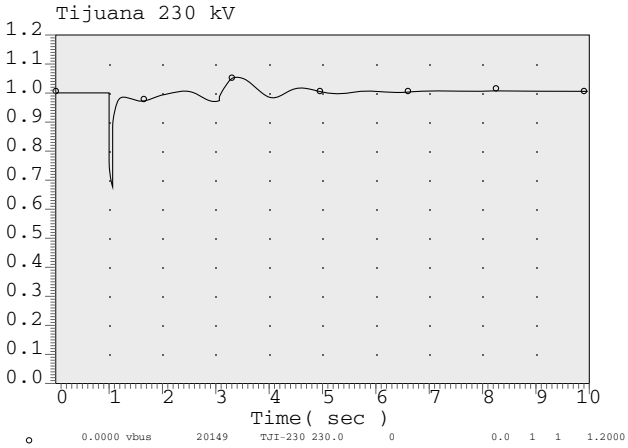


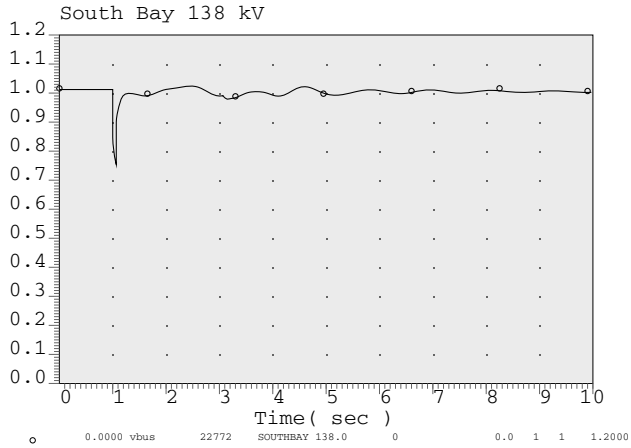


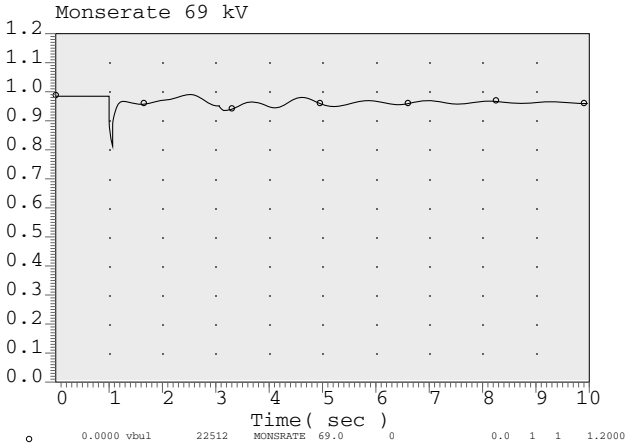


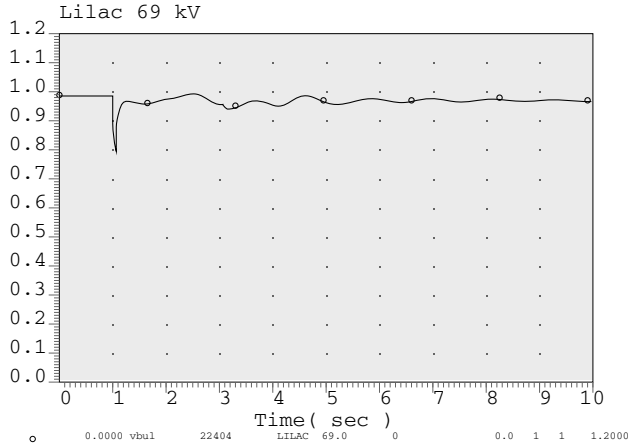
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

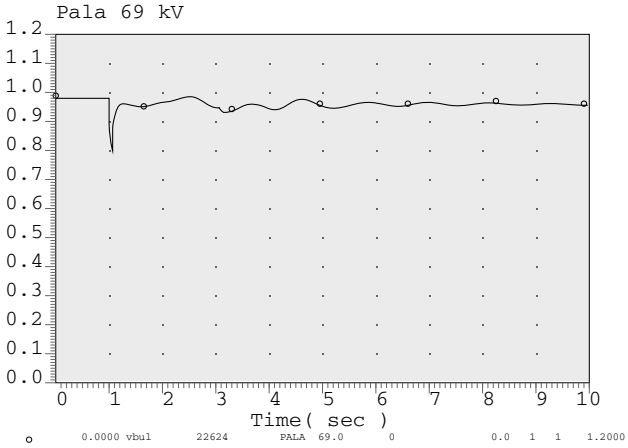
Bus Voltage

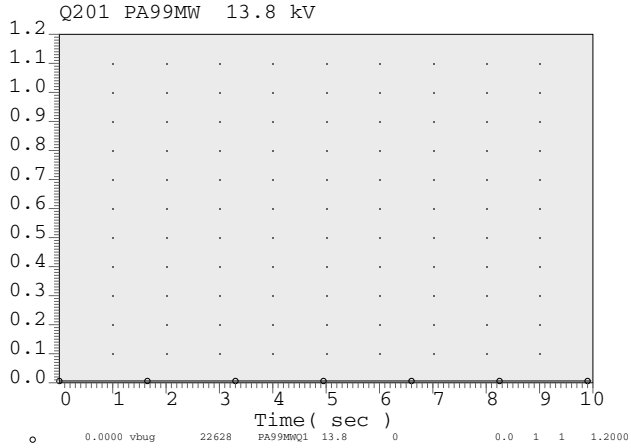






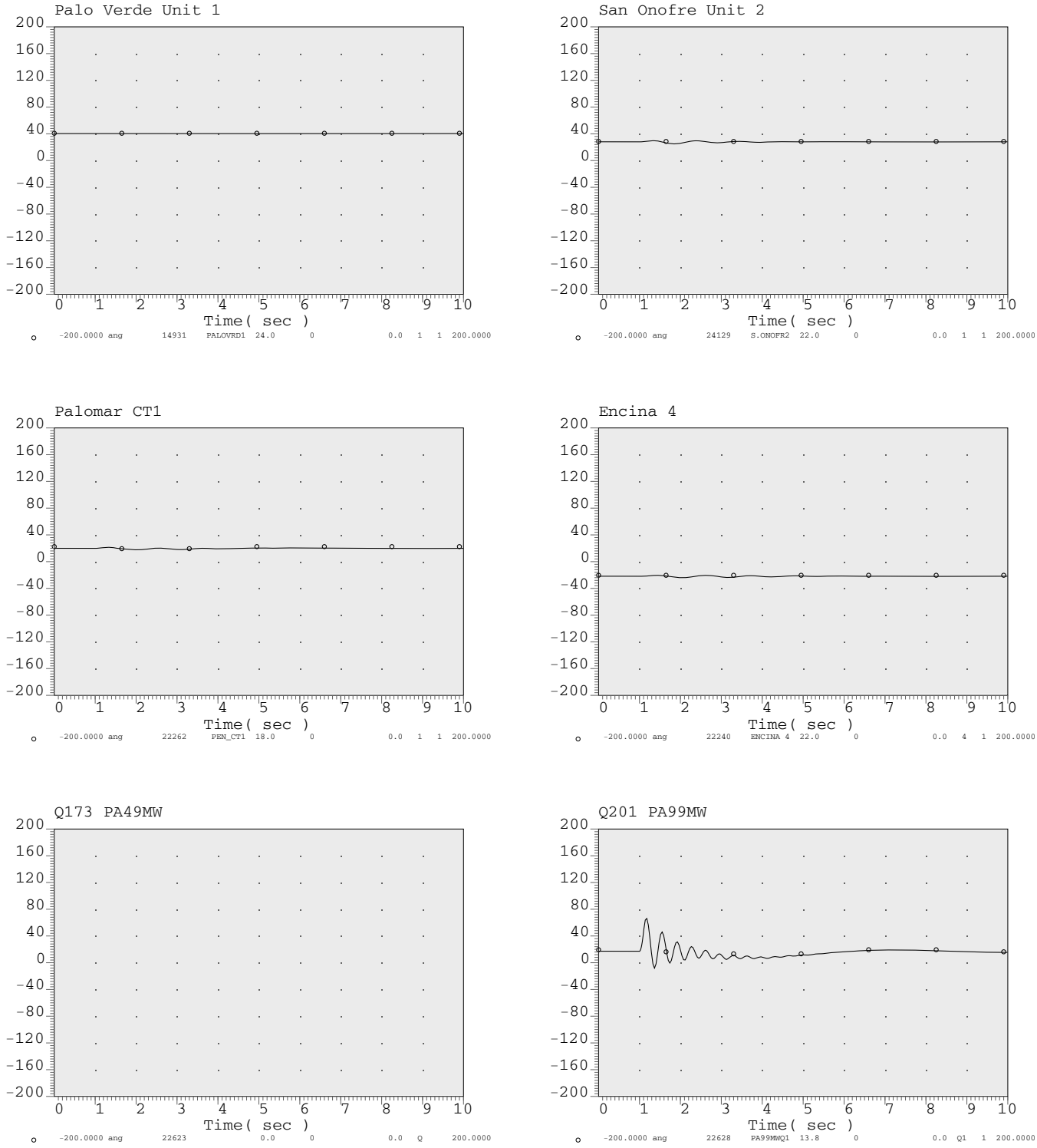






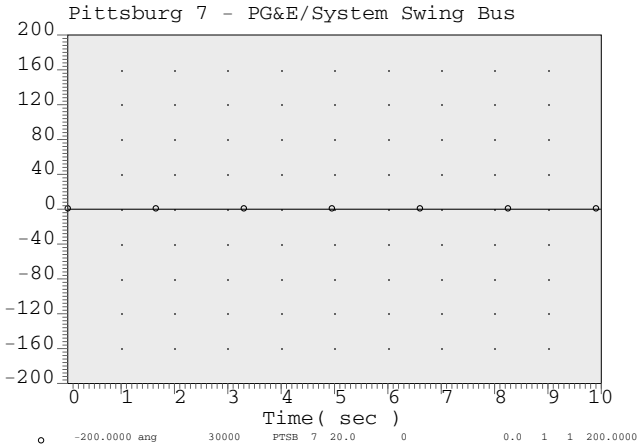
SDG&E 2008 Heavy Summer - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

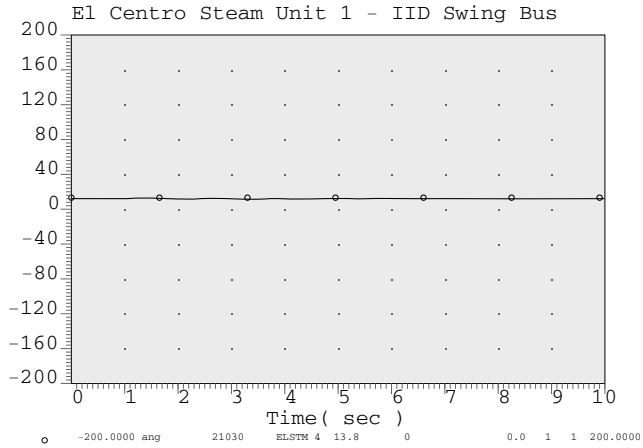
Relative Rotor Angle

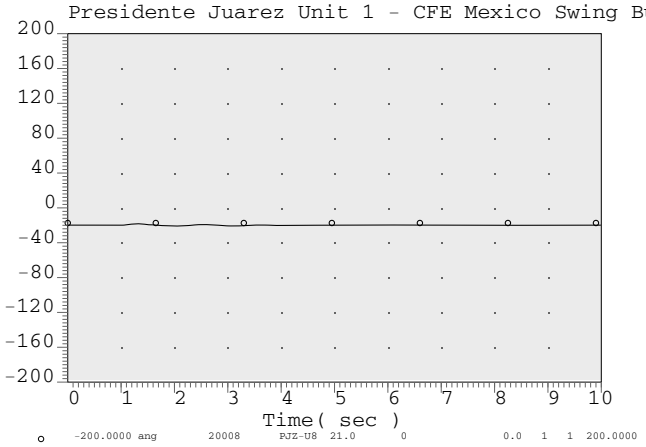


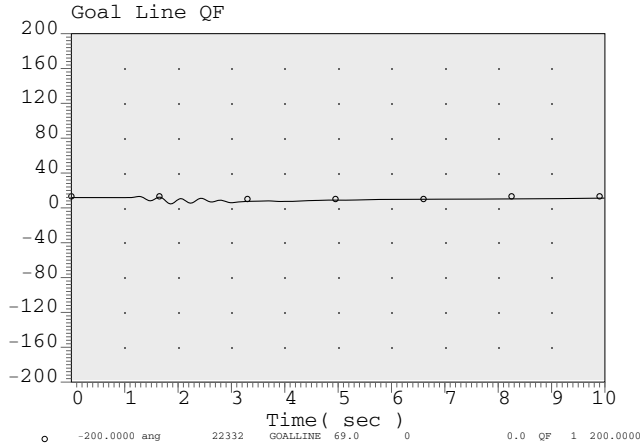
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

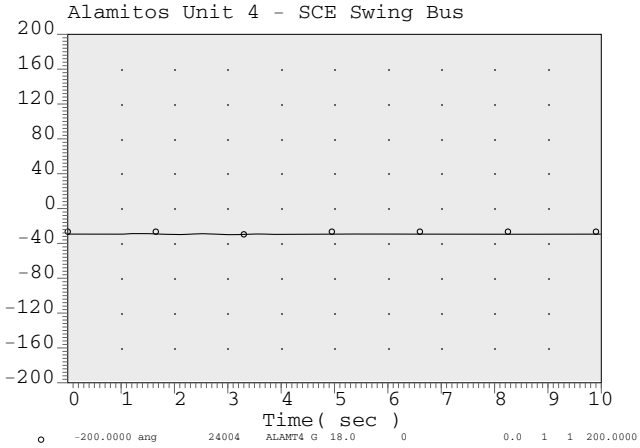
Relative Rotor Angle

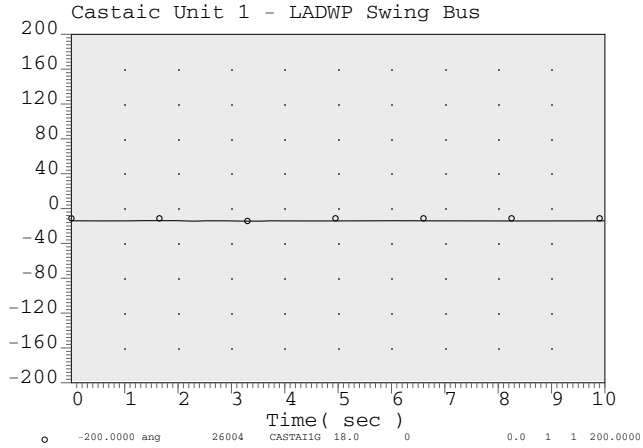






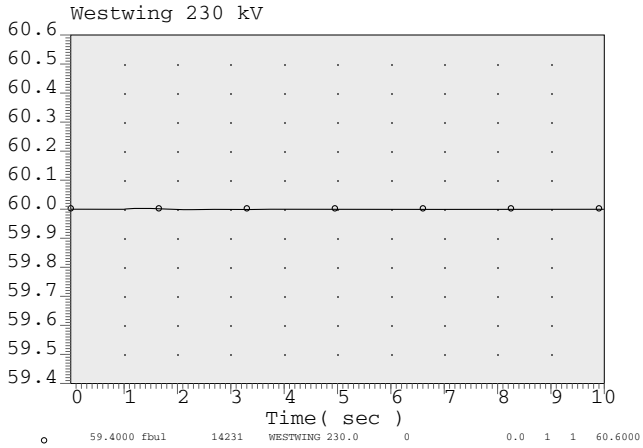


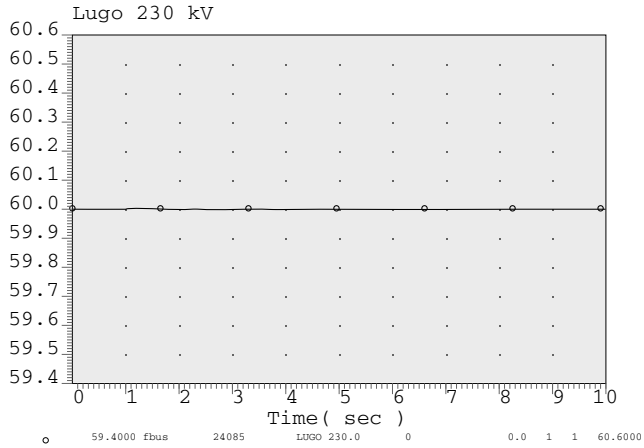


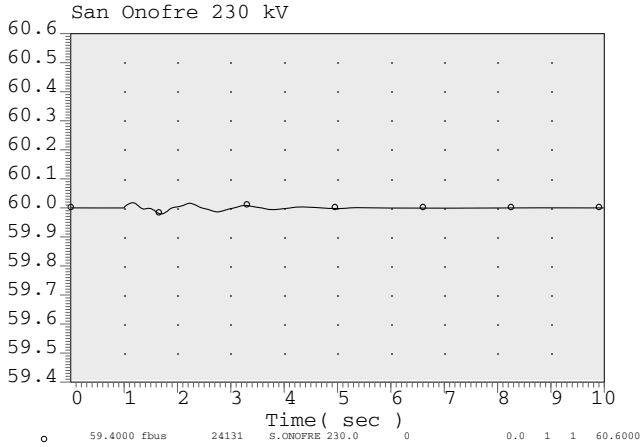


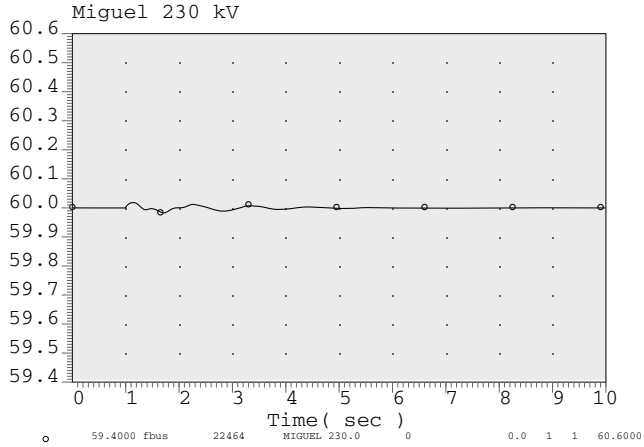
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

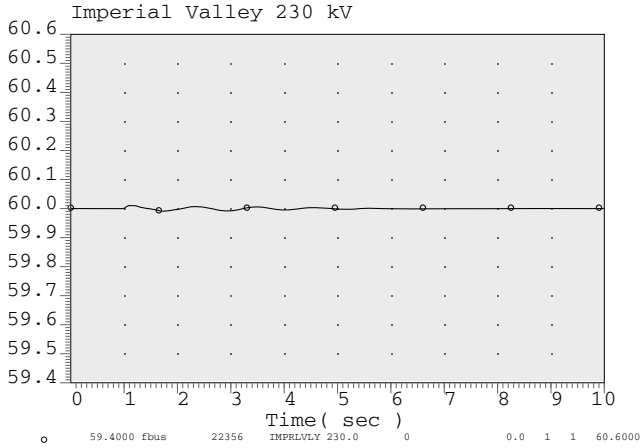
Bus Frequency

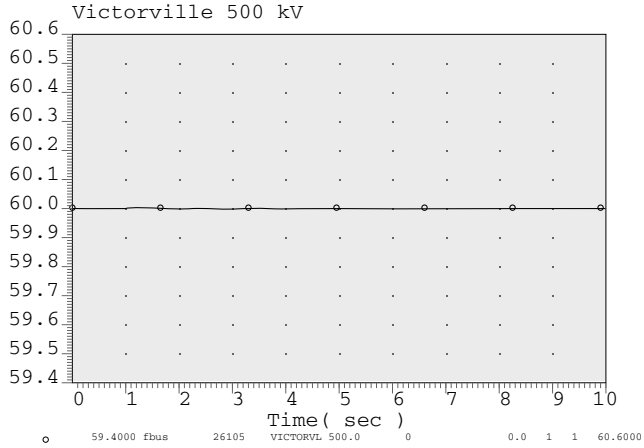






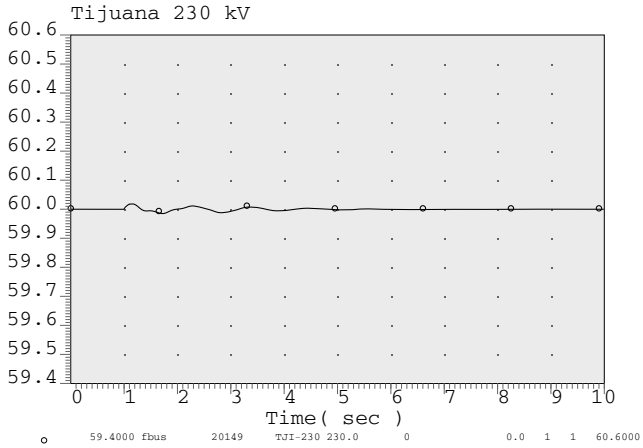


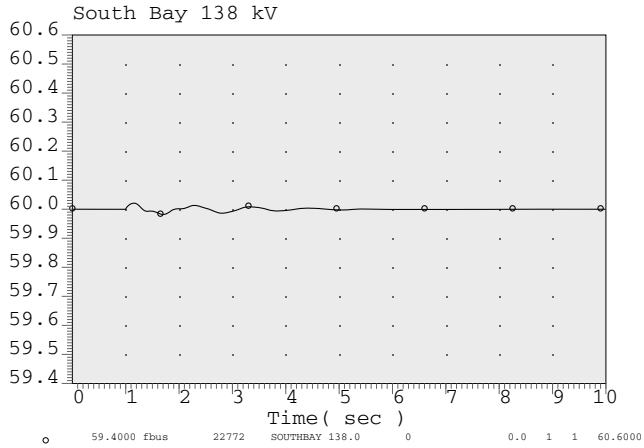


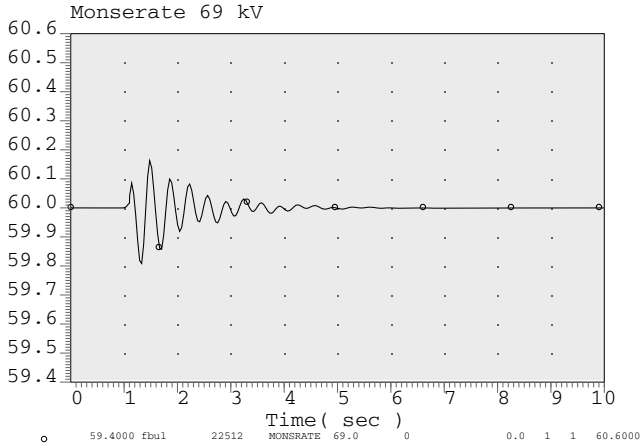


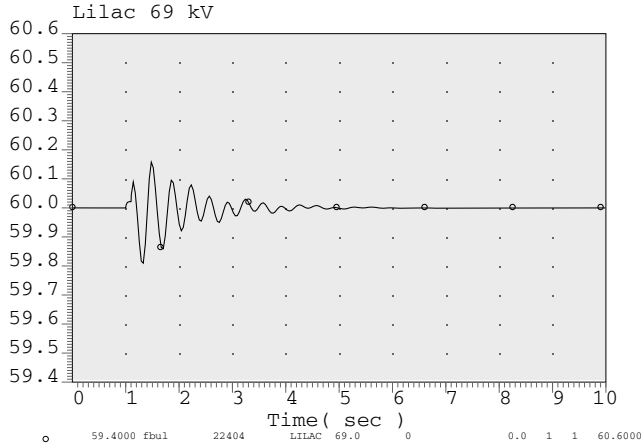
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

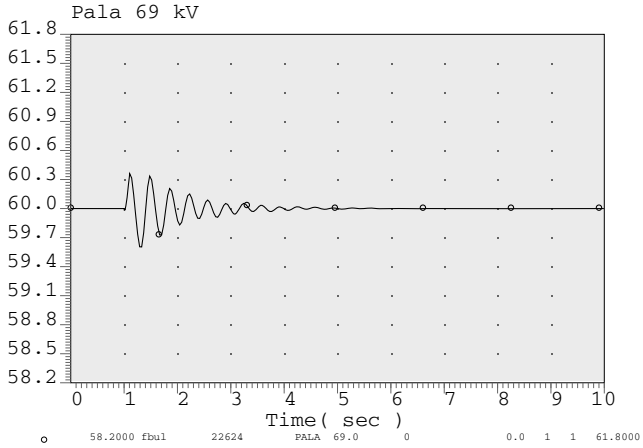
Bus Frequency

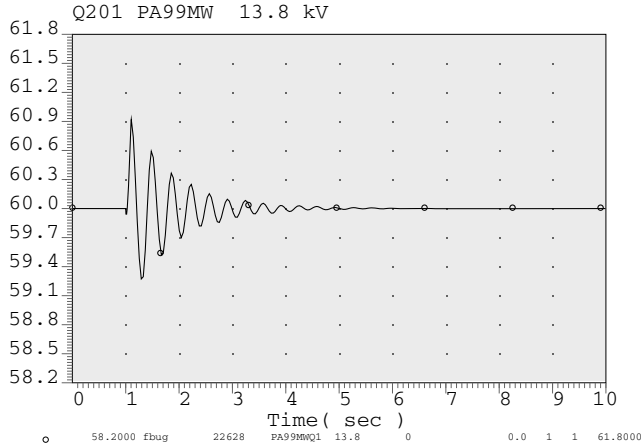






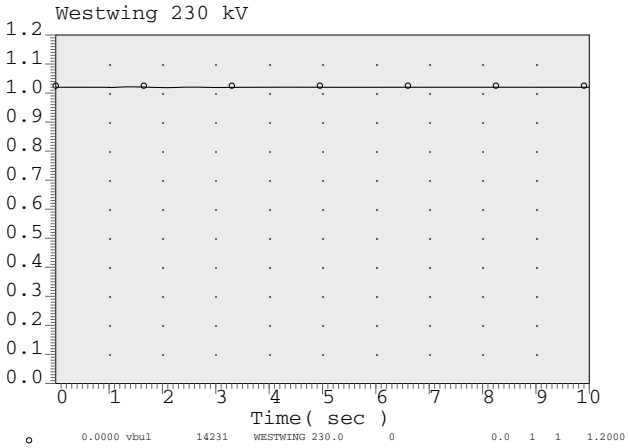


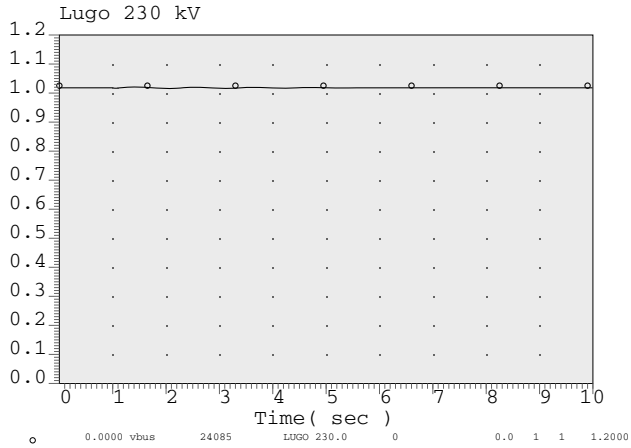


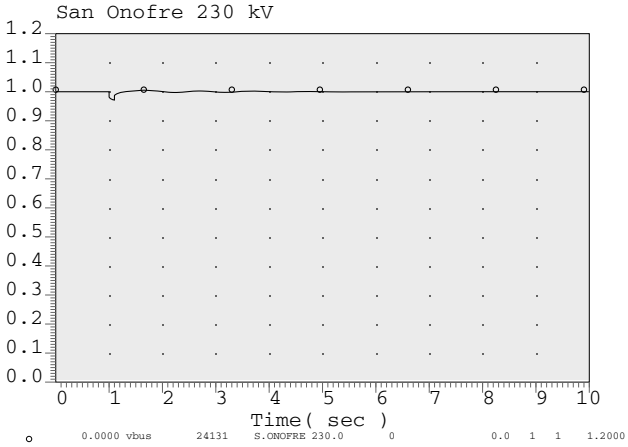


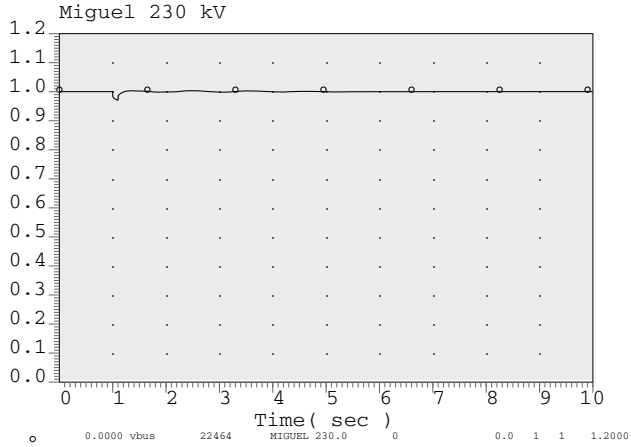
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

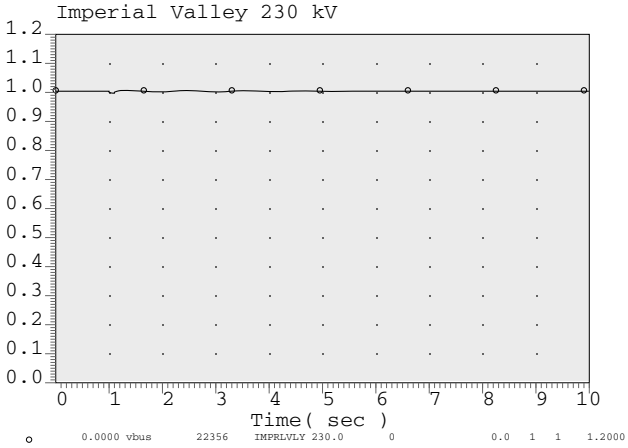
Bus Voltage

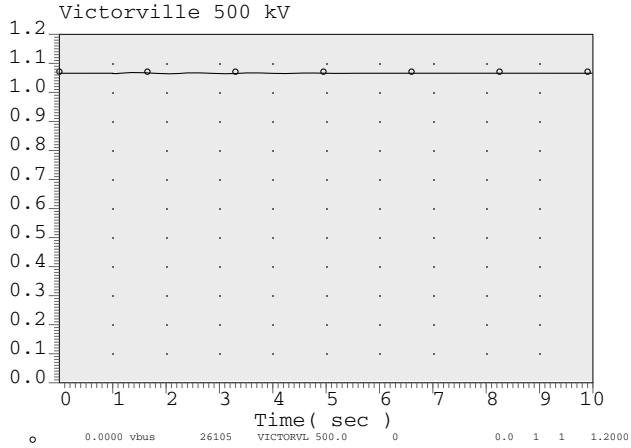






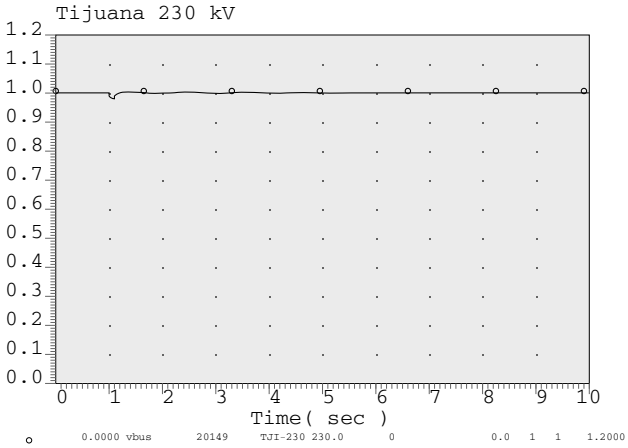


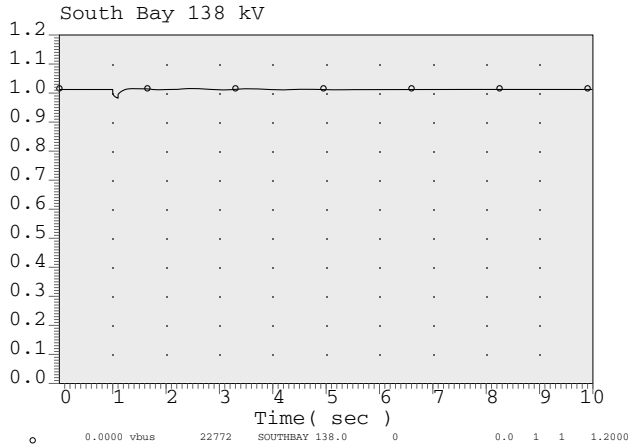


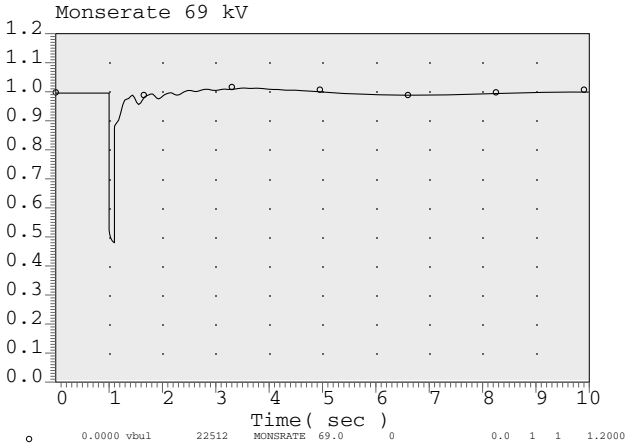


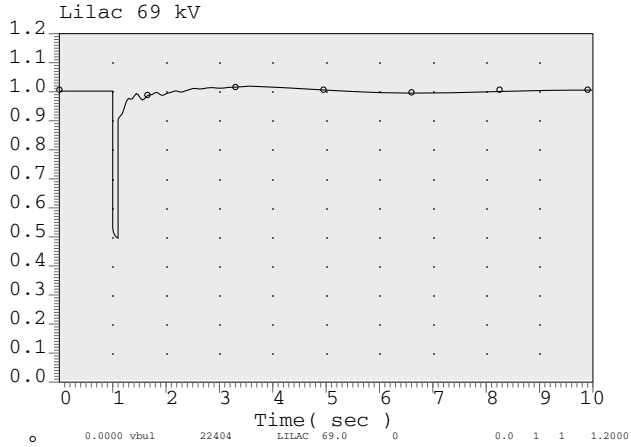
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

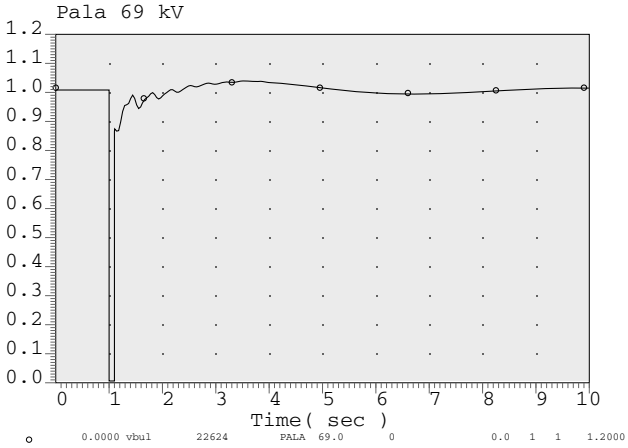
Bus Voltage

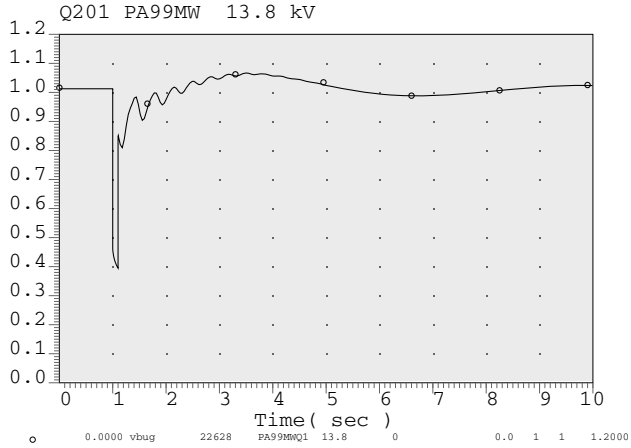






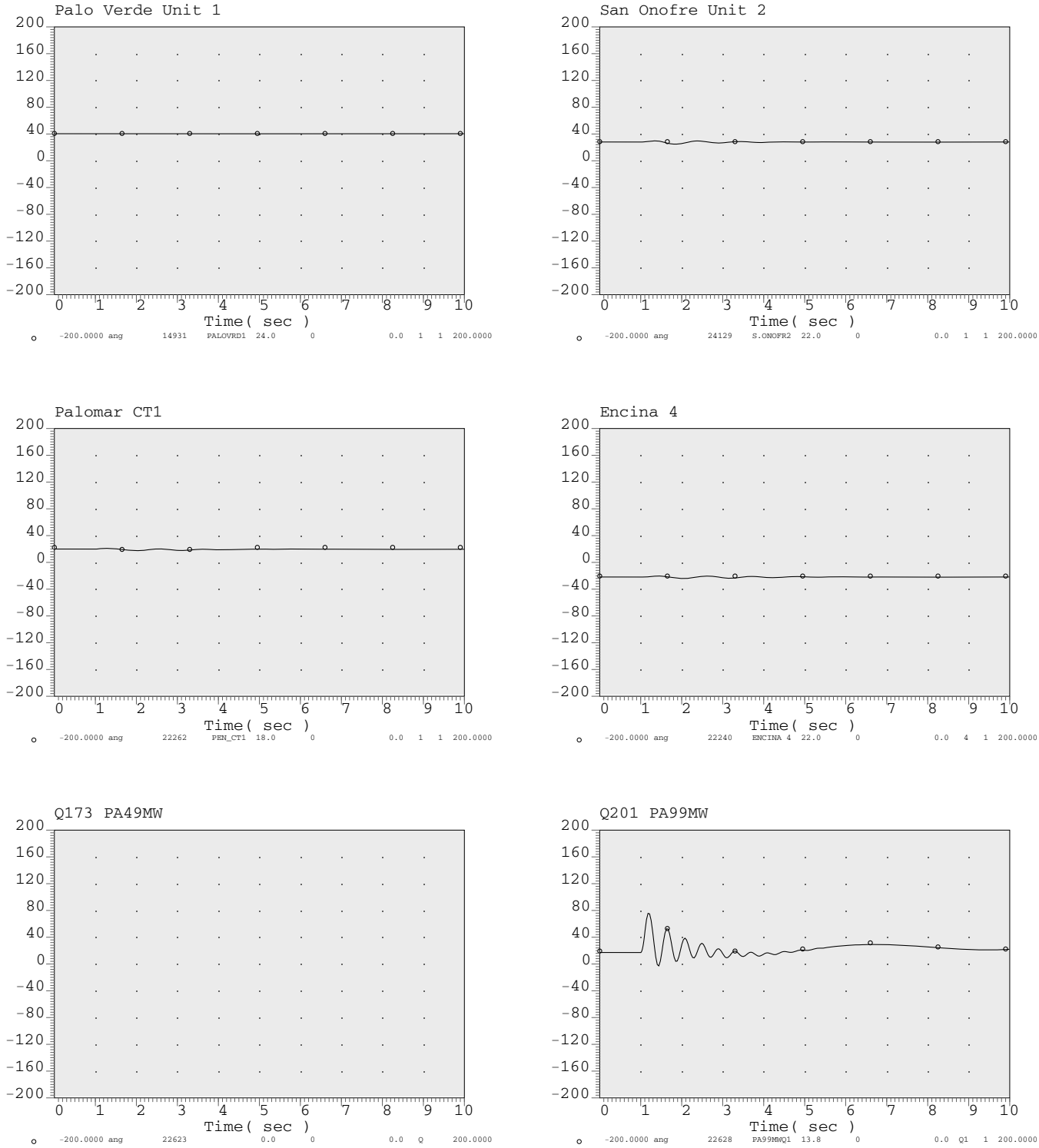






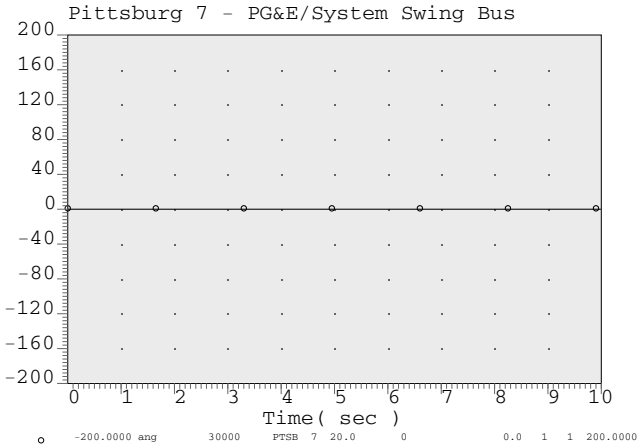
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

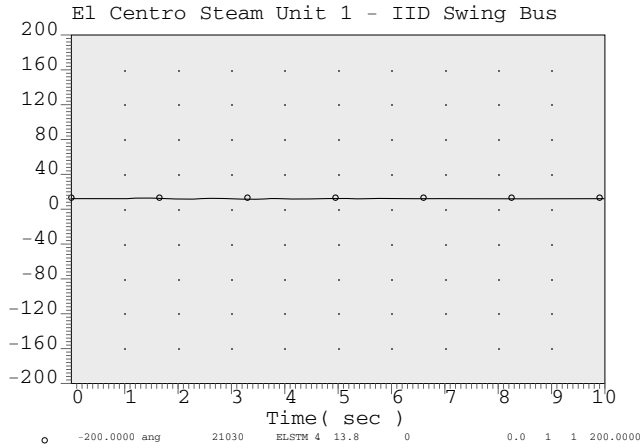
Relative Rotor Angle

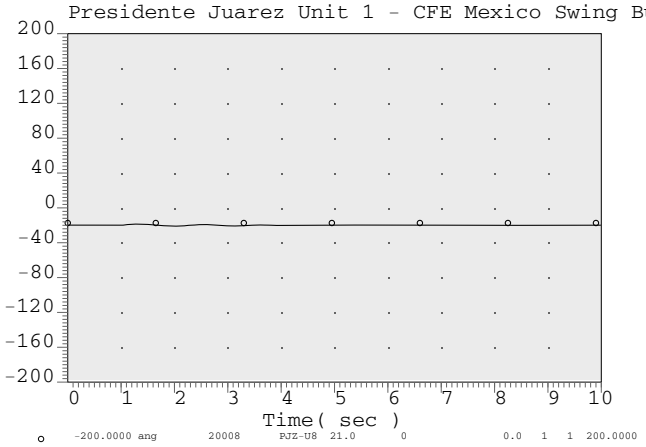


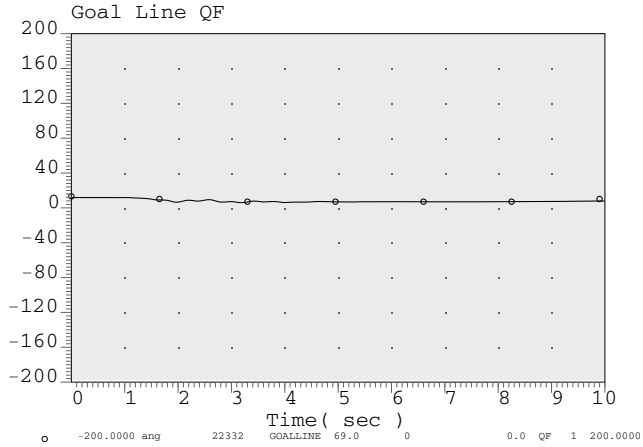
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

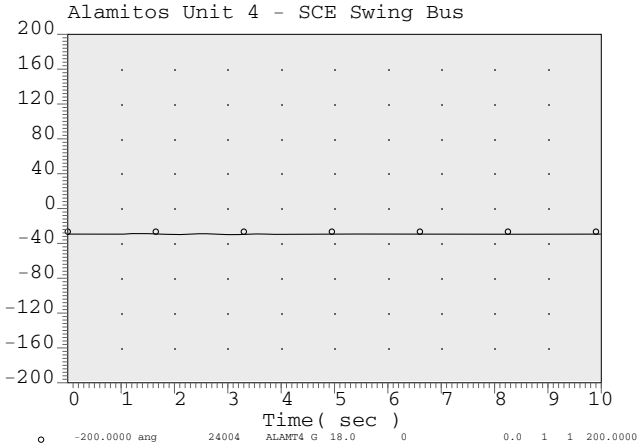
Relative Rotor Angle

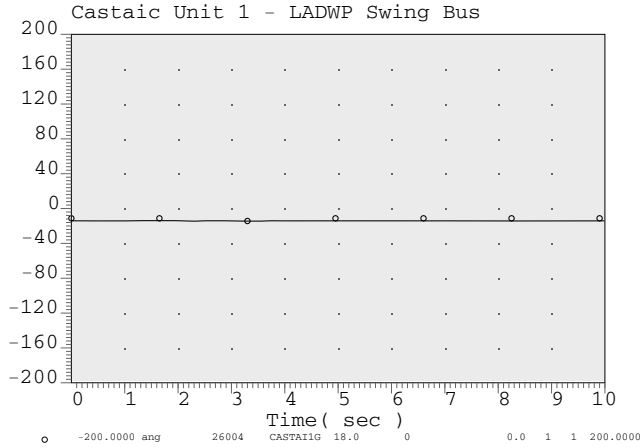






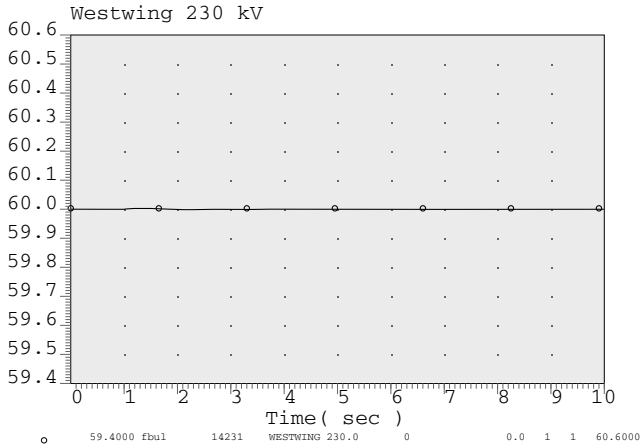


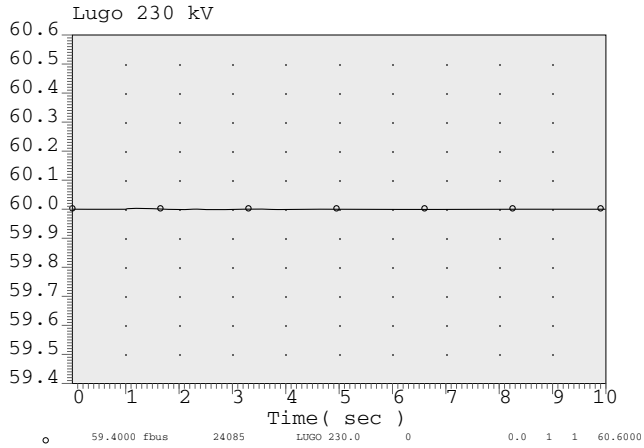


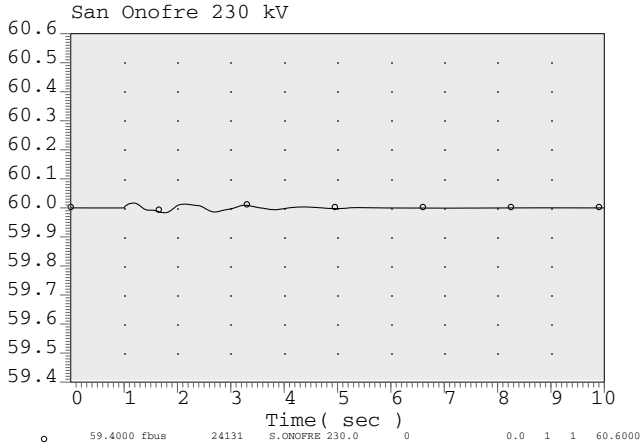


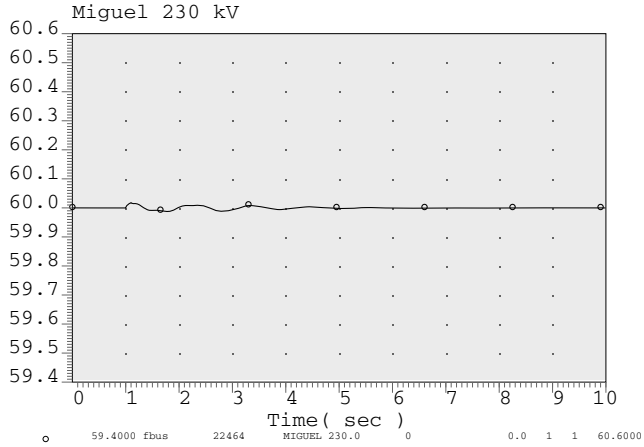
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

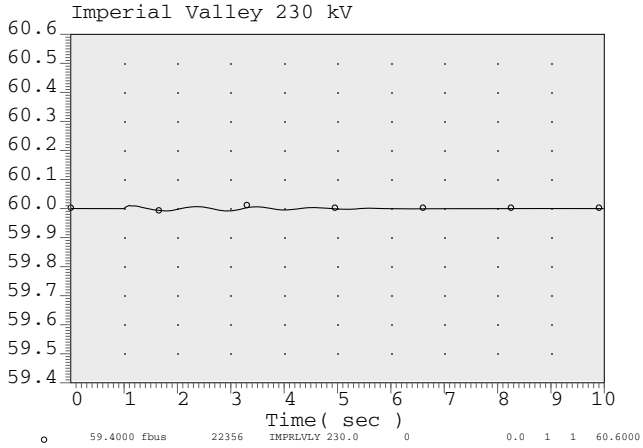
Bus Frequency

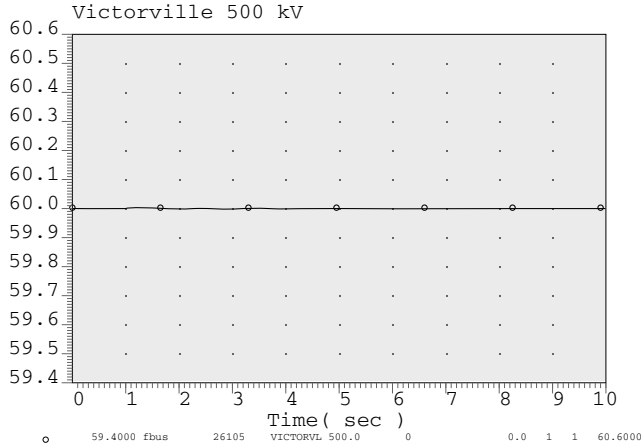






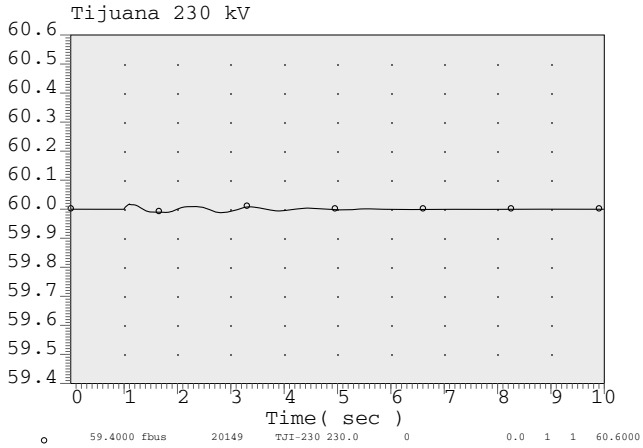


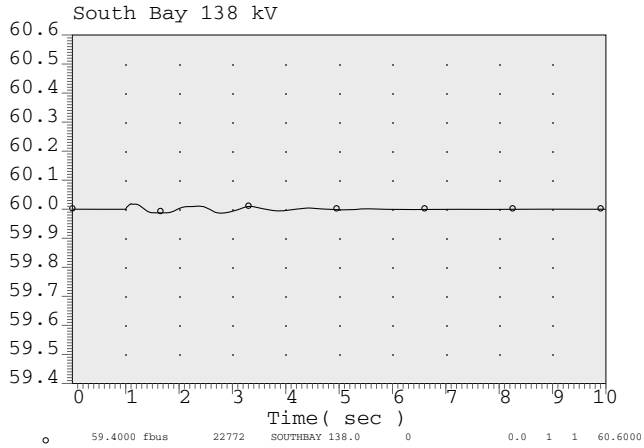


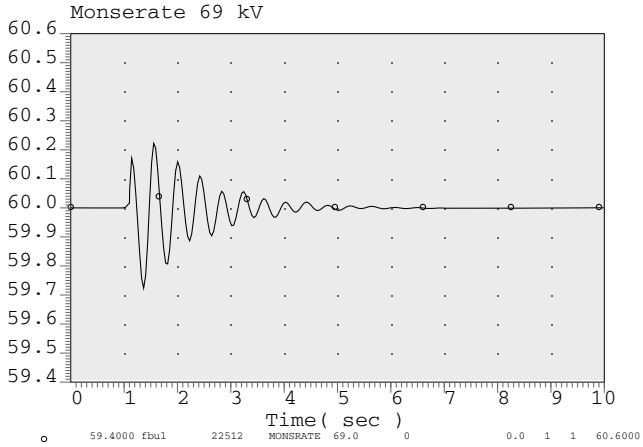


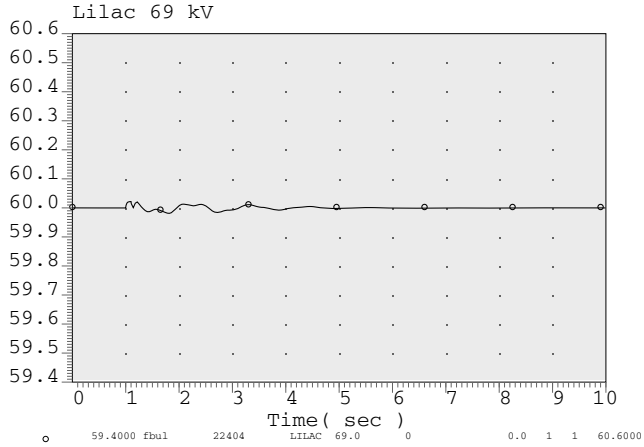
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

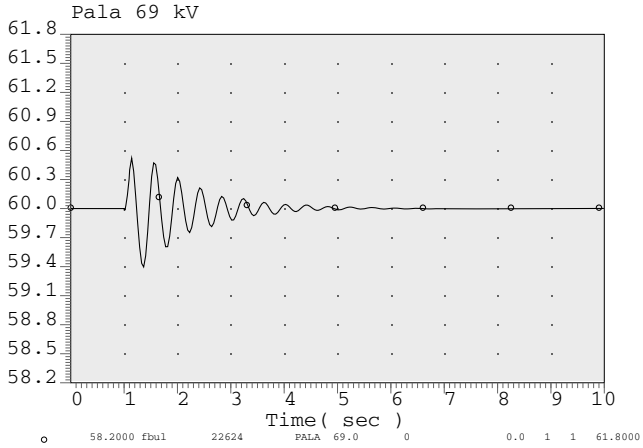
Bus Frequency

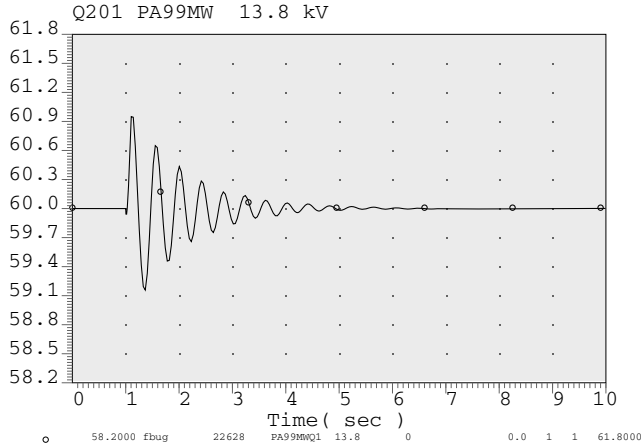






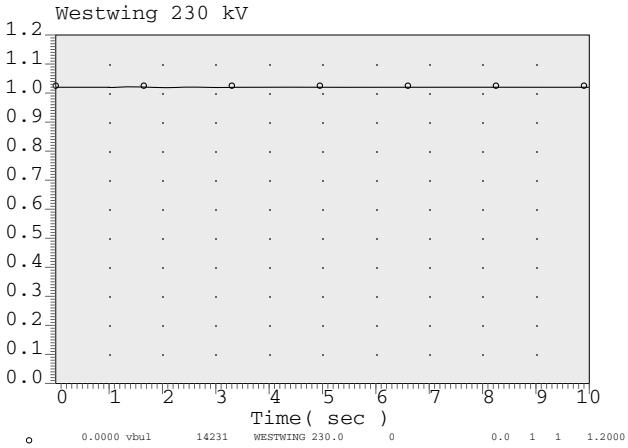


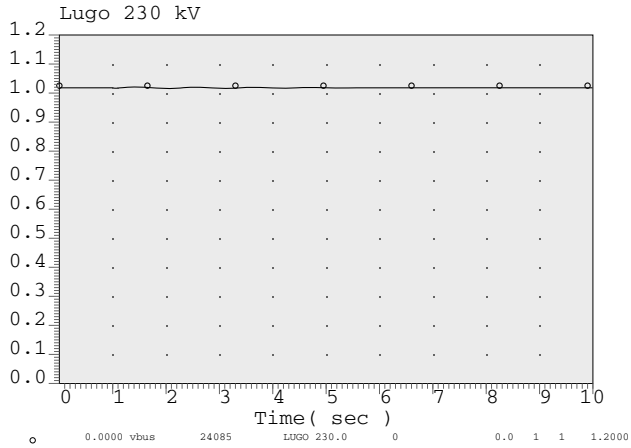


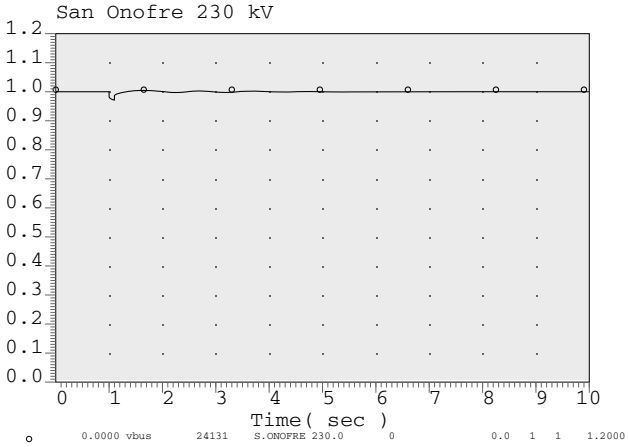


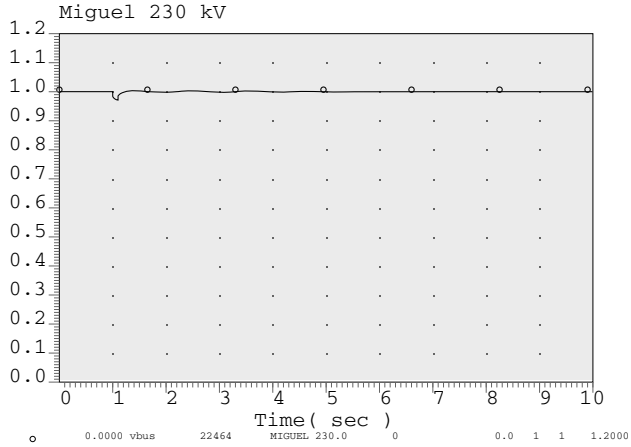
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

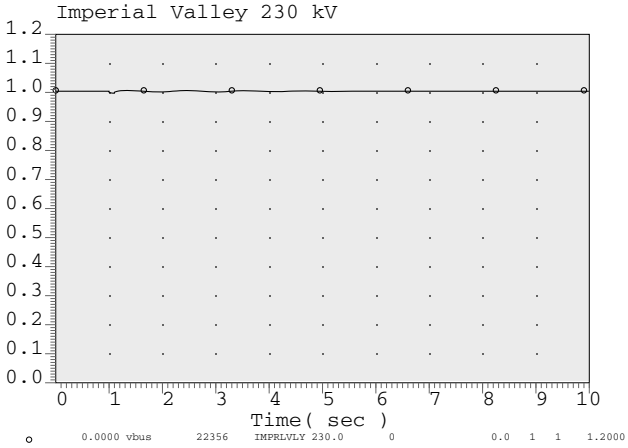
Bus Voltage

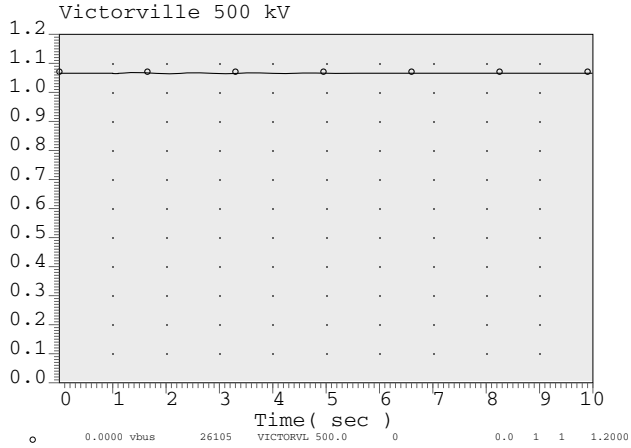






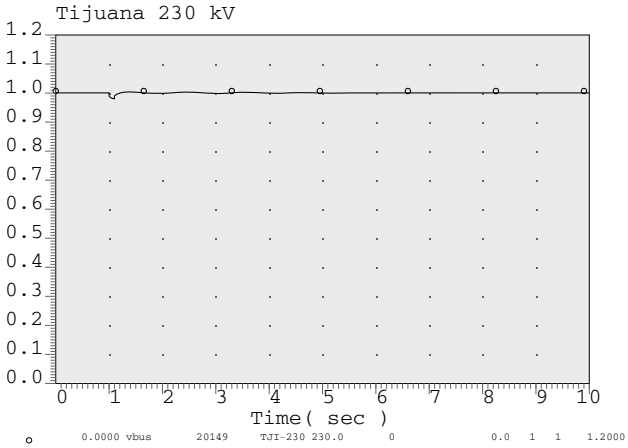


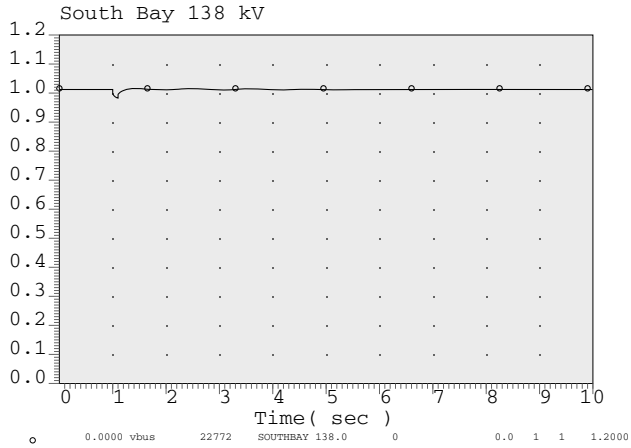


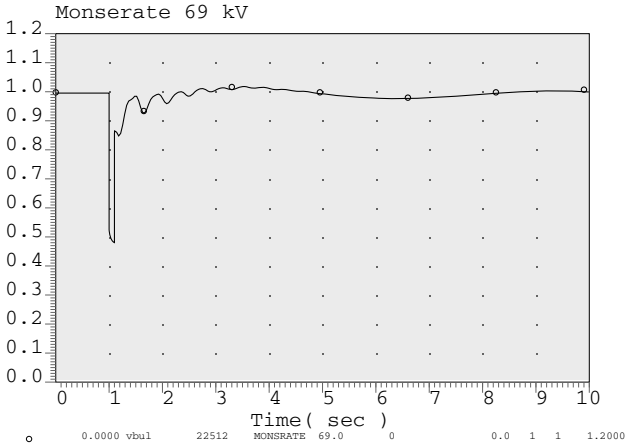


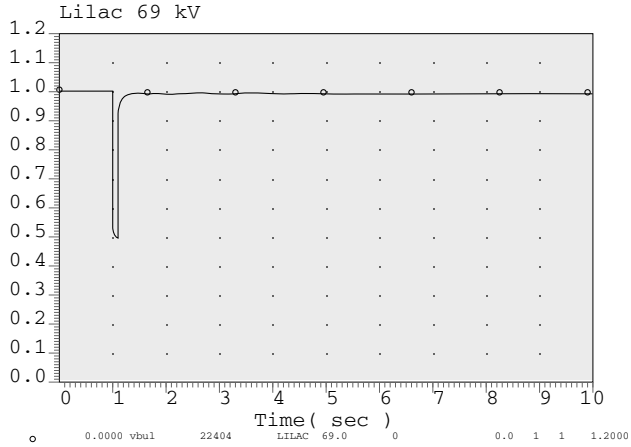
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

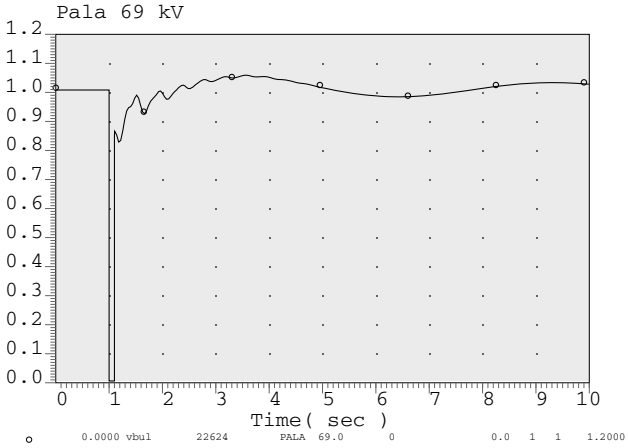
Bus Voltage

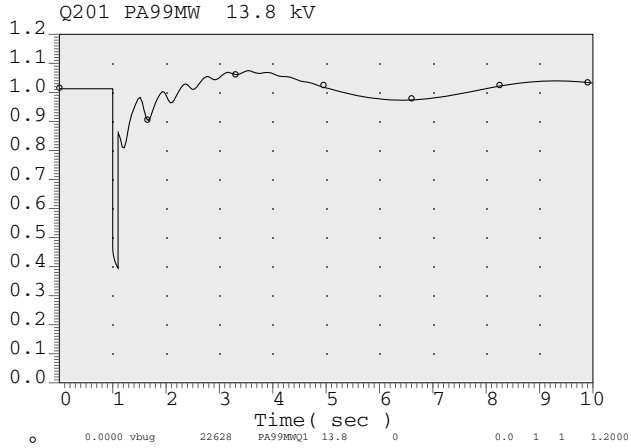






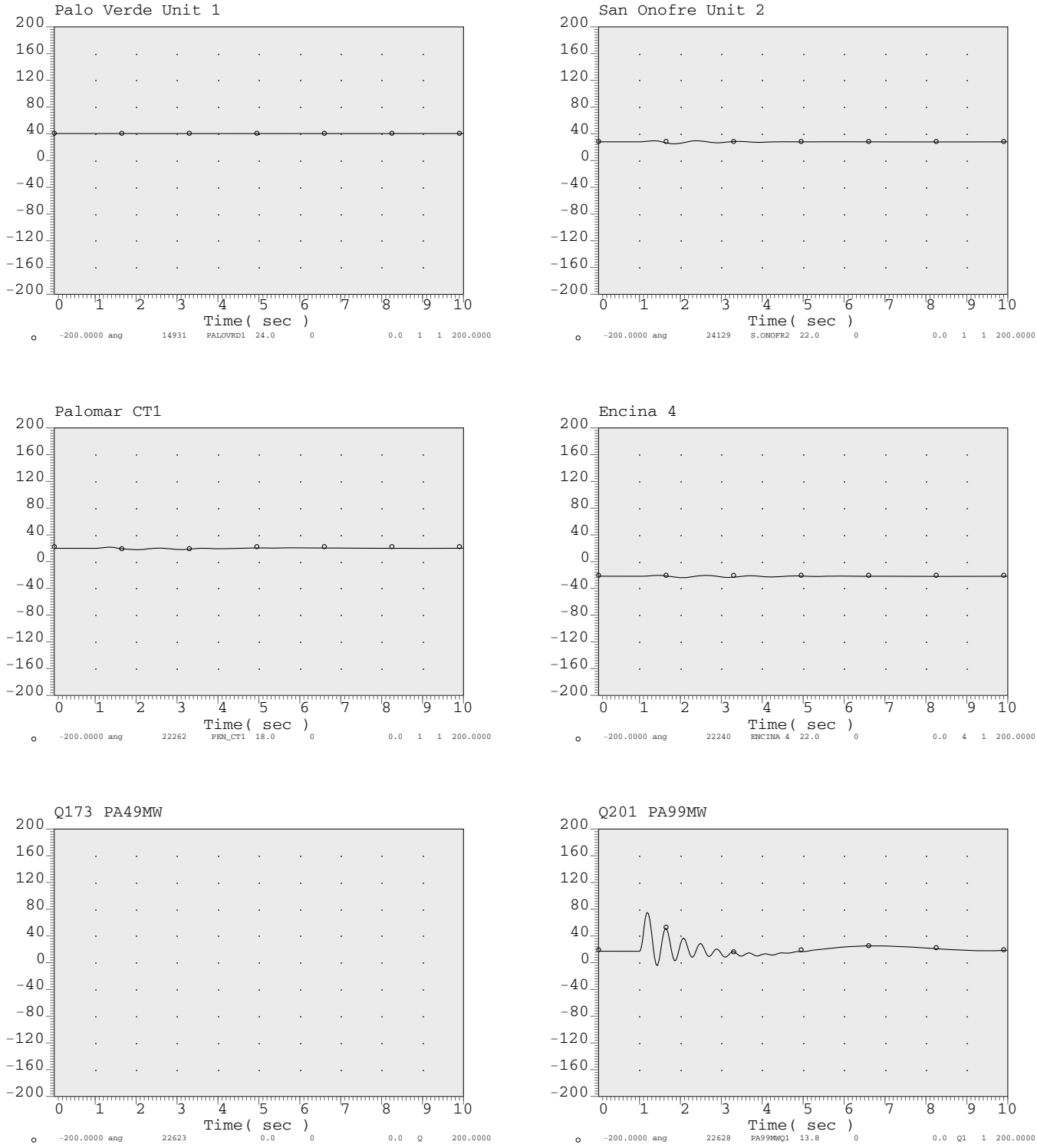






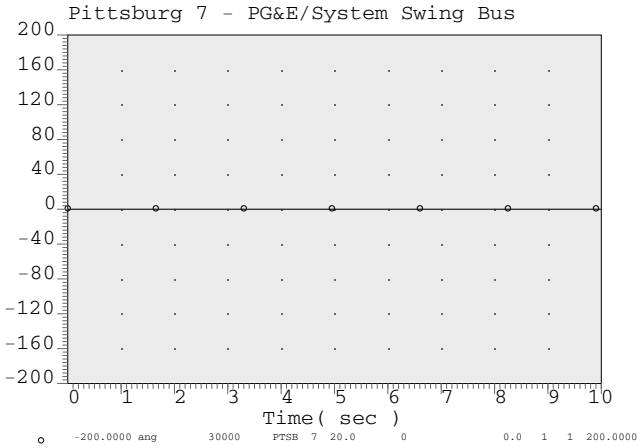
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

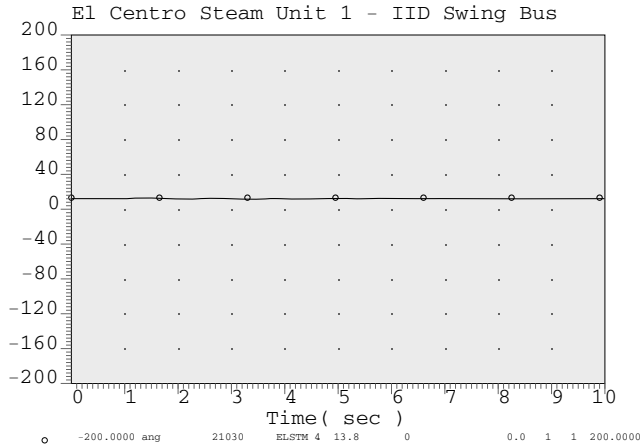
Relative Rotor Angle

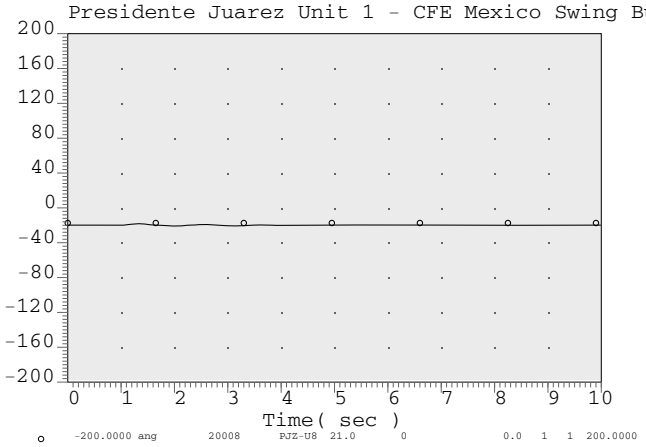


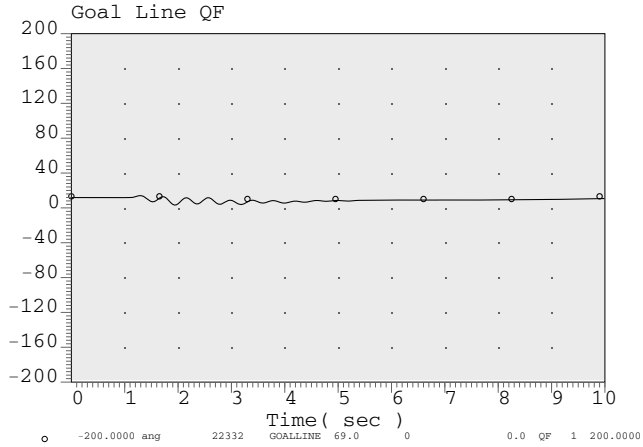
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

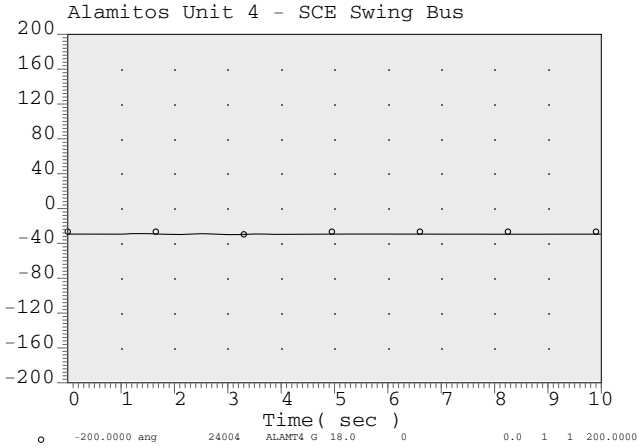
Relative Rotor Angle

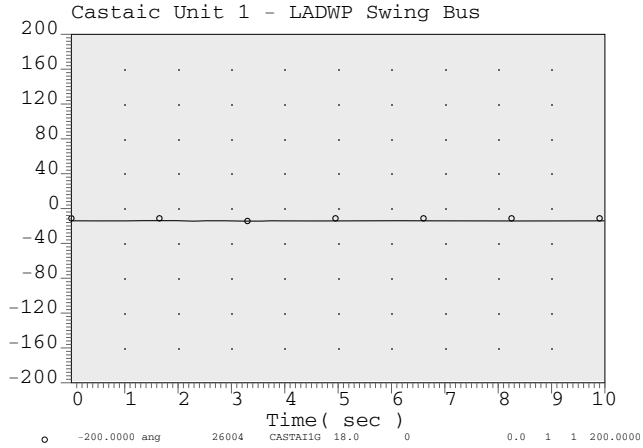






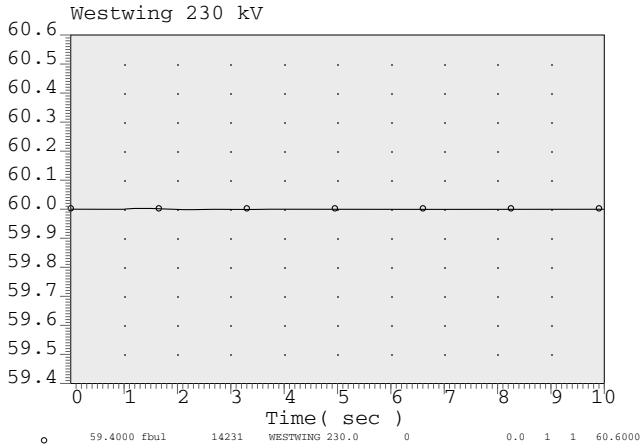


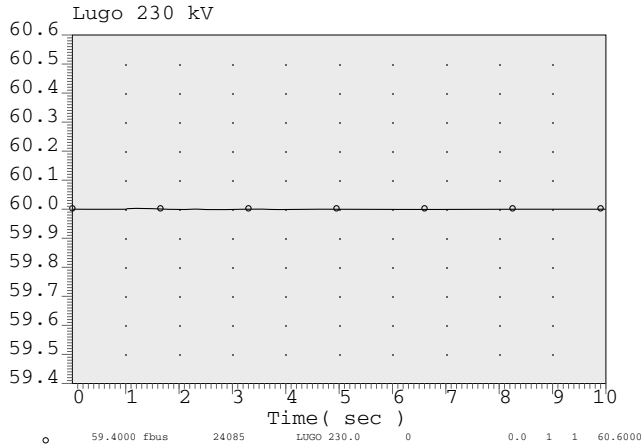


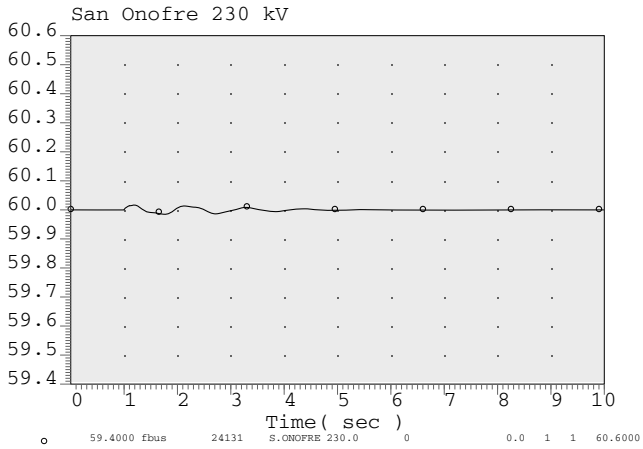


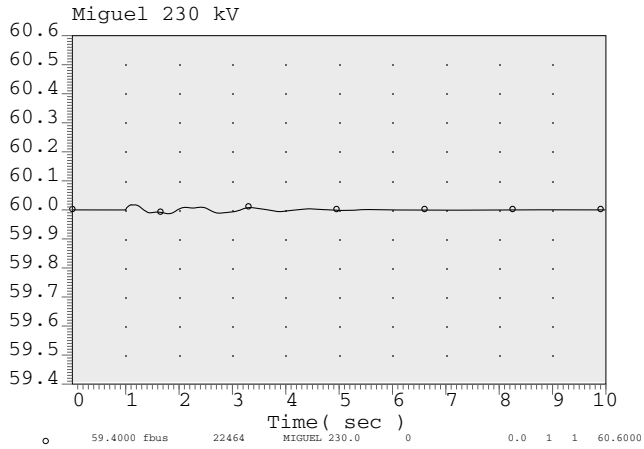
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

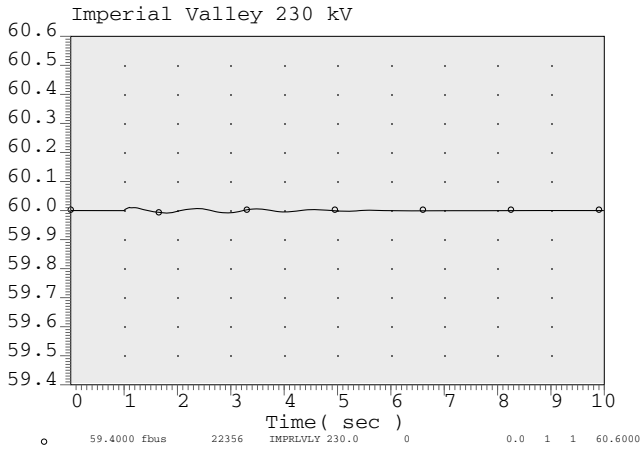
Bus Frequency

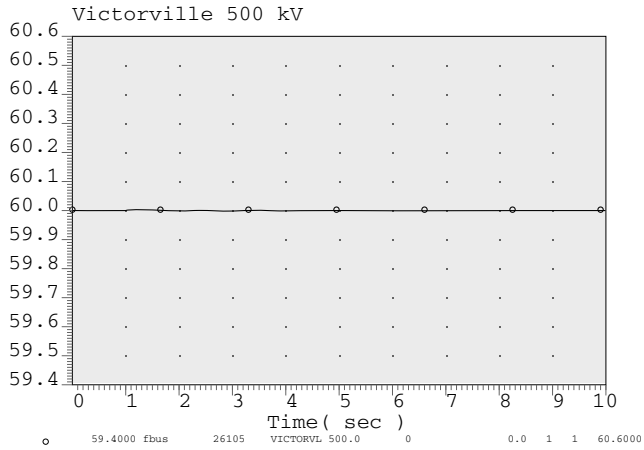






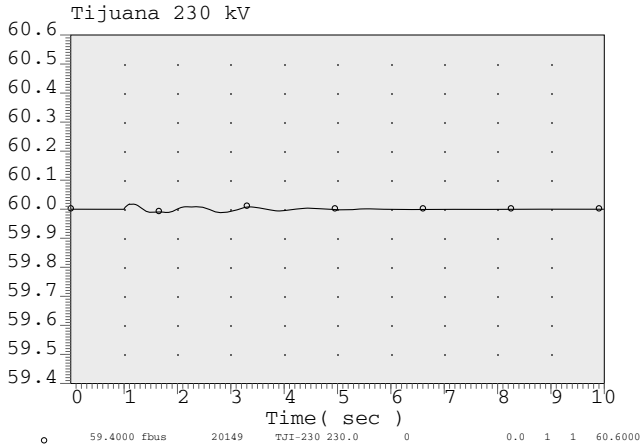


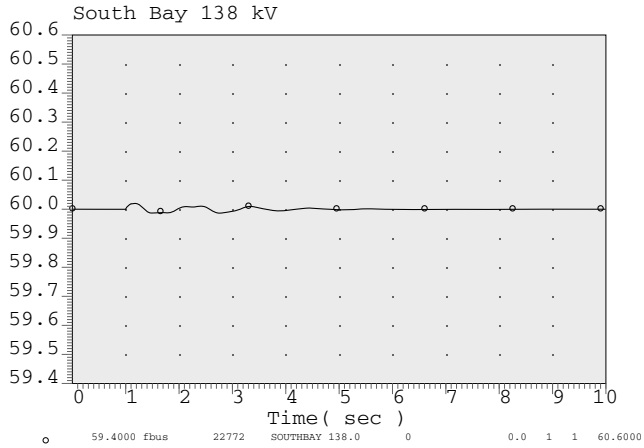


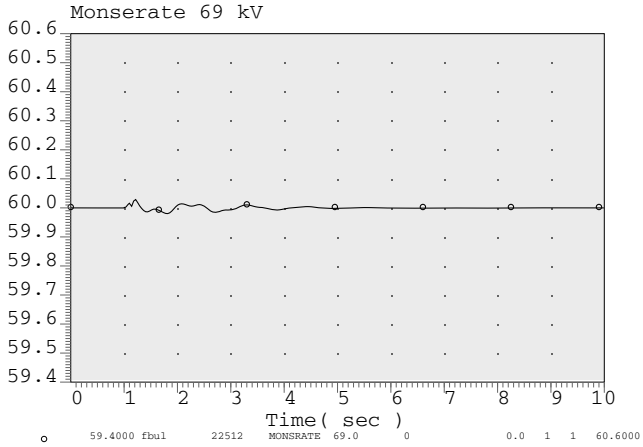


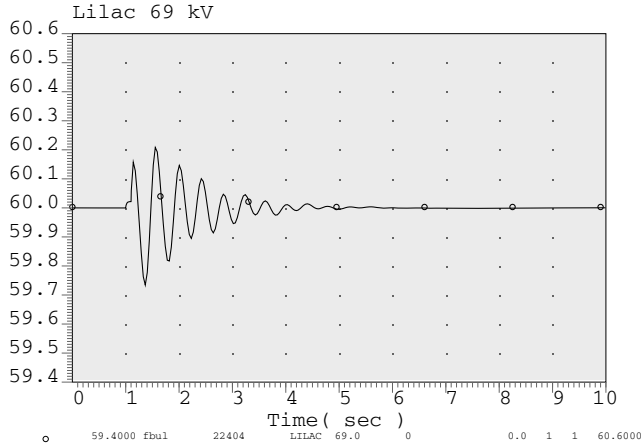
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

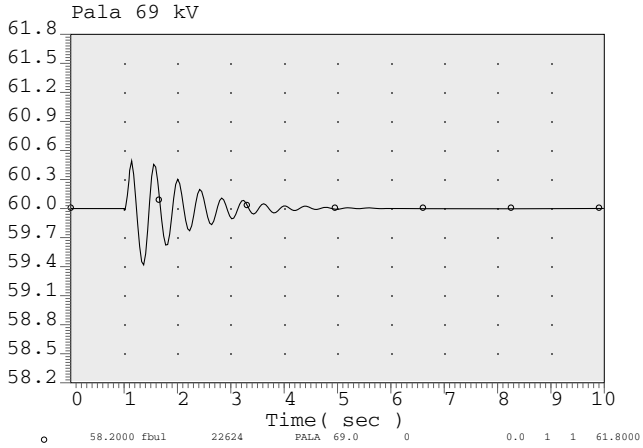
Bus Frequency

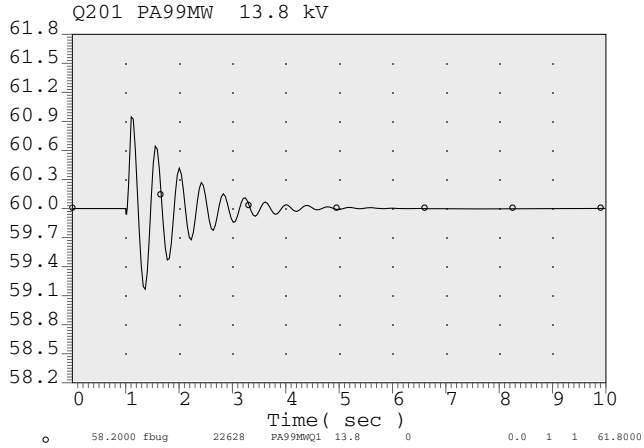






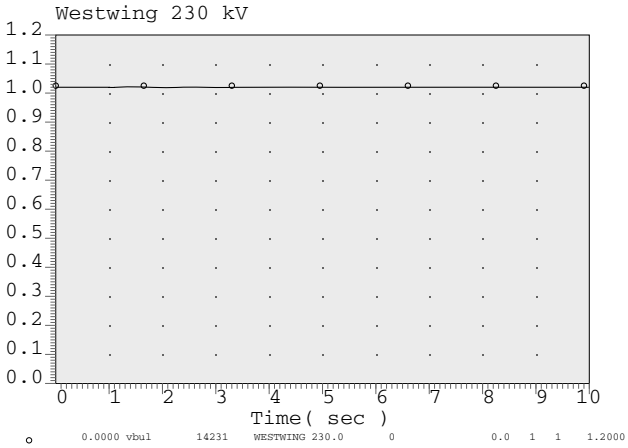


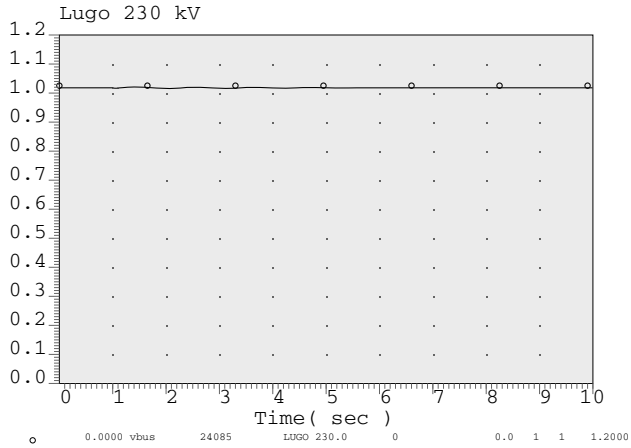


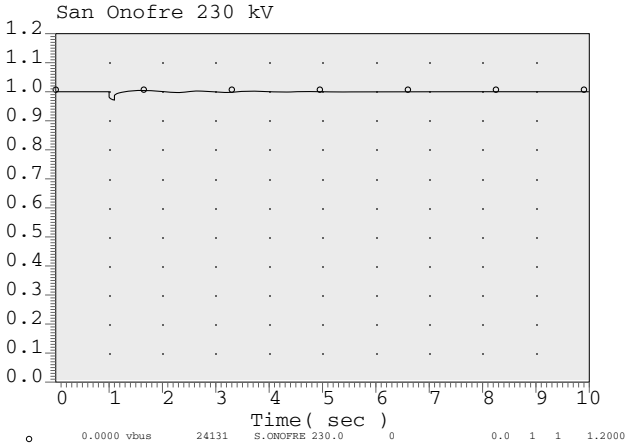


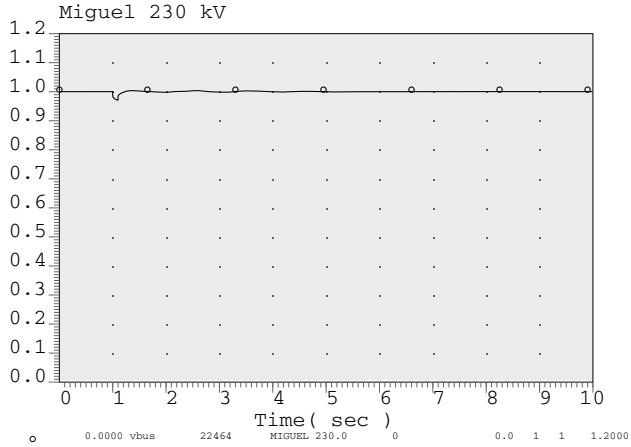
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

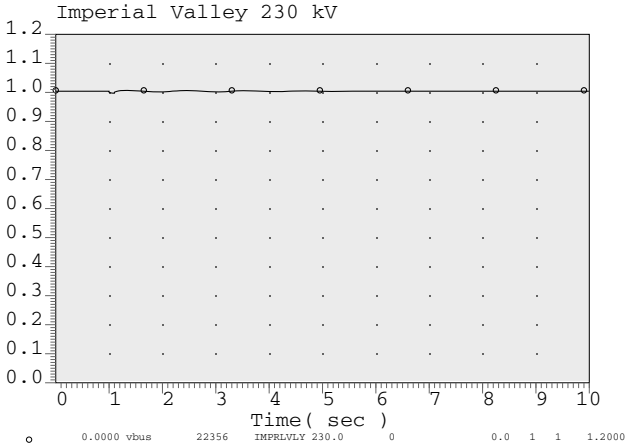
Bus Voltage

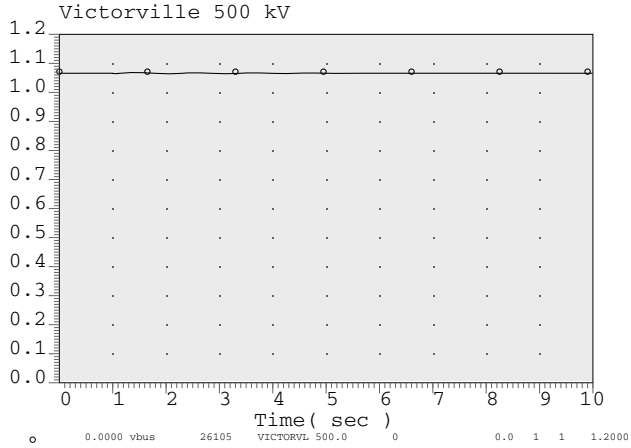






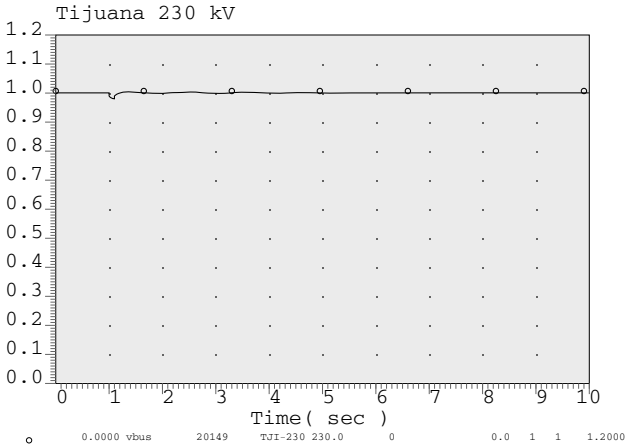


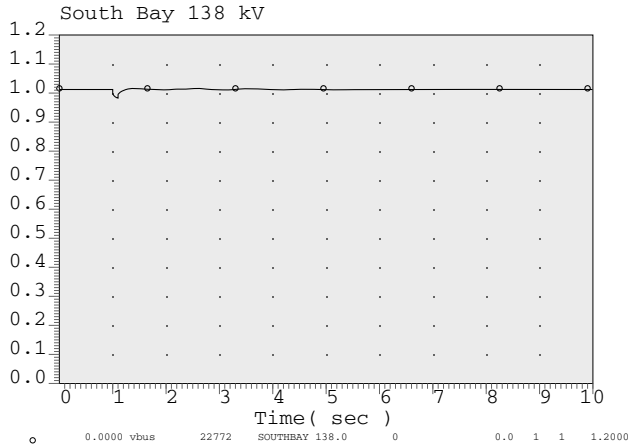


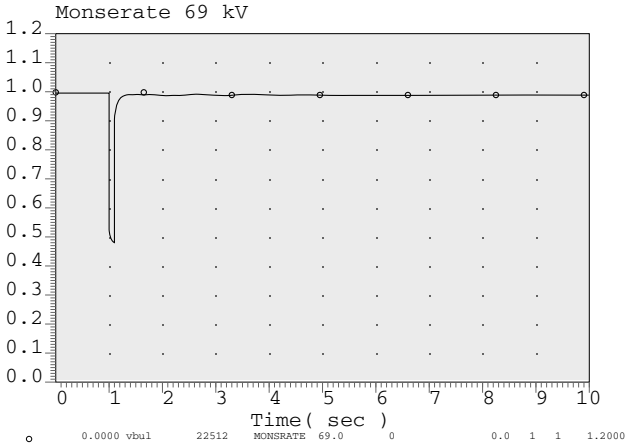


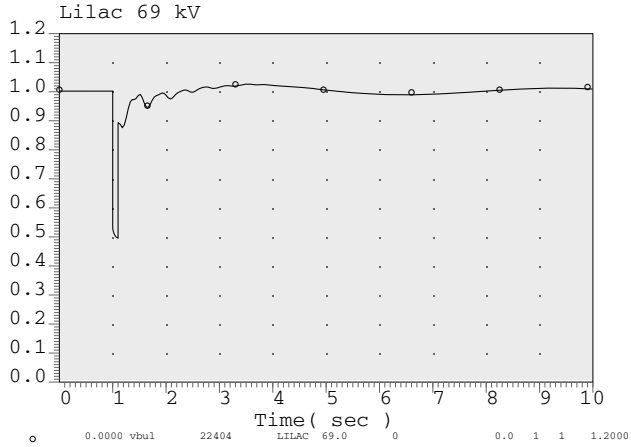
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

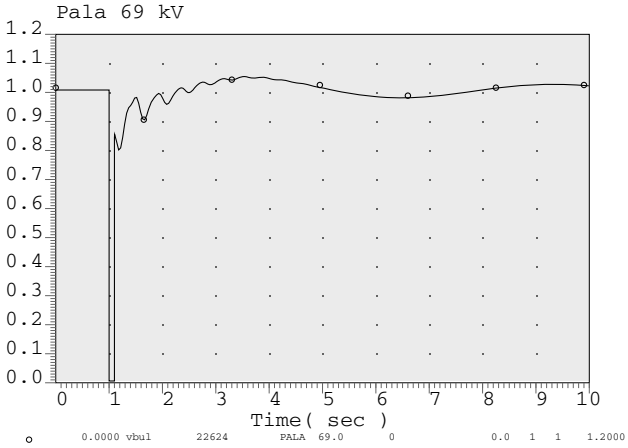
Bus Voltage

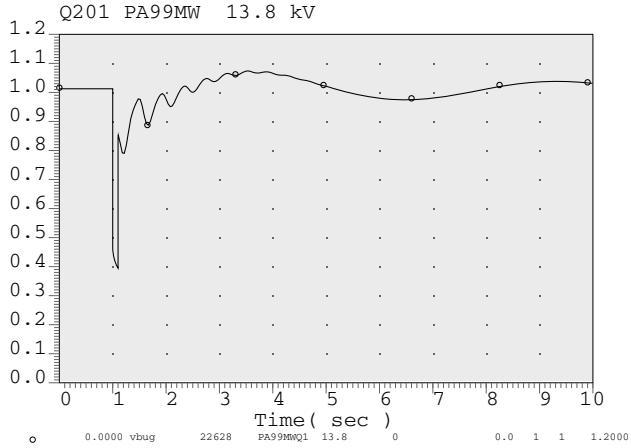






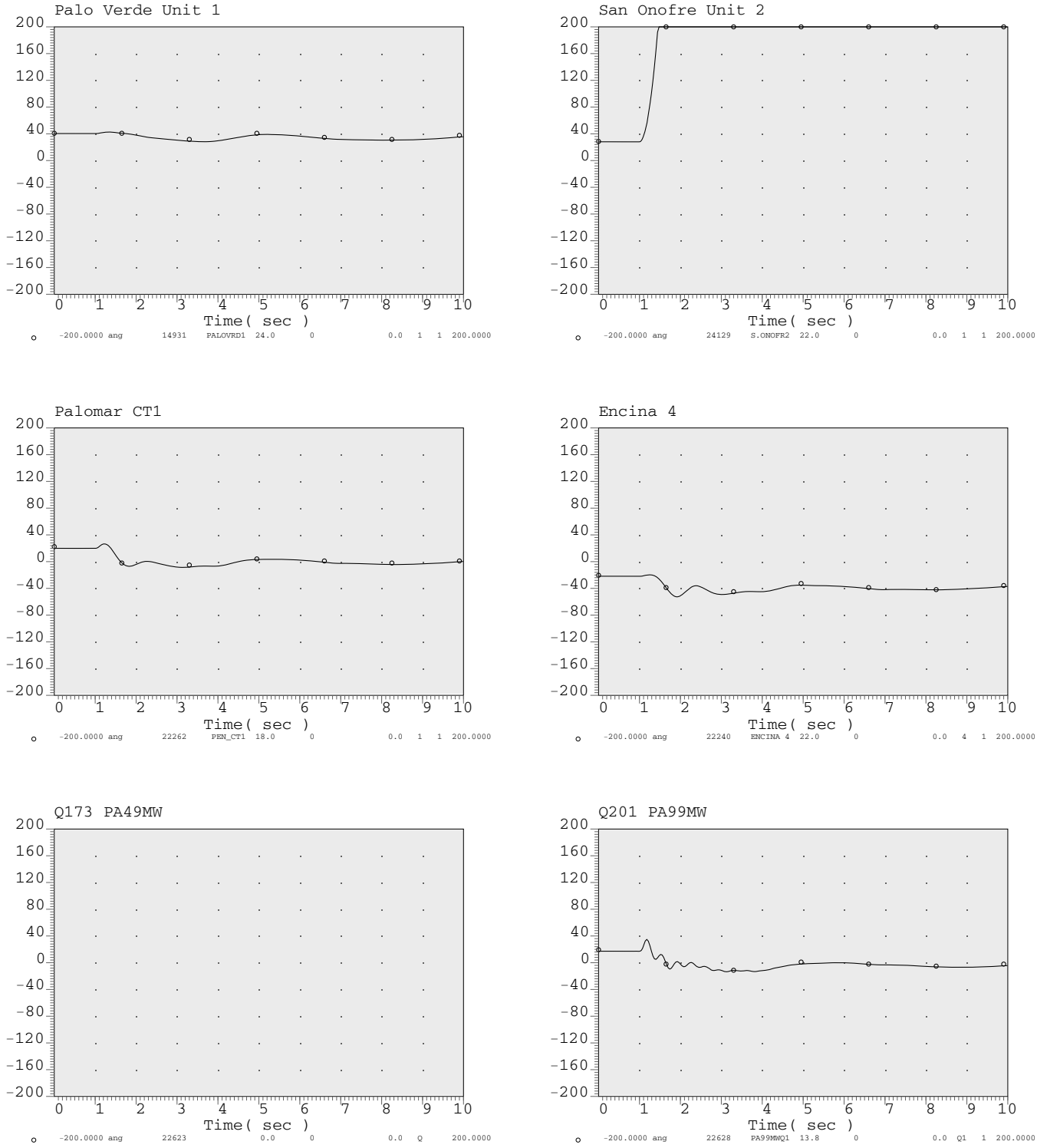






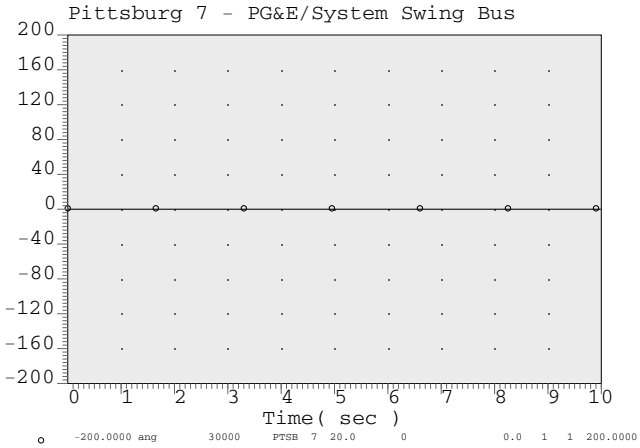
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

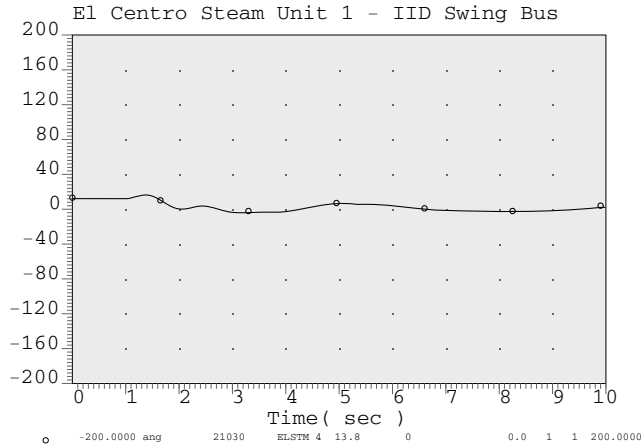
Relative Rotor Angle

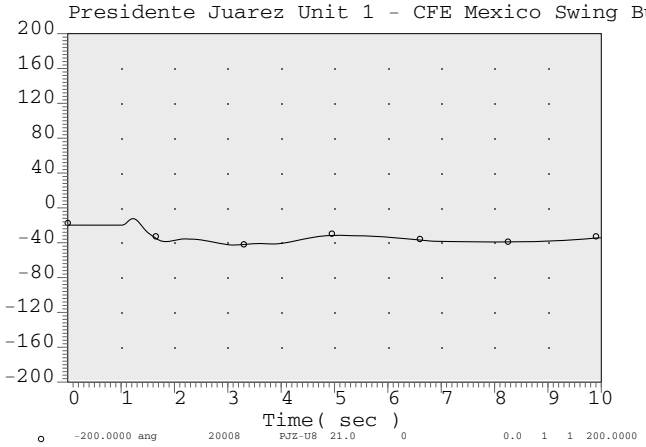


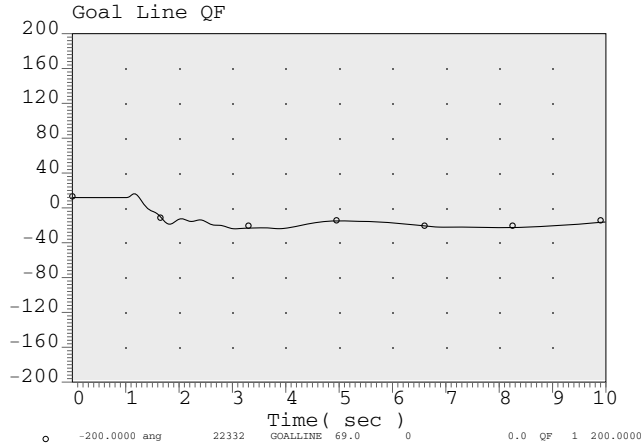
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

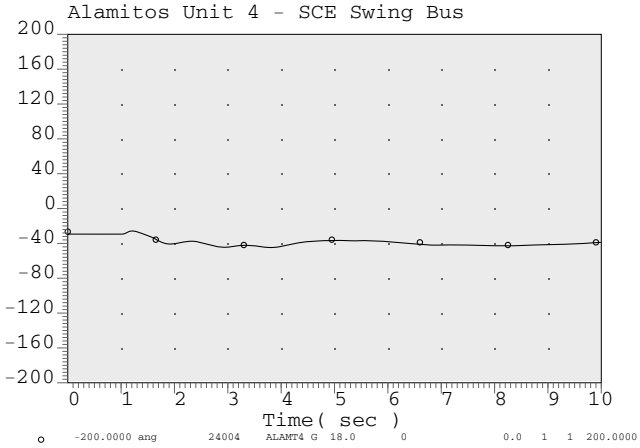
Relative Rotor Angle

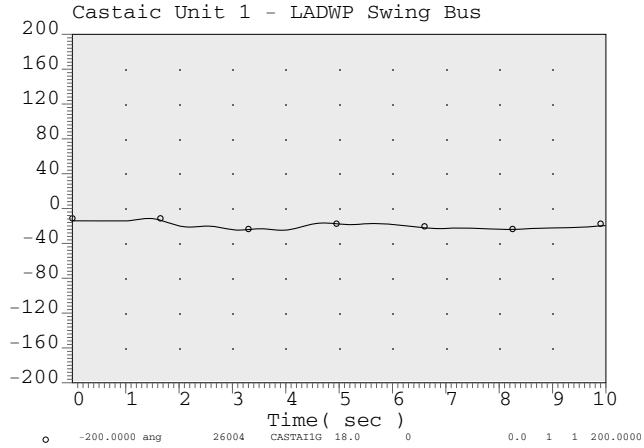






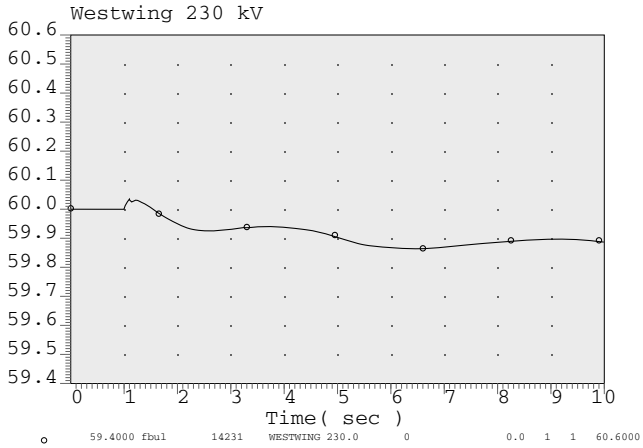


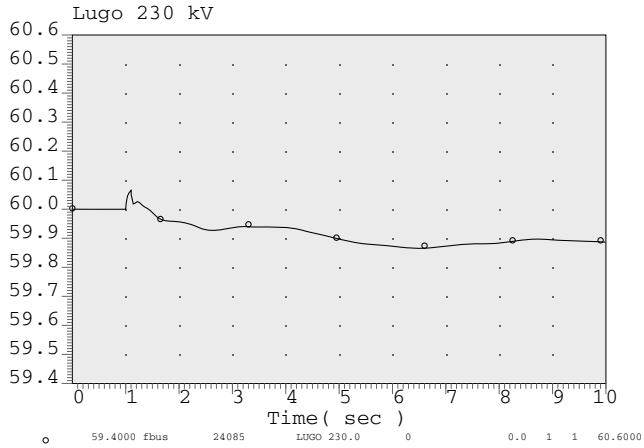


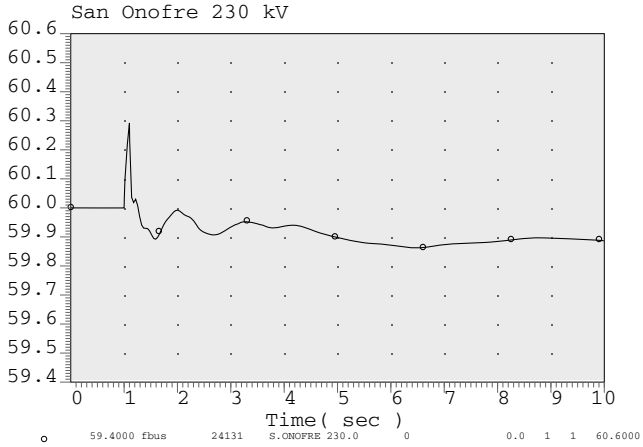


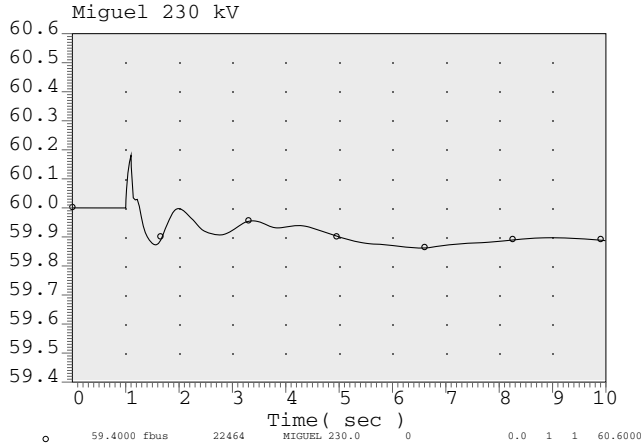
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

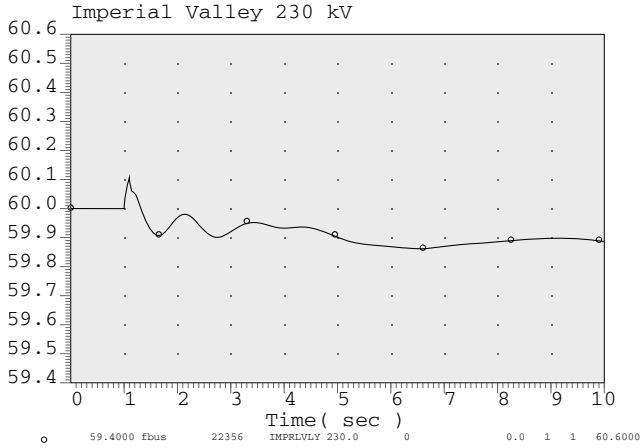
Bus Frequency

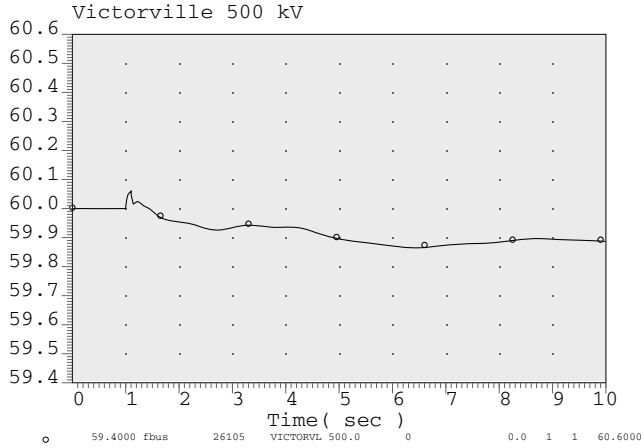






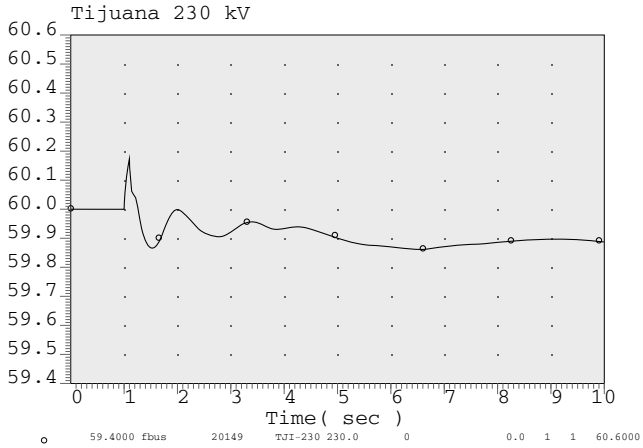


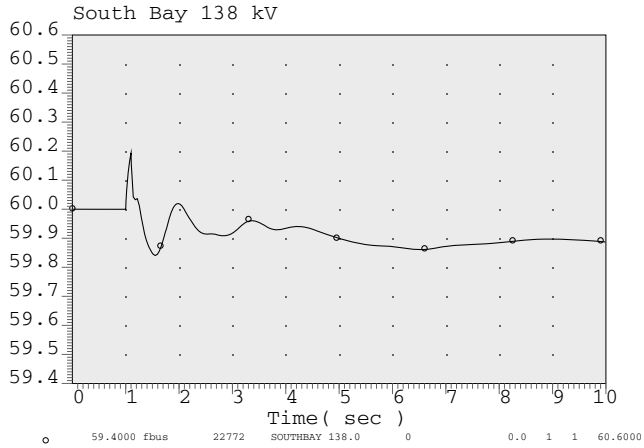


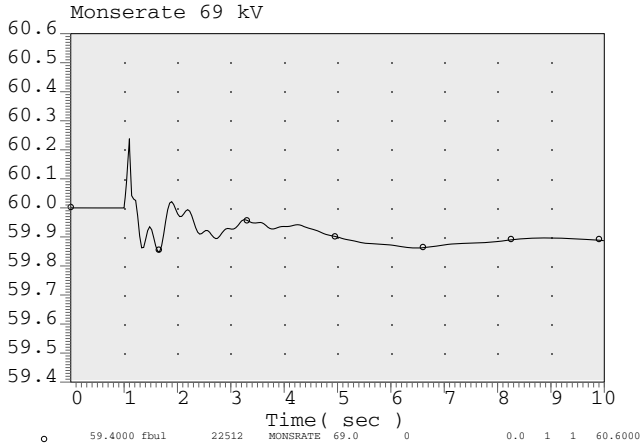


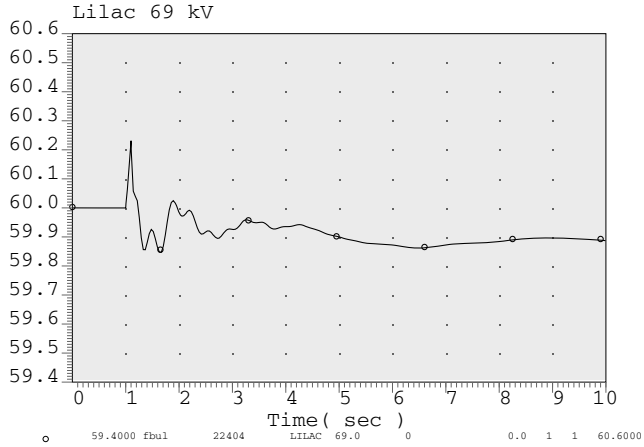
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

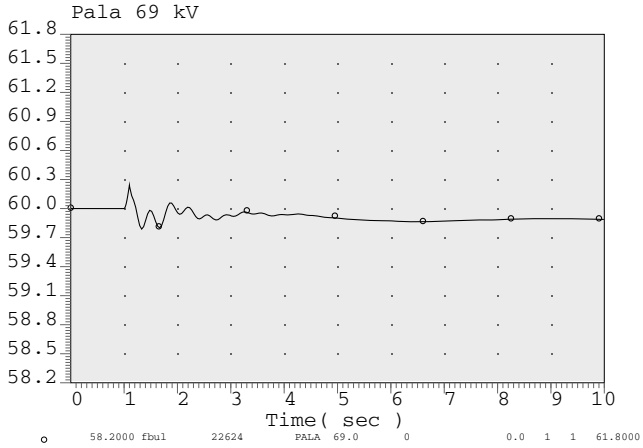
Bus Frequency

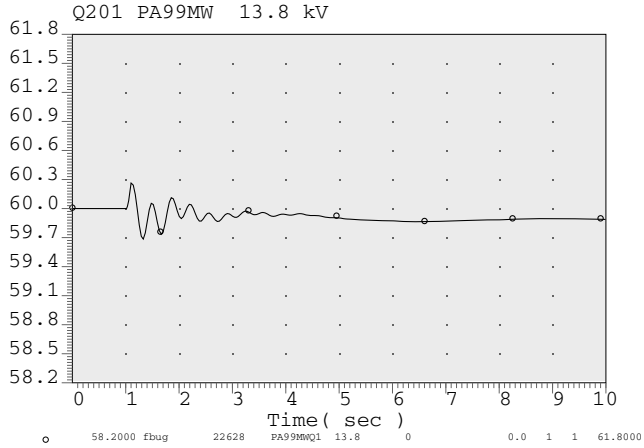






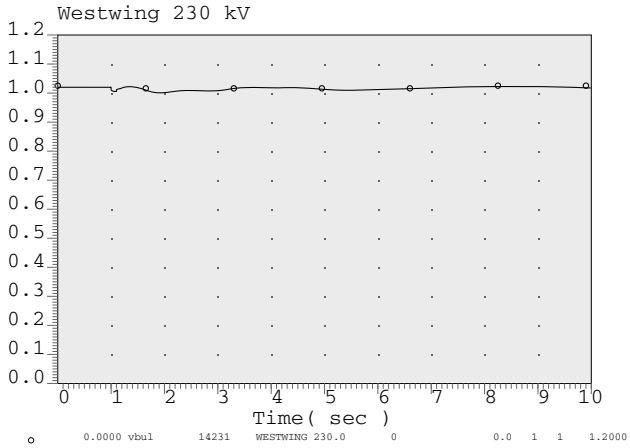


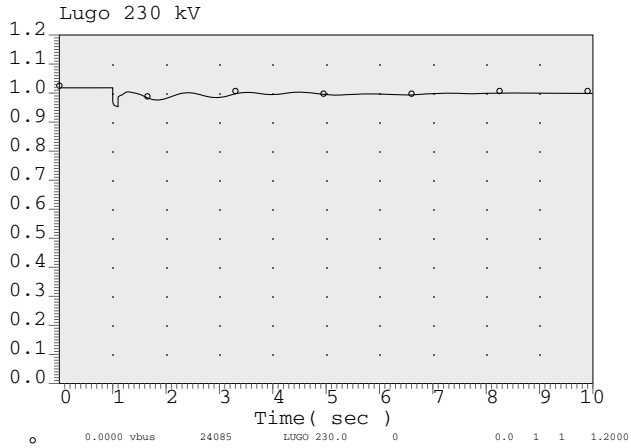


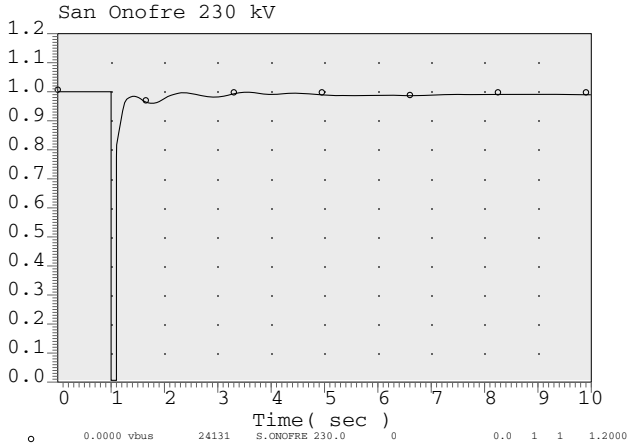


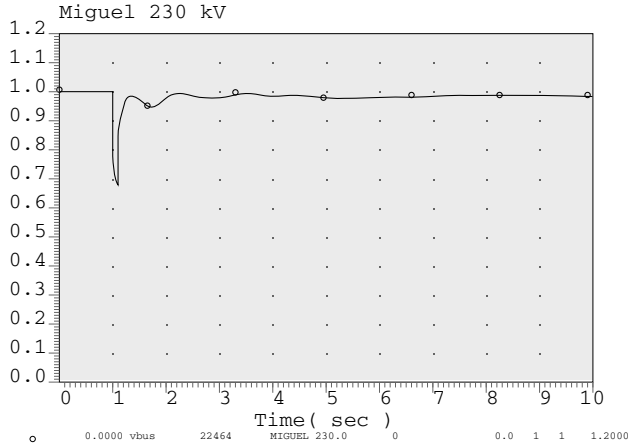
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

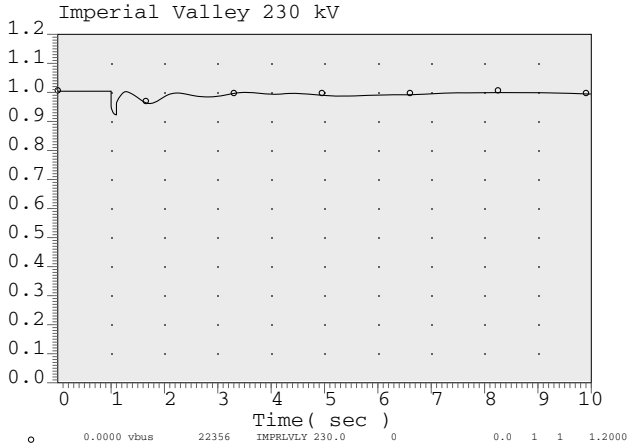
Bus Voltage

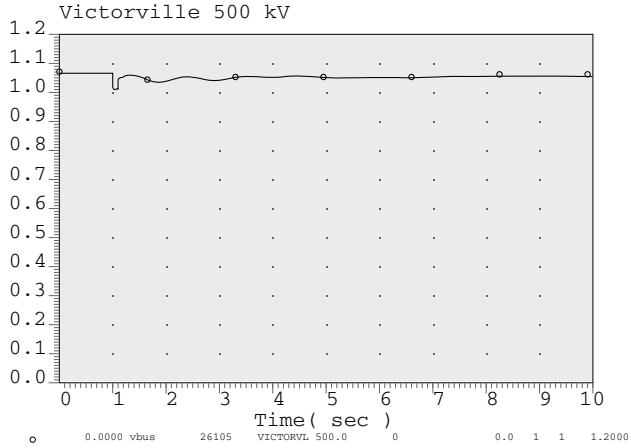






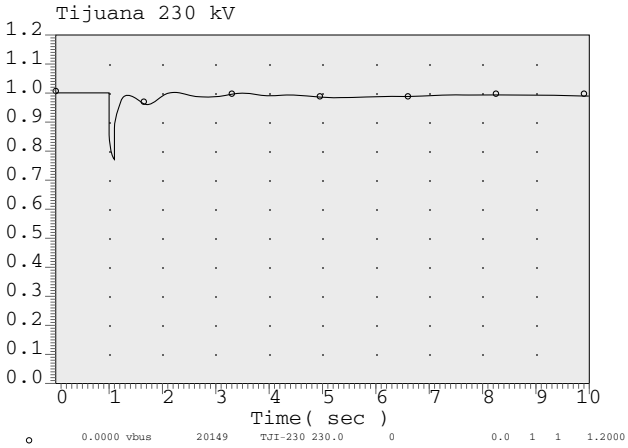


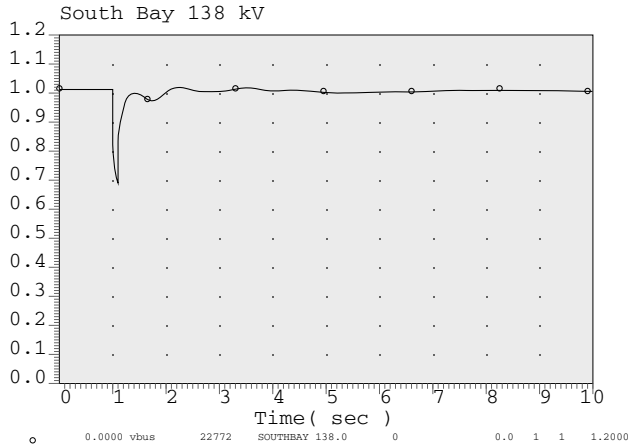


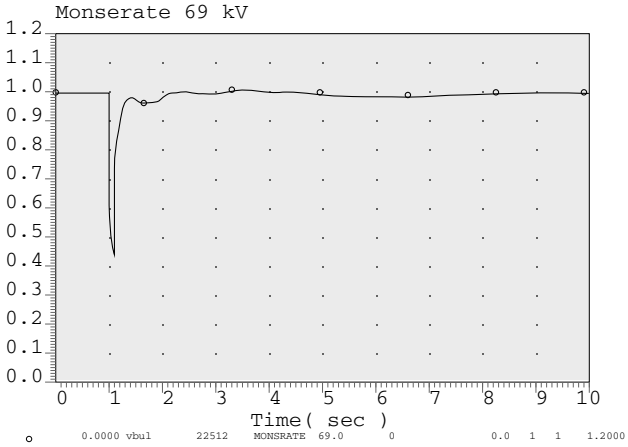


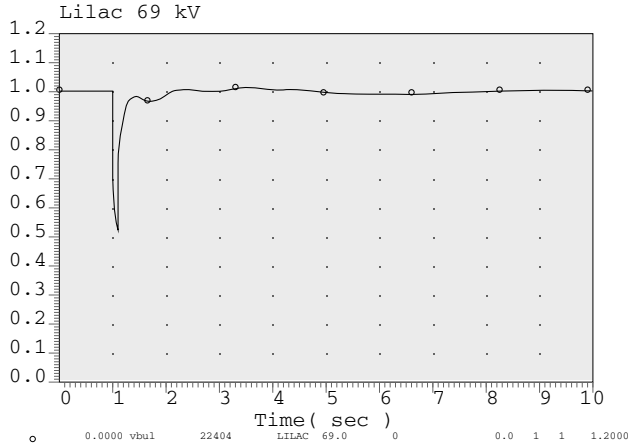
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

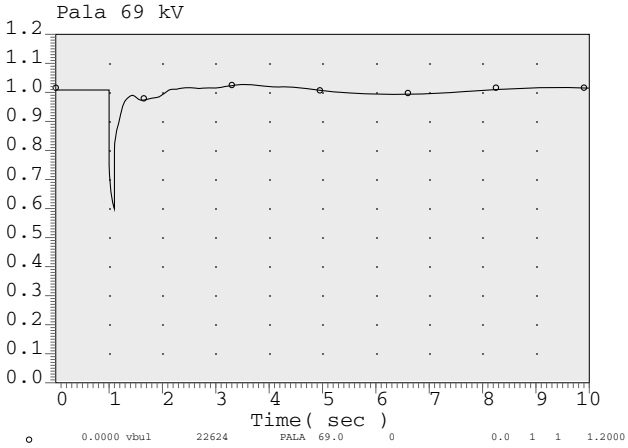
Bus Voltage

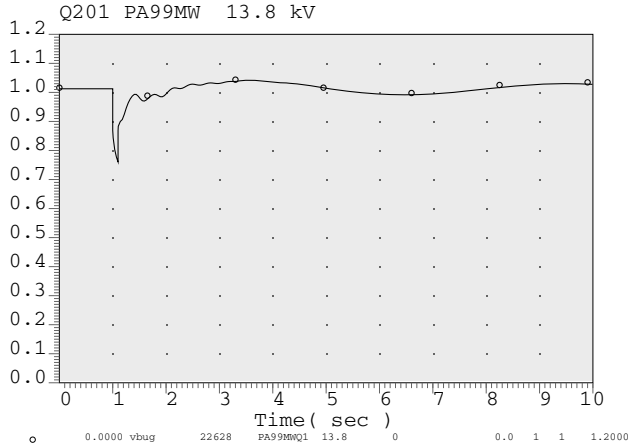






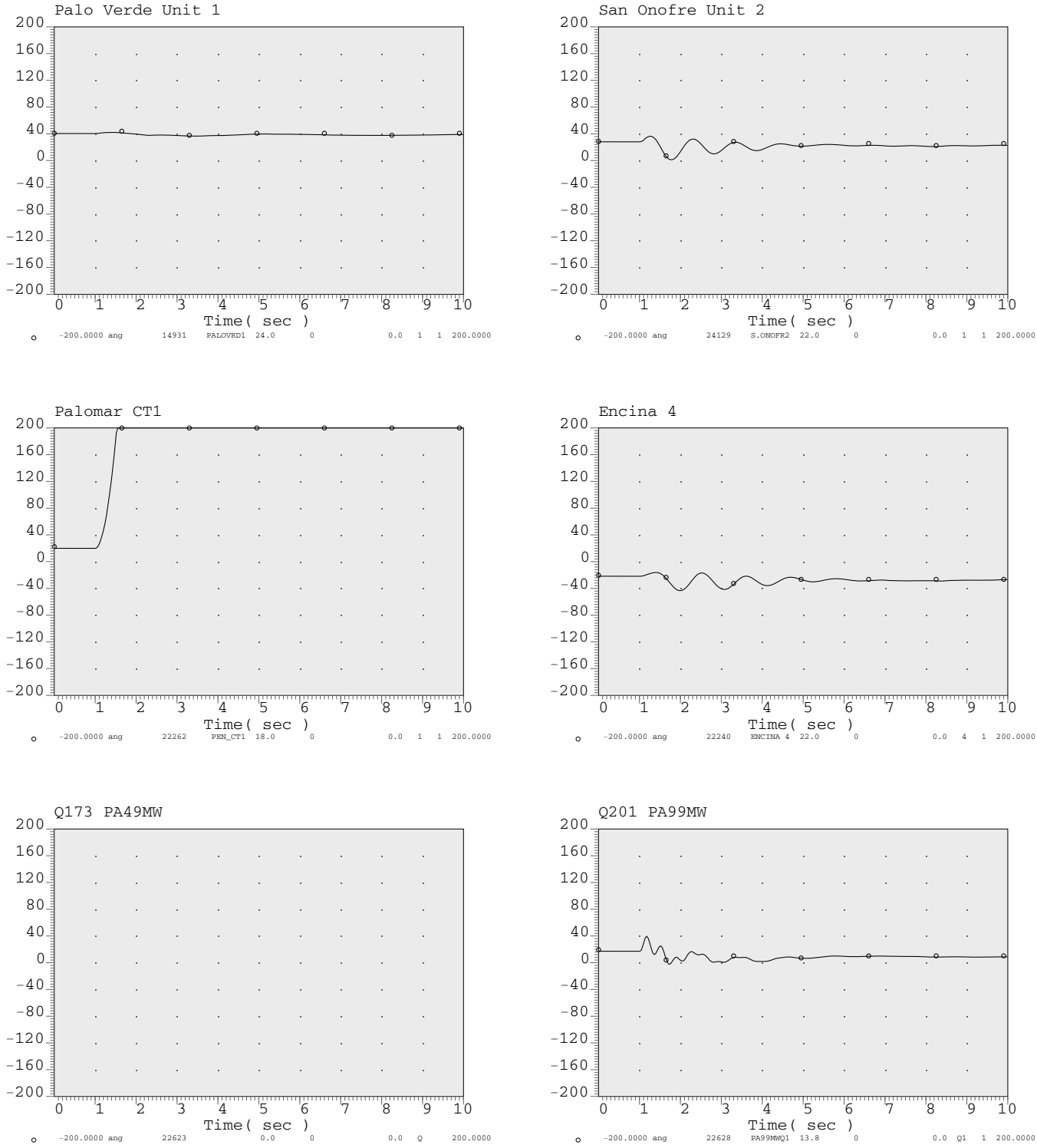






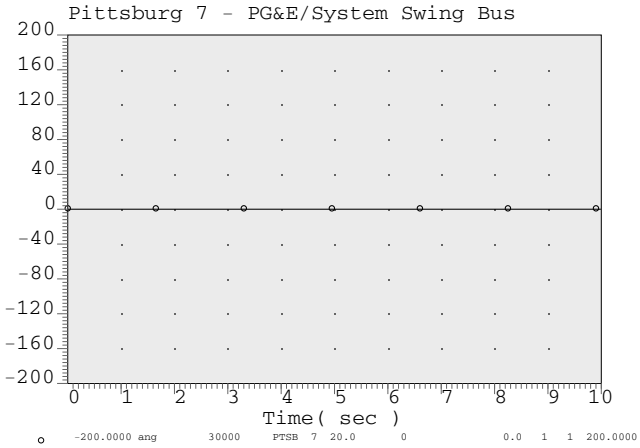
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

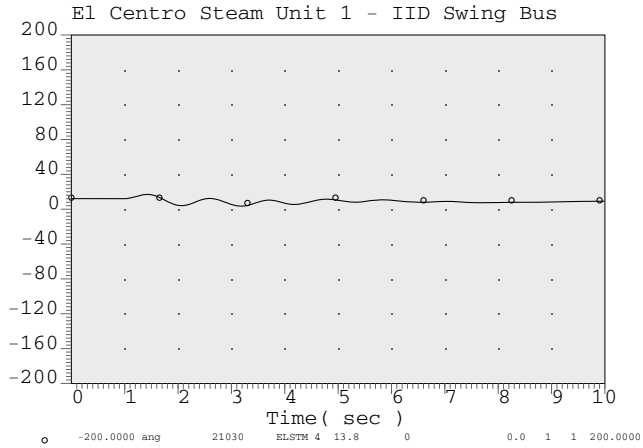
Relative Rotor Angle

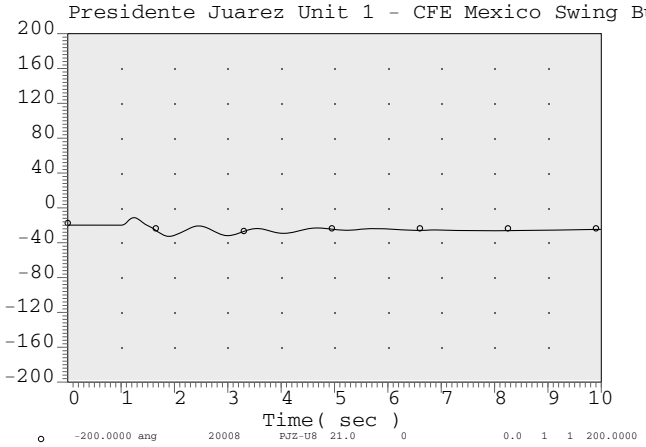


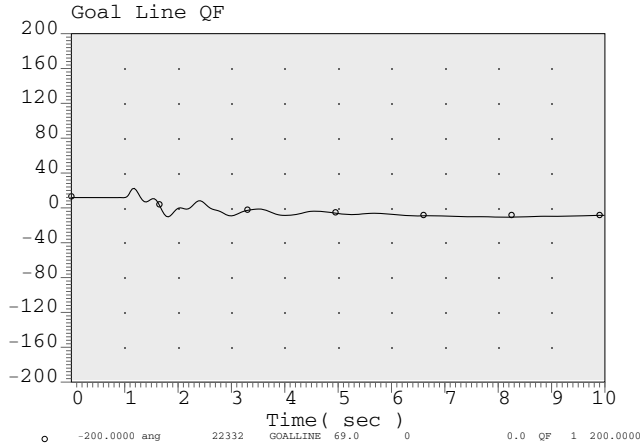
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

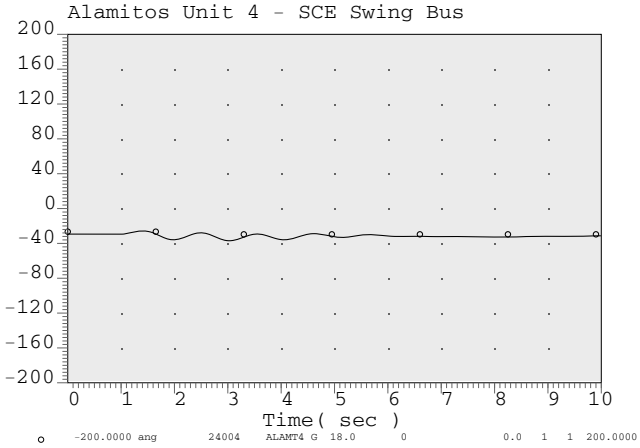
Relative Rotor Angle

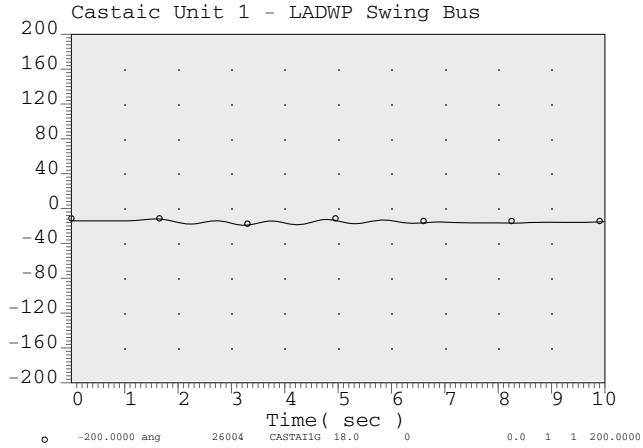






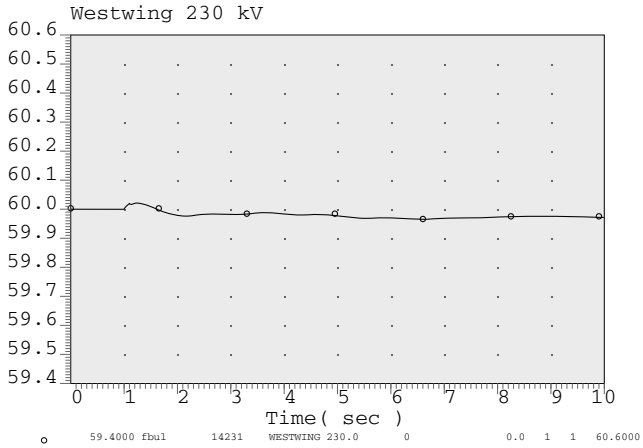


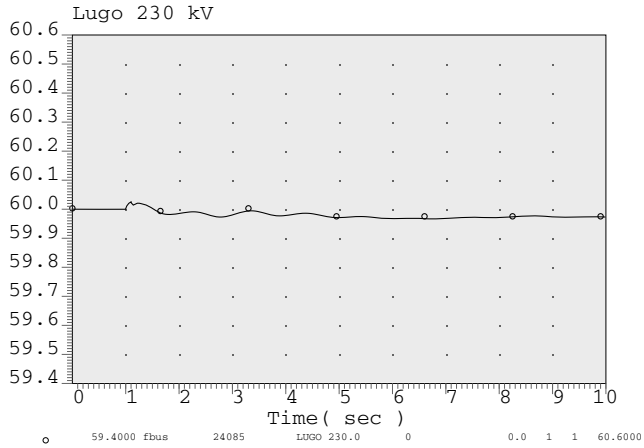


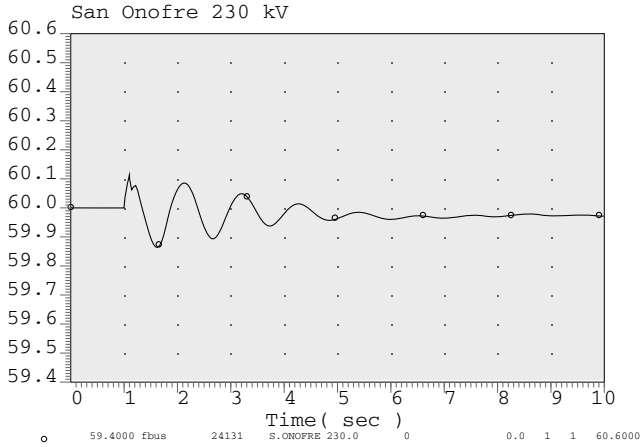


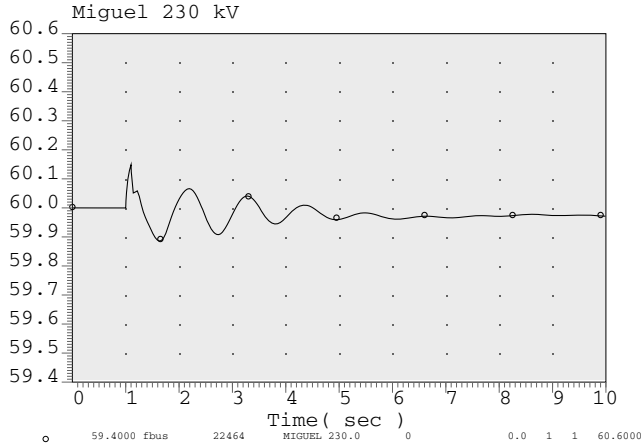
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

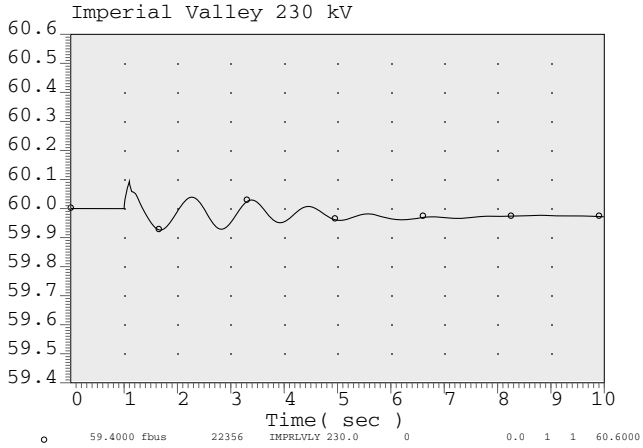
Bus Frequency

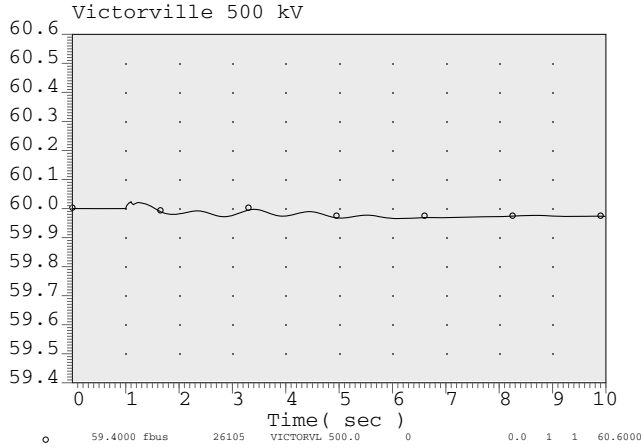






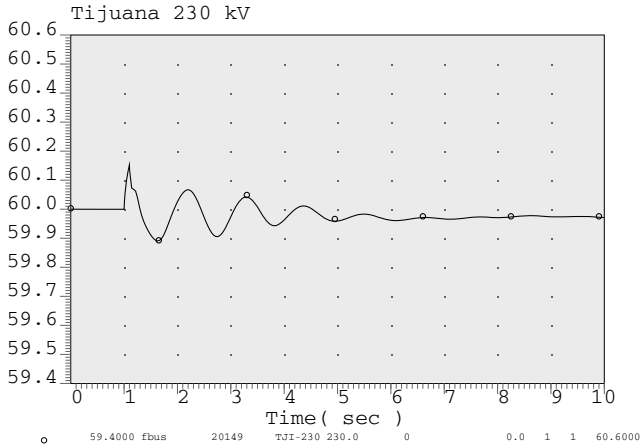


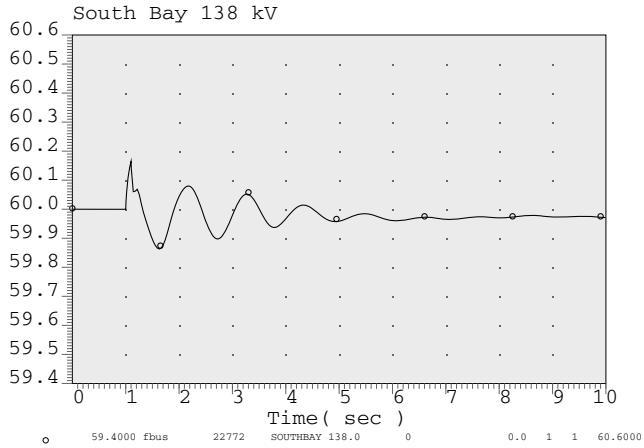


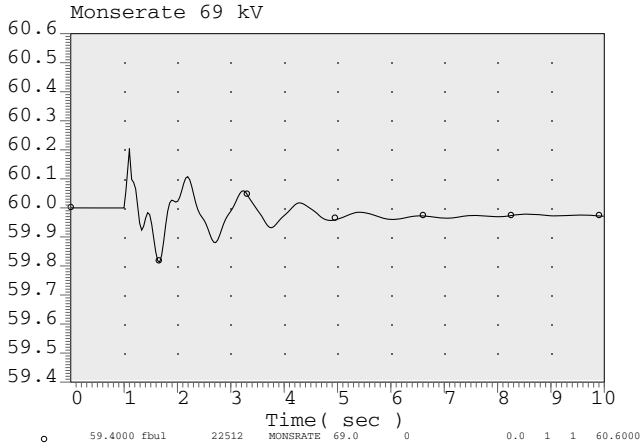


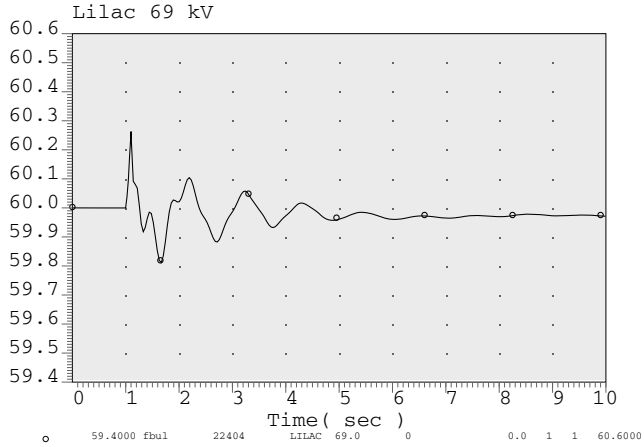
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

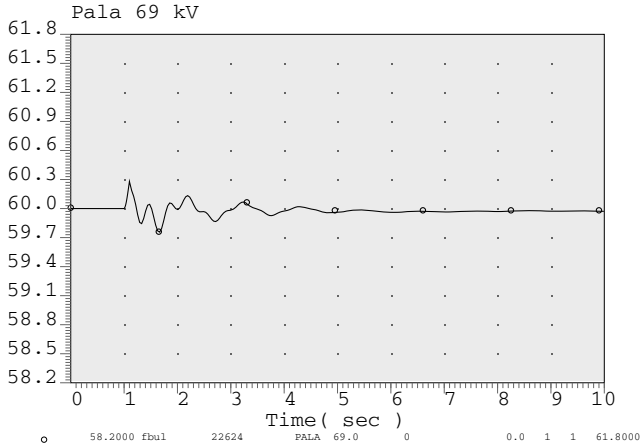
Bus Frequency

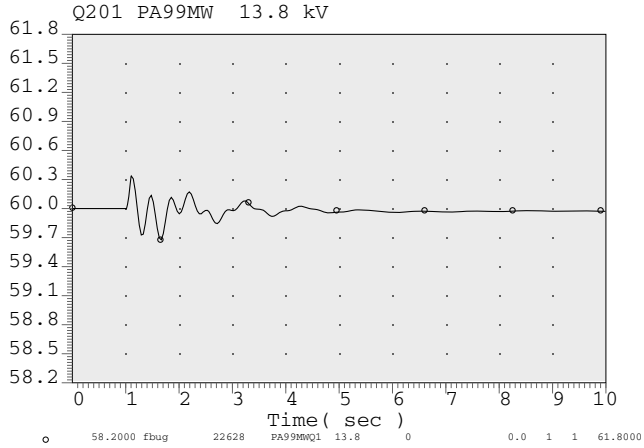






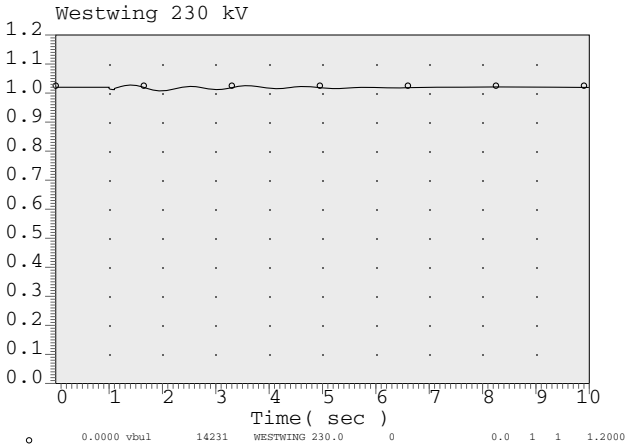


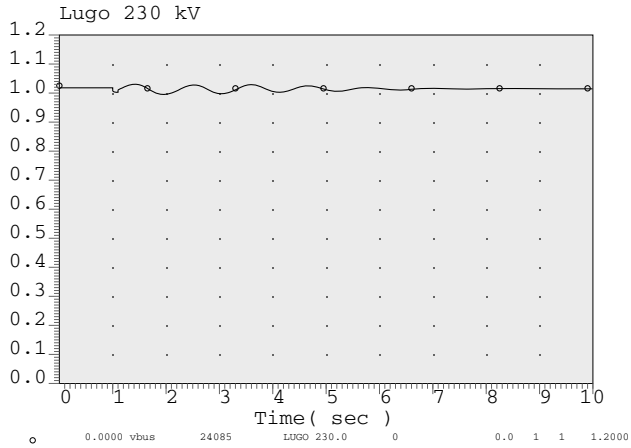


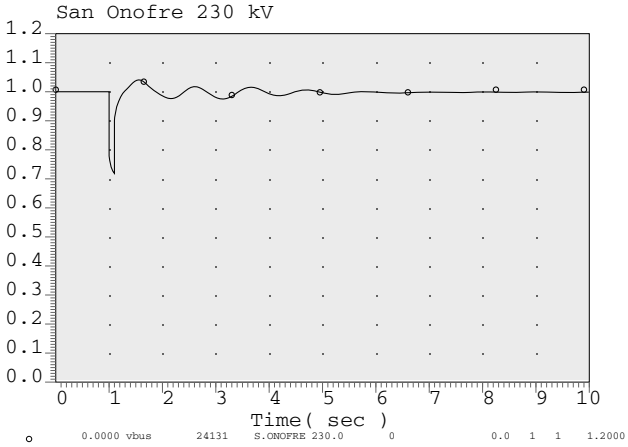


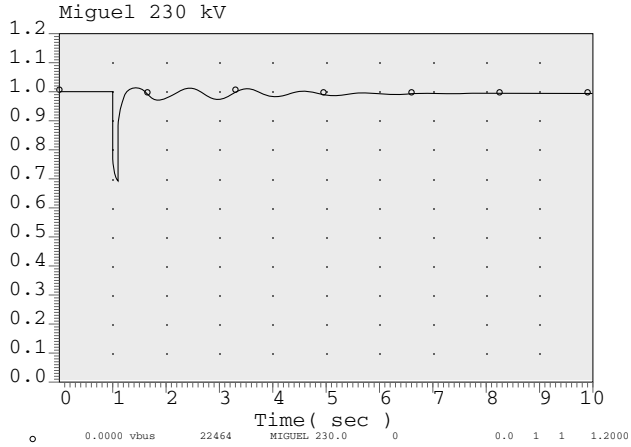
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

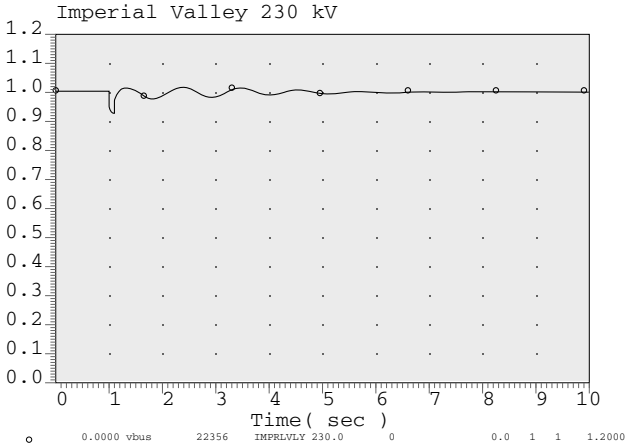
Bus Voltage

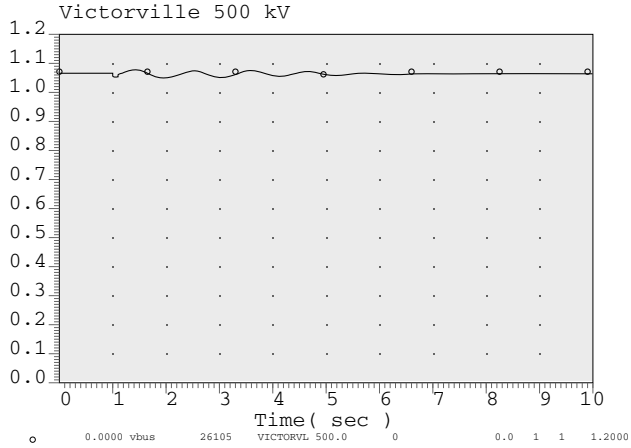






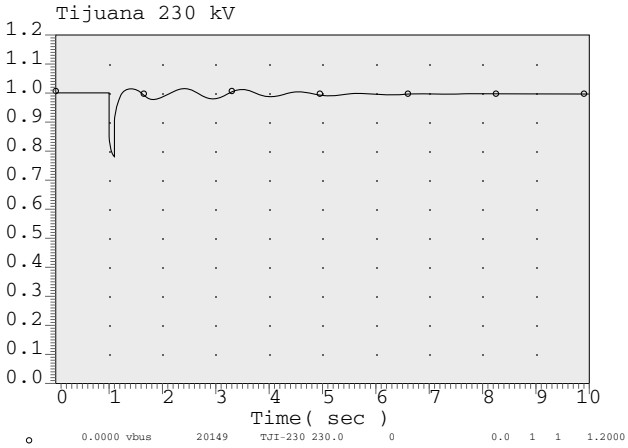


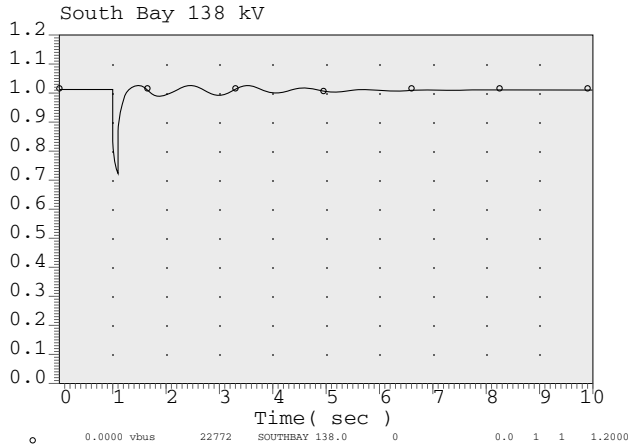


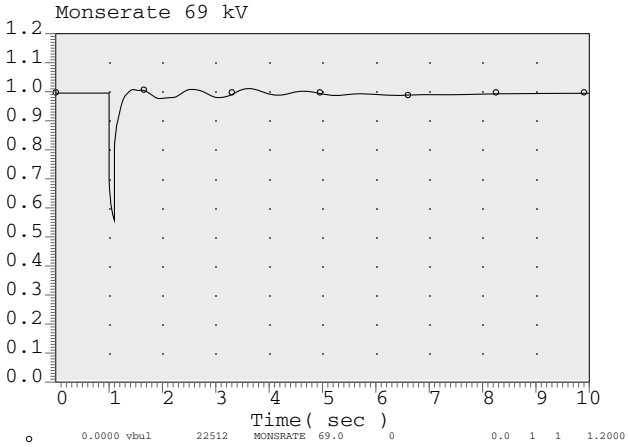


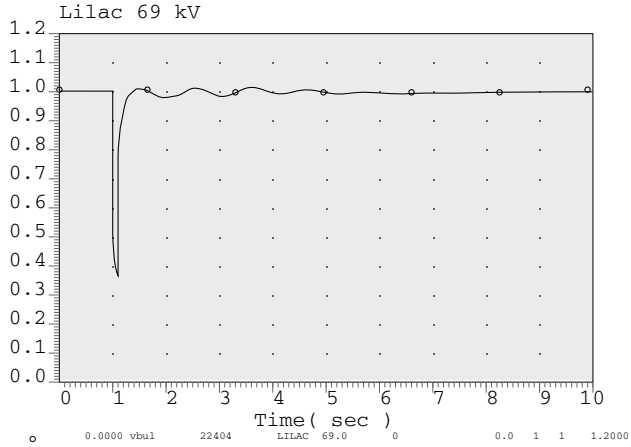
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

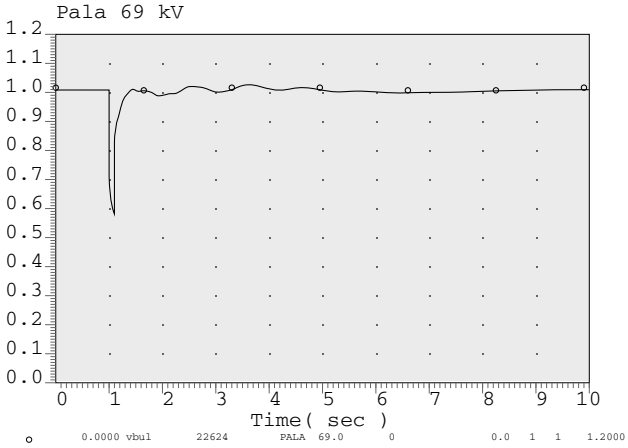
Bus Voltage

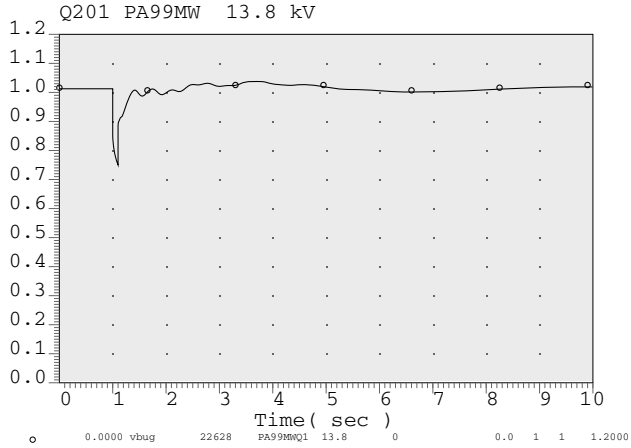






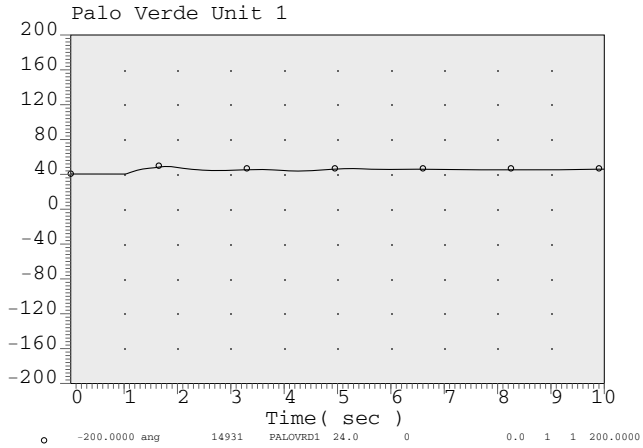


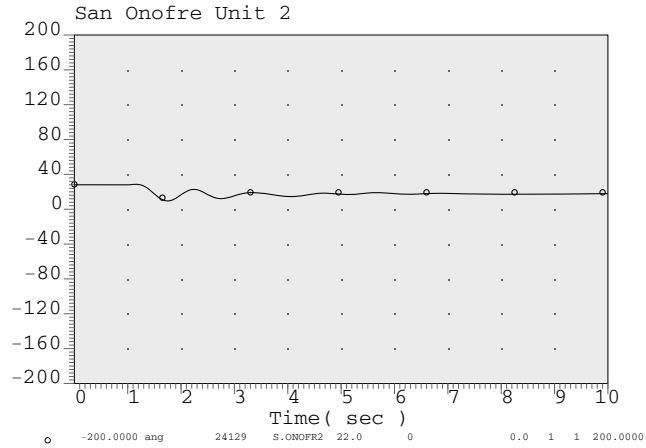


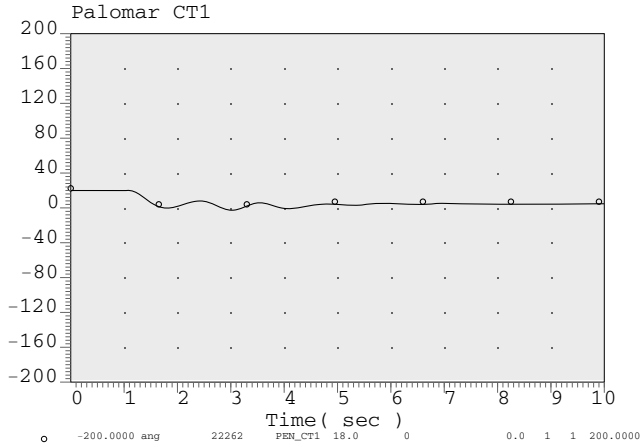


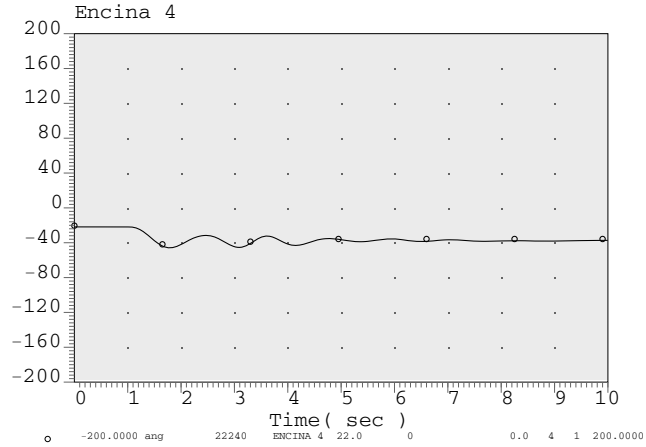
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

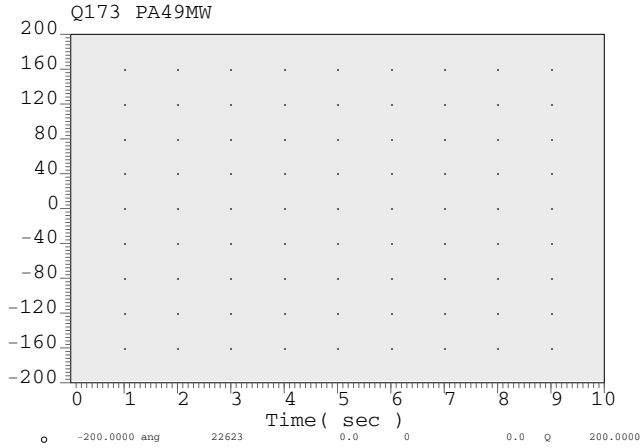
Relative Rotor Angle

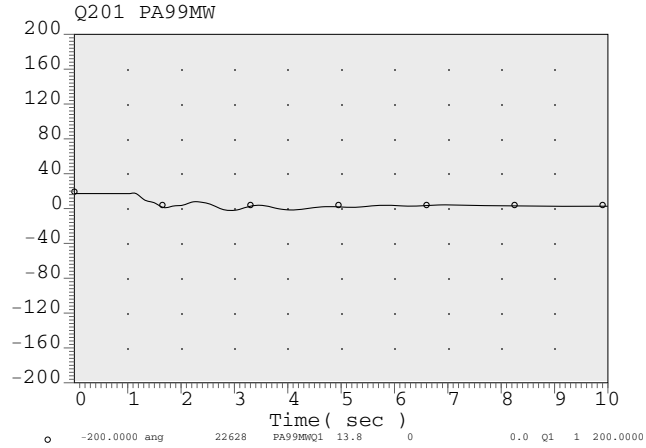






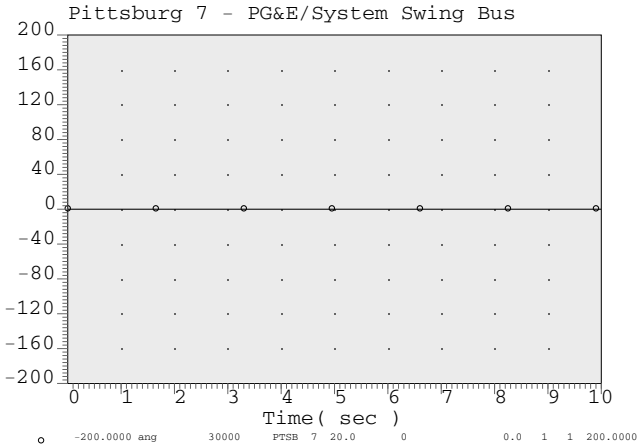


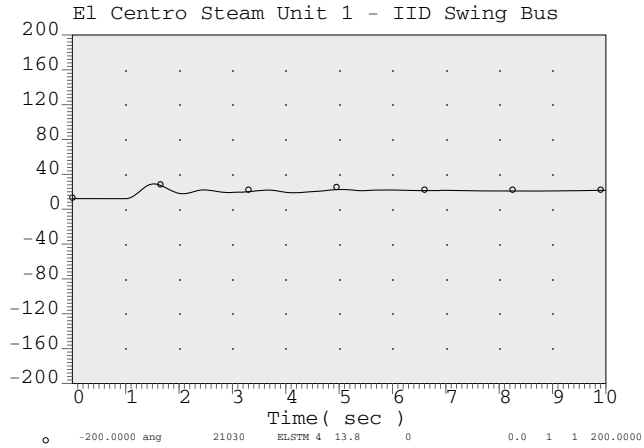


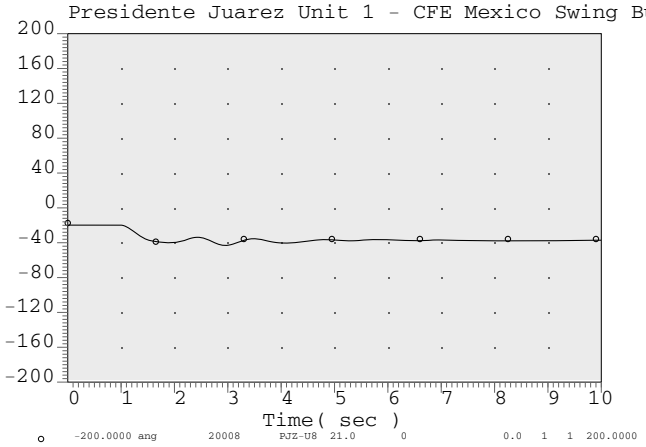


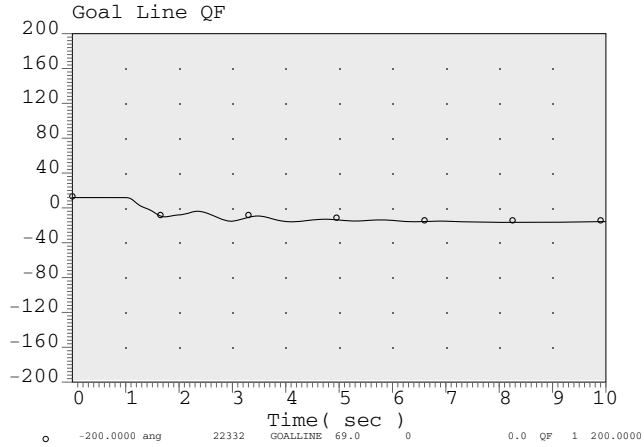
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

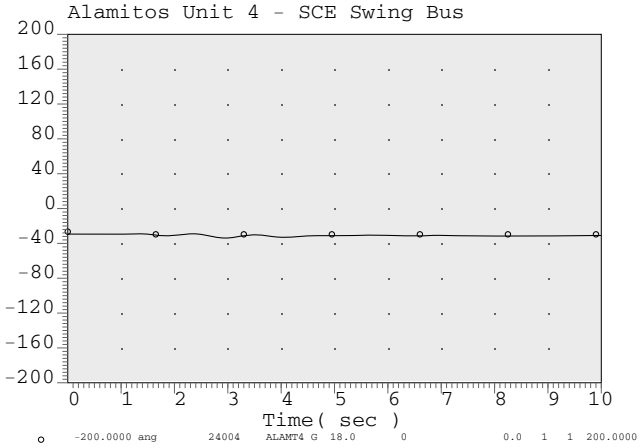
Relative Rotor Angle

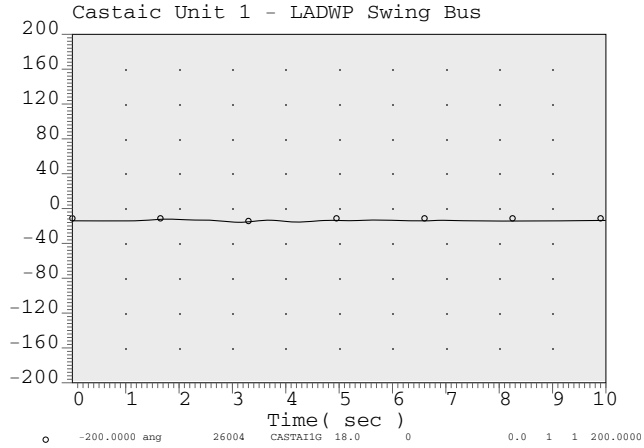






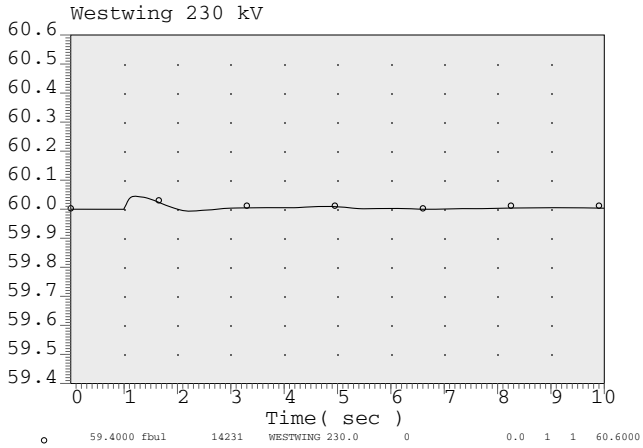


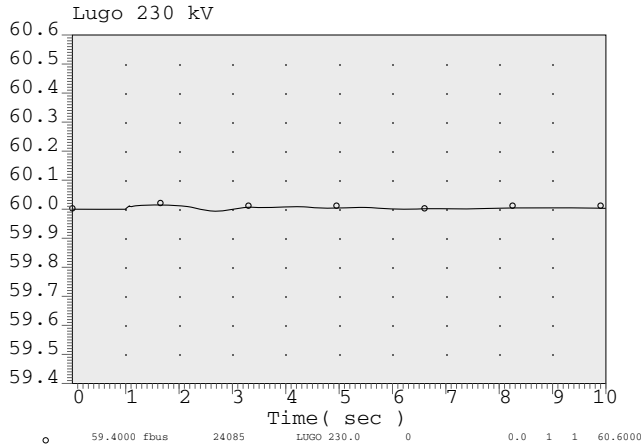


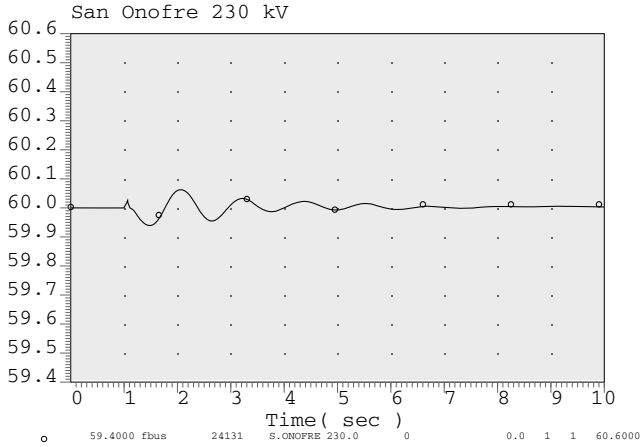


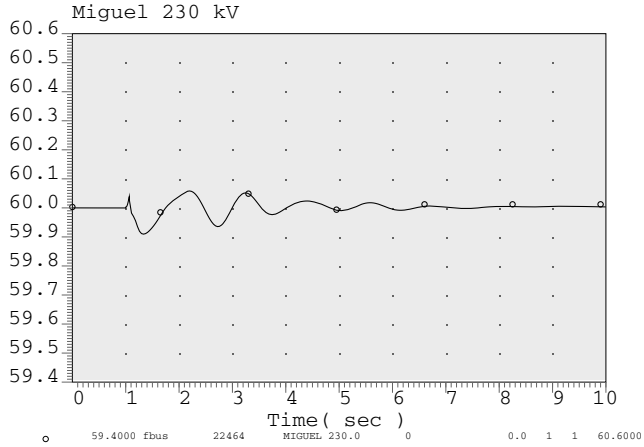
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

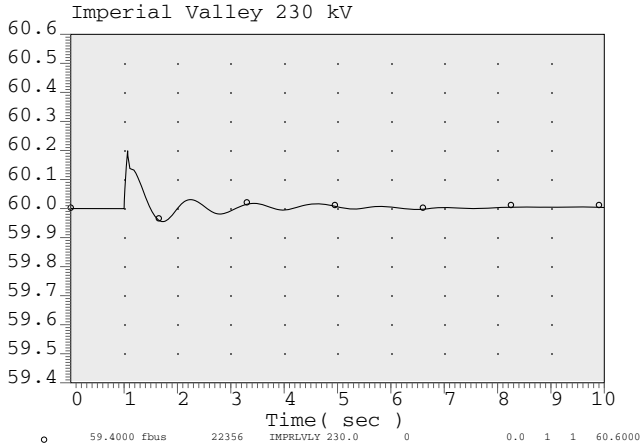
Bus Frequency

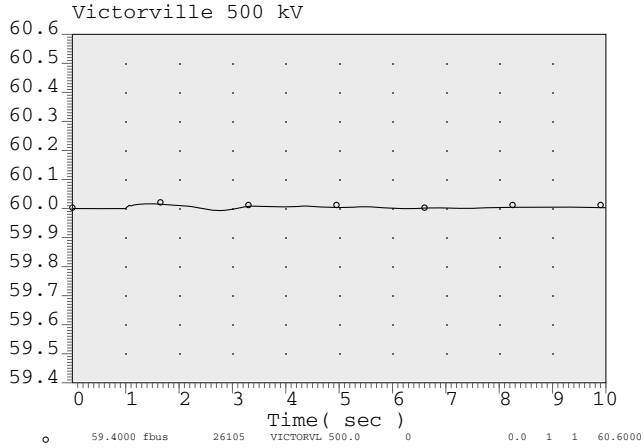






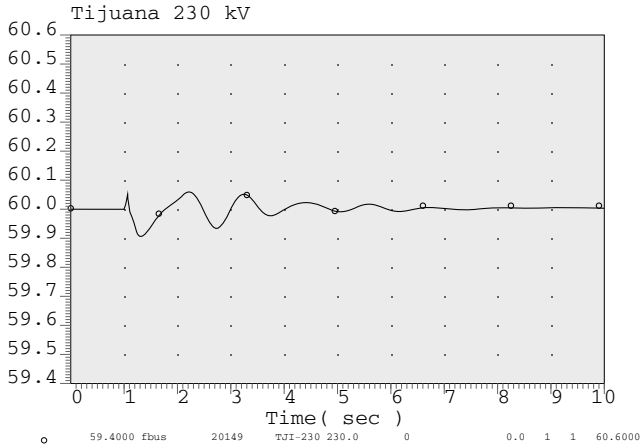


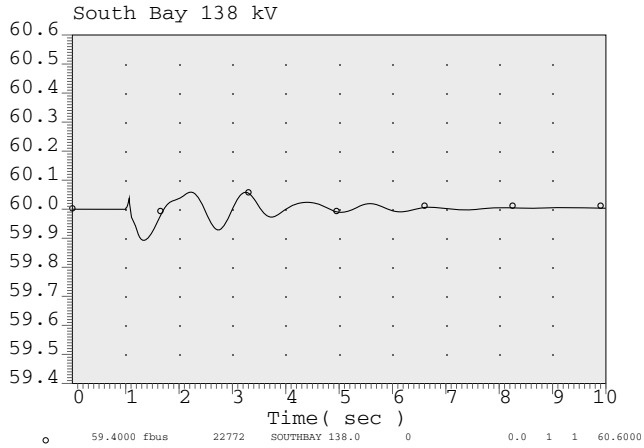


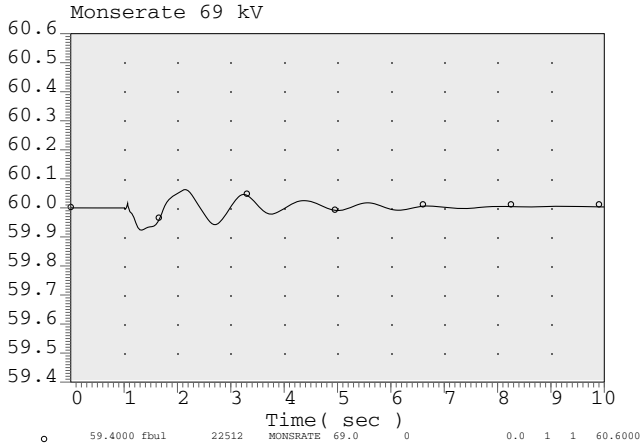


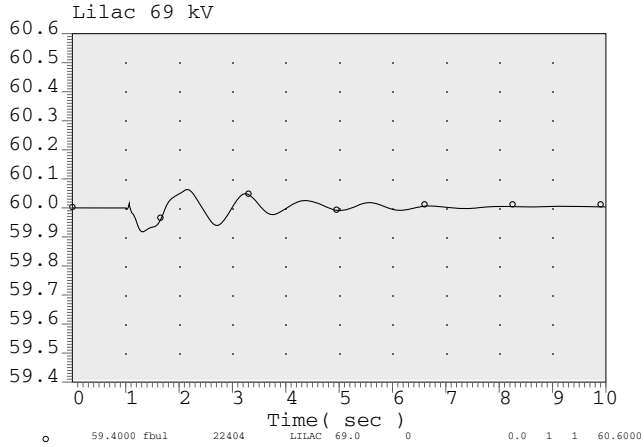
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

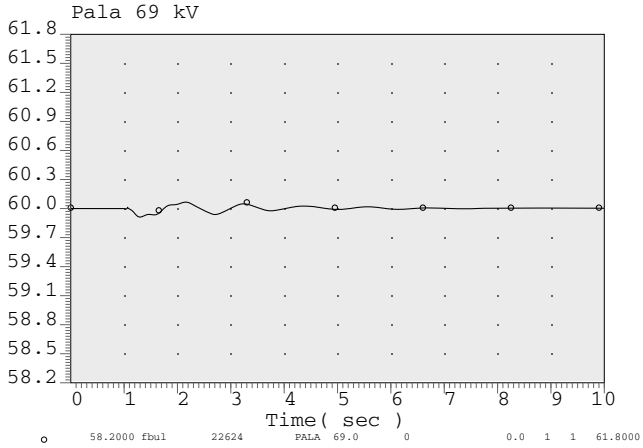
Bus Frequency

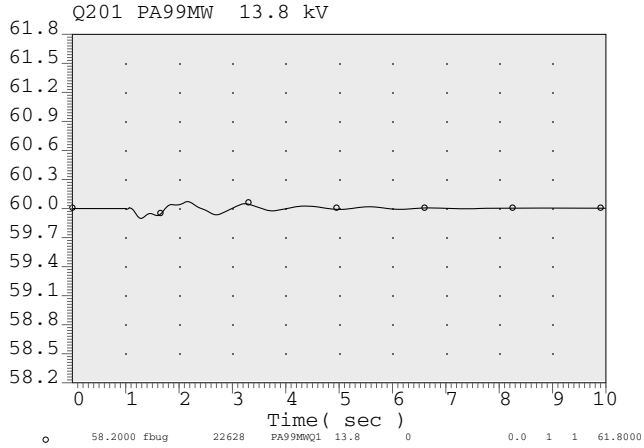






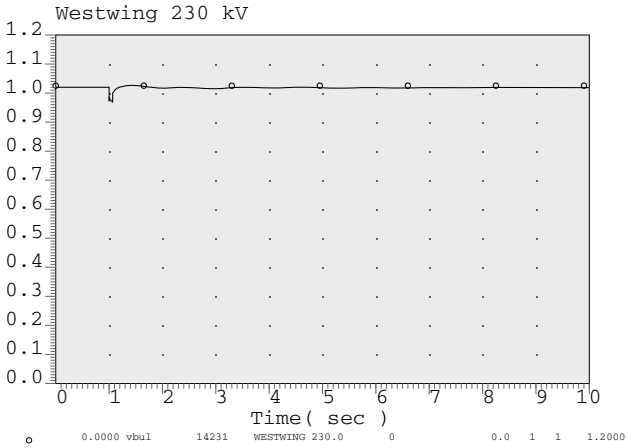


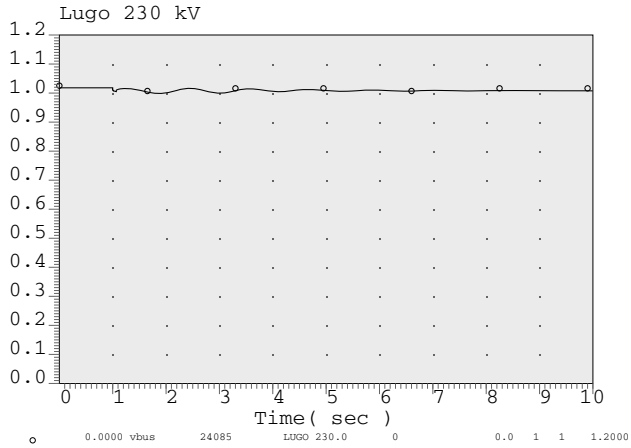


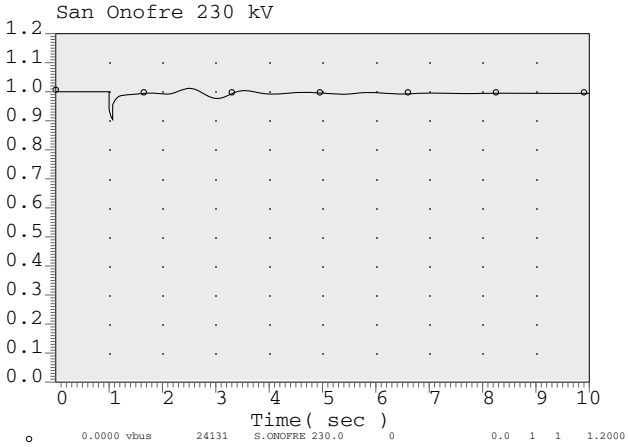


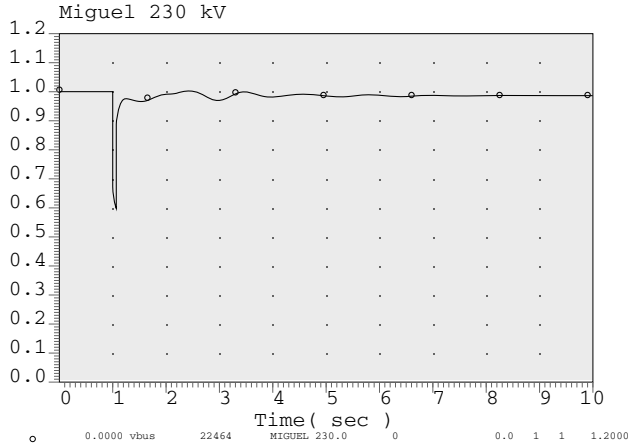
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

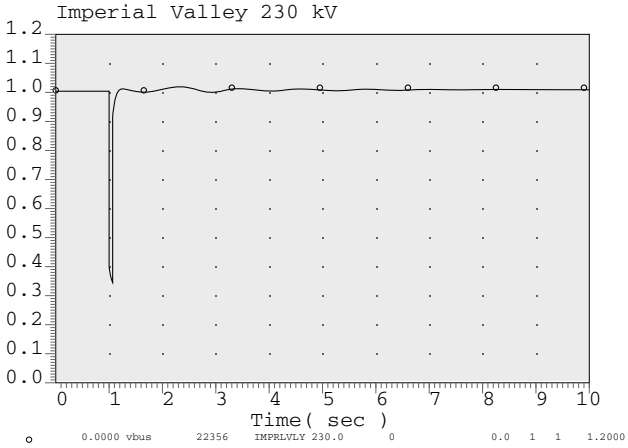
Bus Voltage

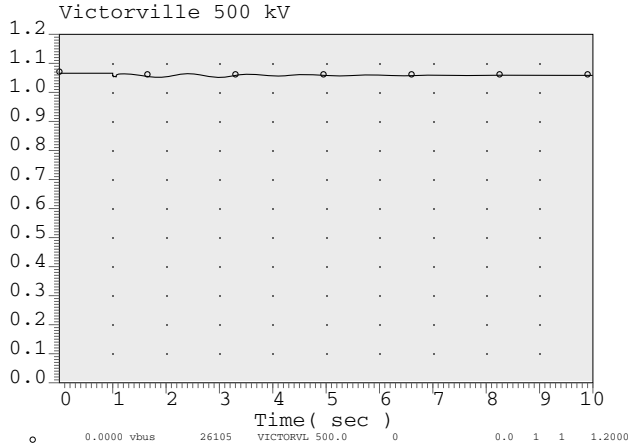






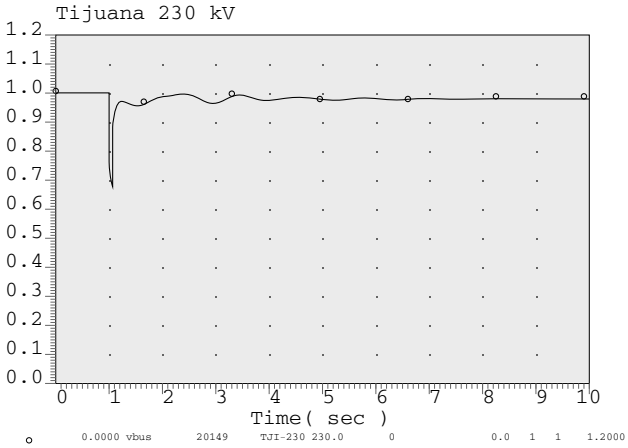


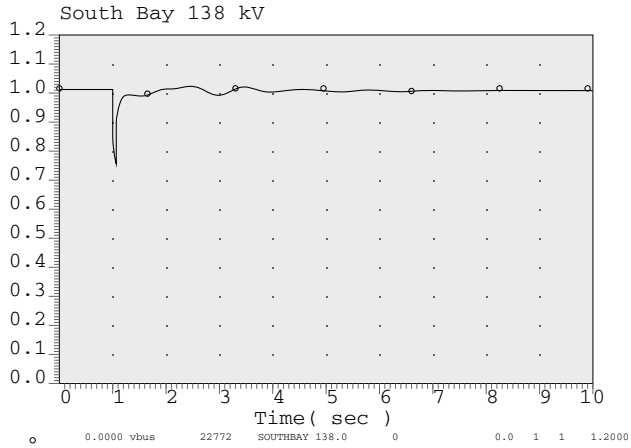


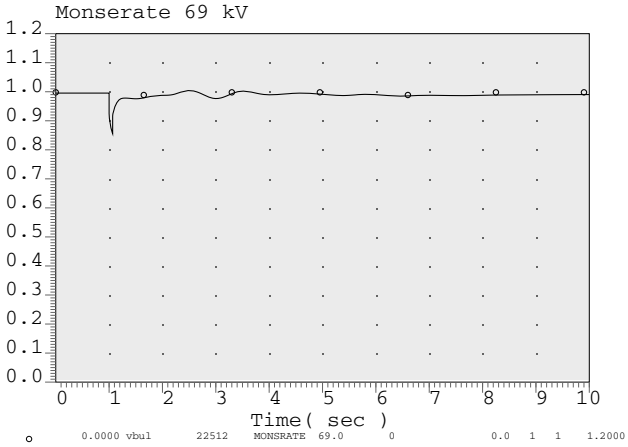


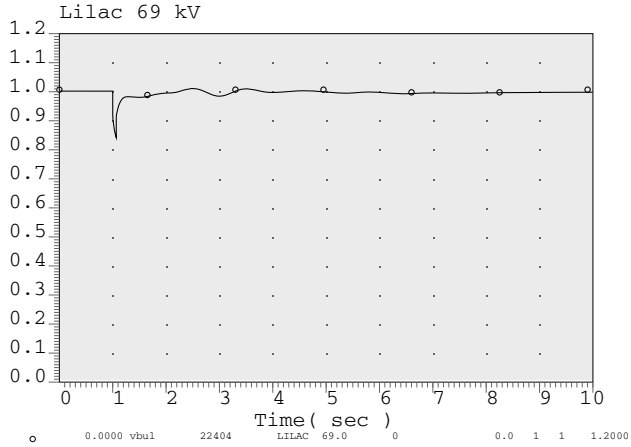
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

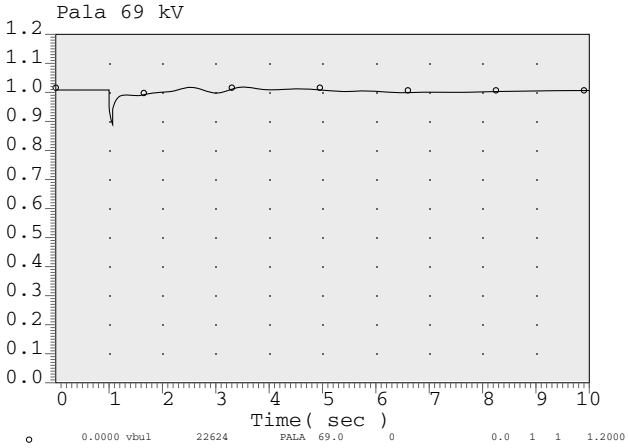
Bus Voltage

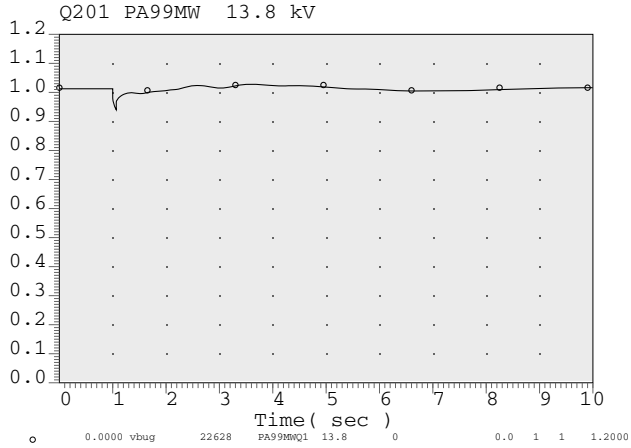






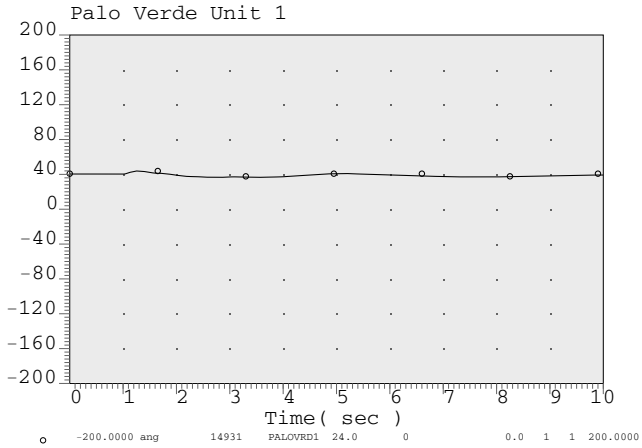


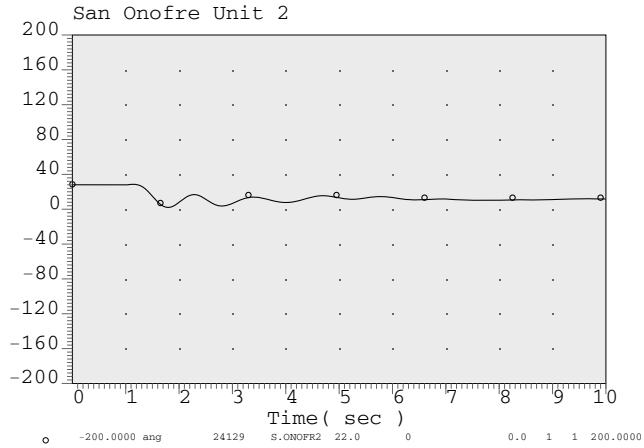


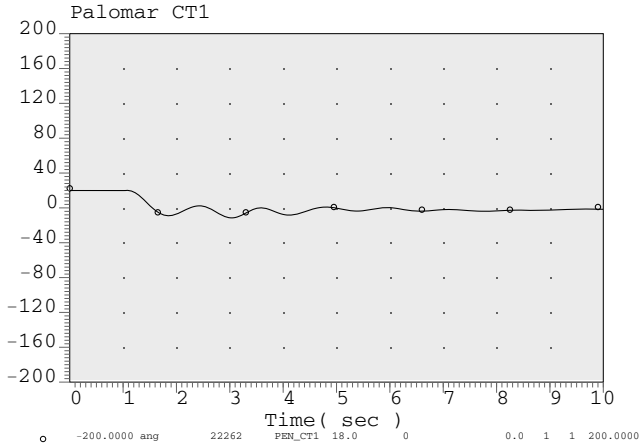


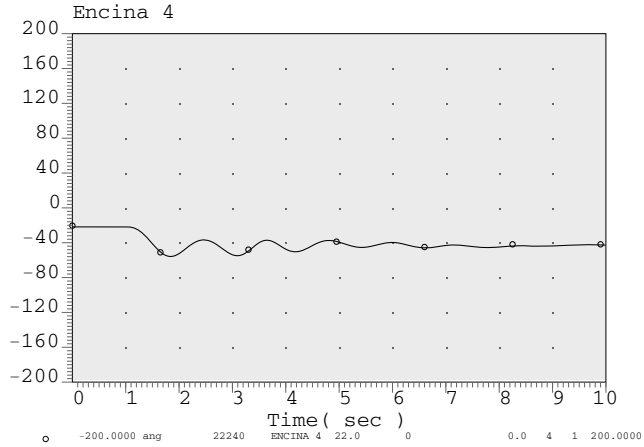
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

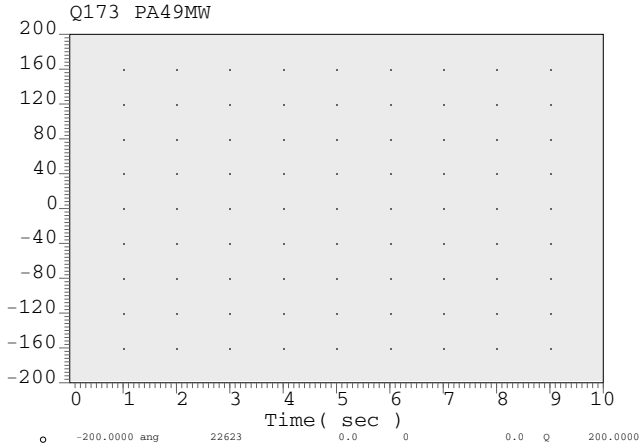
Relative Rotor Angle

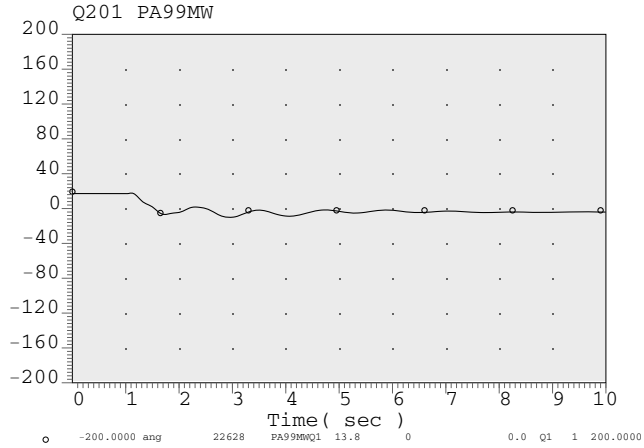






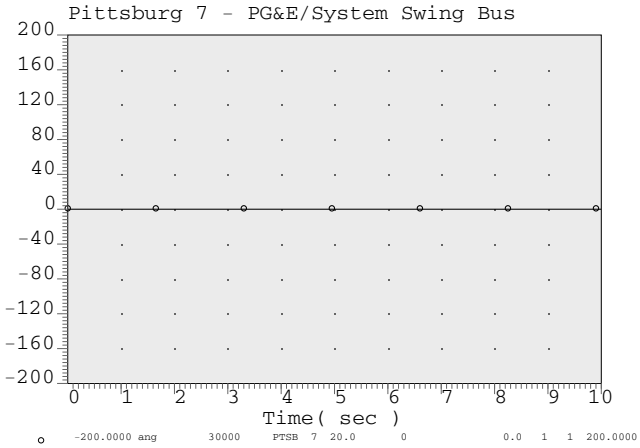


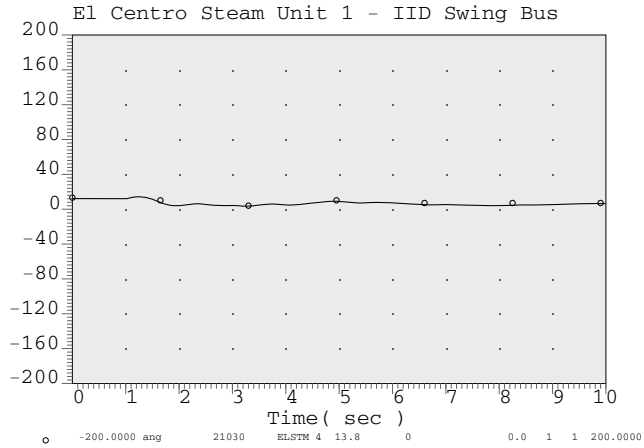


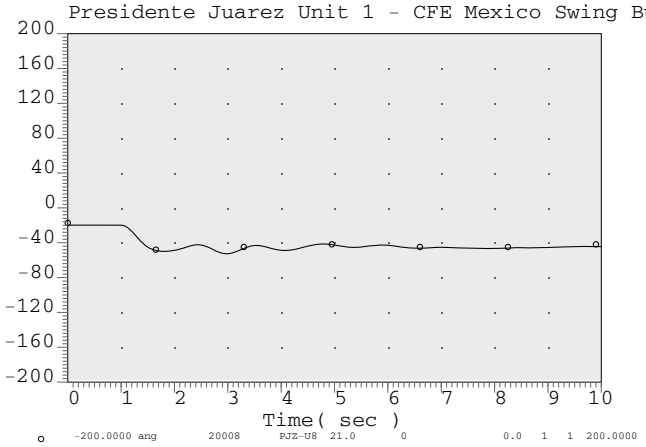


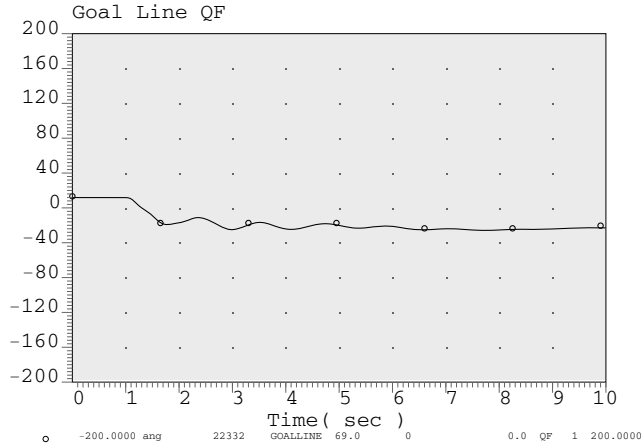
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

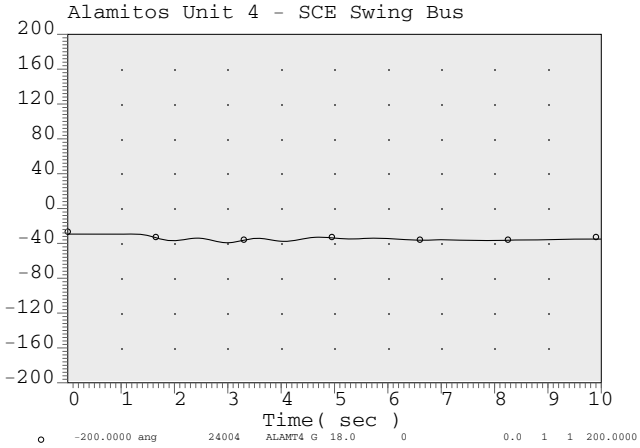
Relative Rotor Angle

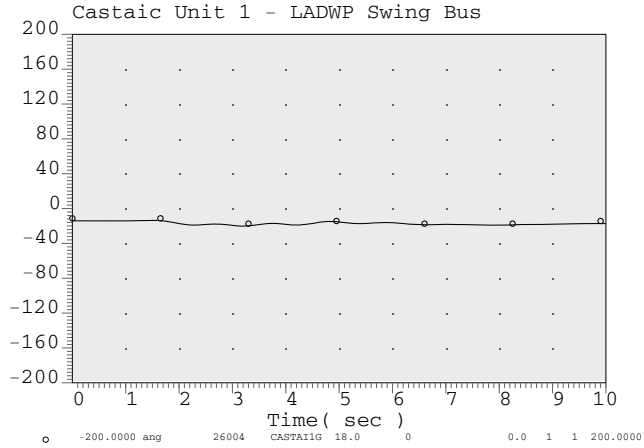






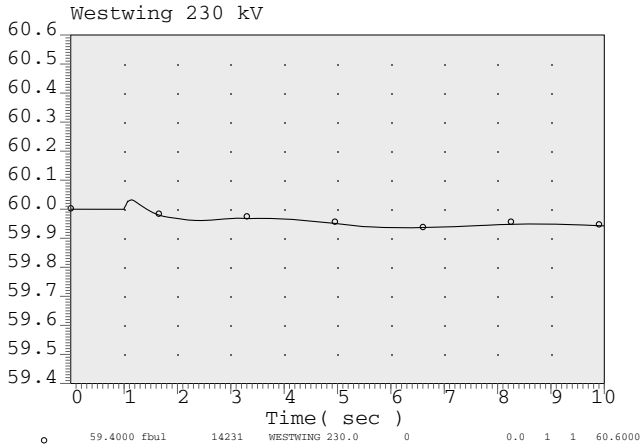


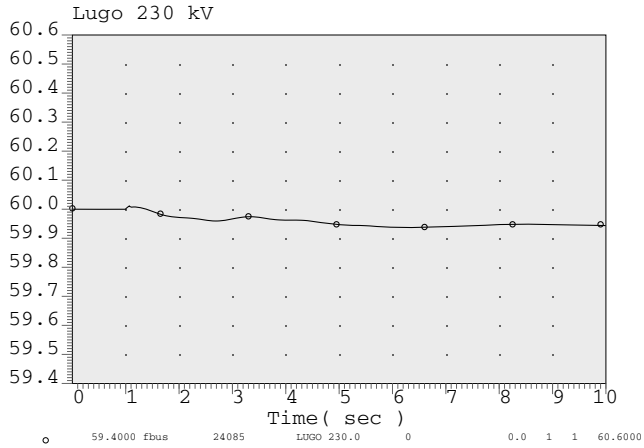


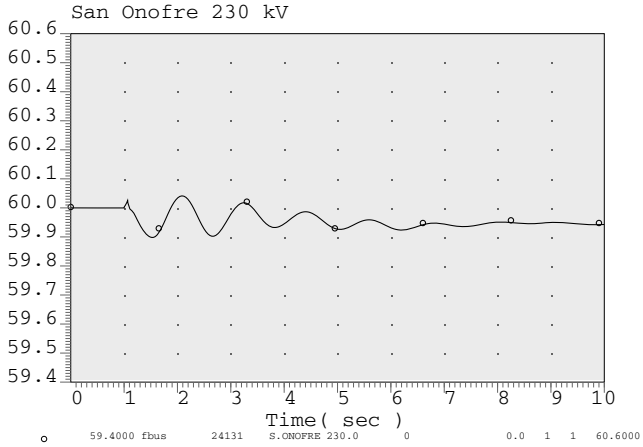


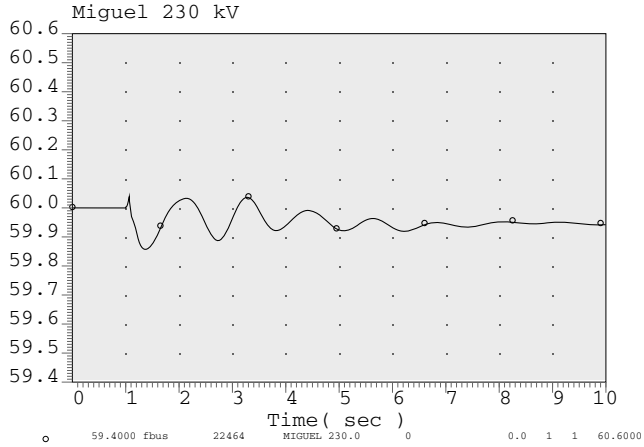
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

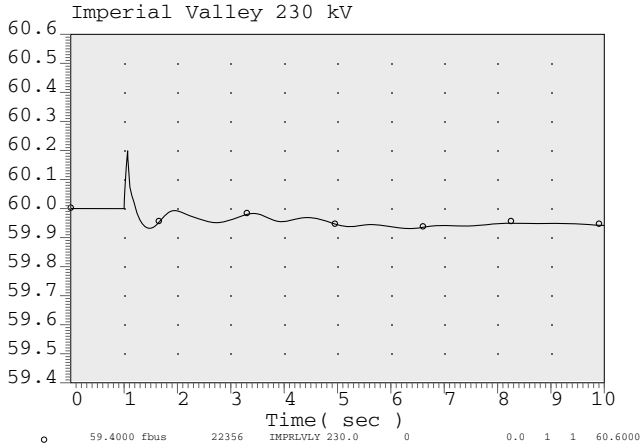
Bus Frequency

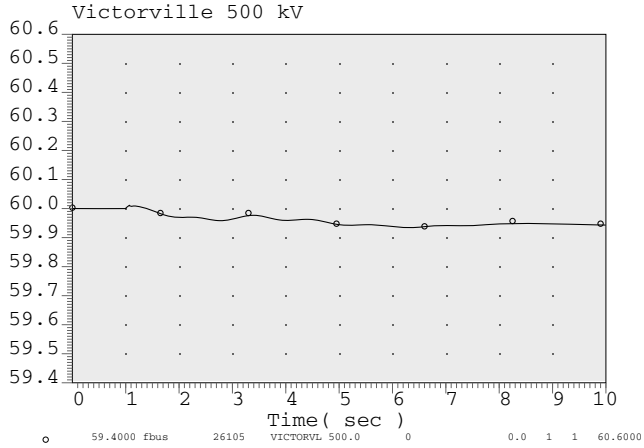






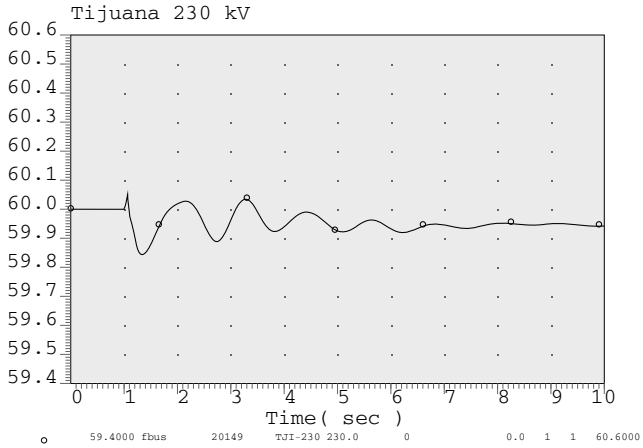


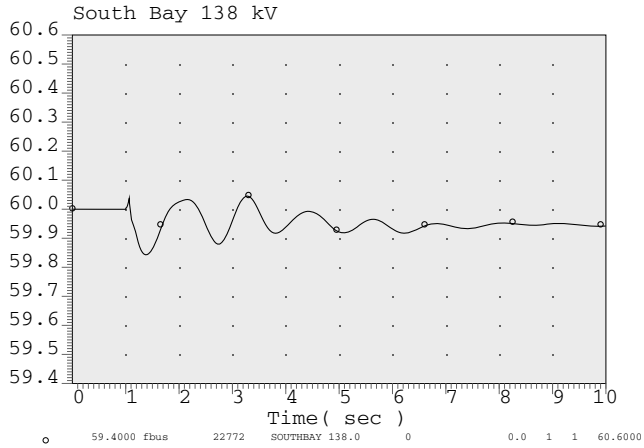


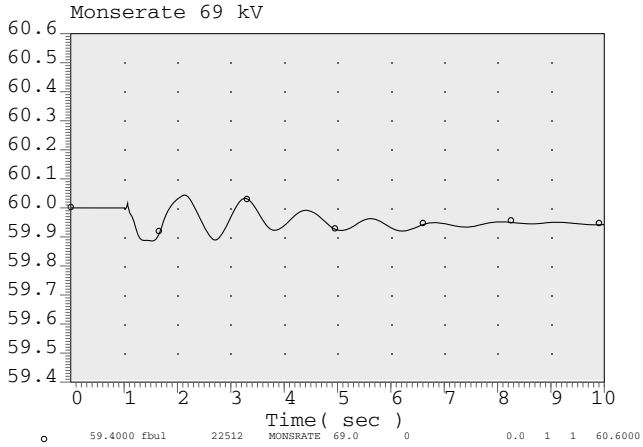


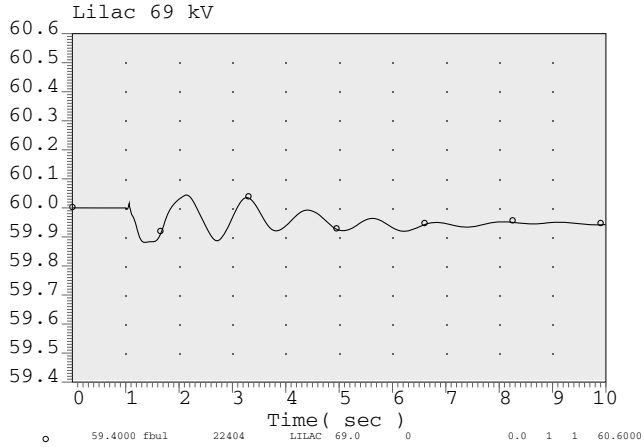
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

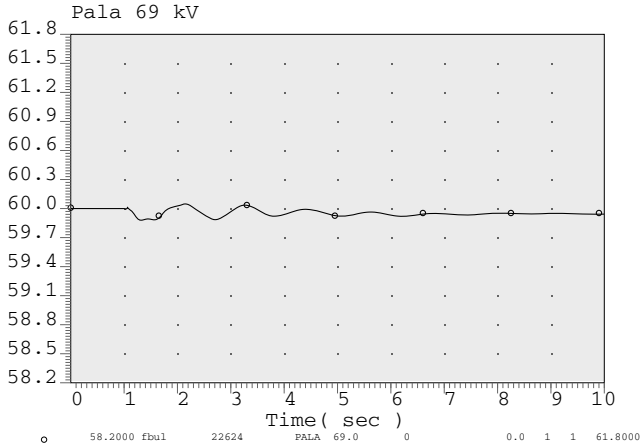
Bus Frequency

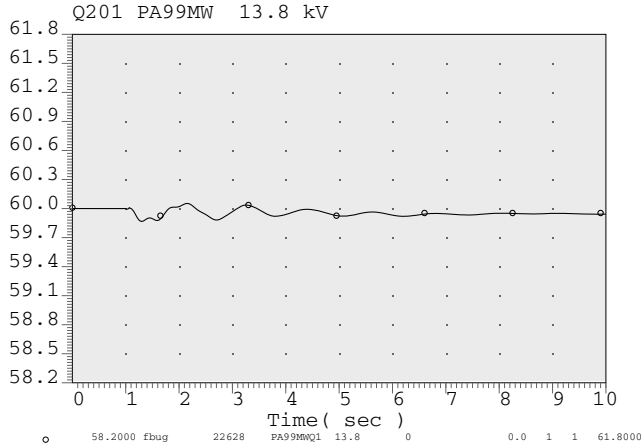






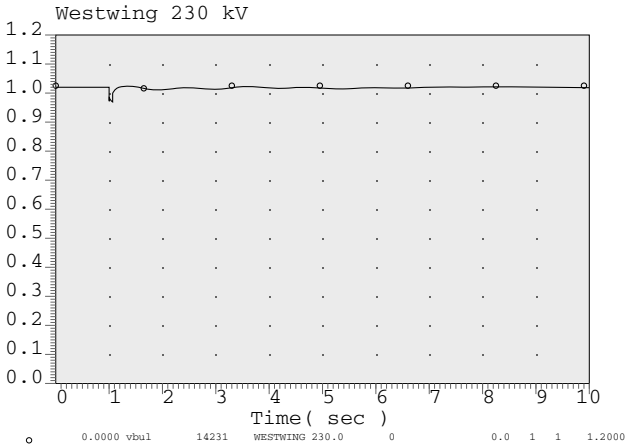


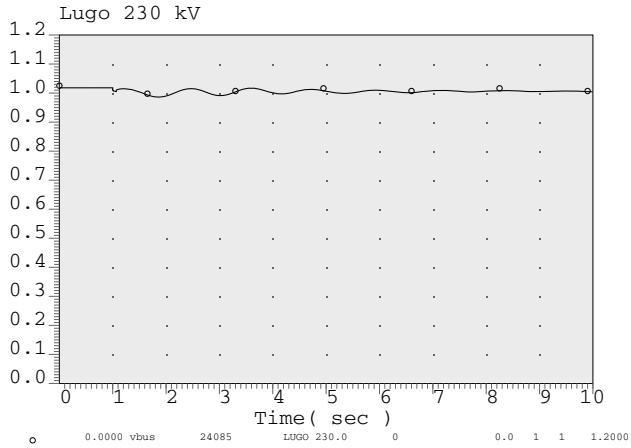


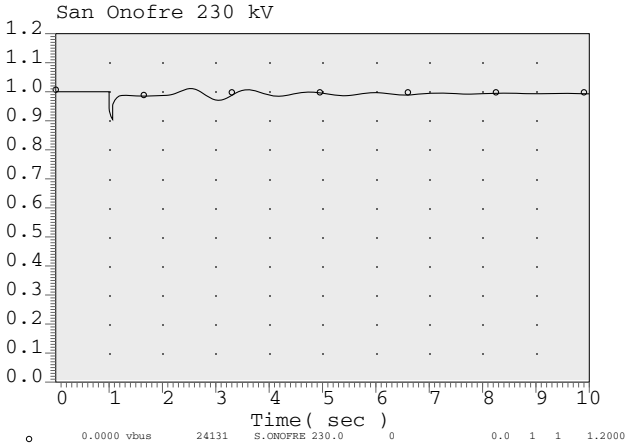


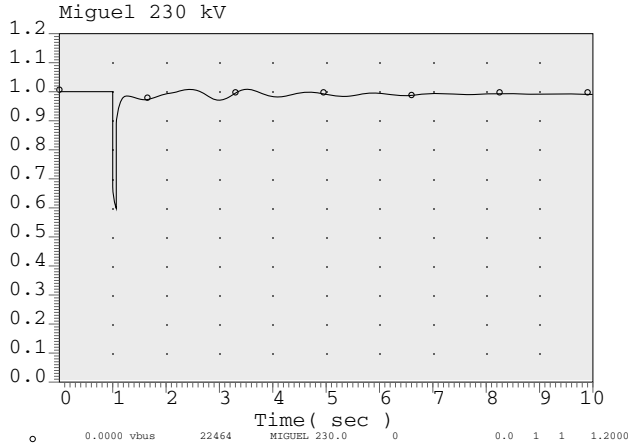
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

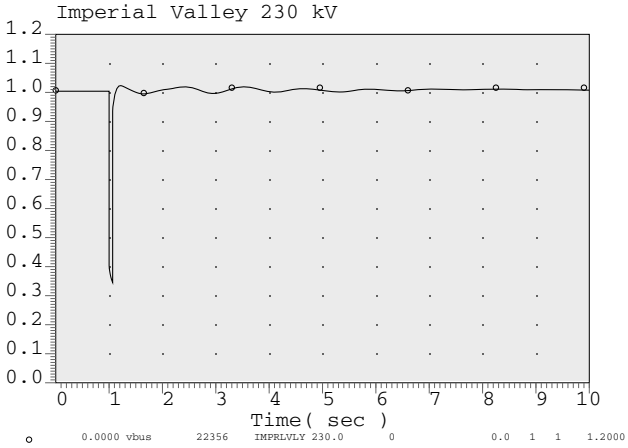
Bus Voltage

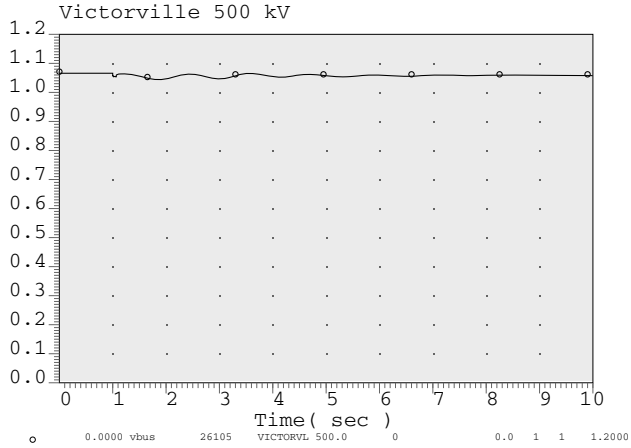






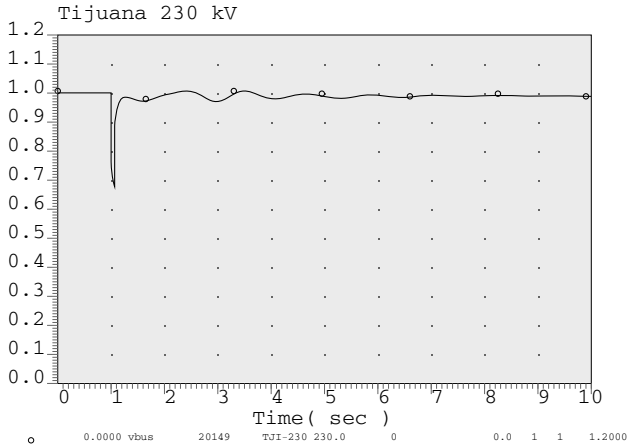


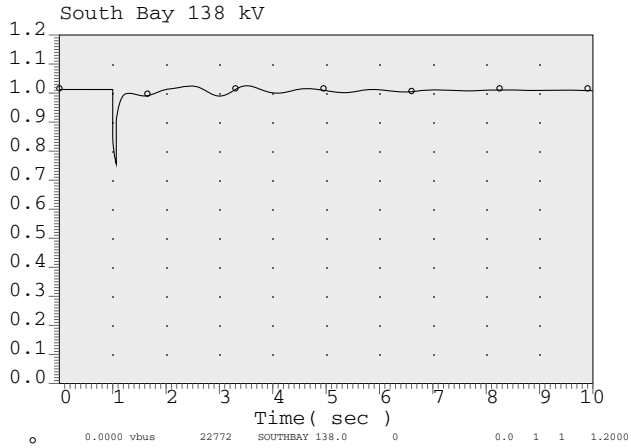


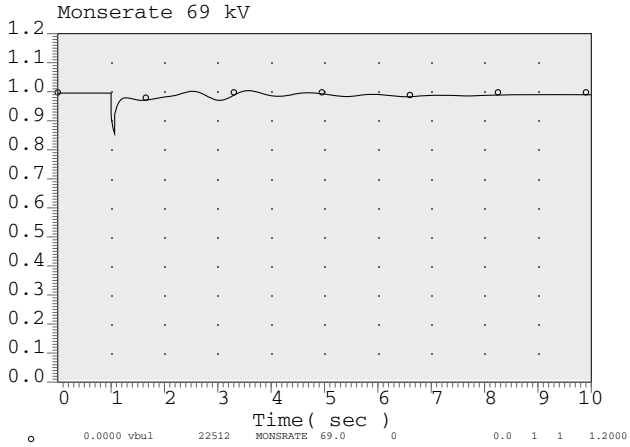


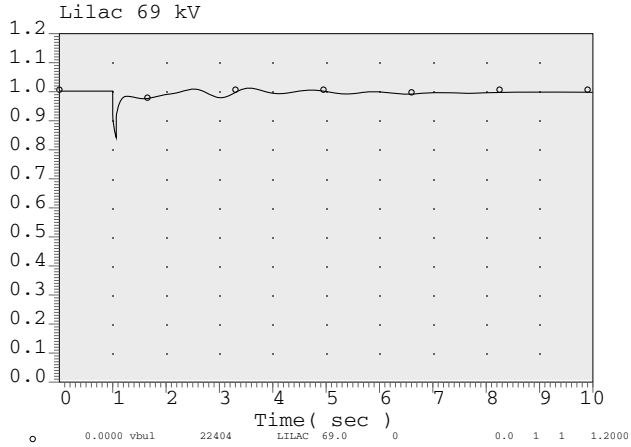
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

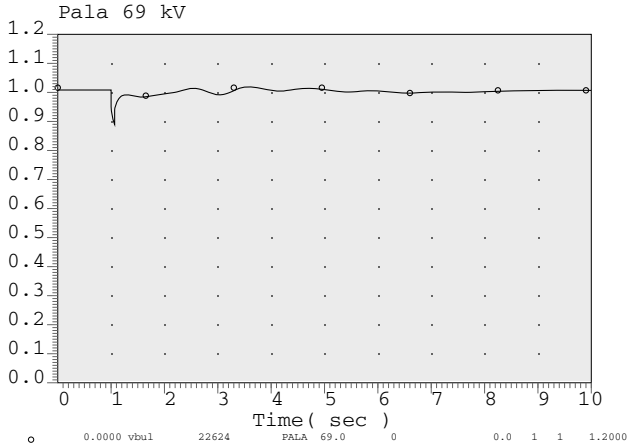
Bus Voltage

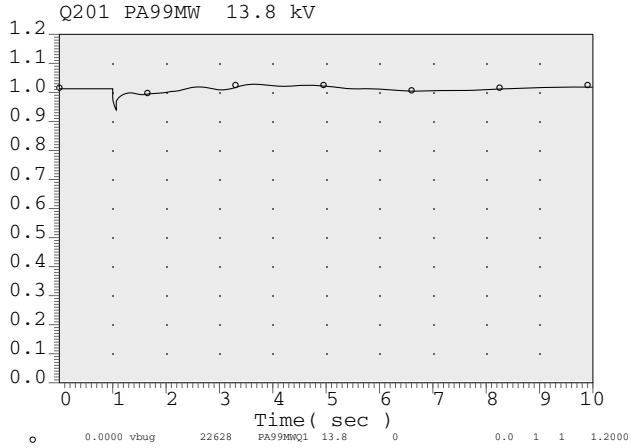






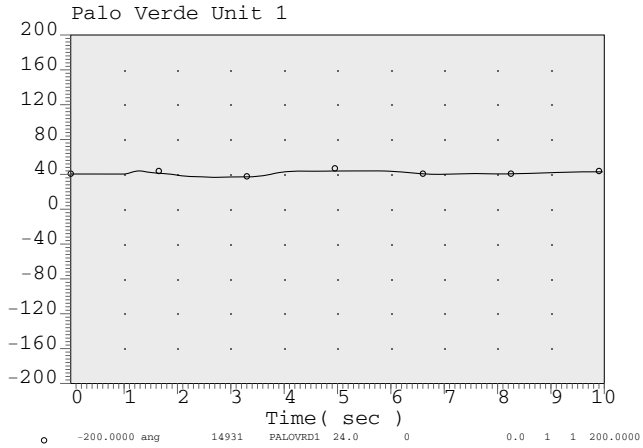


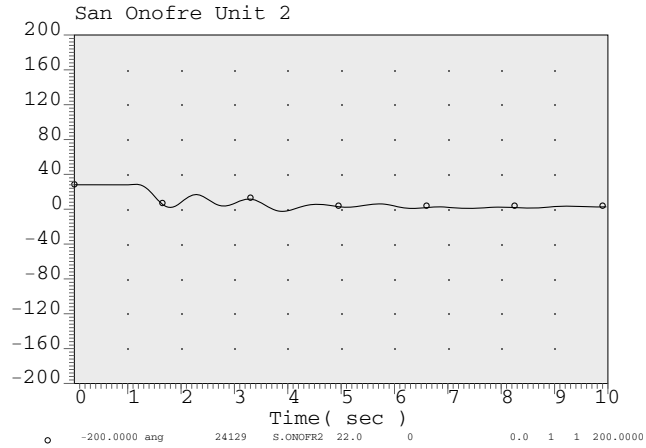


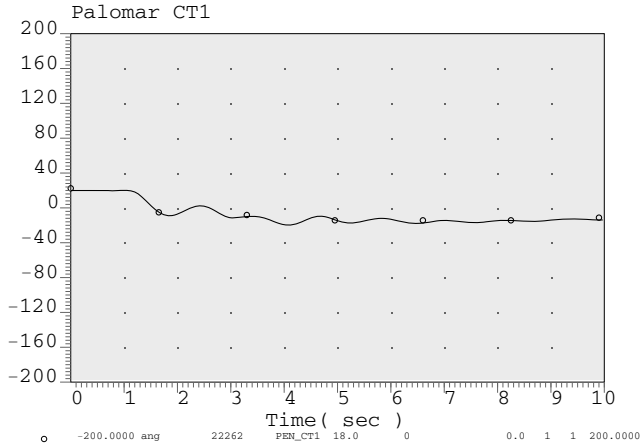


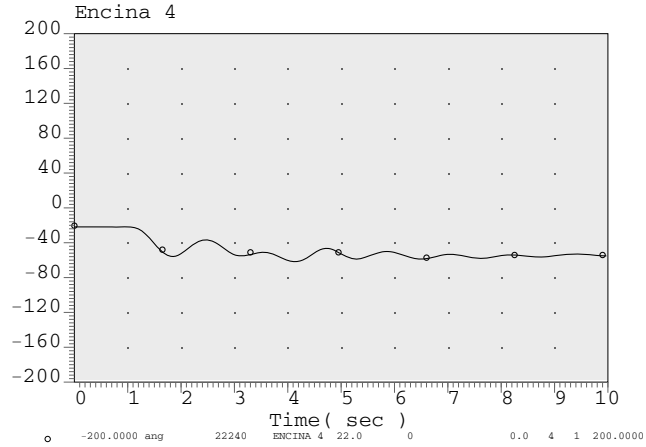
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

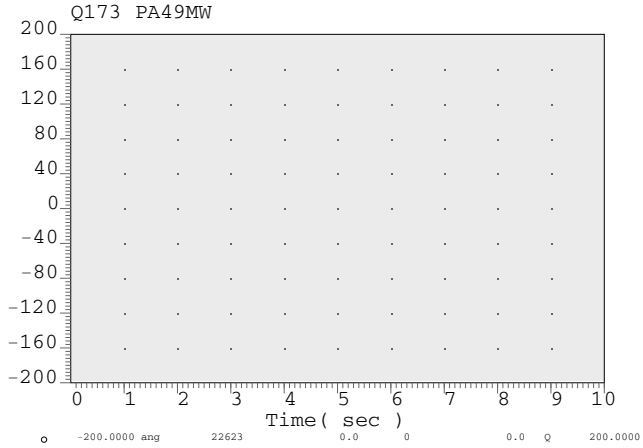
Relative Rotor Angle

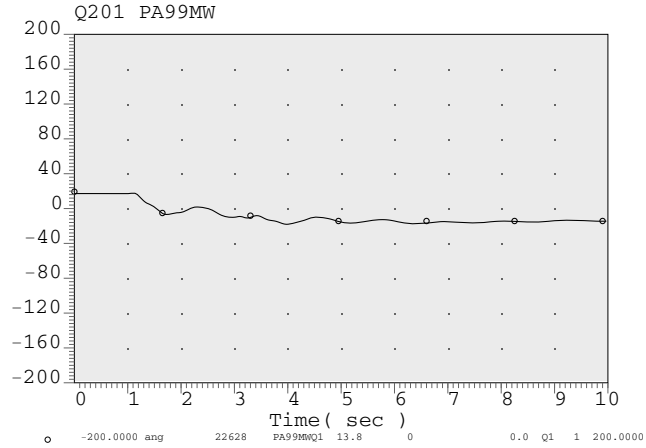






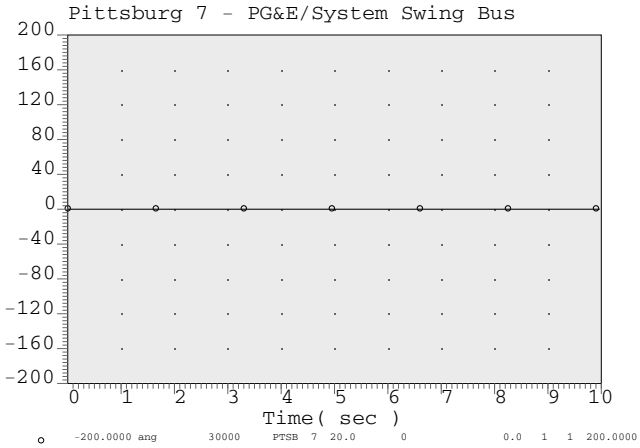


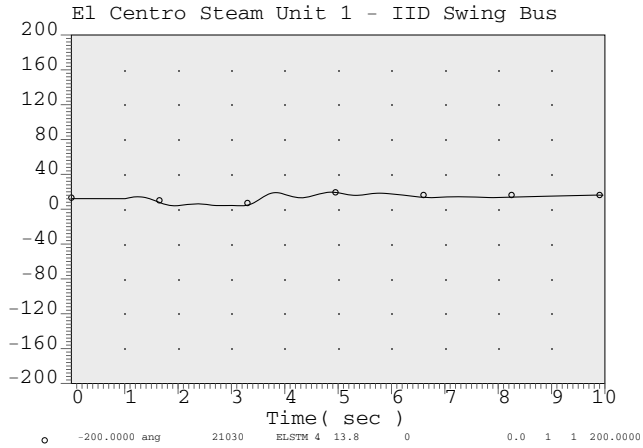


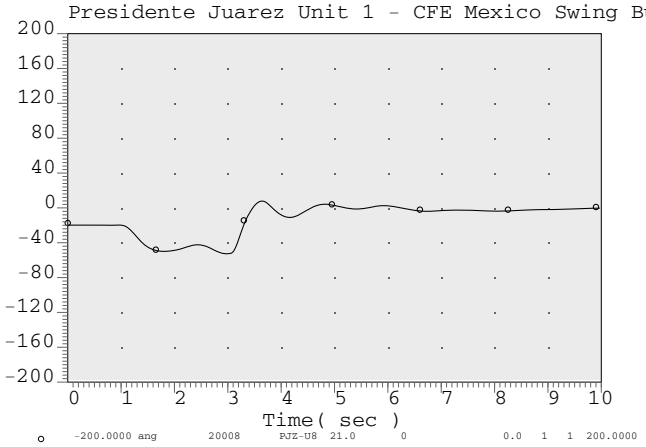


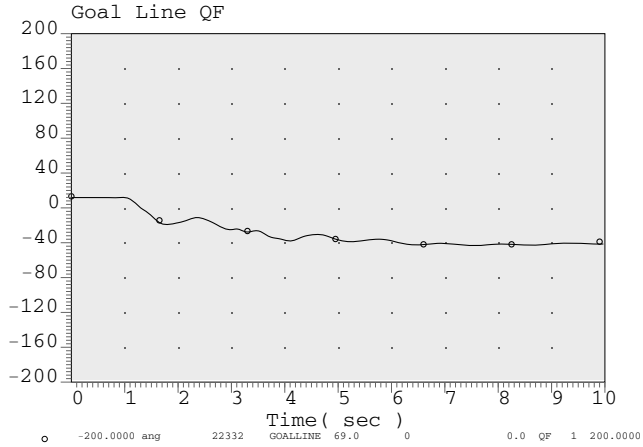
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

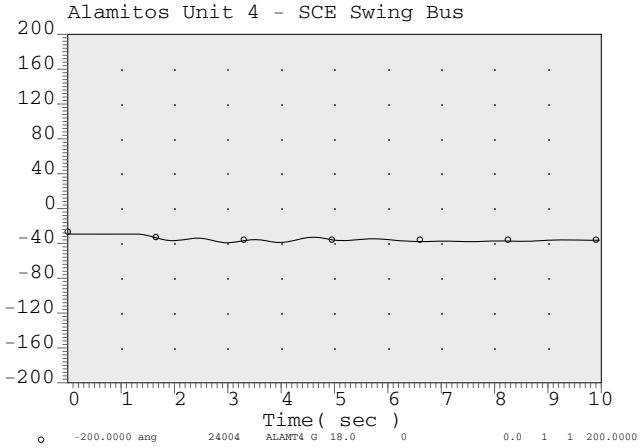
Relative Rotor Angle

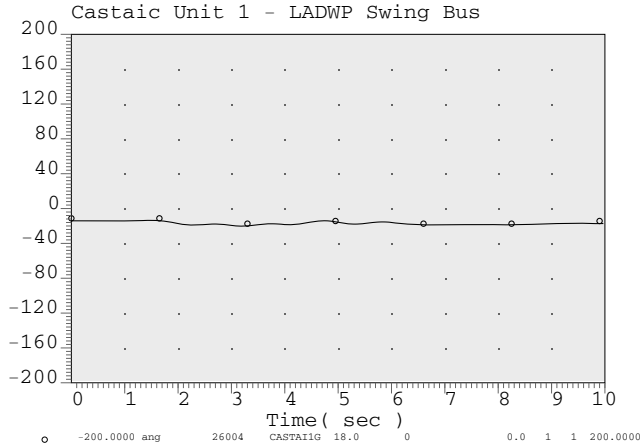






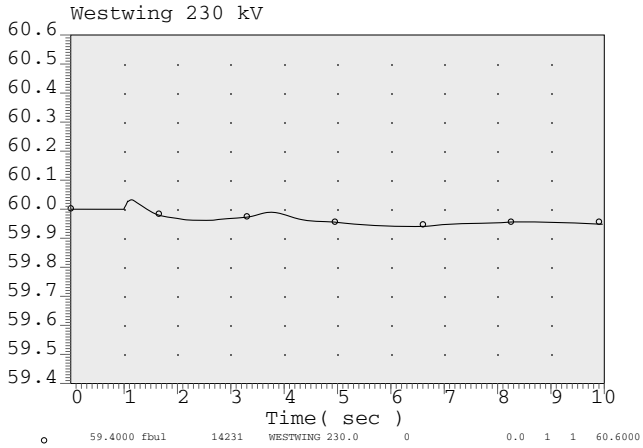


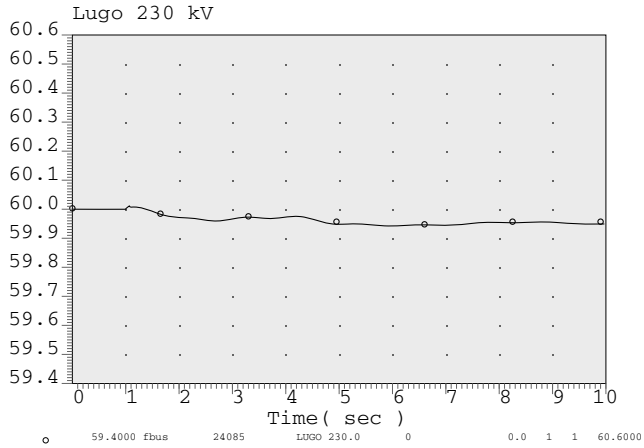


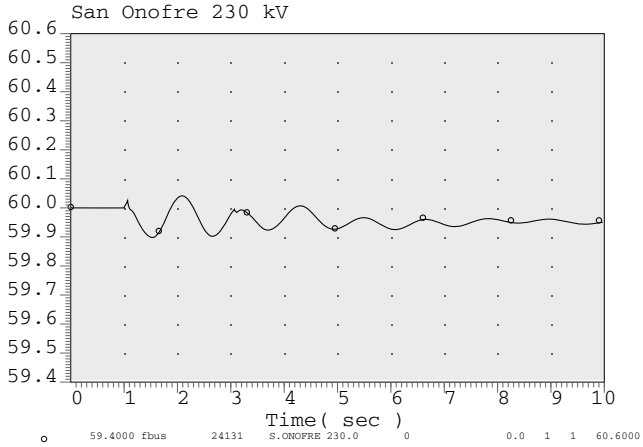


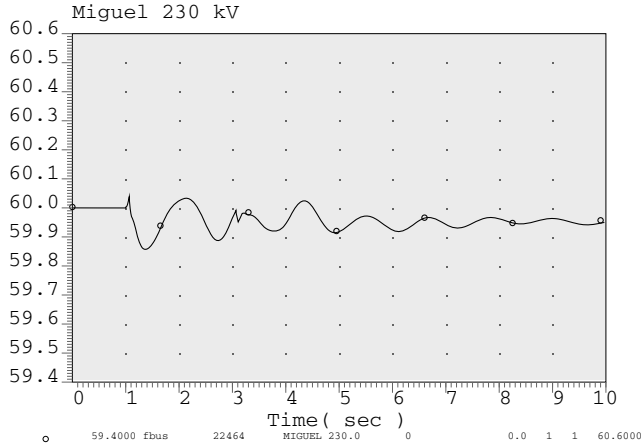
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

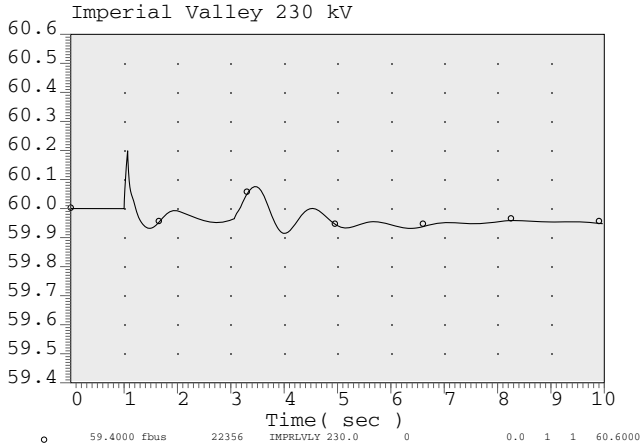
Bus Frequency

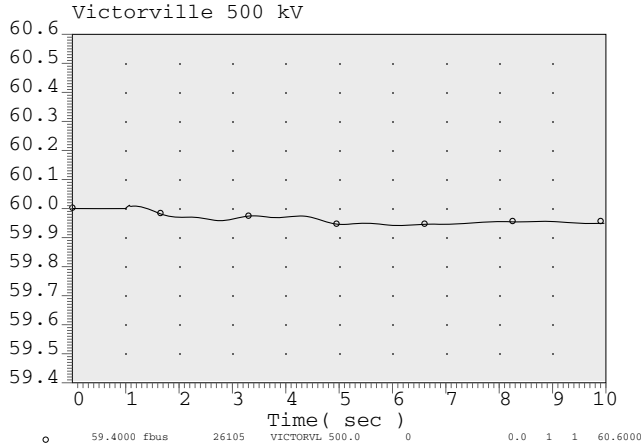






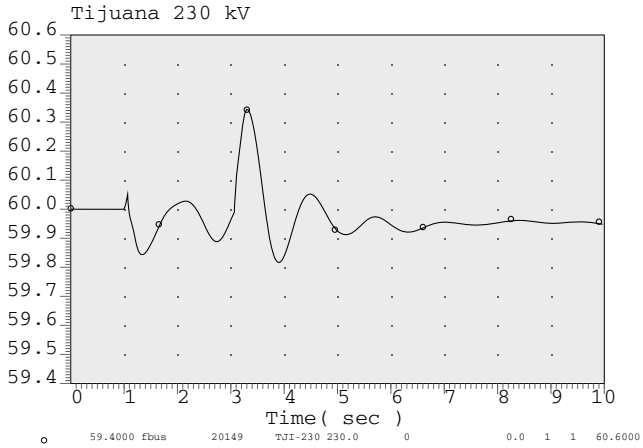


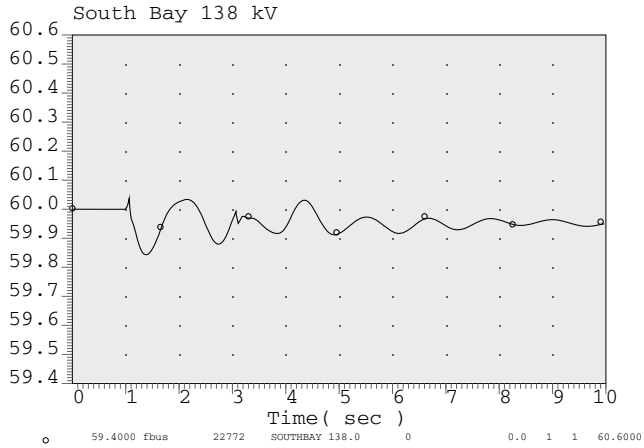


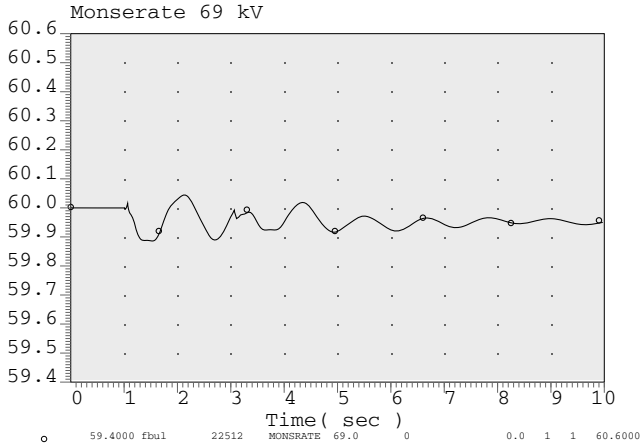


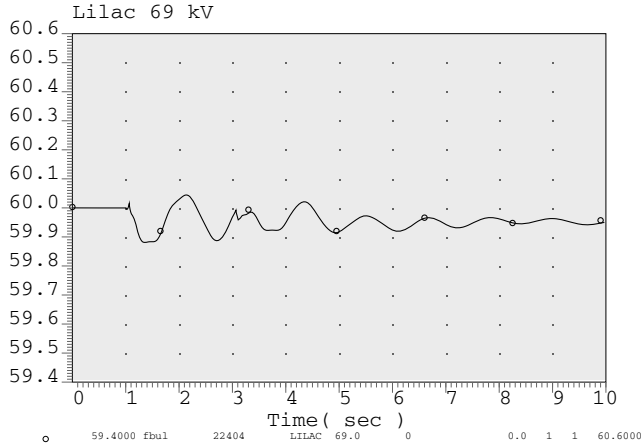
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

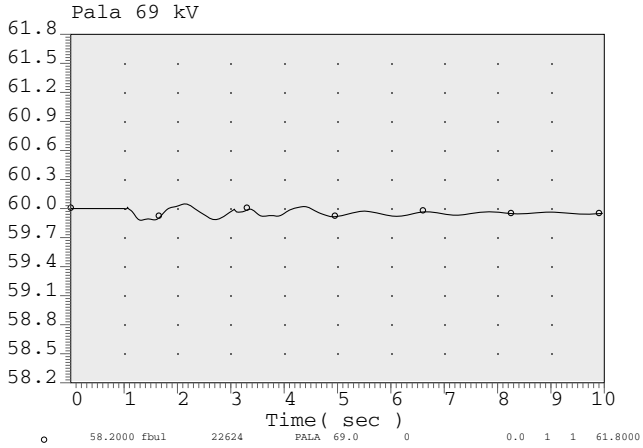
Bus Frequency

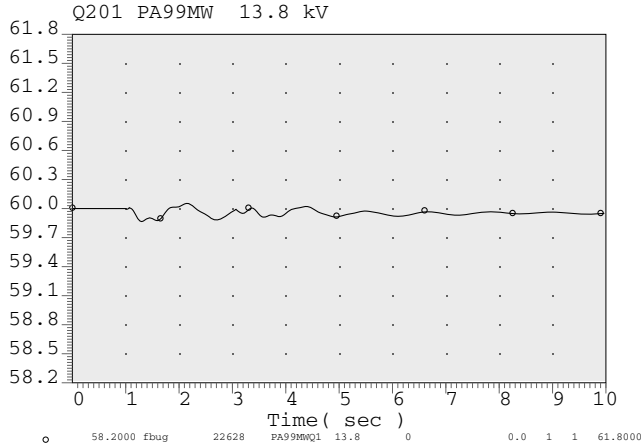






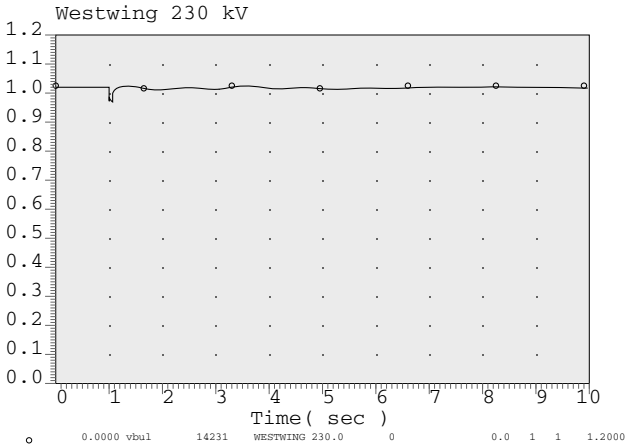


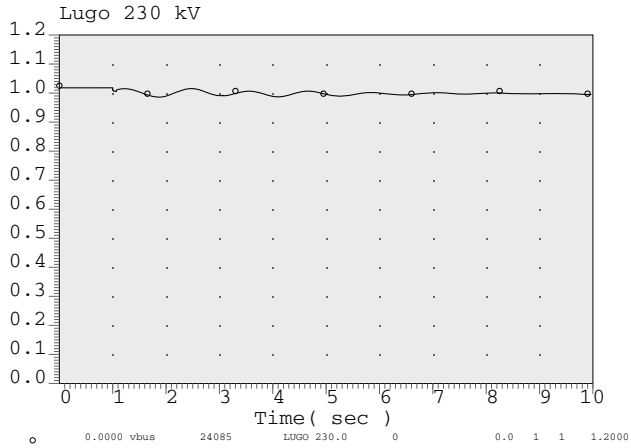


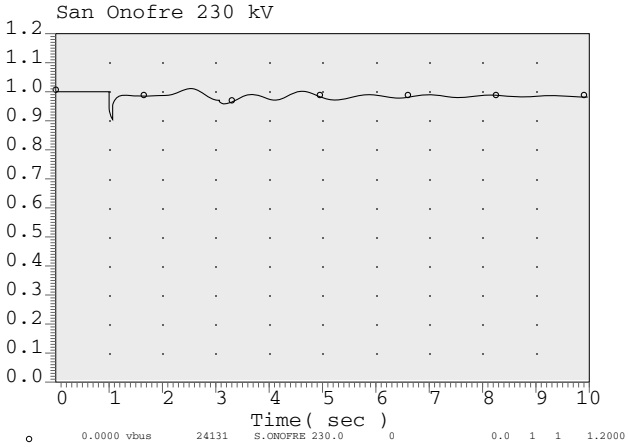


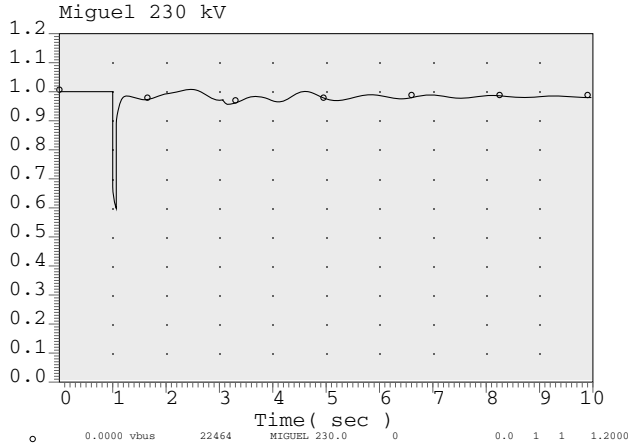
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

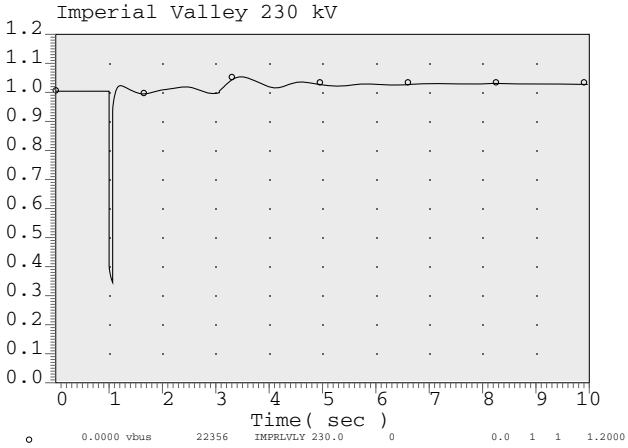
Bus Voltage

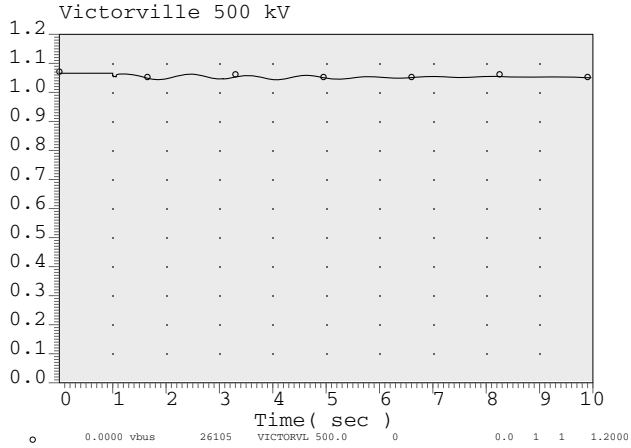






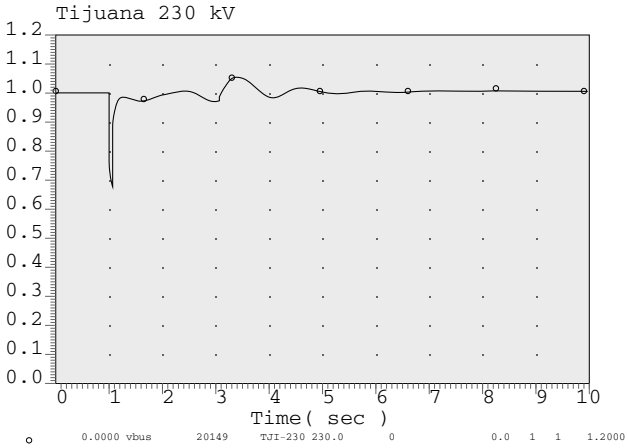


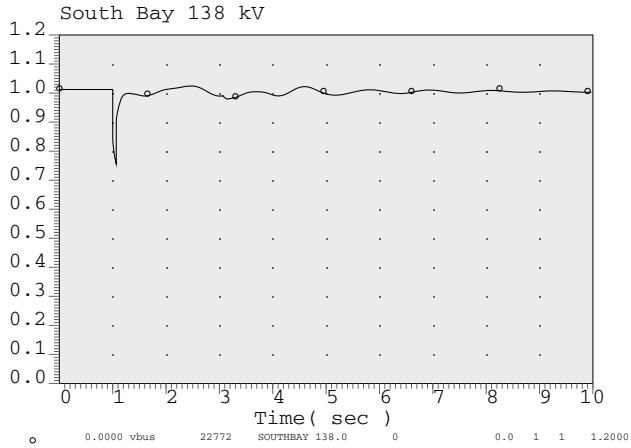


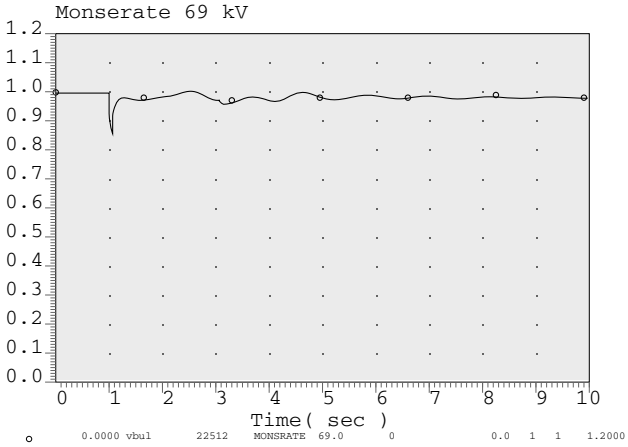


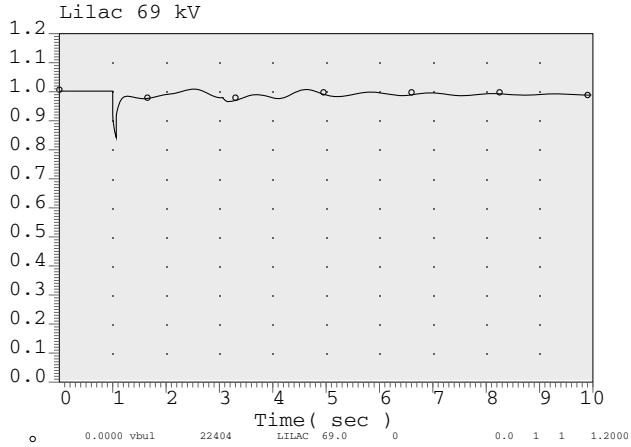
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

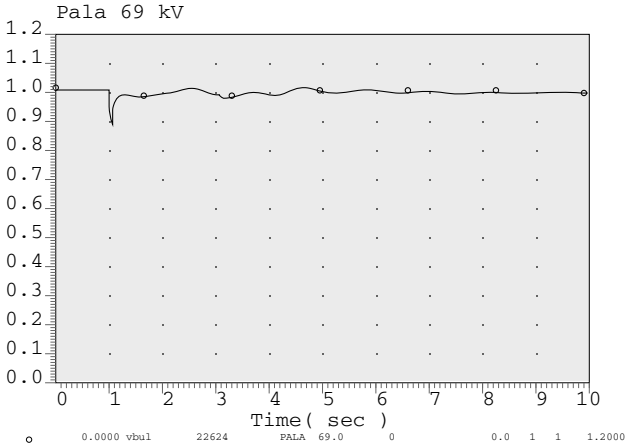
Bus Voltage

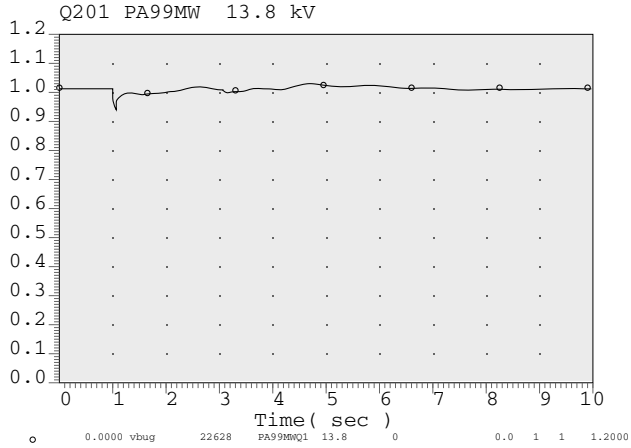






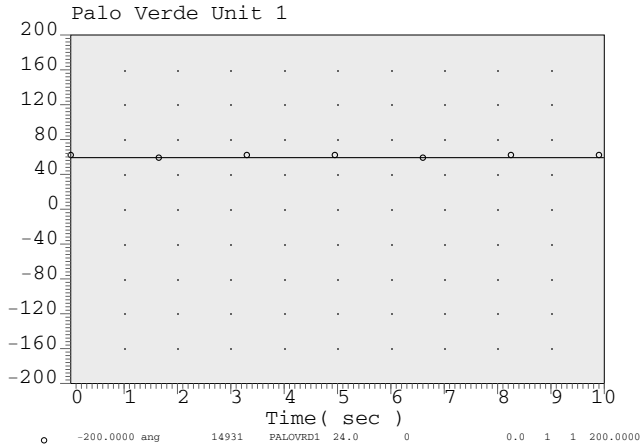


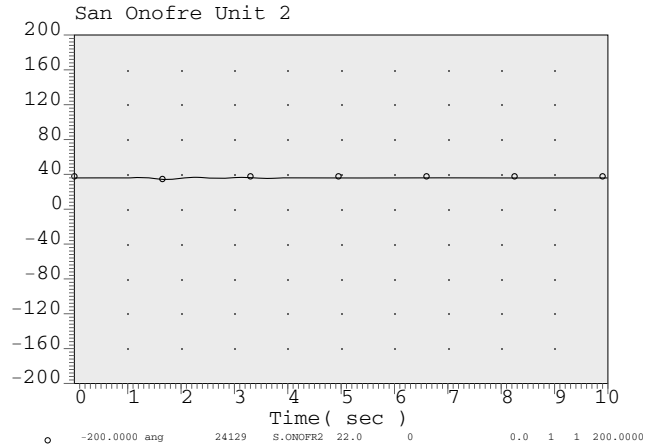


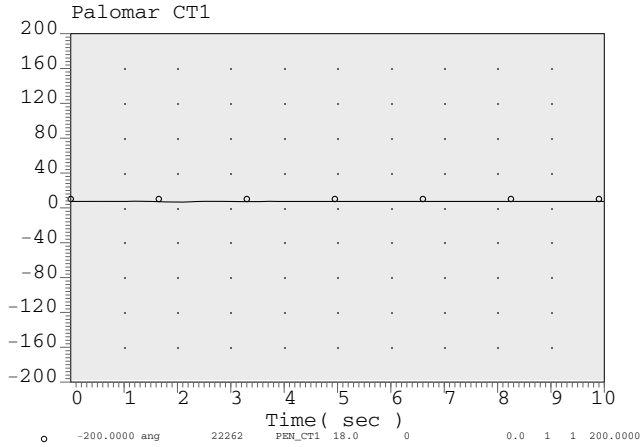


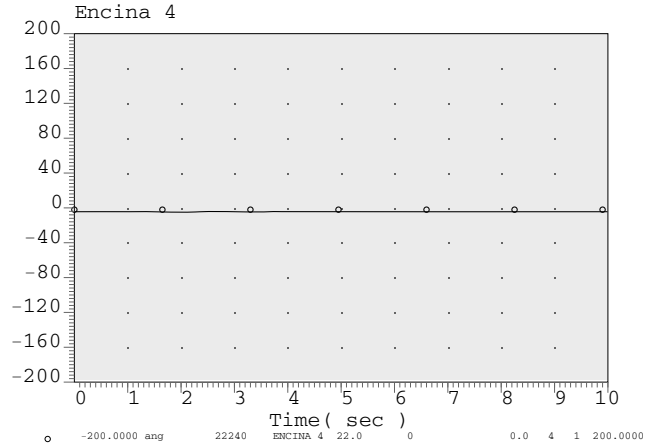
SDG&E 2008 Heavy Summer - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

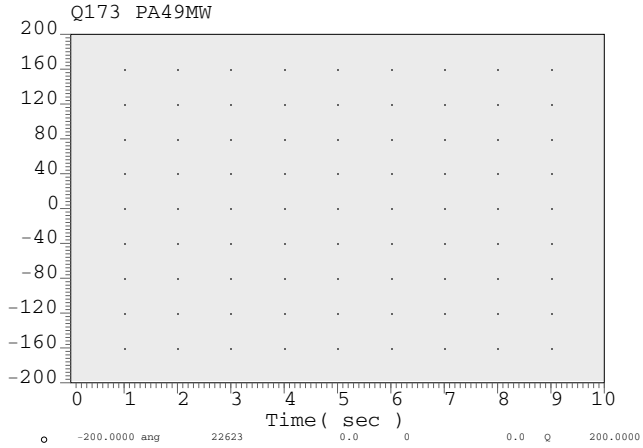
Relative Rotor Angle

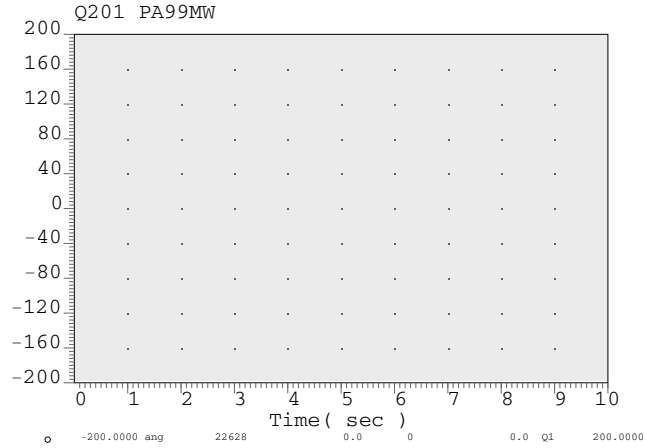






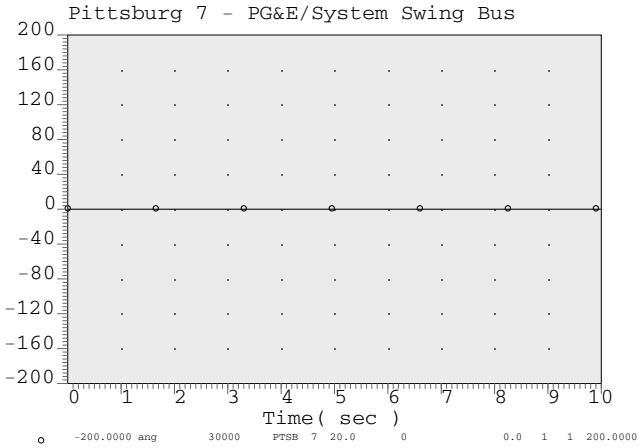


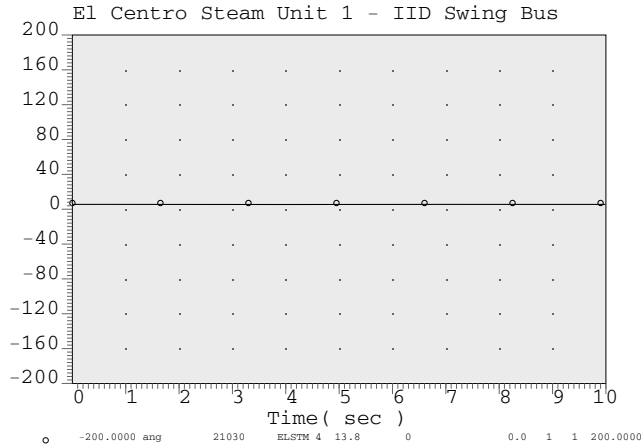


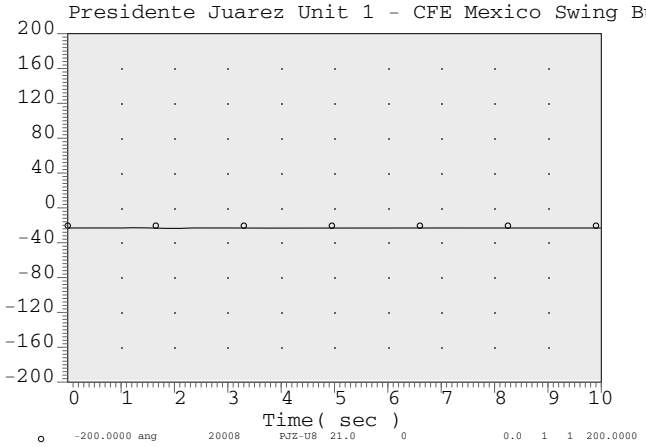


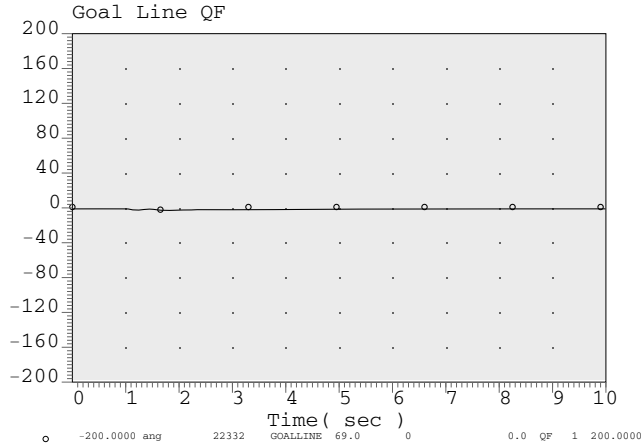
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

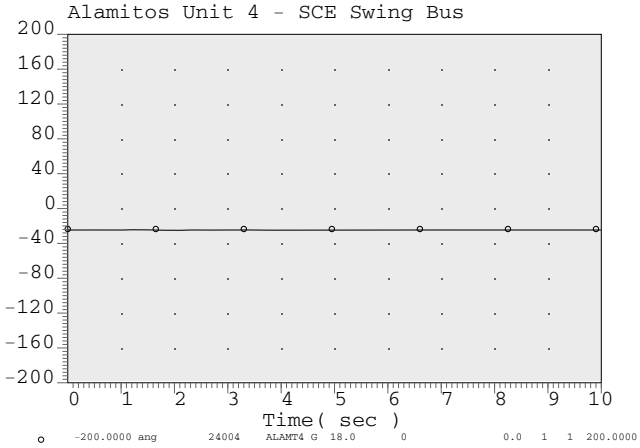
Relative Rotor Angle

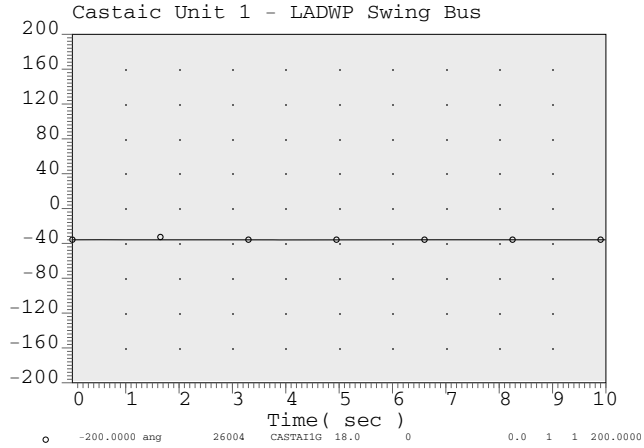






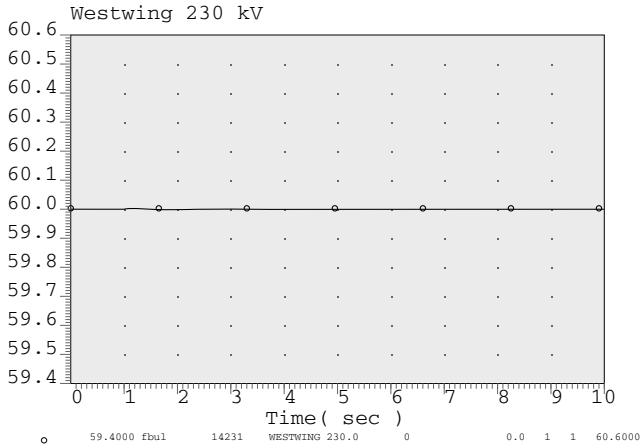


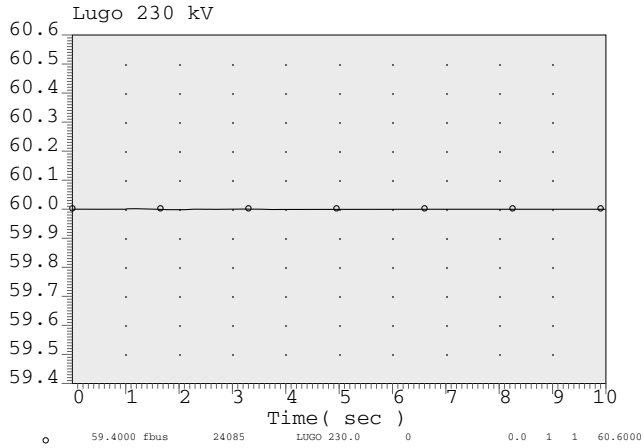


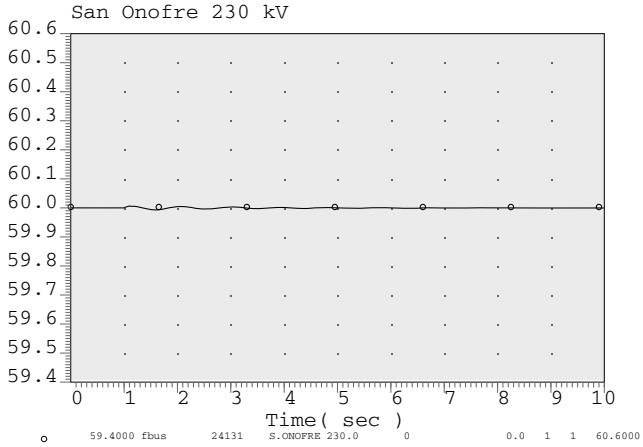


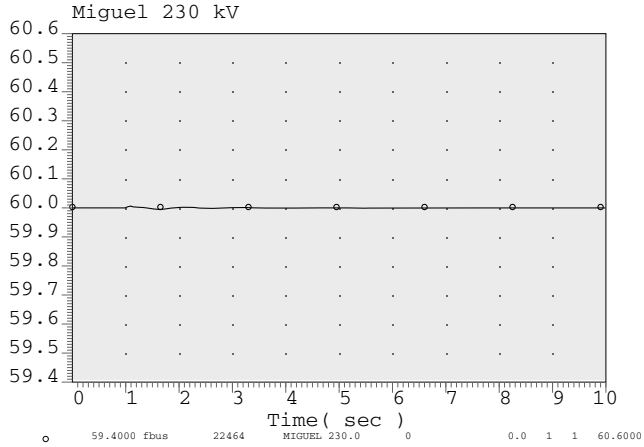
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

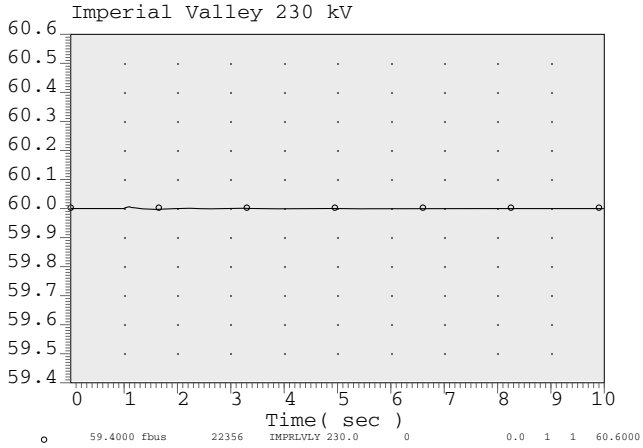
Bus Frequency

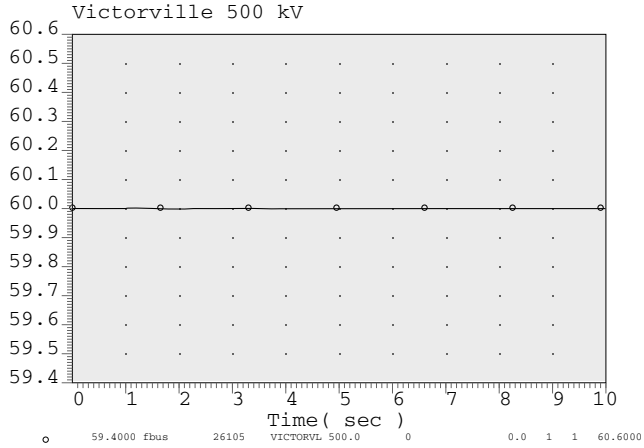






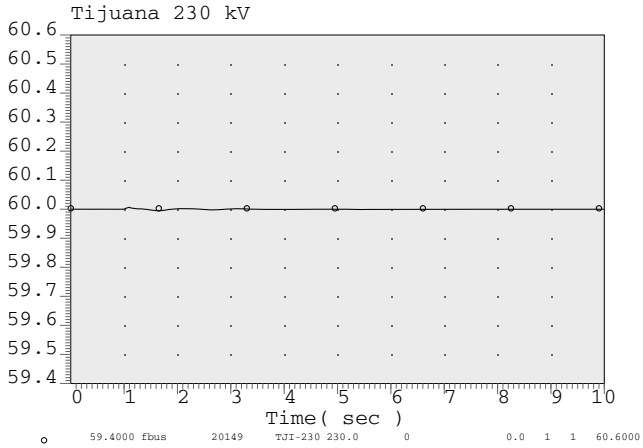


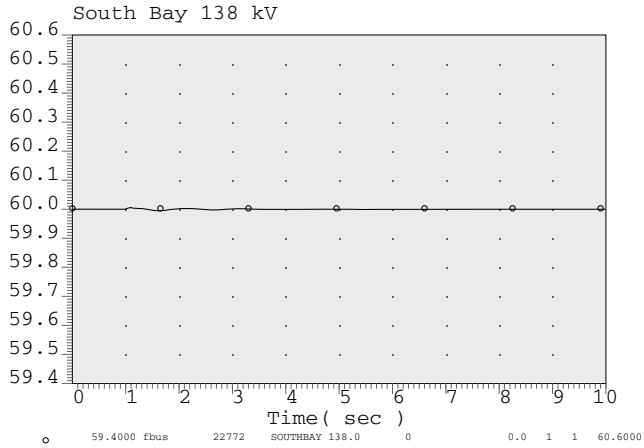


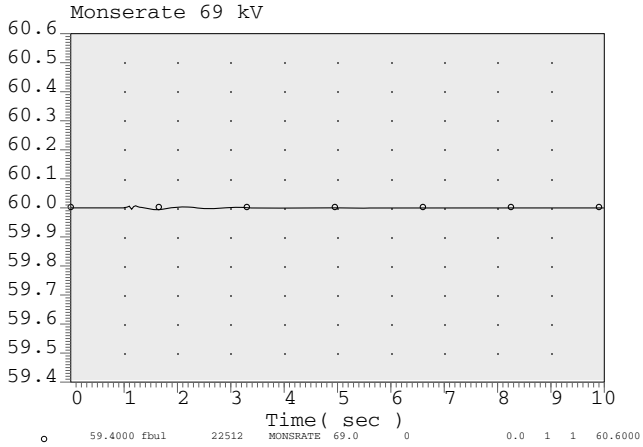


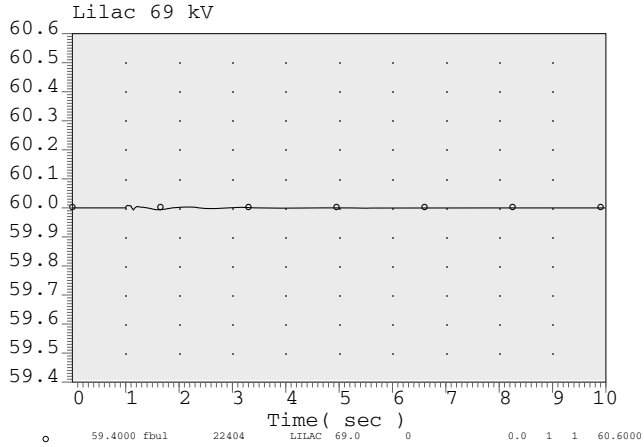
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

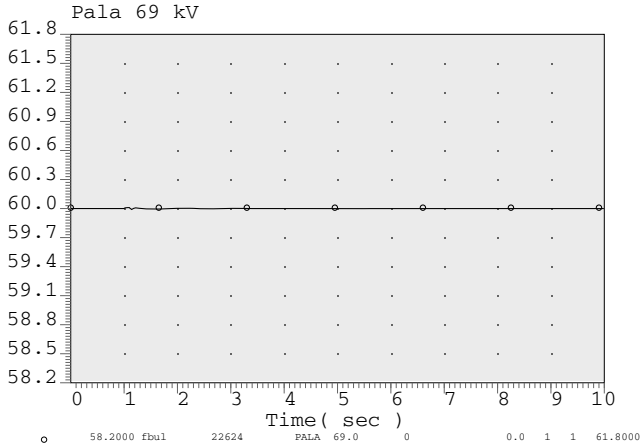
Bus Frequency

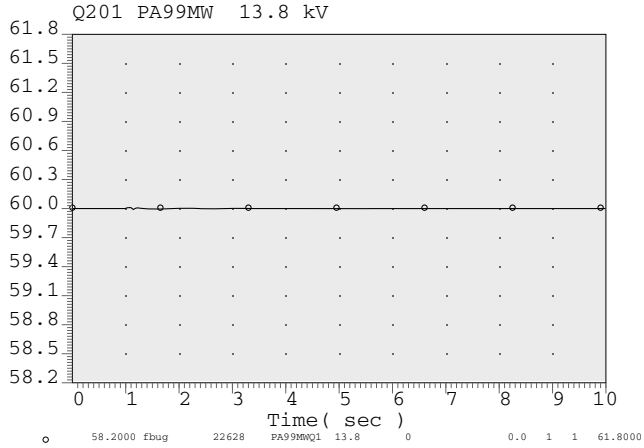






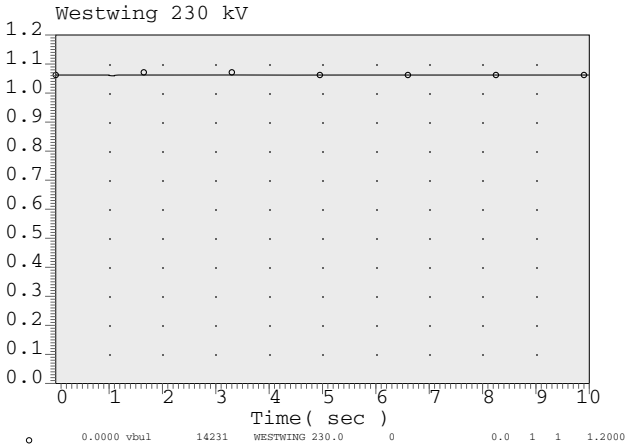


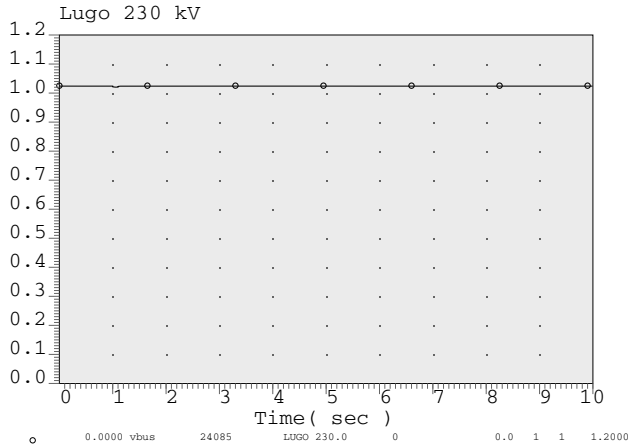


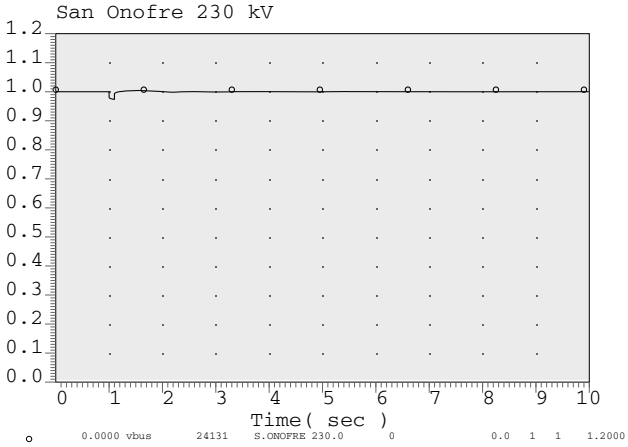


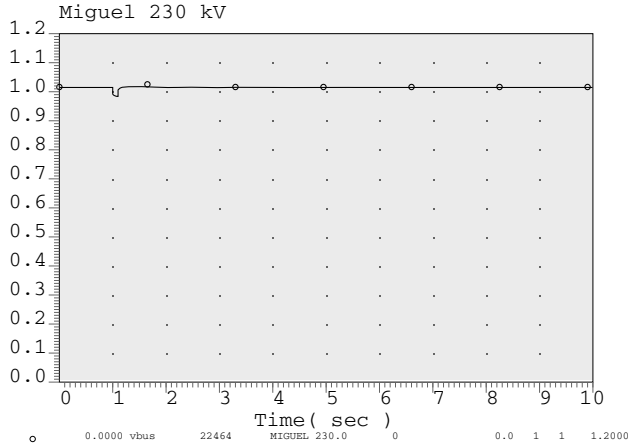
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

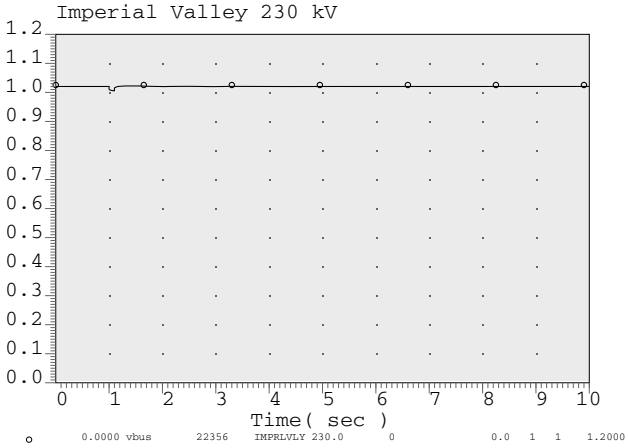
Bus Voltage

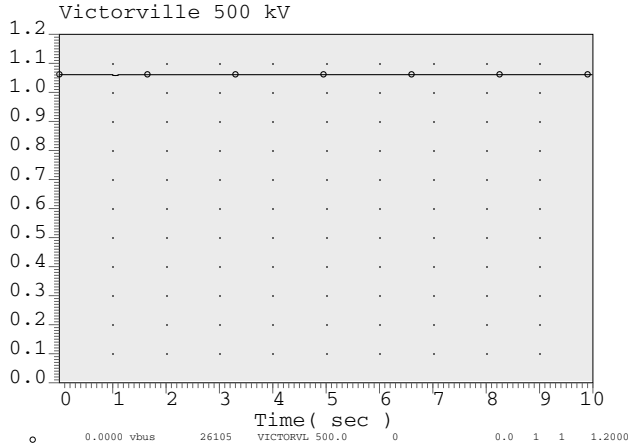






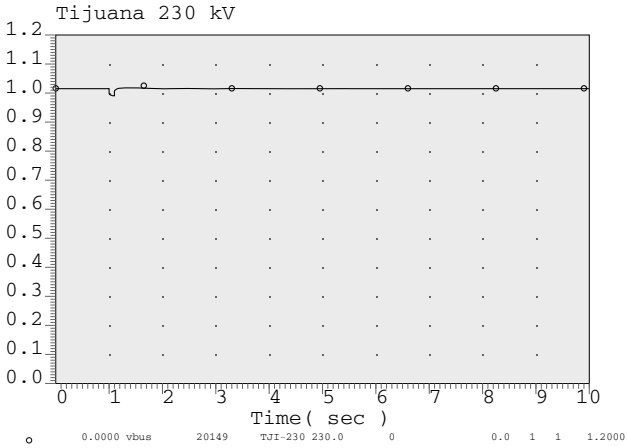


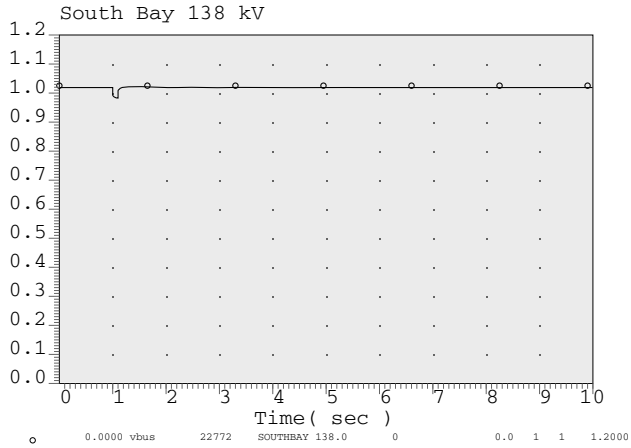


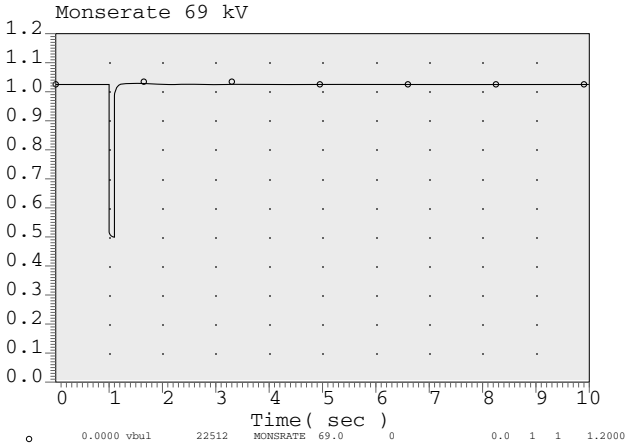


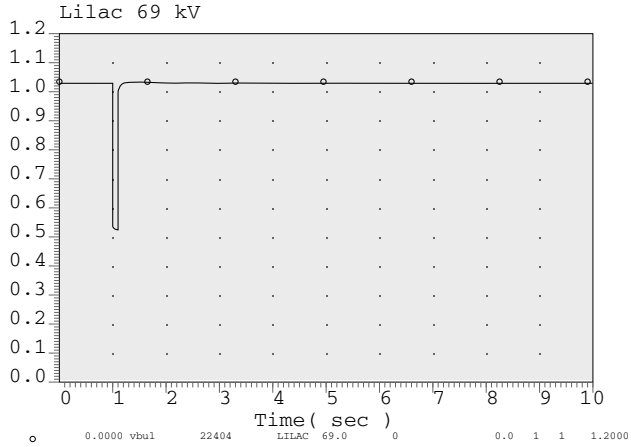
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

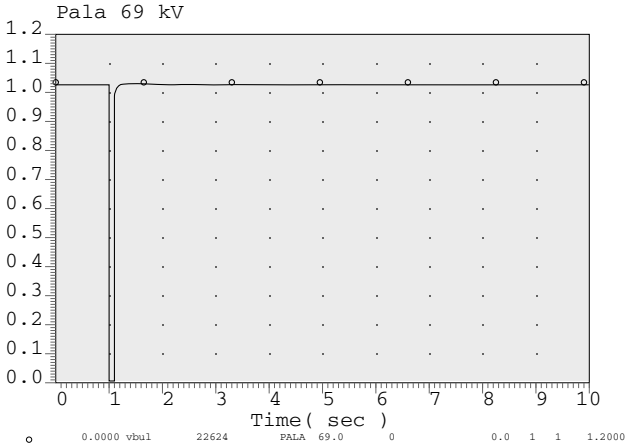
Bus Voltage

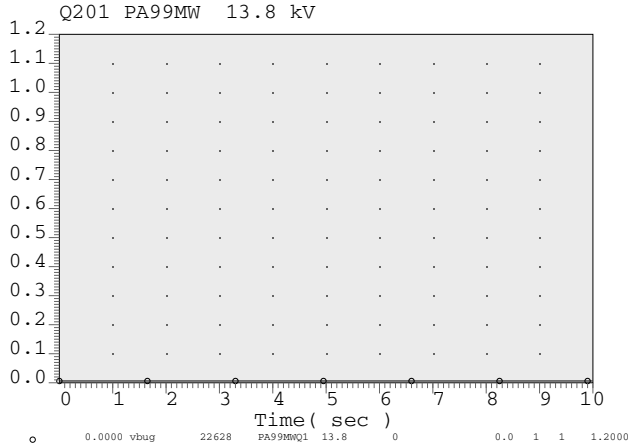






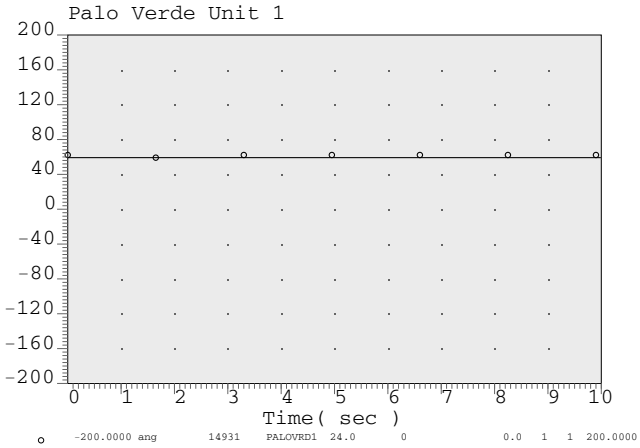


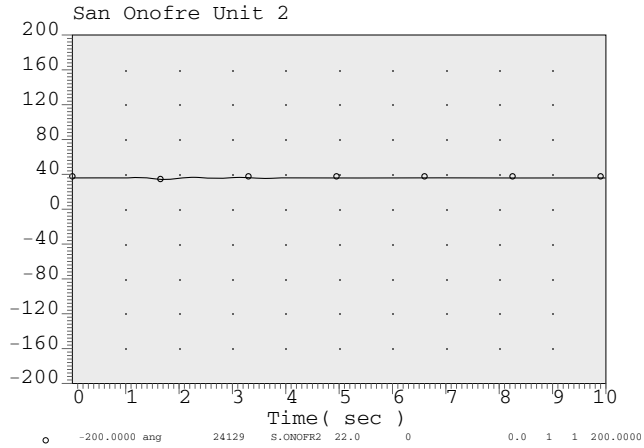


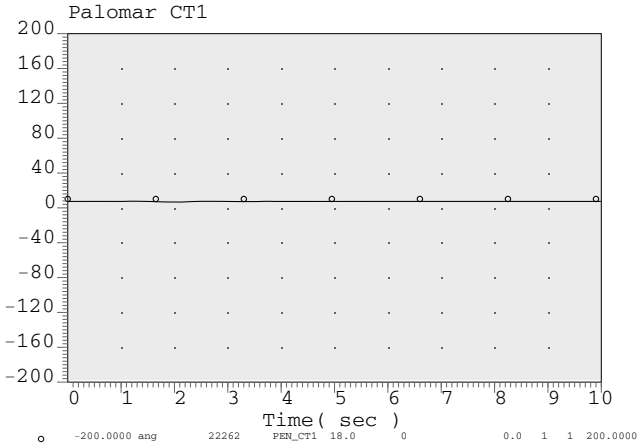


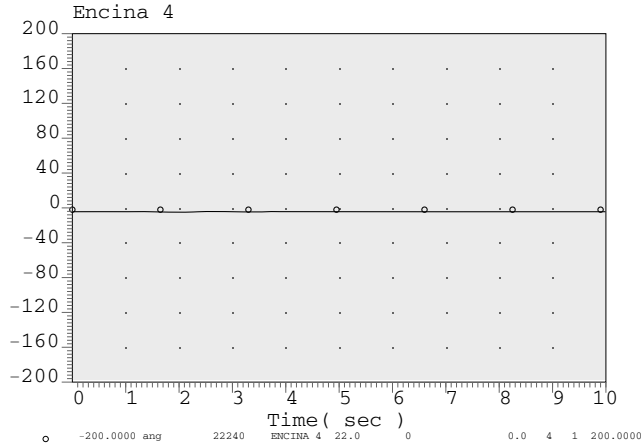
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

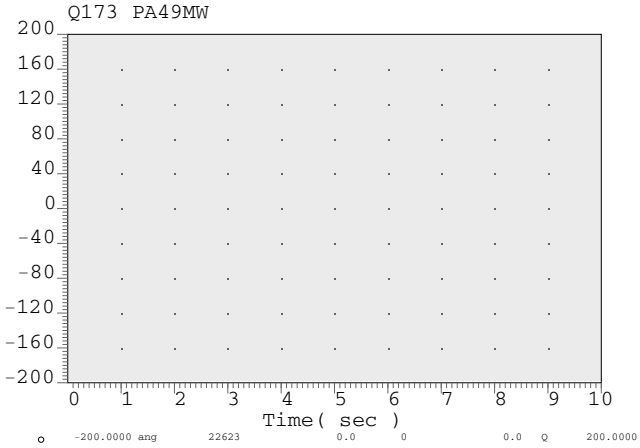
Relative Rotor Angle

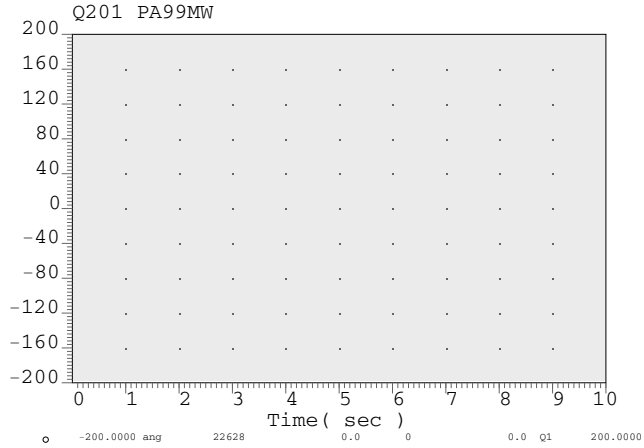






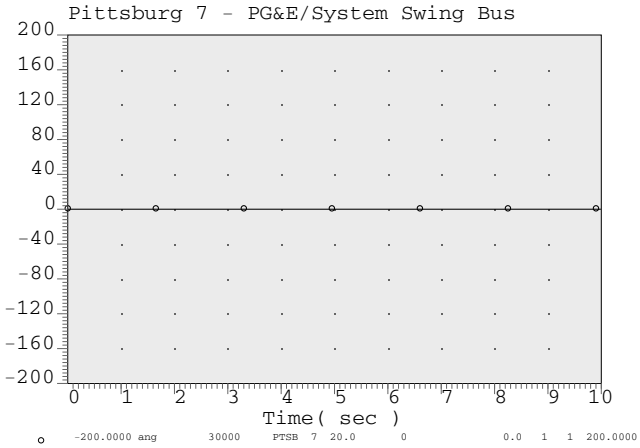


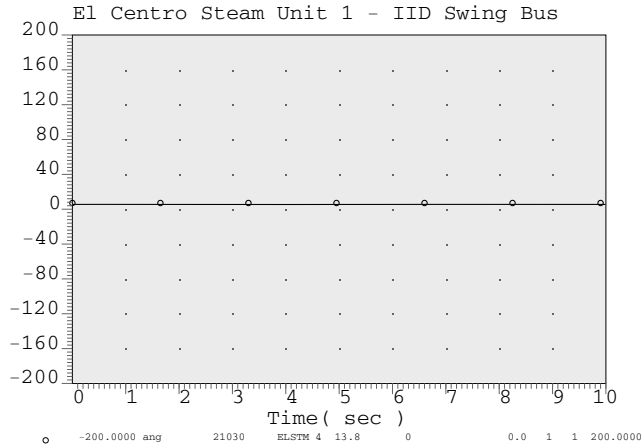


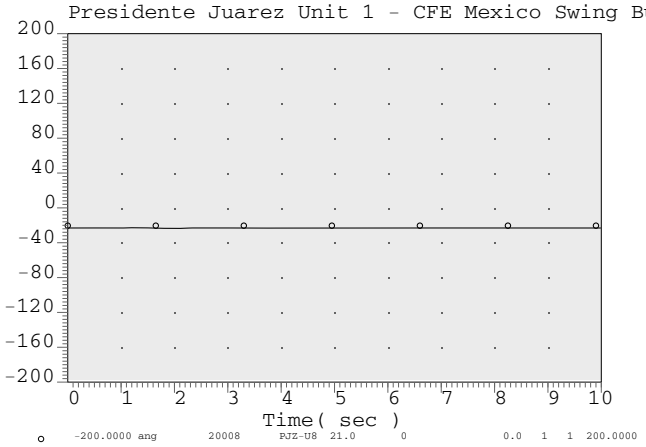


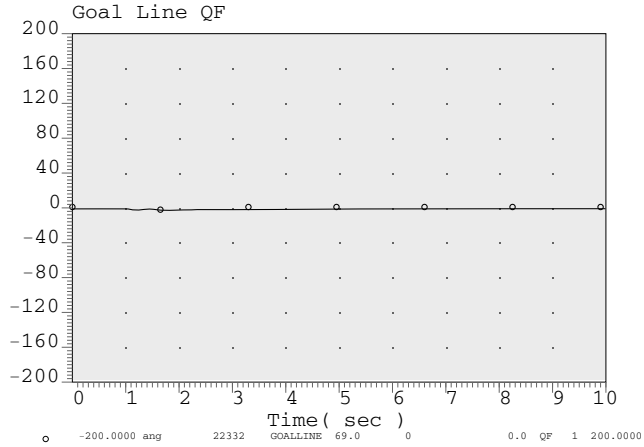
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

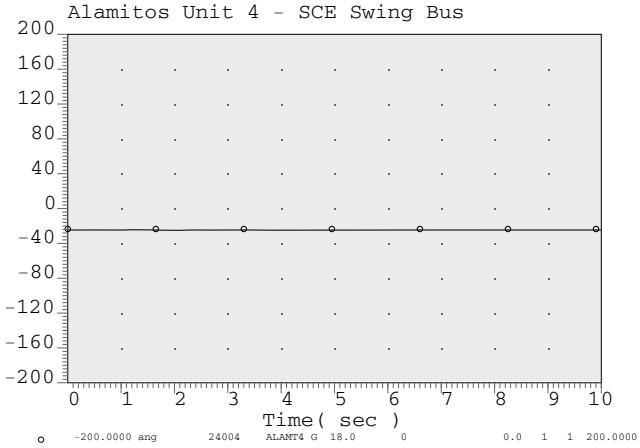
Relative Rotor Angle

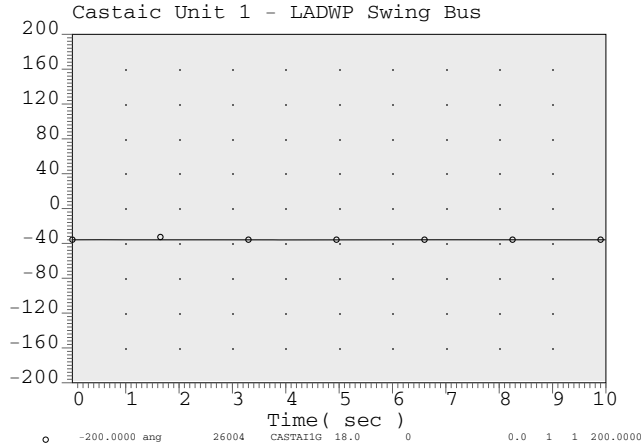






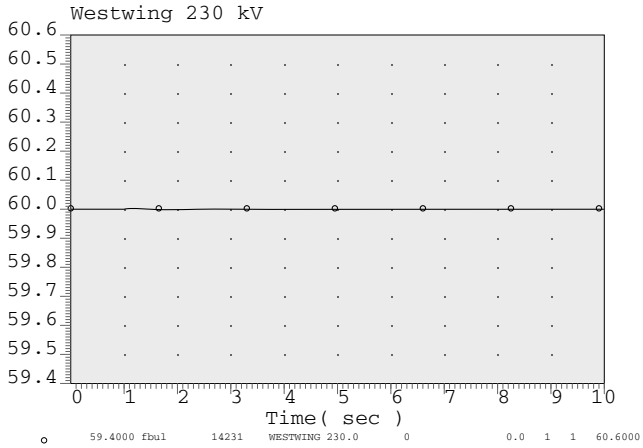


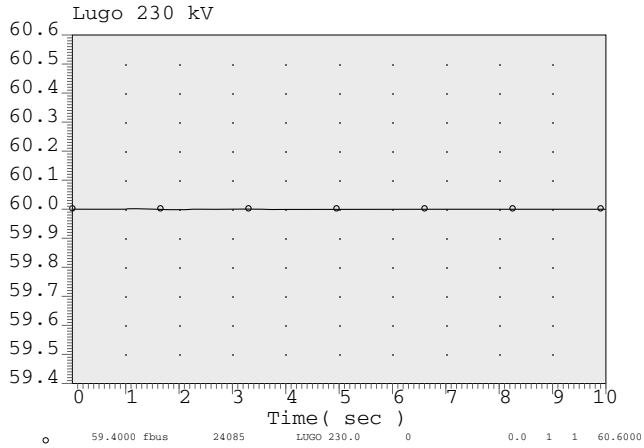


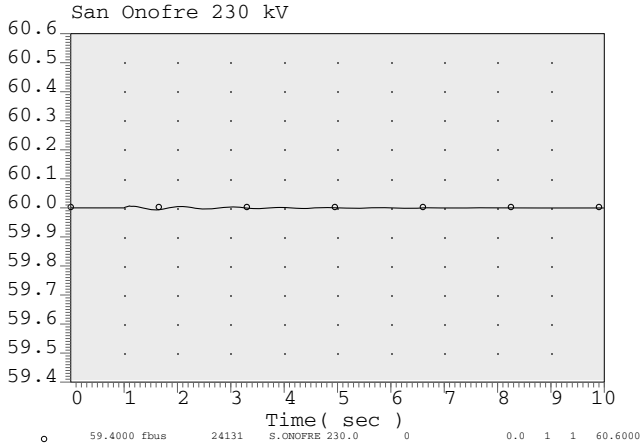


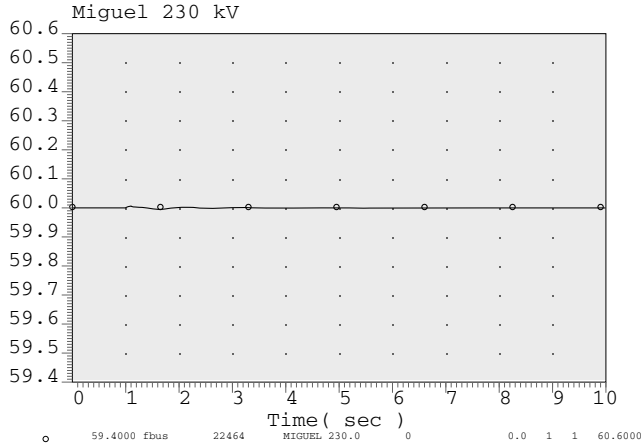
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

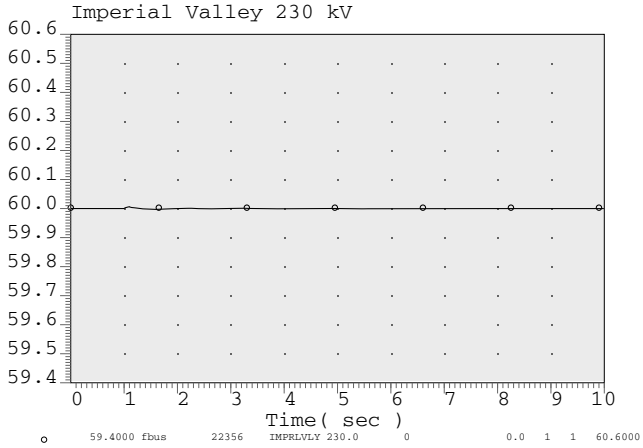
Bus Frequency

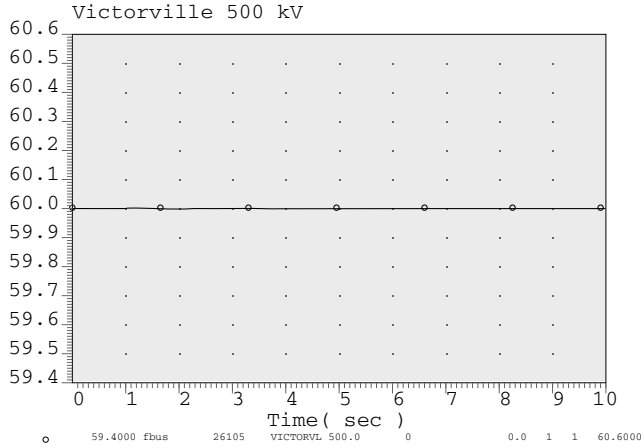






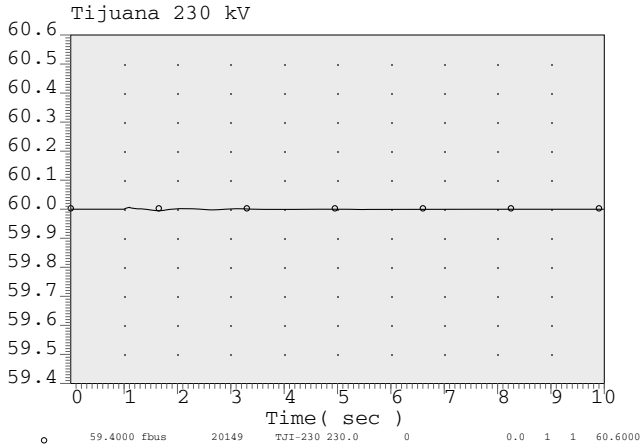


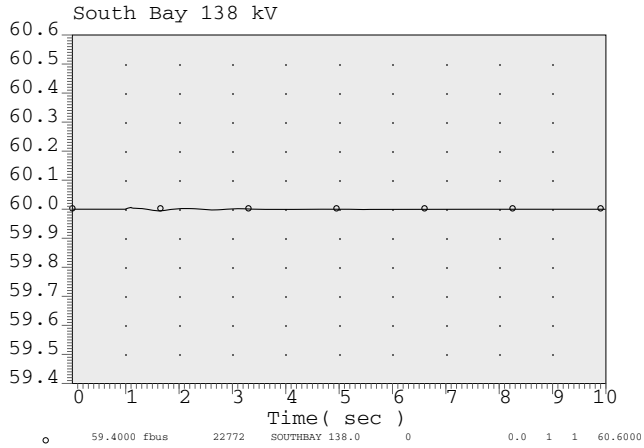


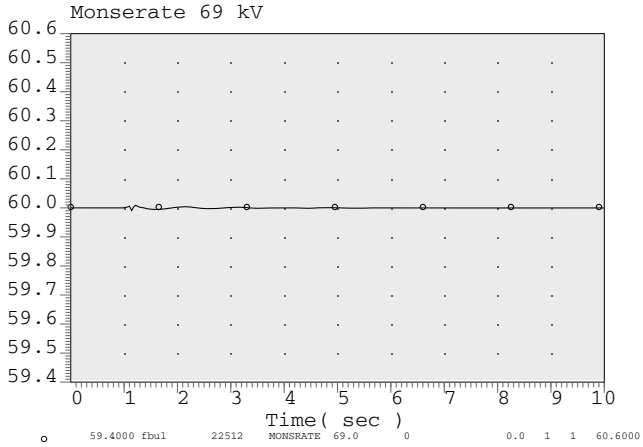


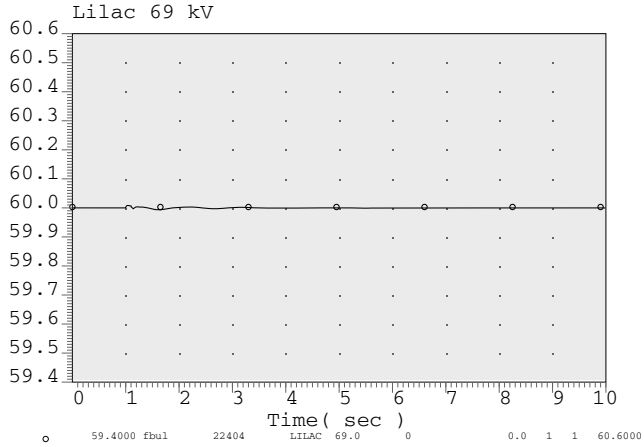
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

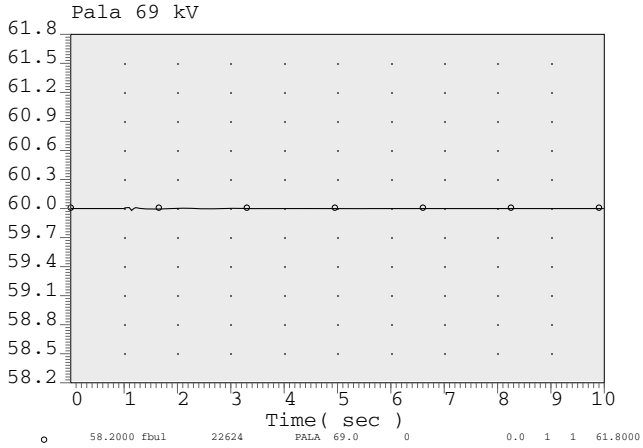
Bus Frequency

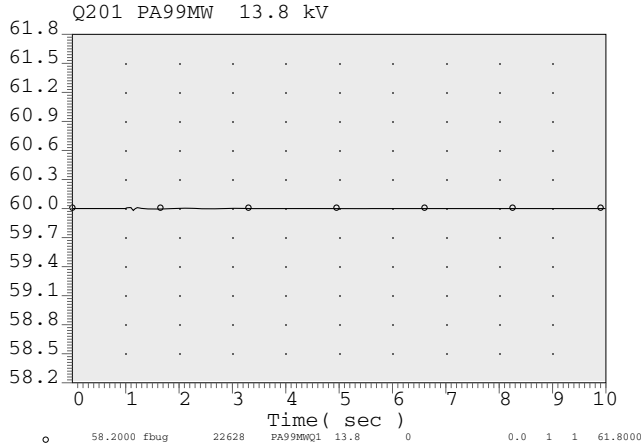






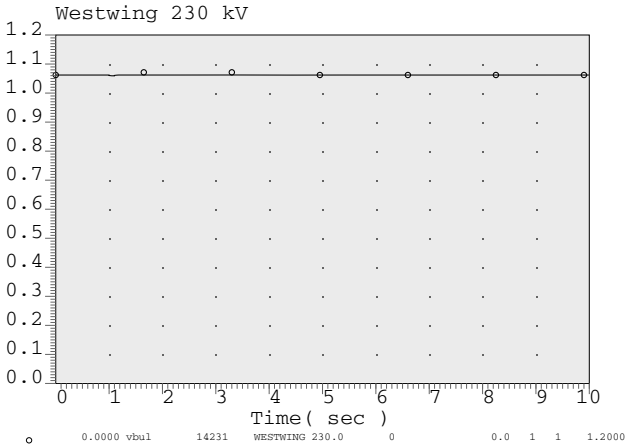


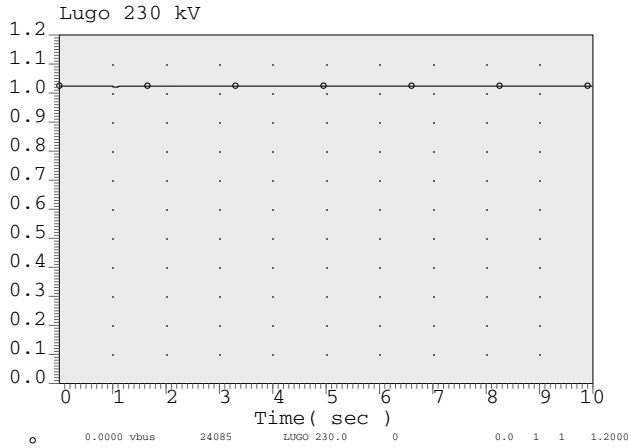


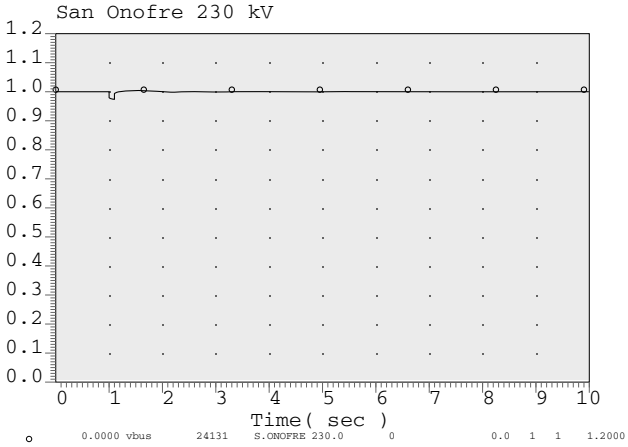


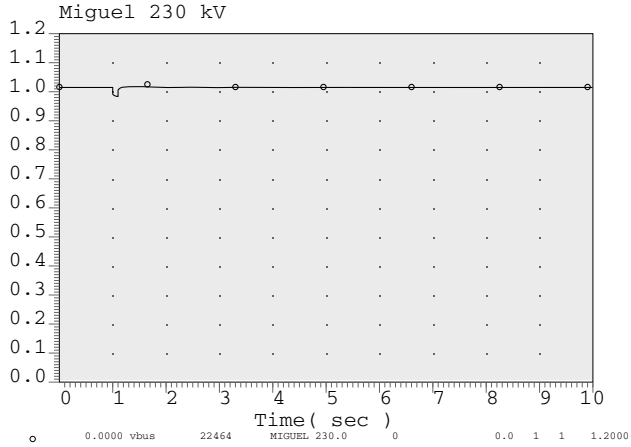
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

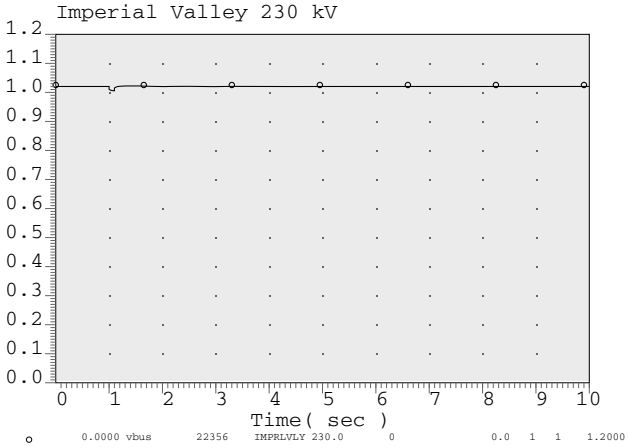
Bus Voltage

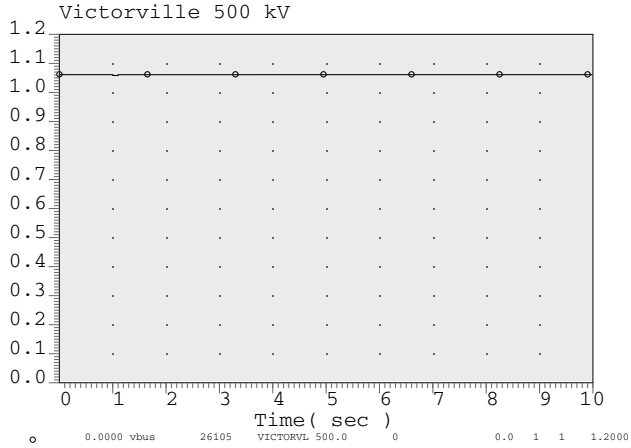






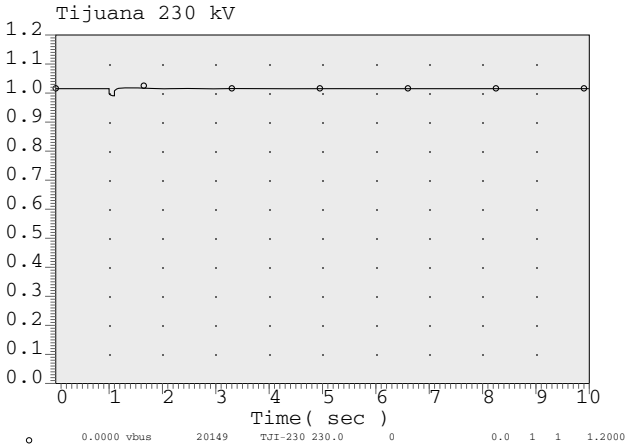


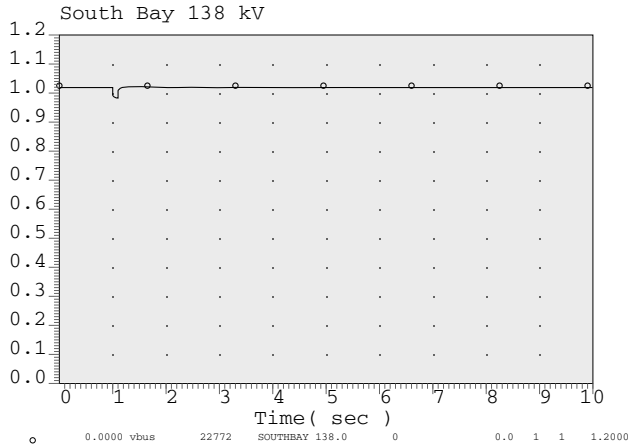


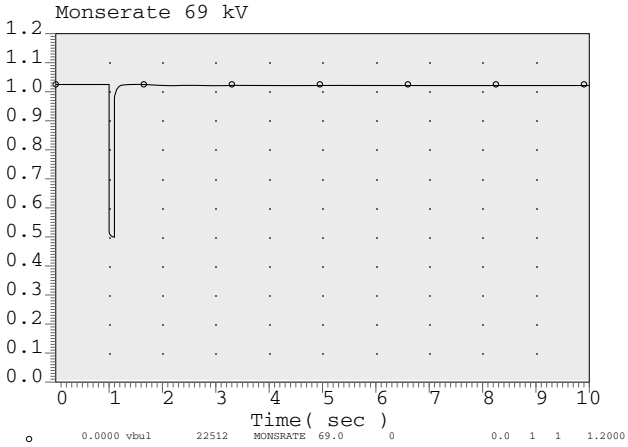


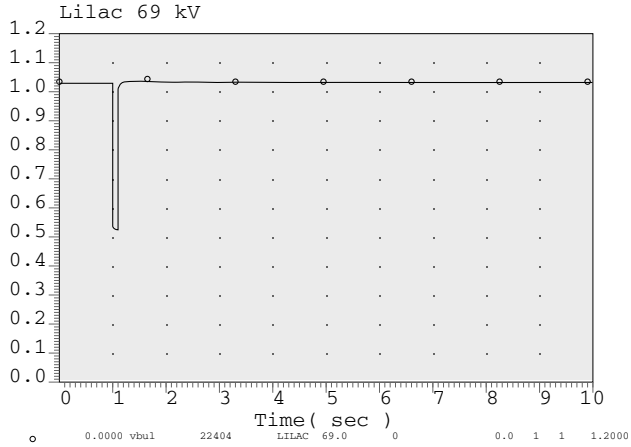
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

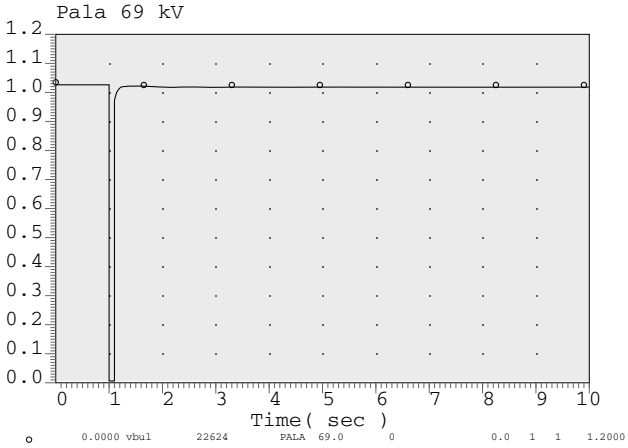
Bus Voltage

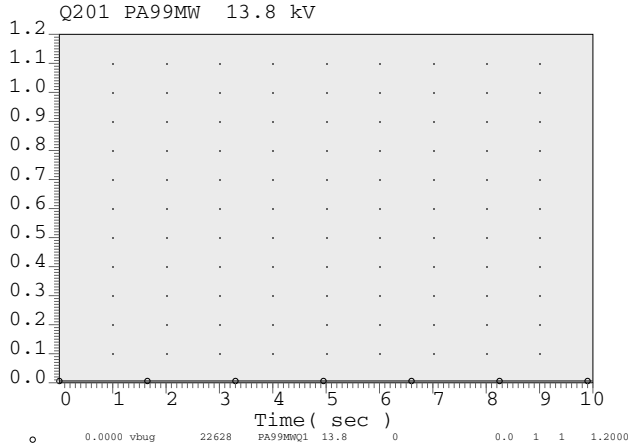






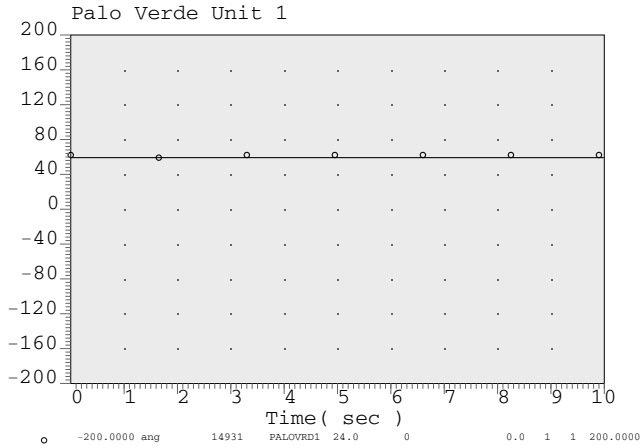


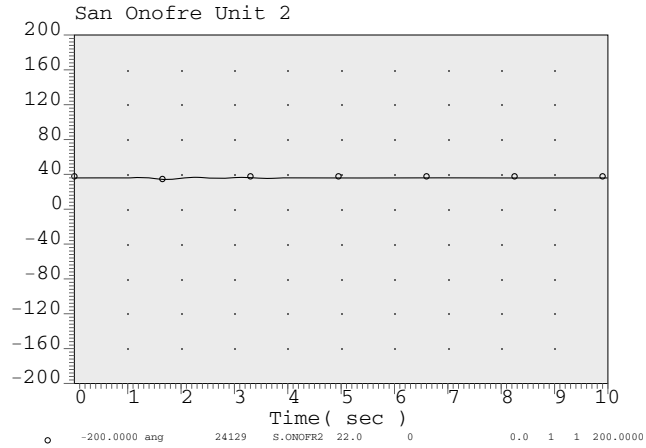


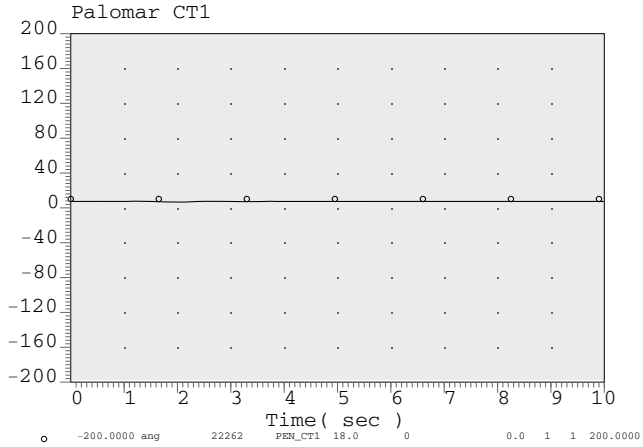


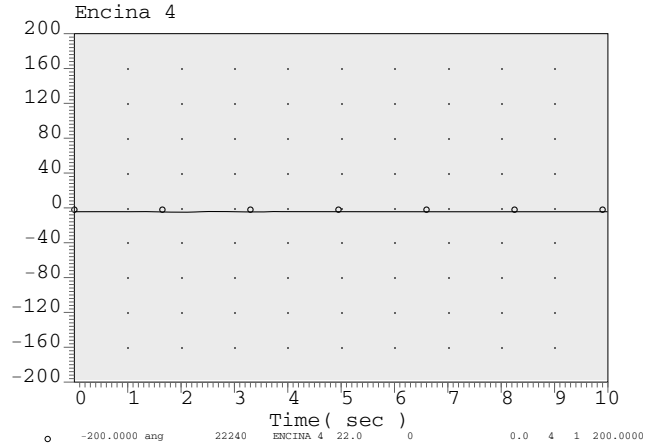
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

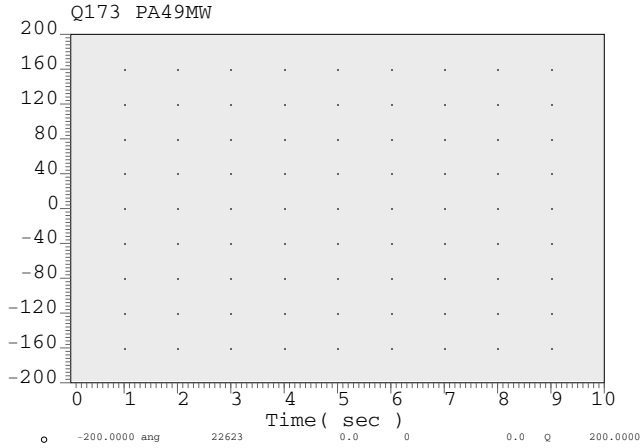
Relative Rotor Angle

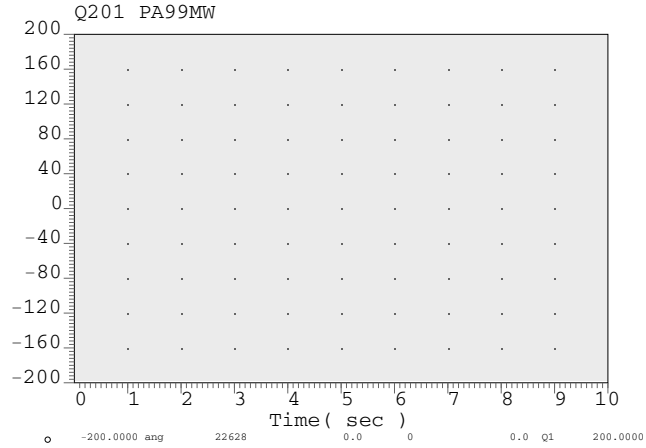






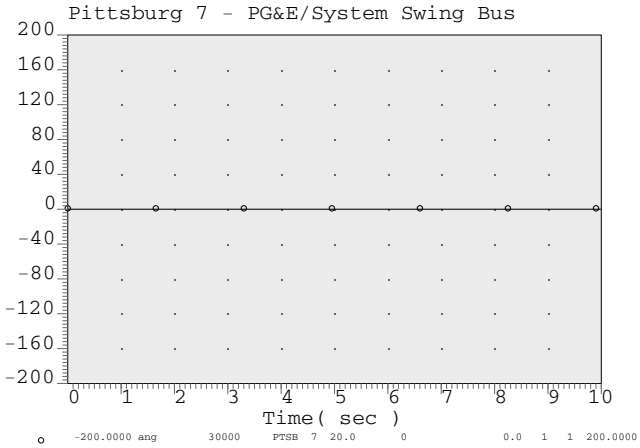


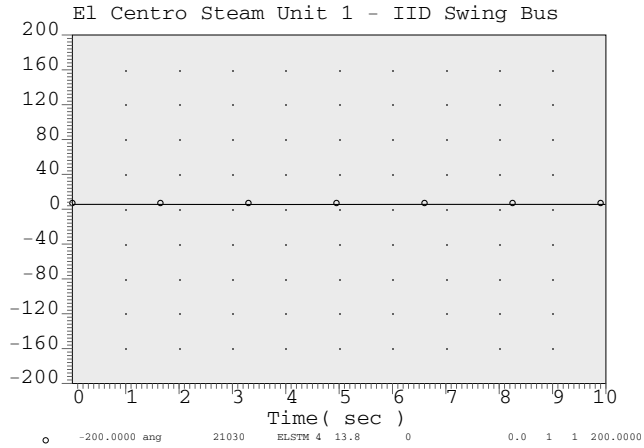


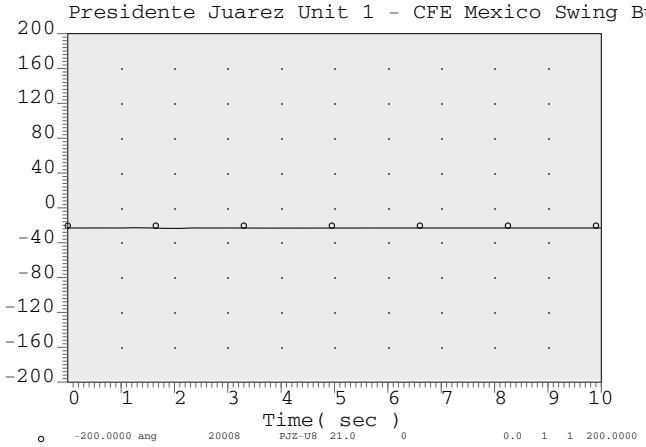


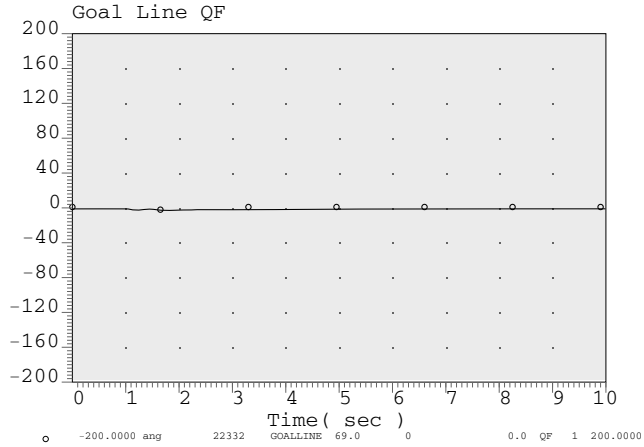
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

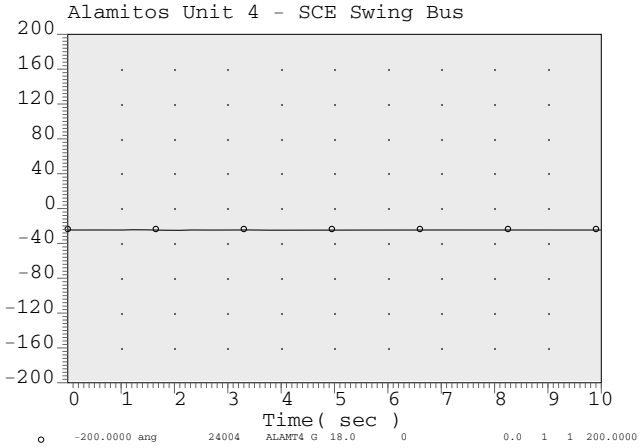
Relative Rotor Angle

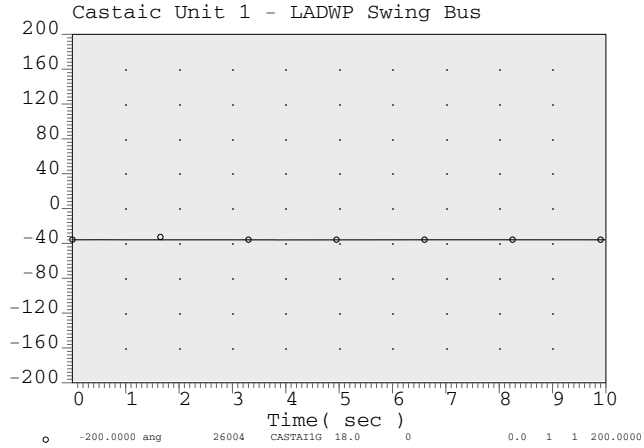






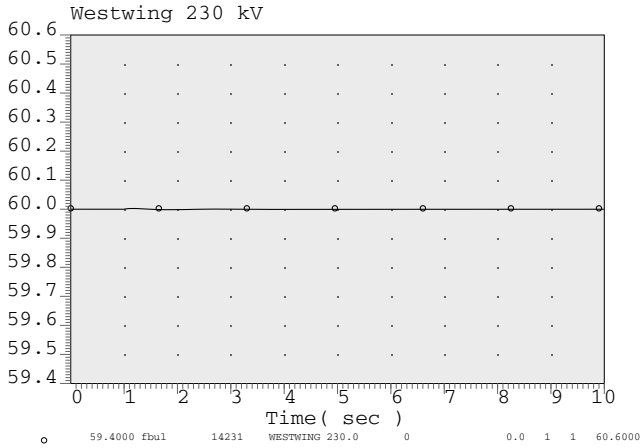


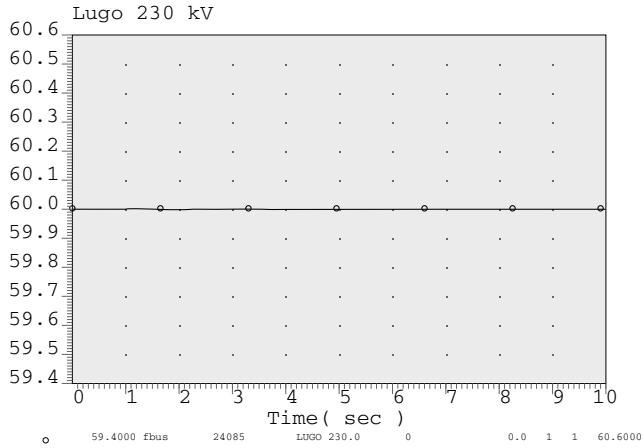


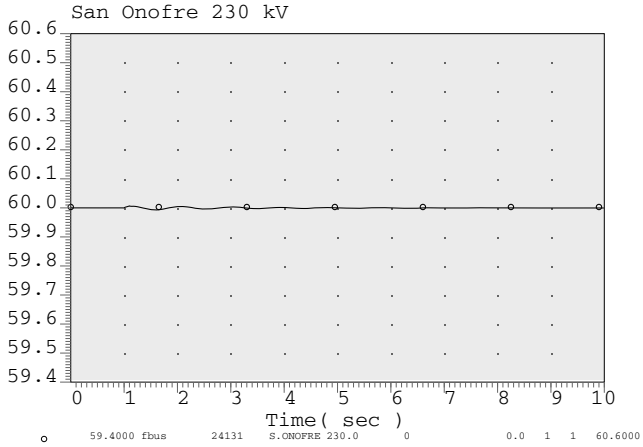


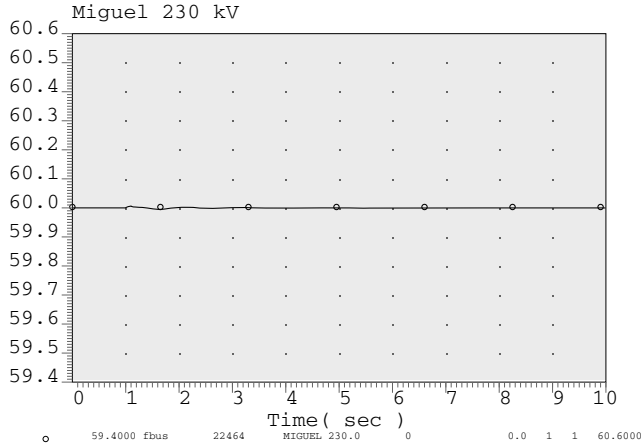
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

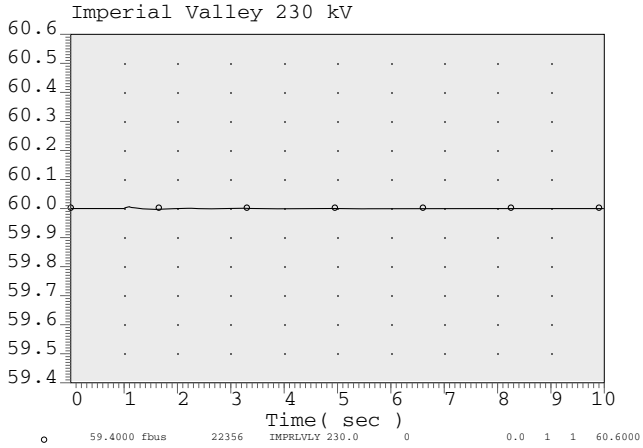
Bus Frequency

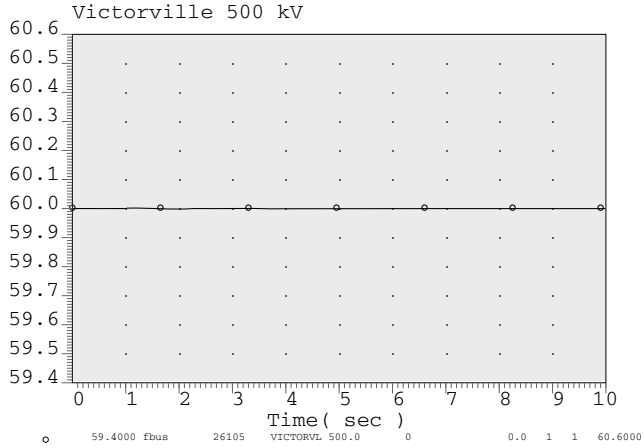






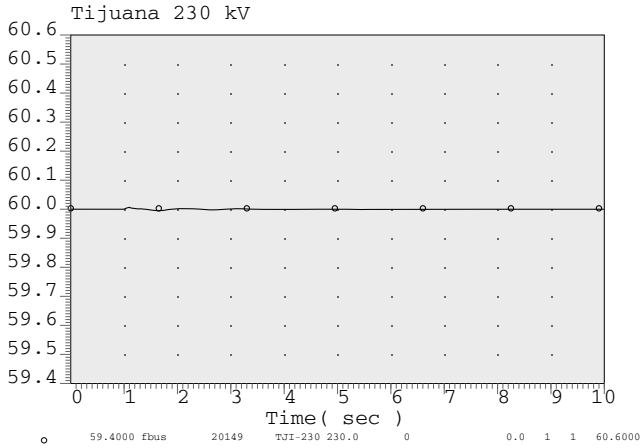


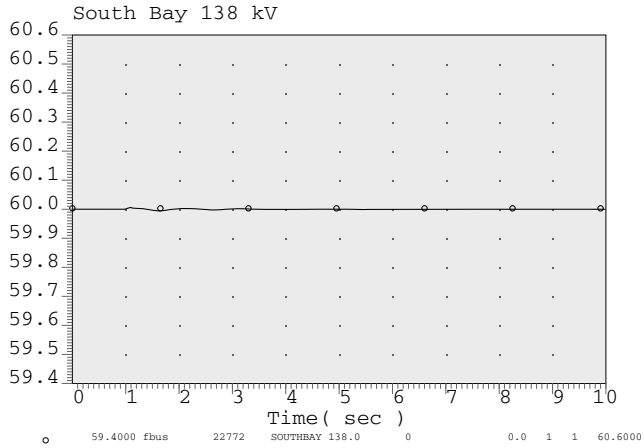


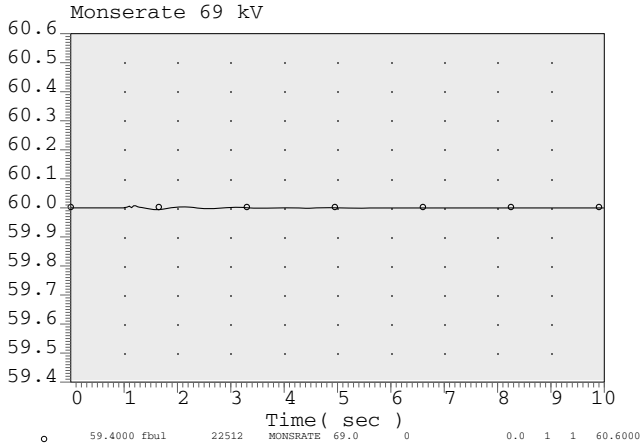


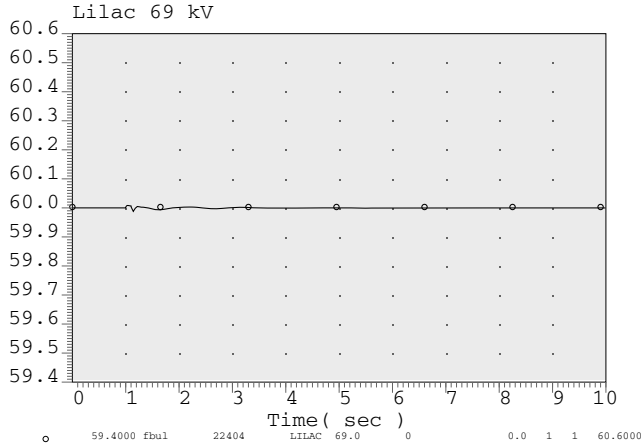
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

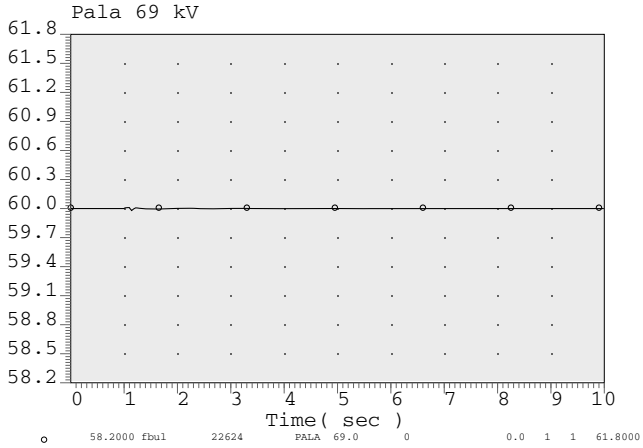
Bus Frequency

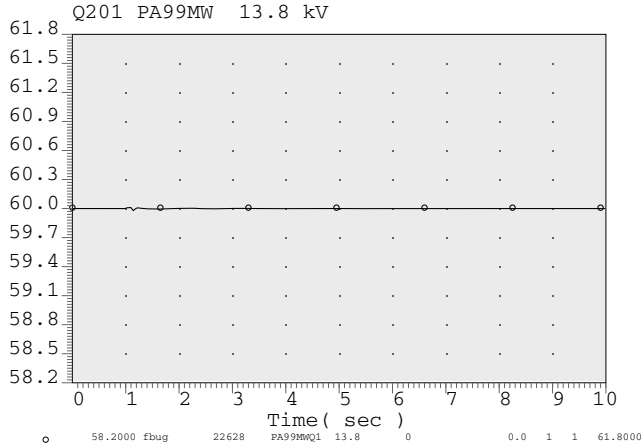






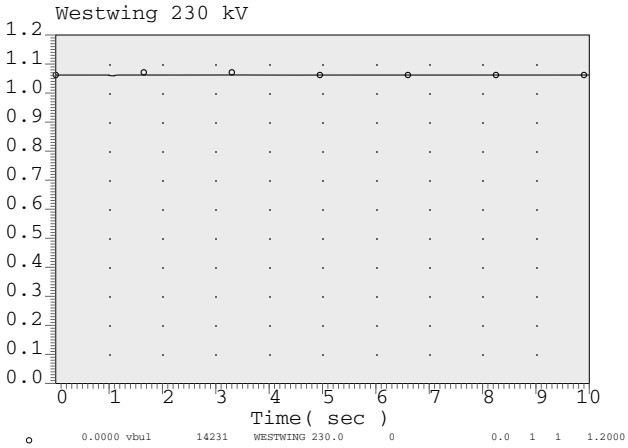


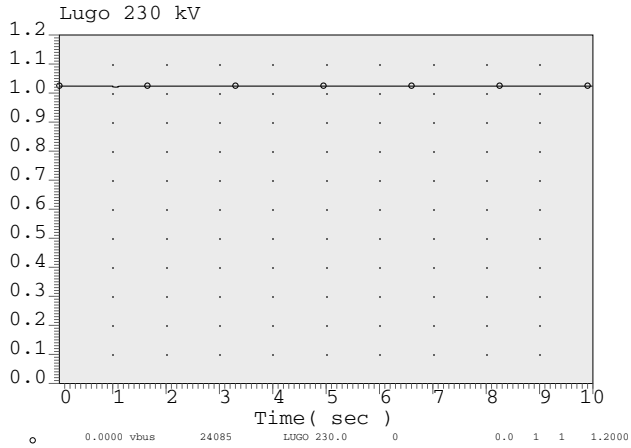


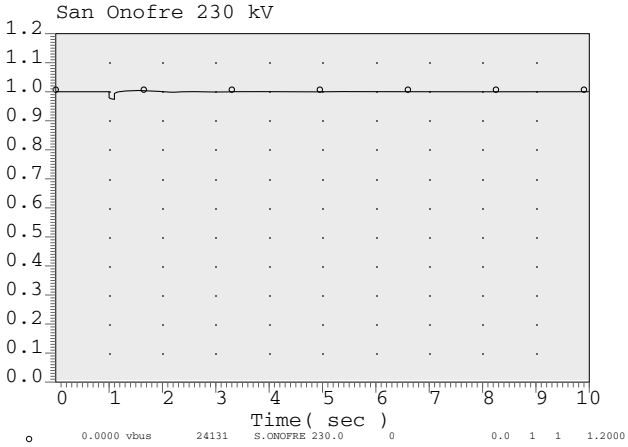


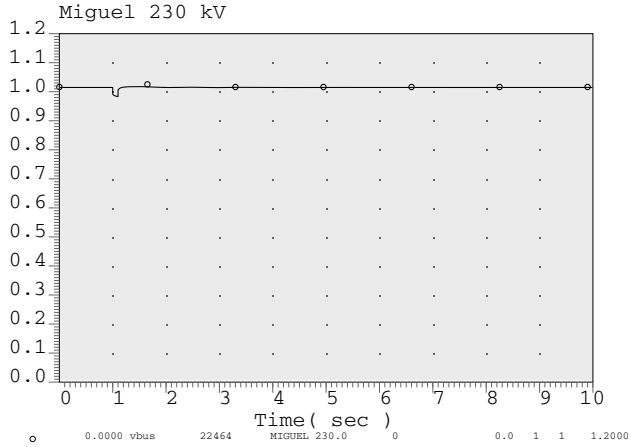
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

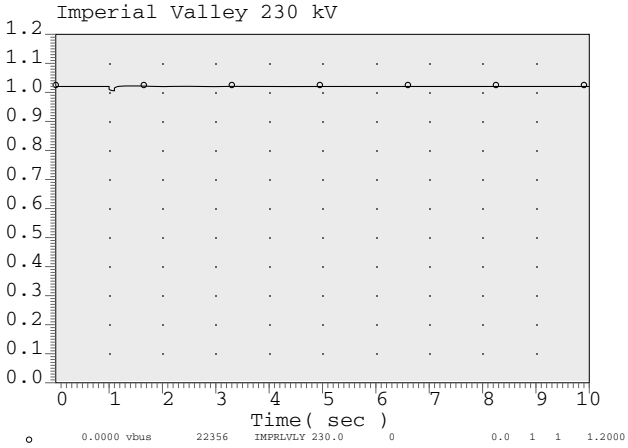
Bus Voltage

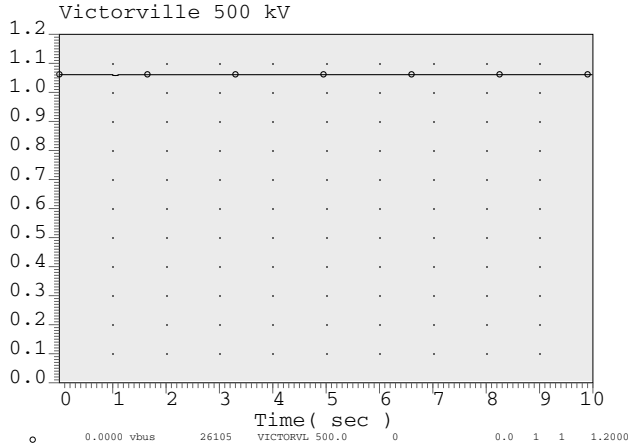






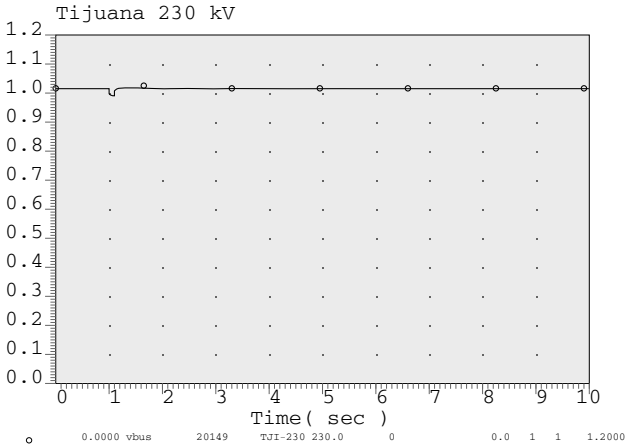


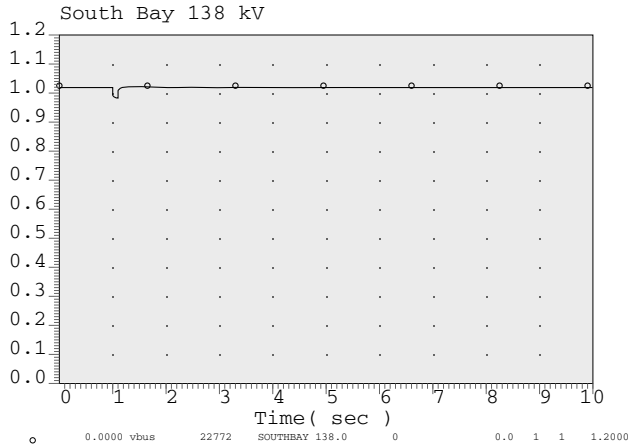


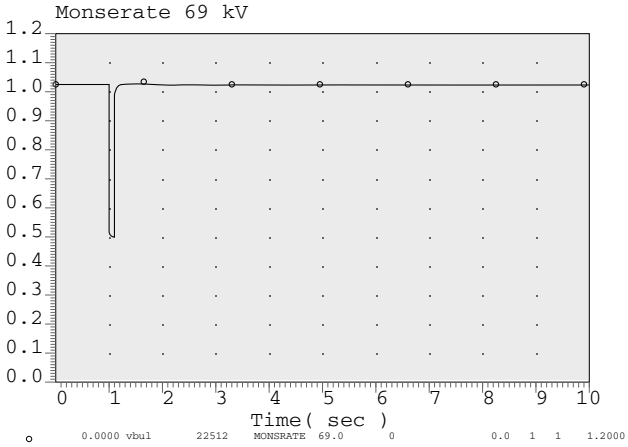


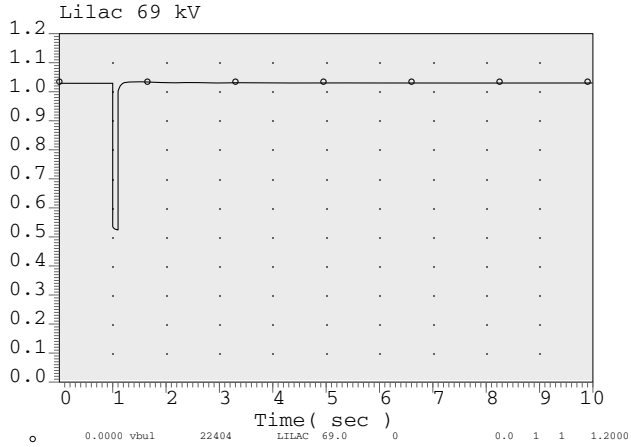
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

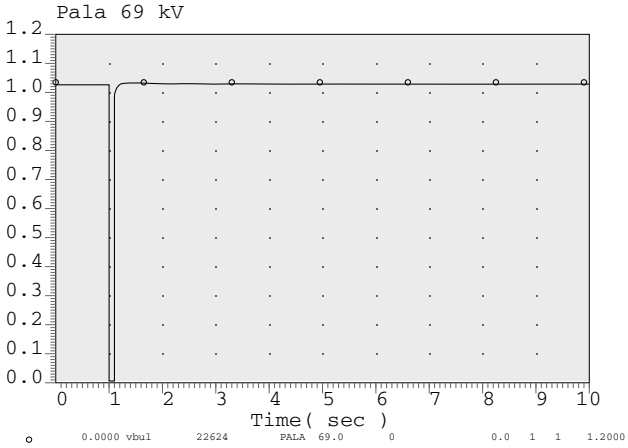
Bus Voltage

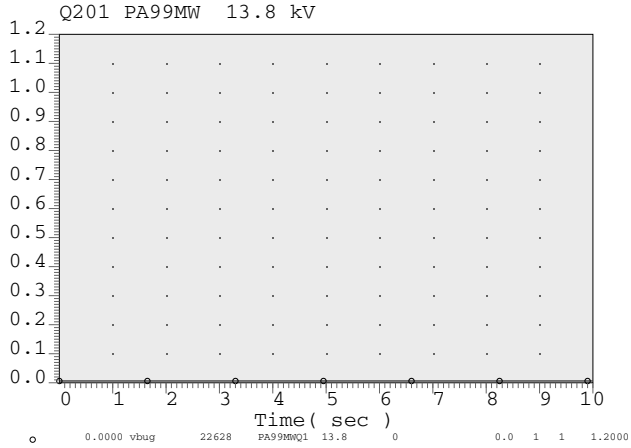






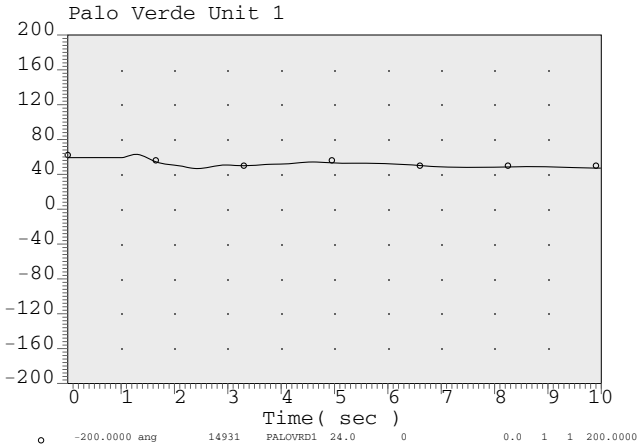


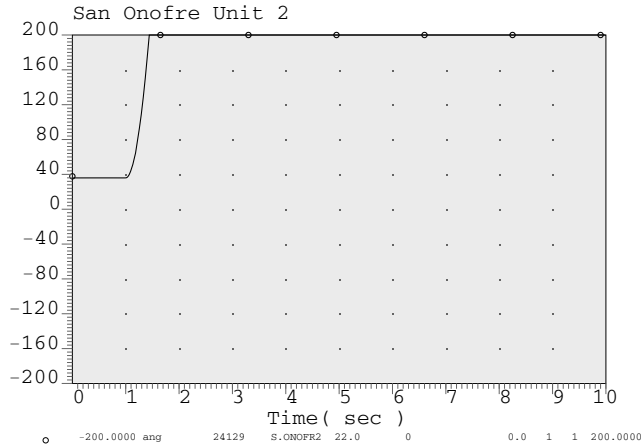


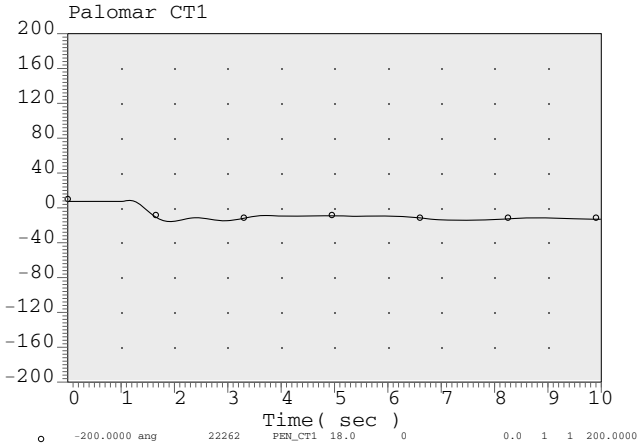


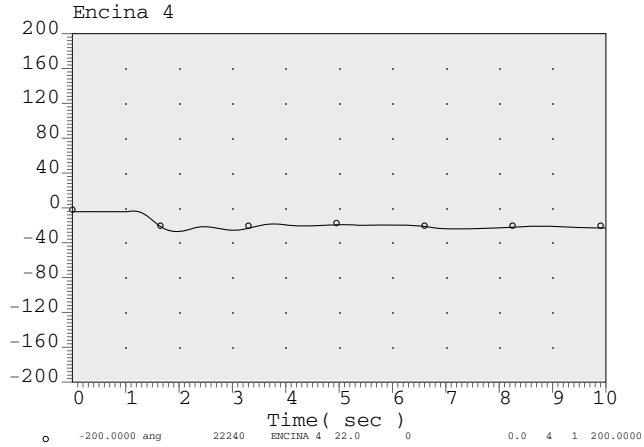
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

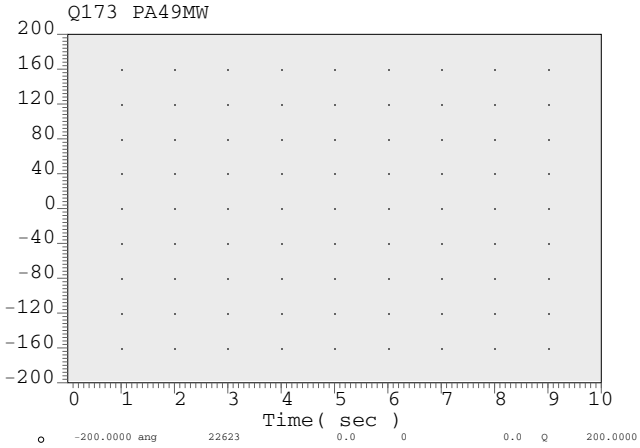
Relative Rotor Angle

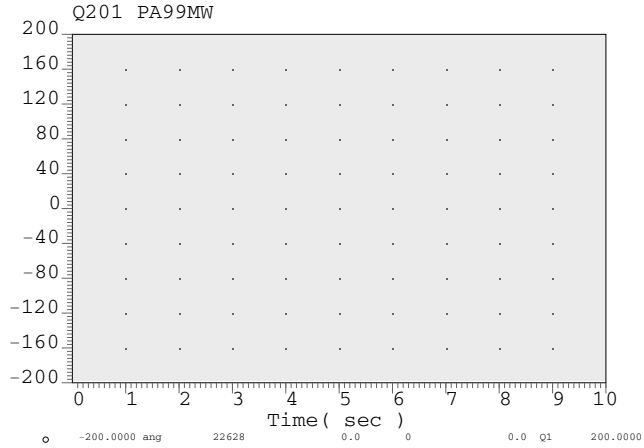






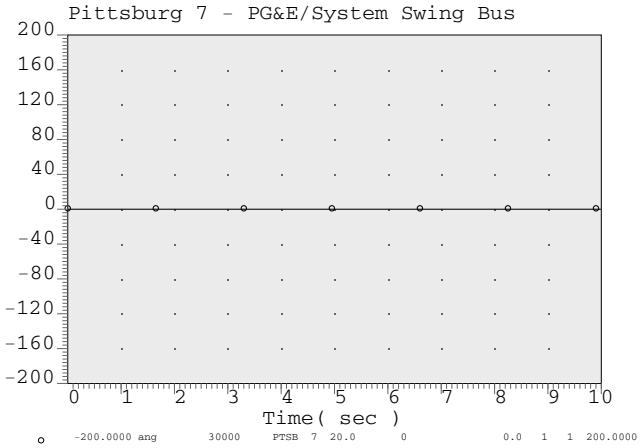


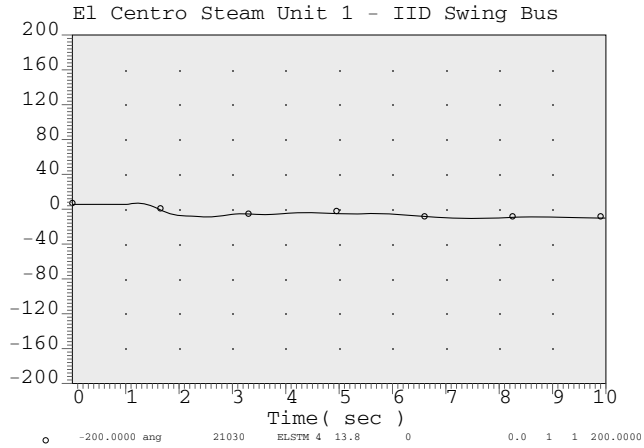


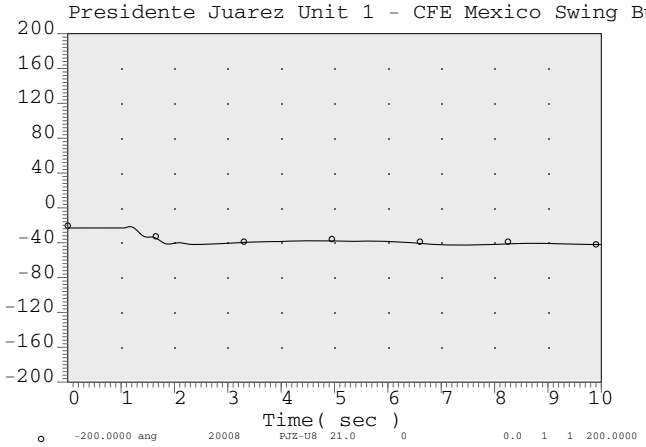


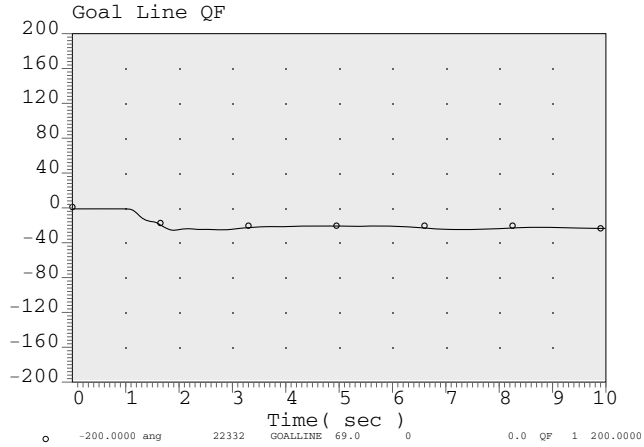
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

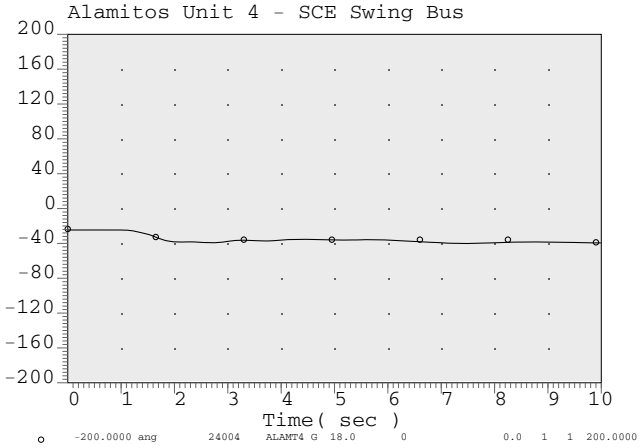
Relative Rotor Angle

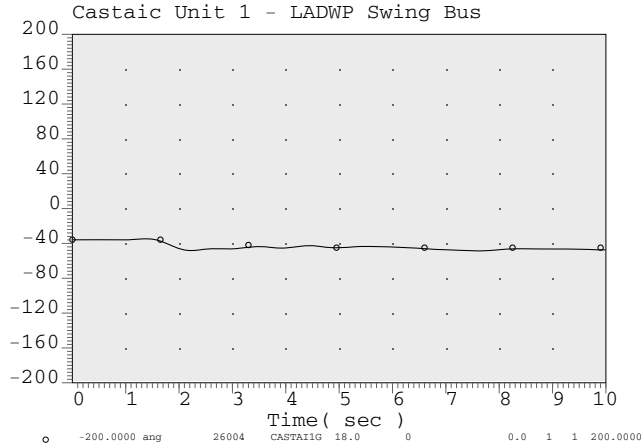






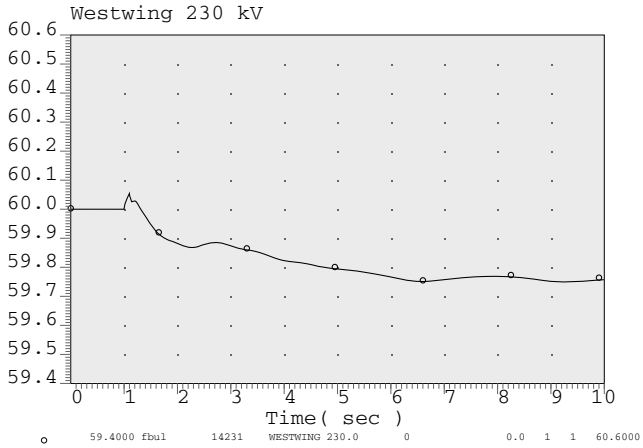


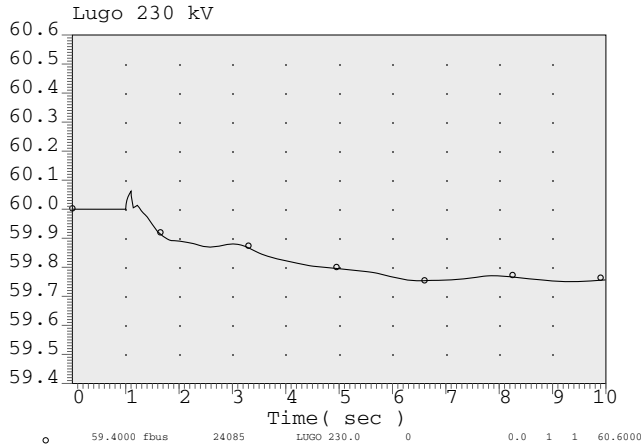


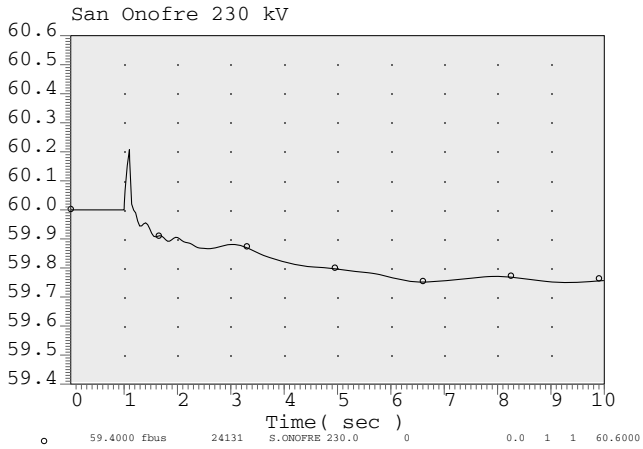


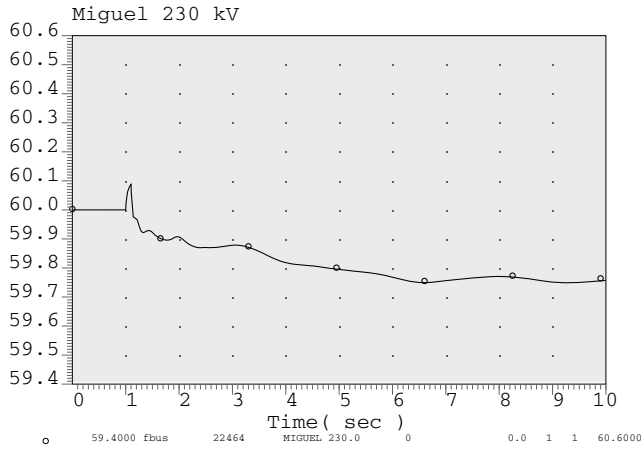
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

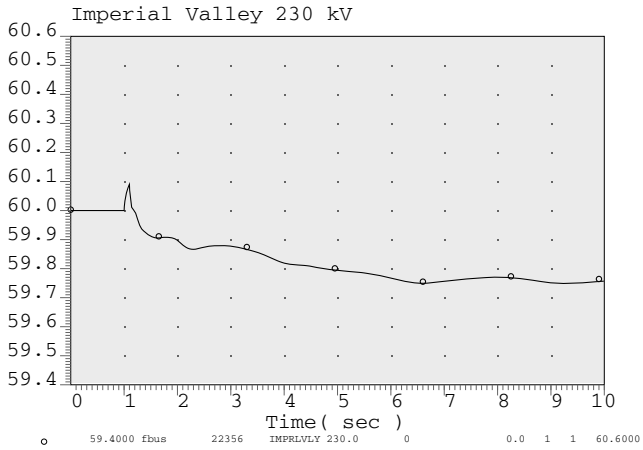
Bus Frequency

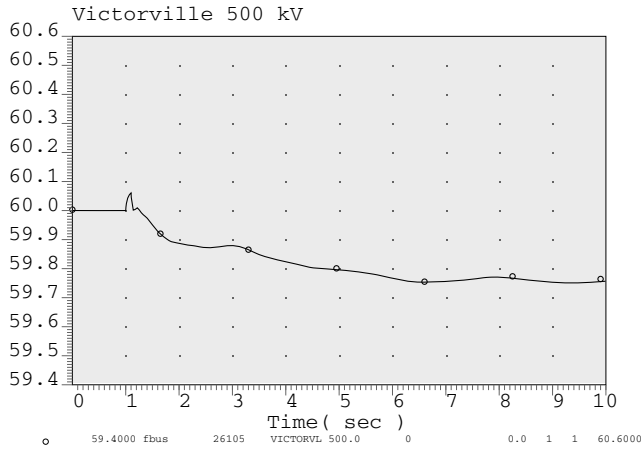






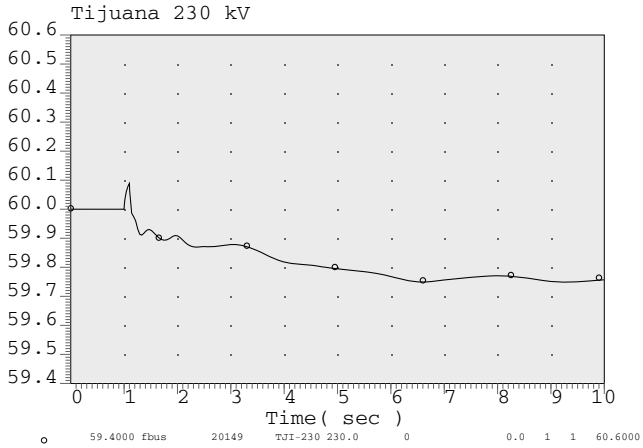


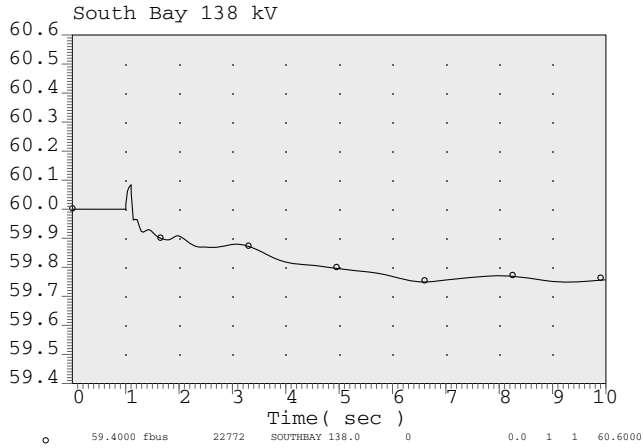


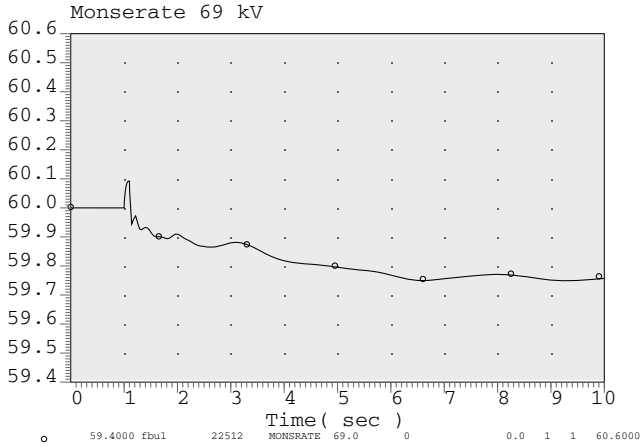


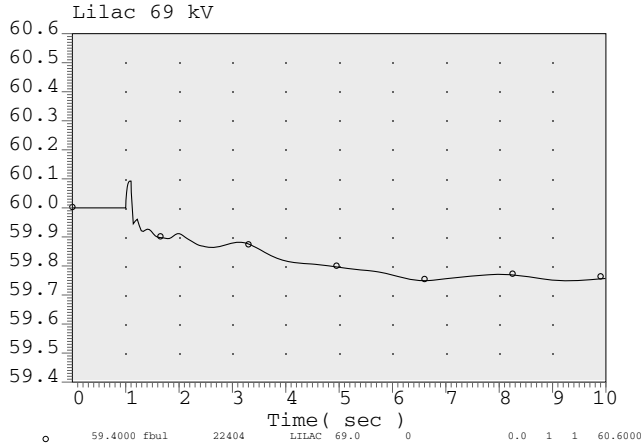
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

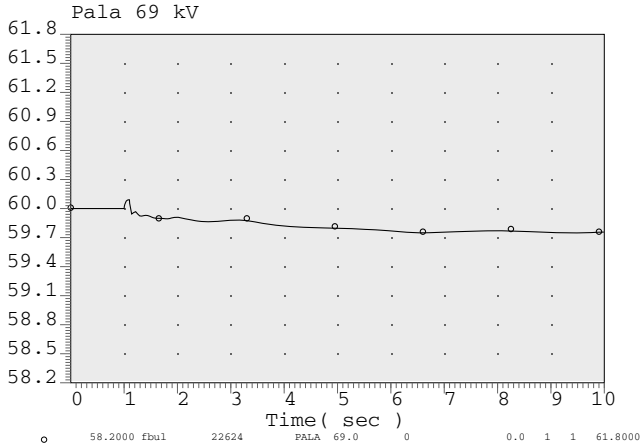
Bus Frequency

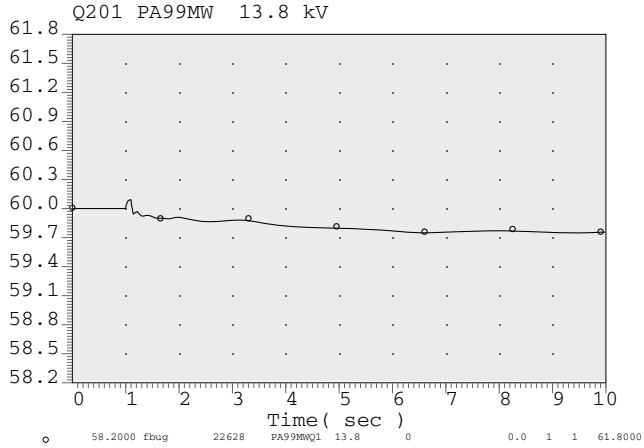






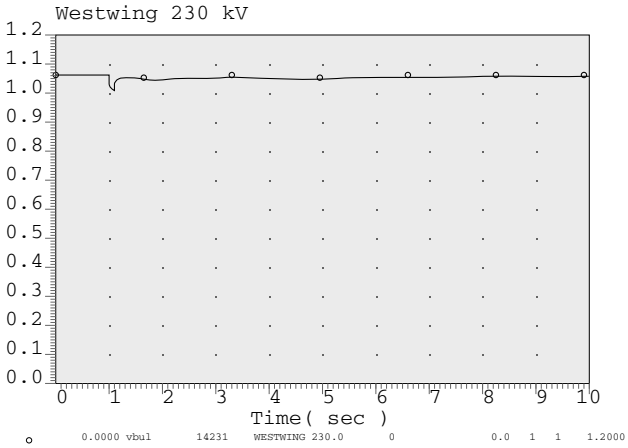


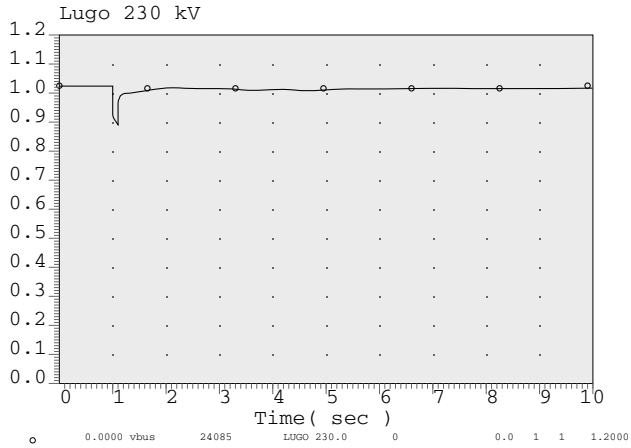


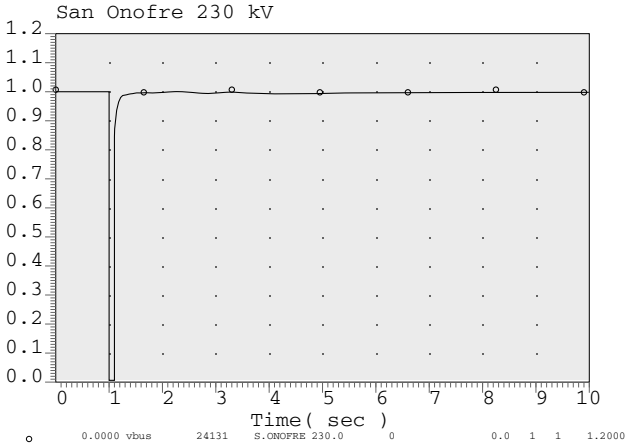


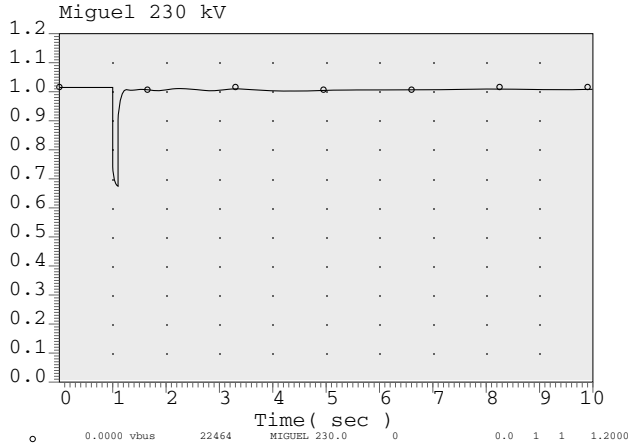
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

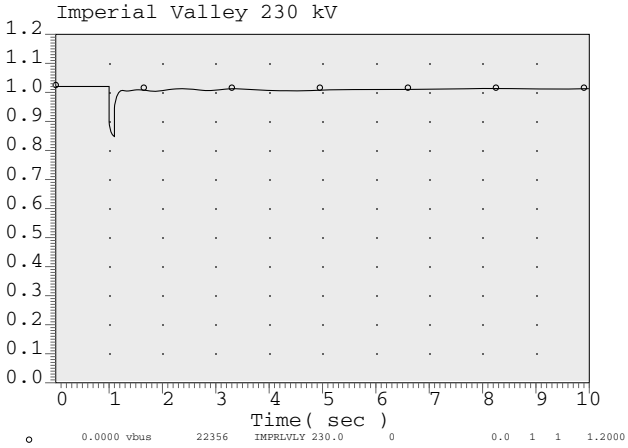
Bus Voltage

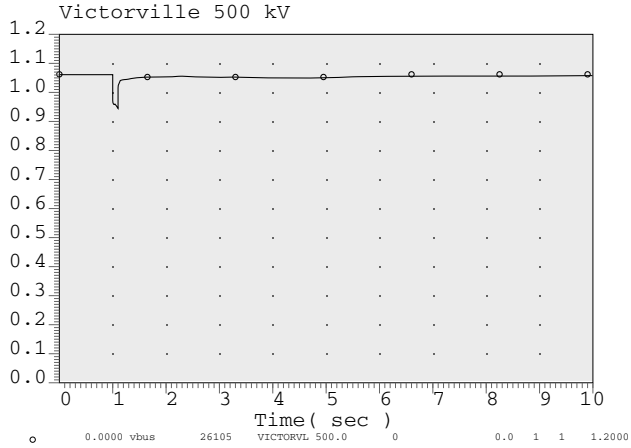






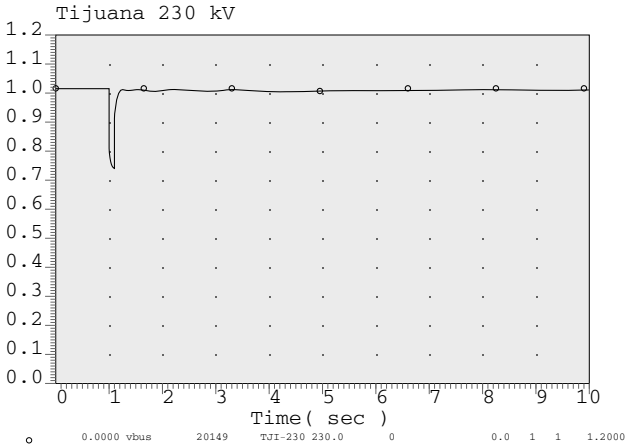


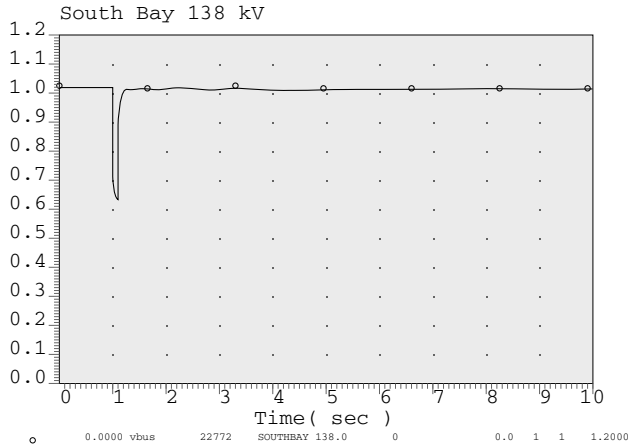


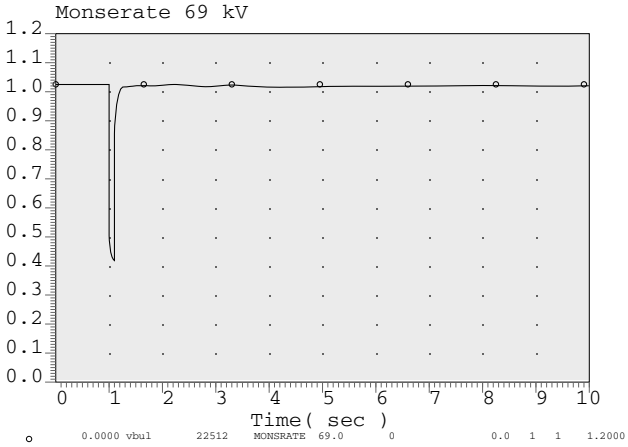


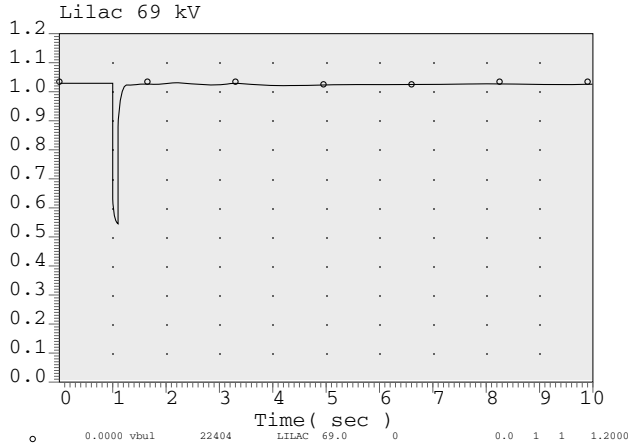
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

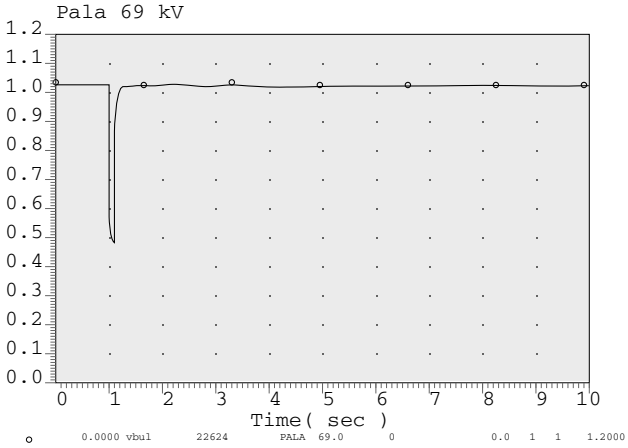
Bus Voltage

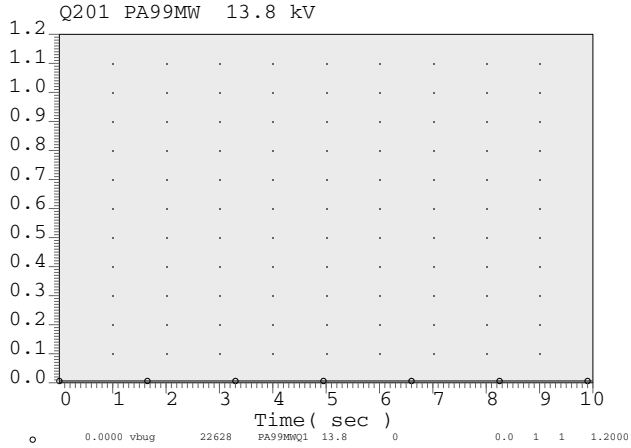






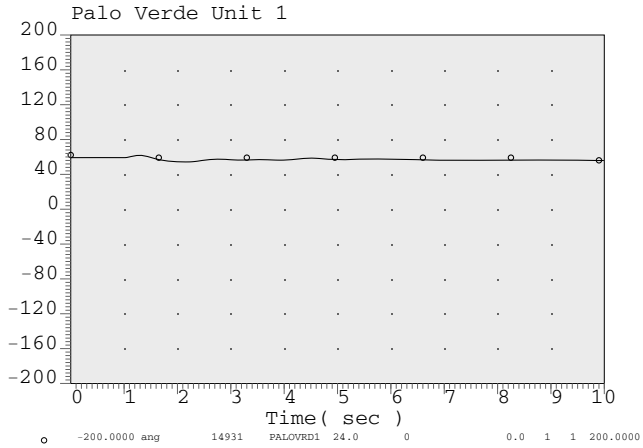


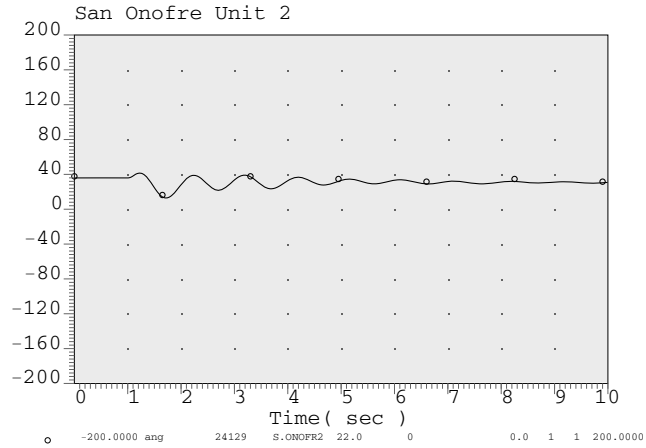


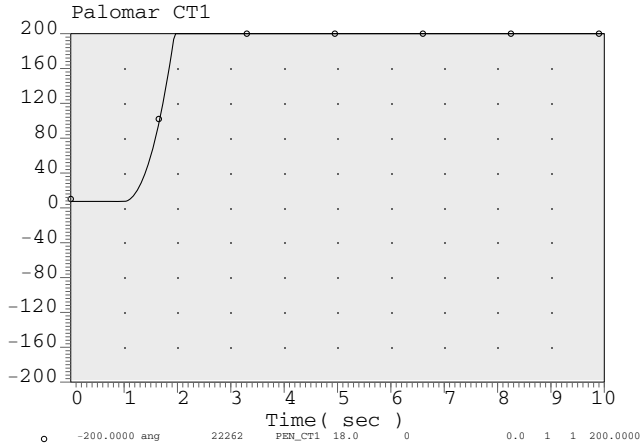


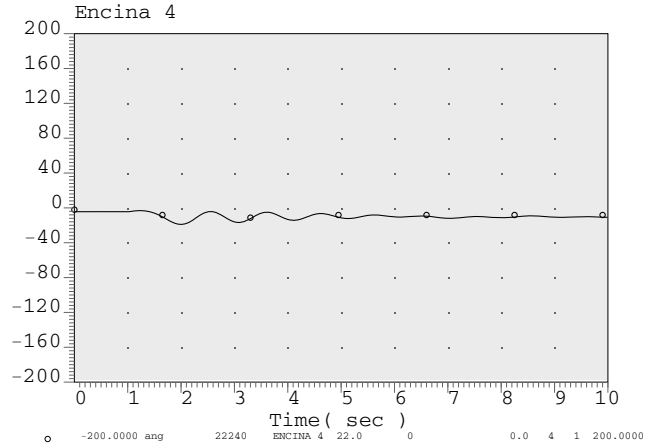
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

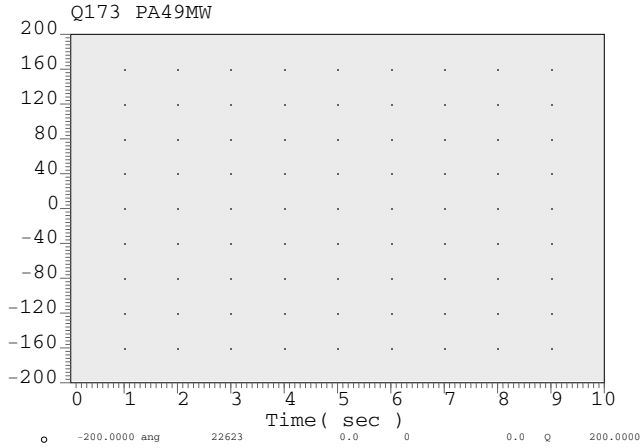
Relative Rotor Angle

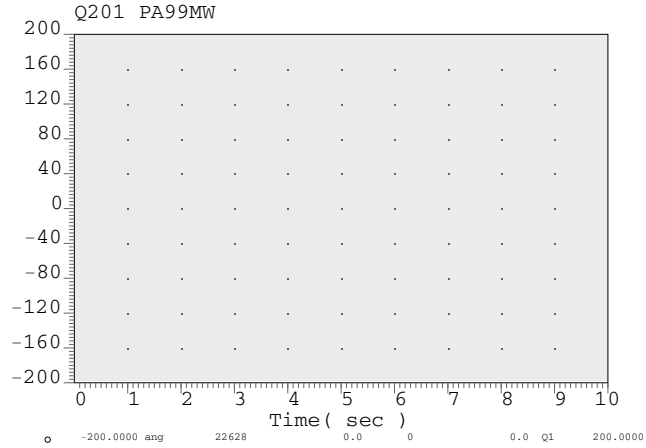






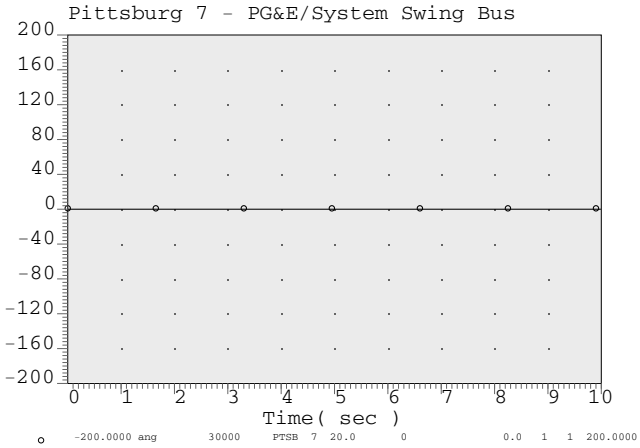


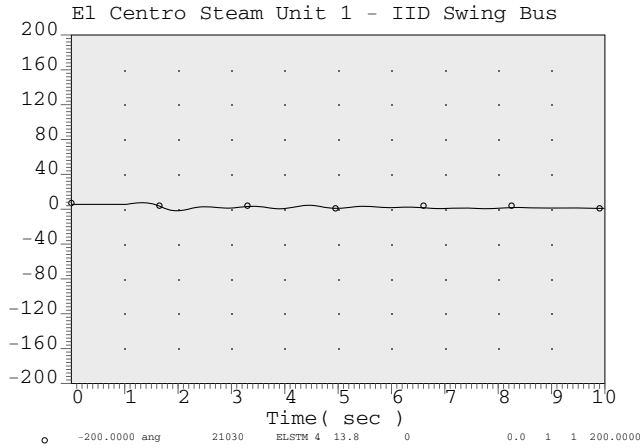


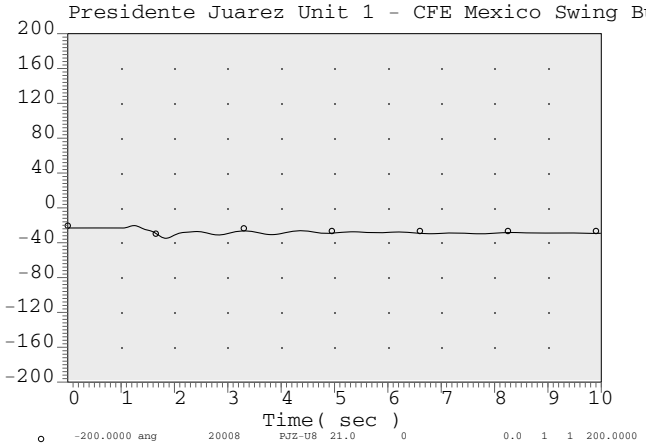


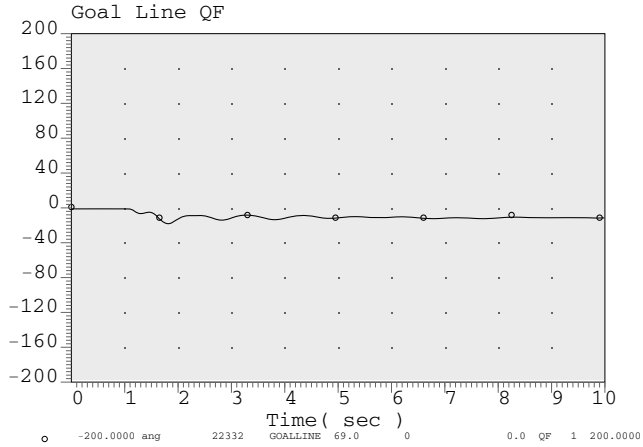
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

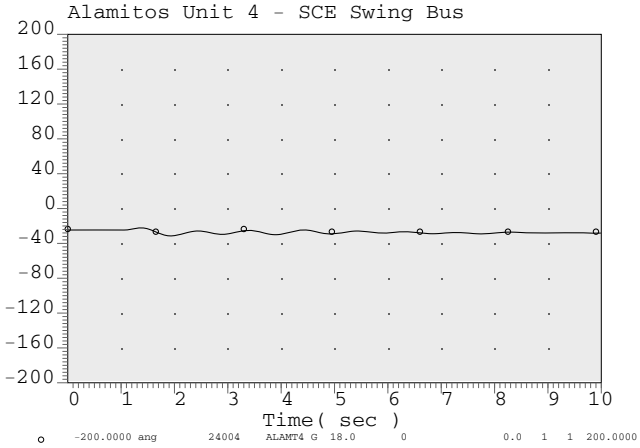
Relative Rotor Angle

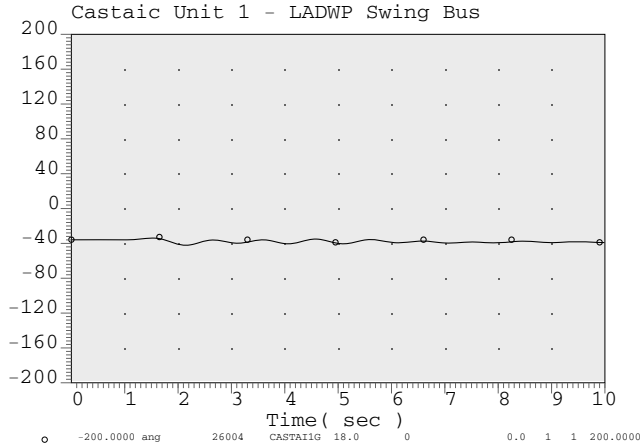






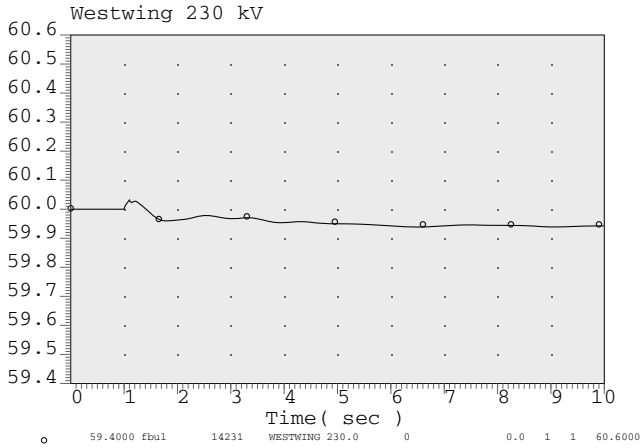


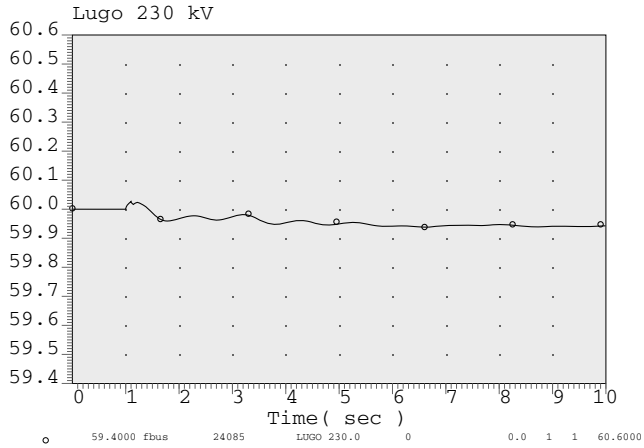


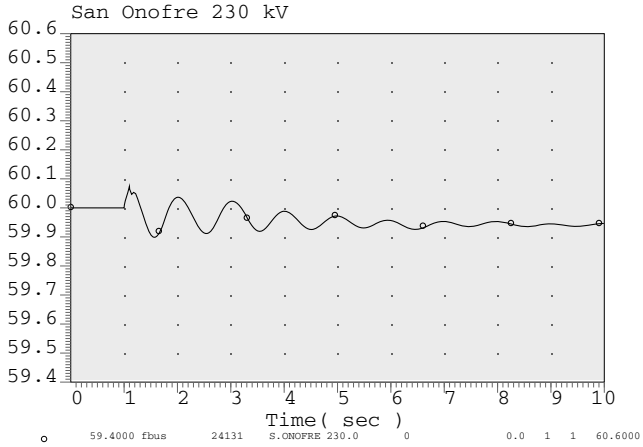


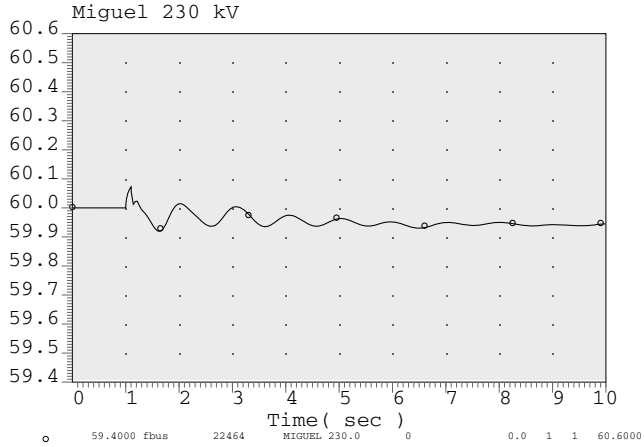
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

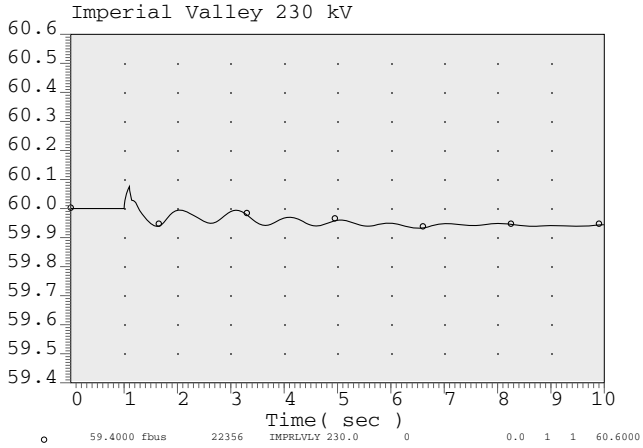
Bus Frequency

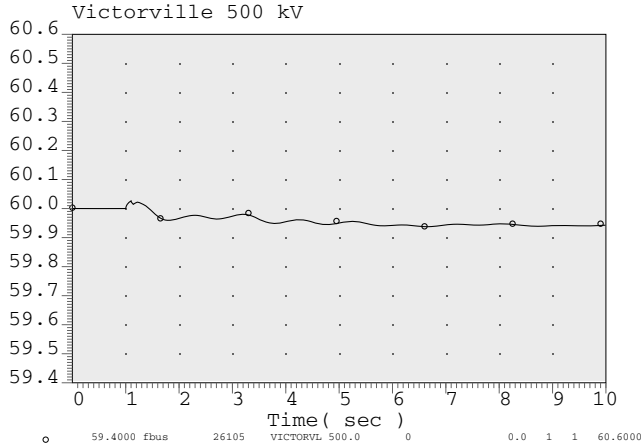






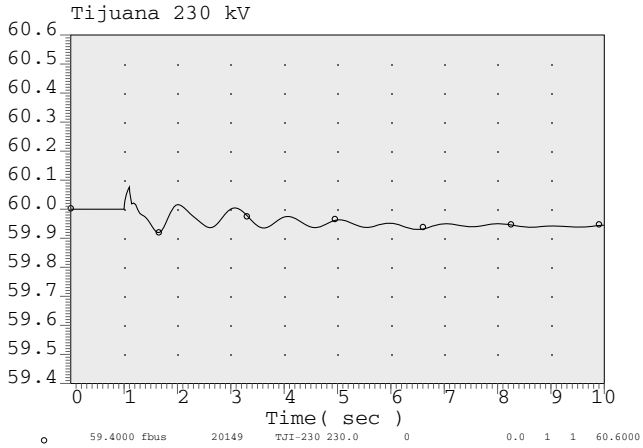


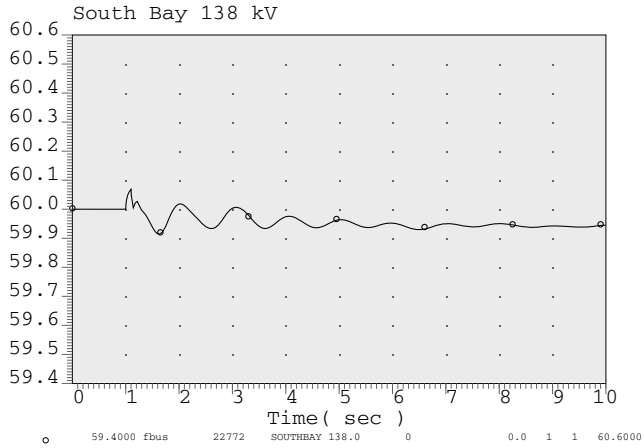


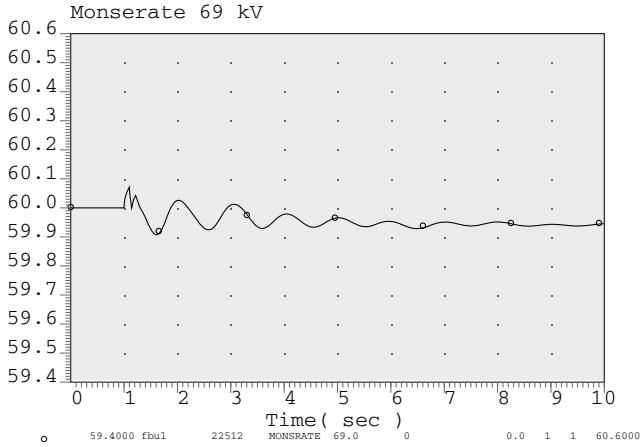


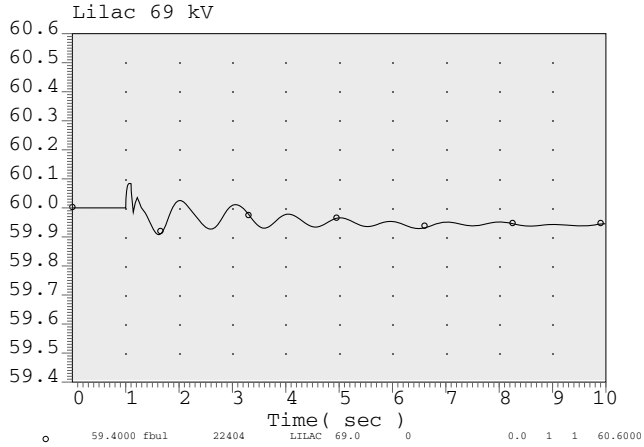
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

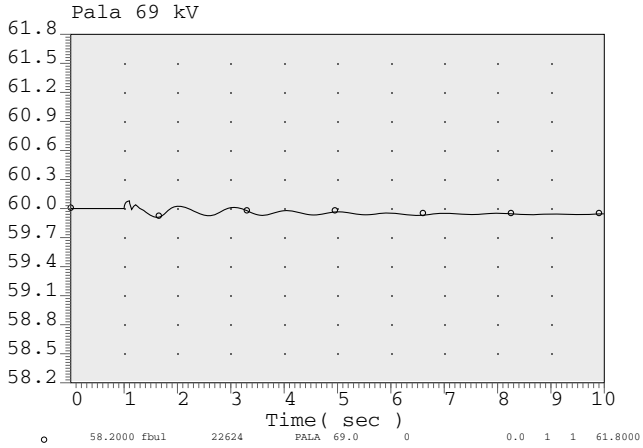
Bus Frequency

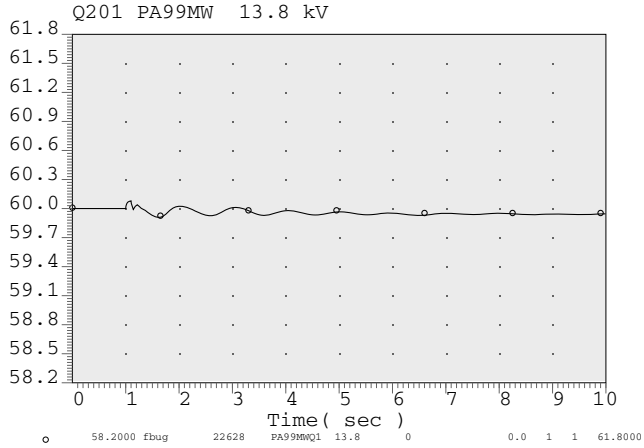






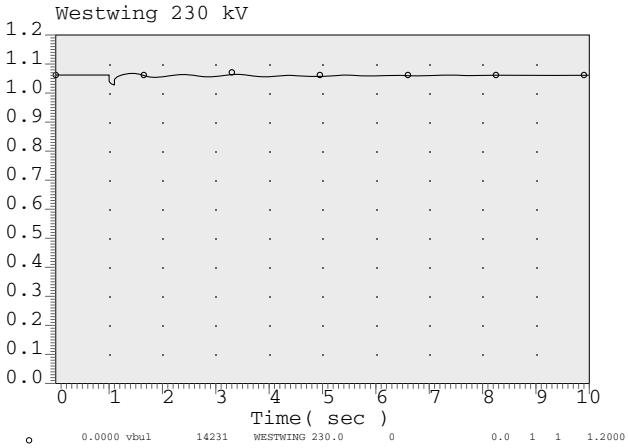


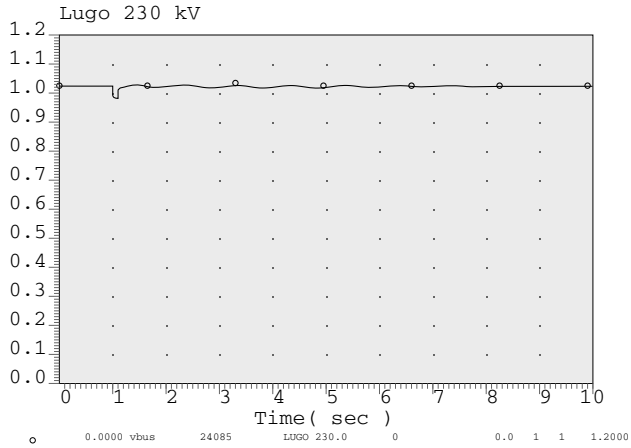


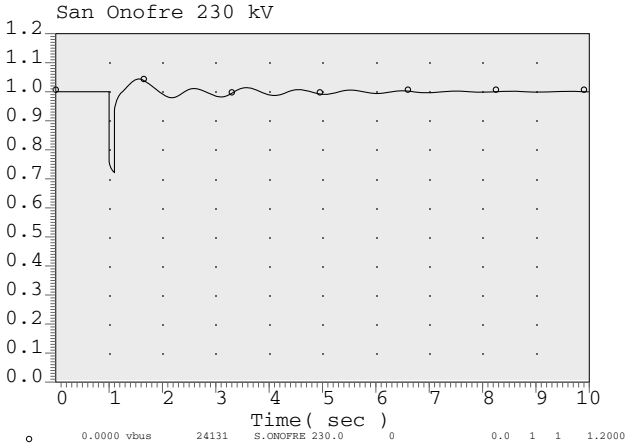


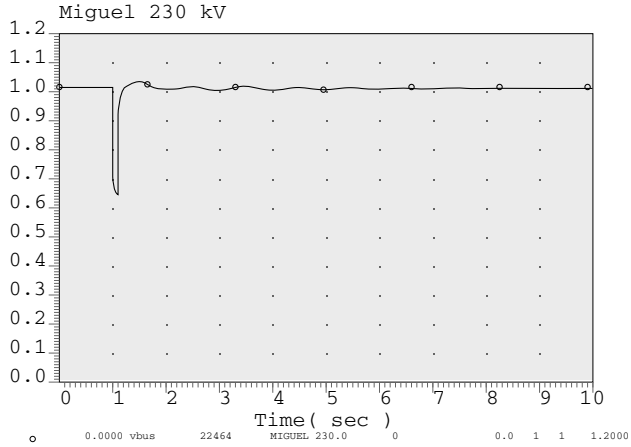
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

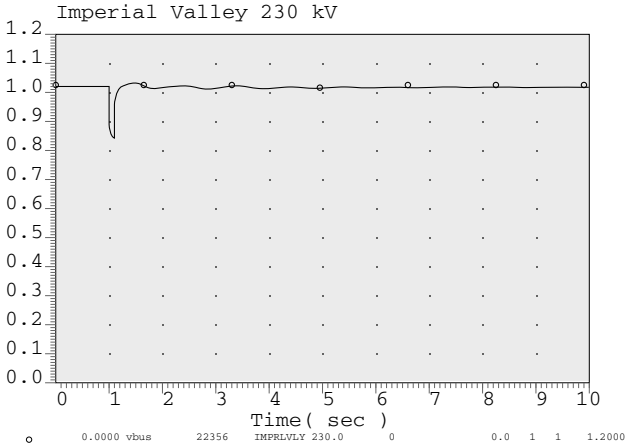
Bus Voltage

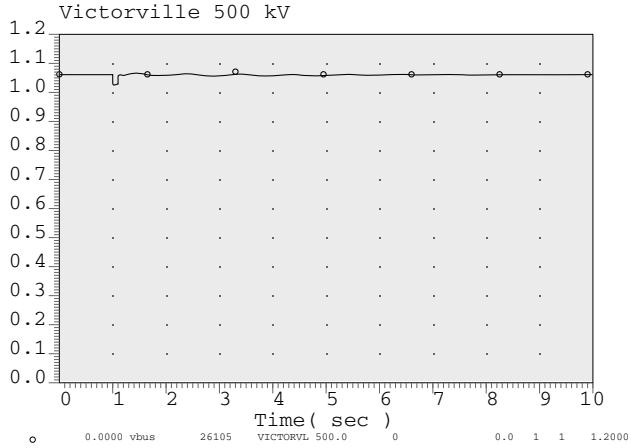






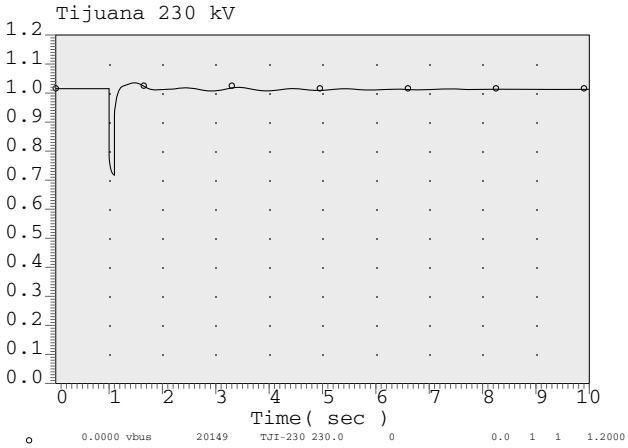


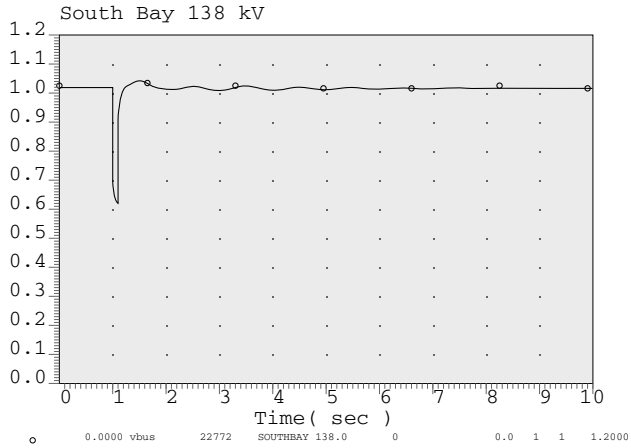


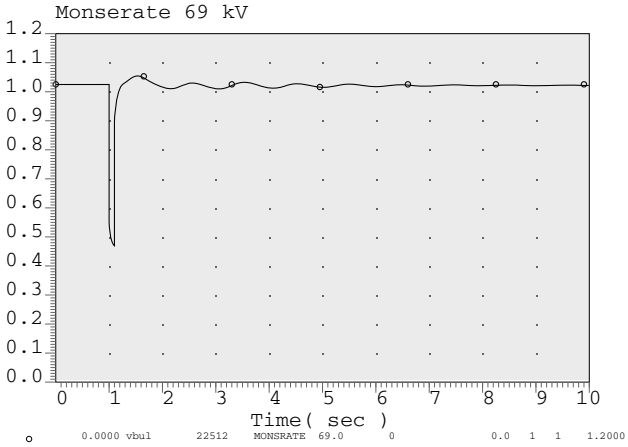


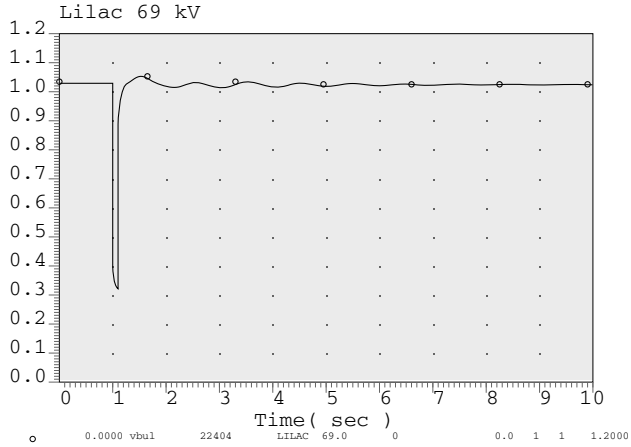
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

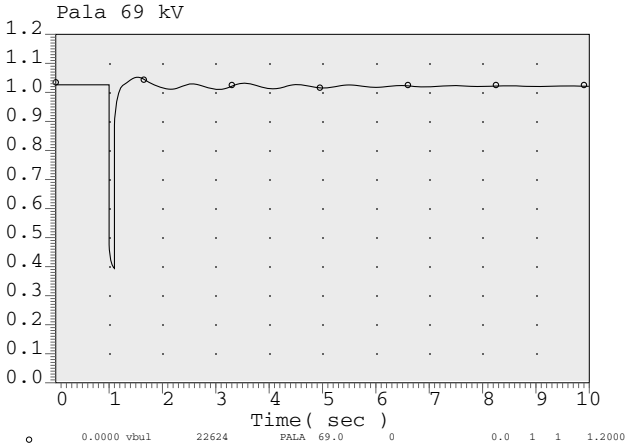
Bus Voltage

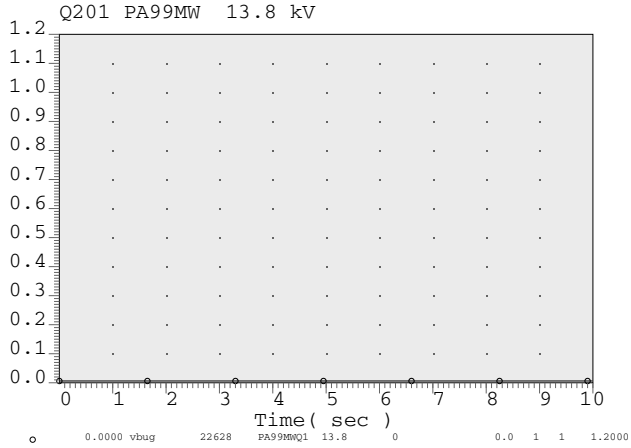






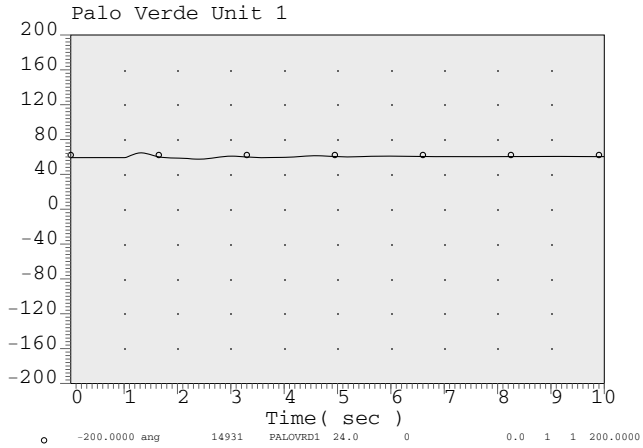


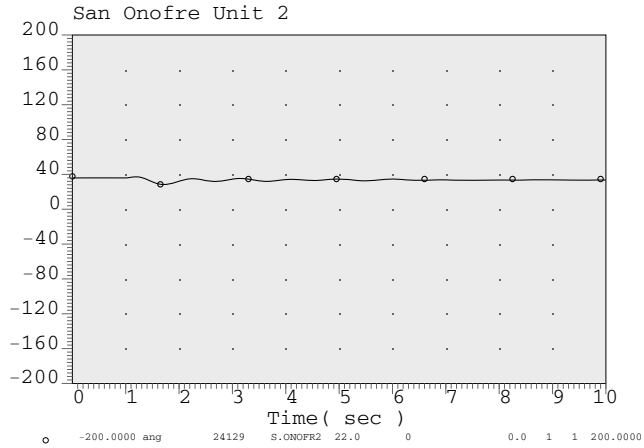


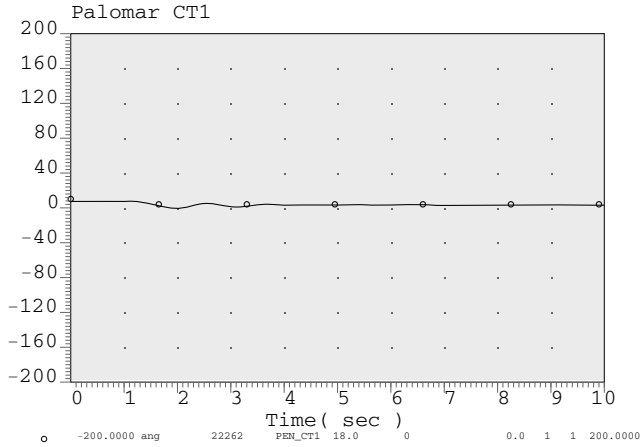


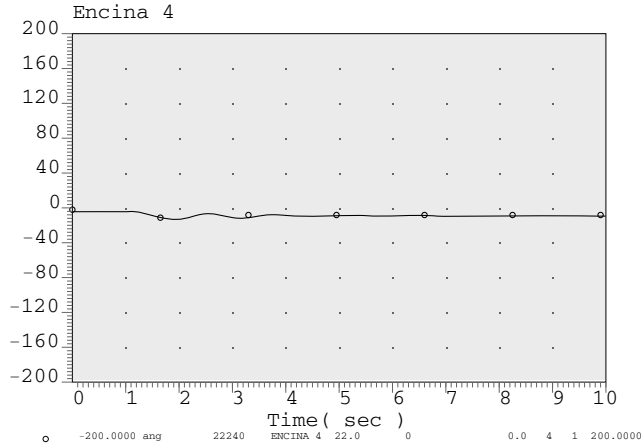
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

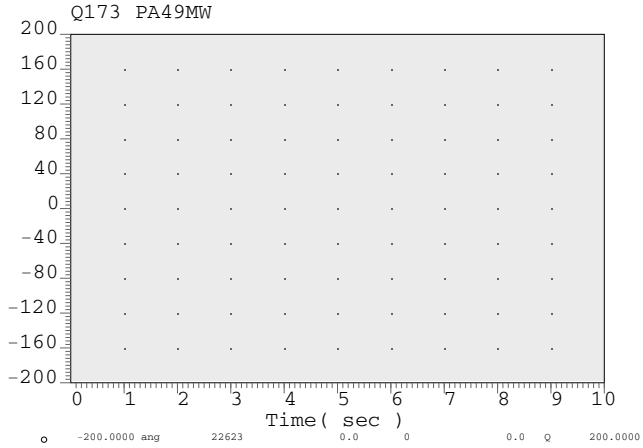
Relative Rotor Angle

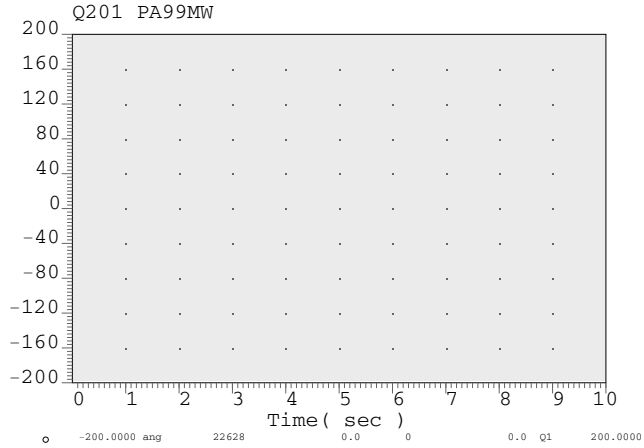






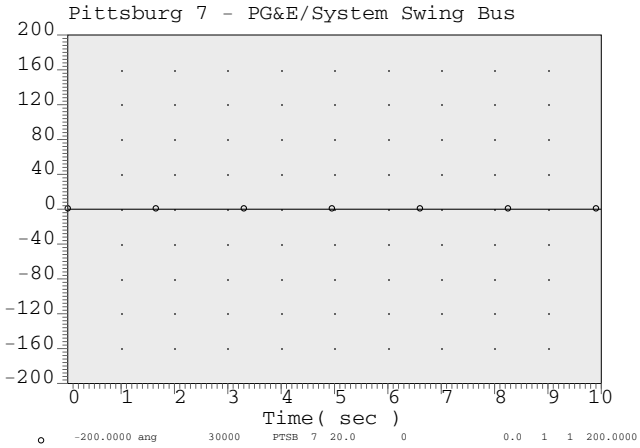


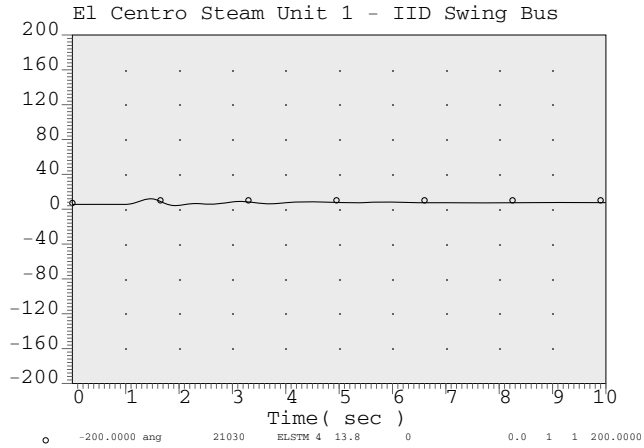


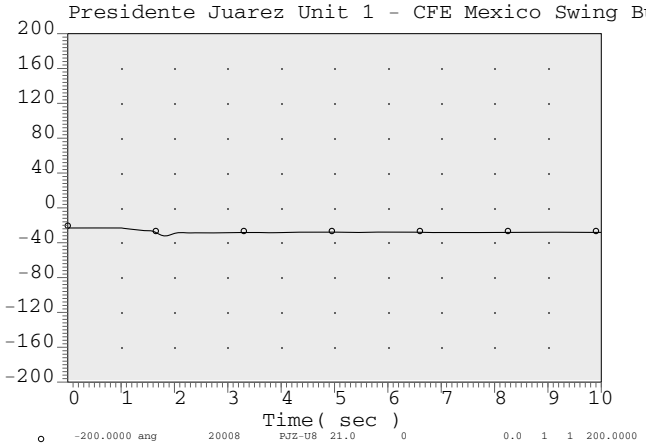


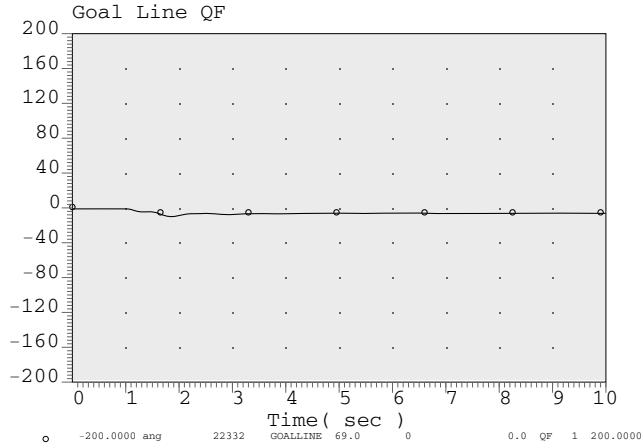
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

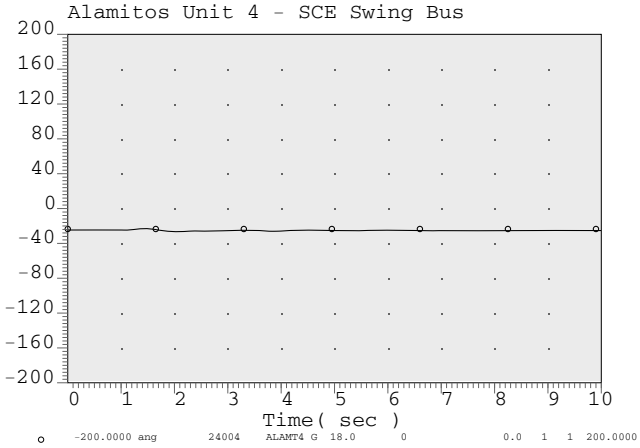
Relative Rotor Angle

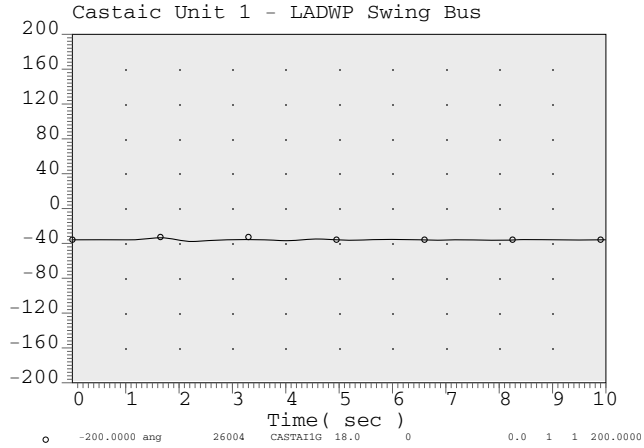






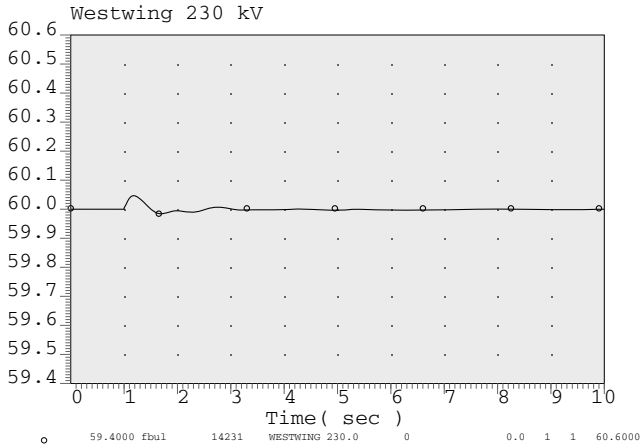


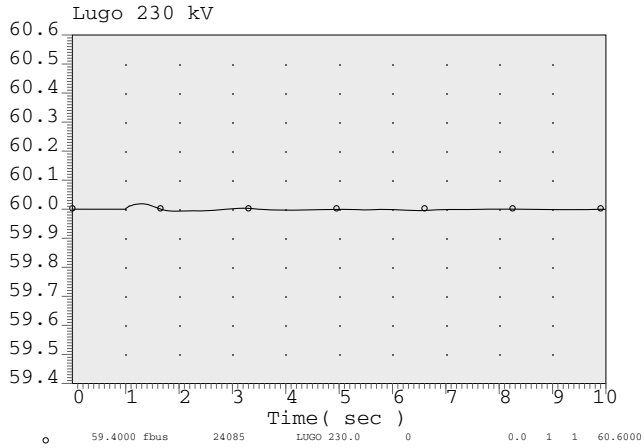


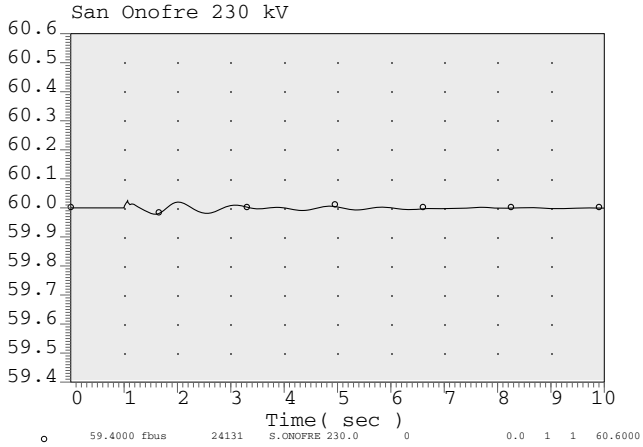


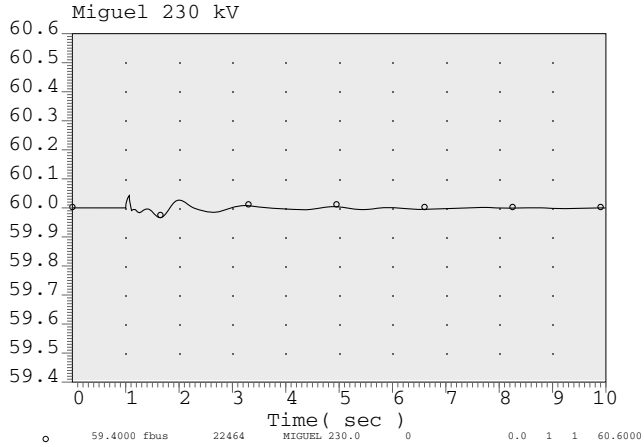
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

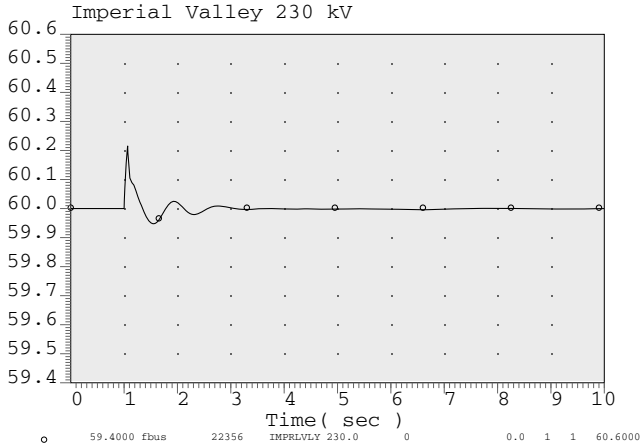
Bus Frequency

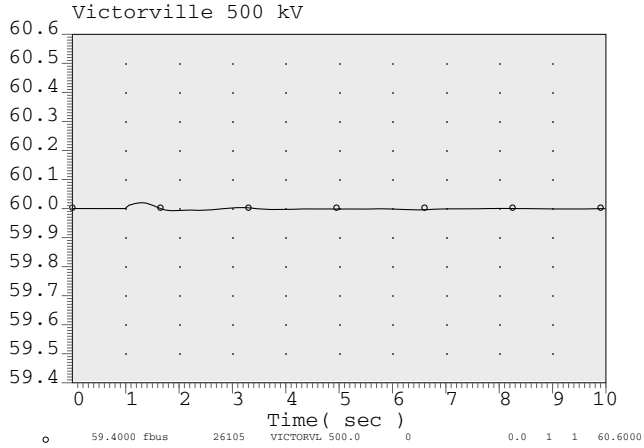






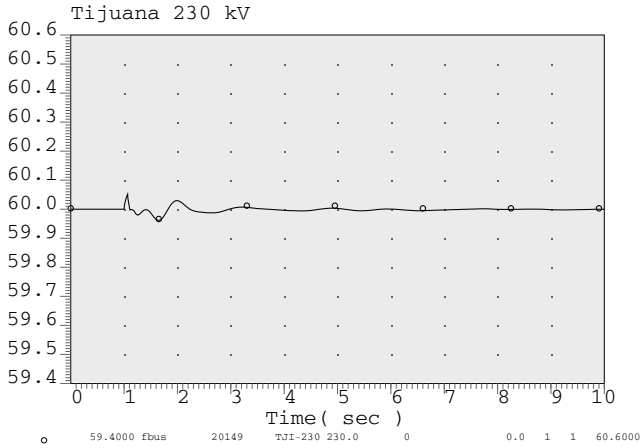


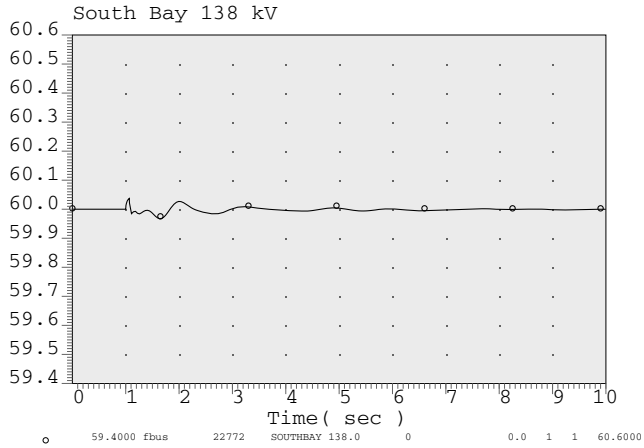


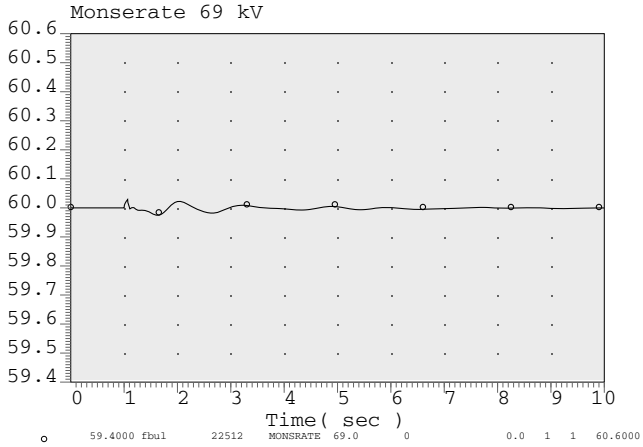


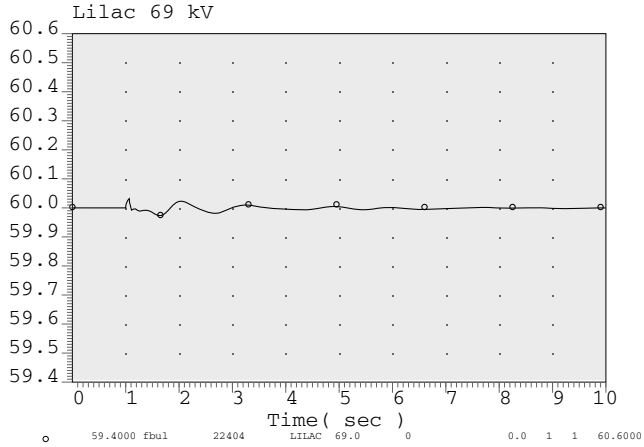
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

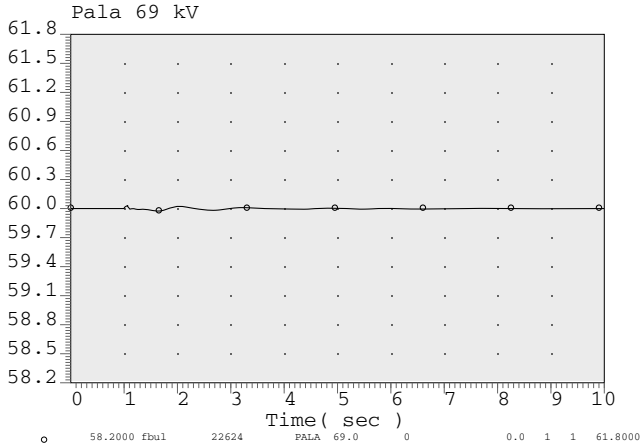
Bus Frequency

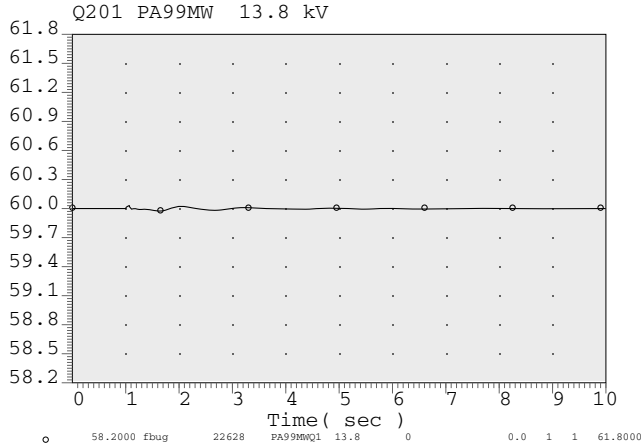






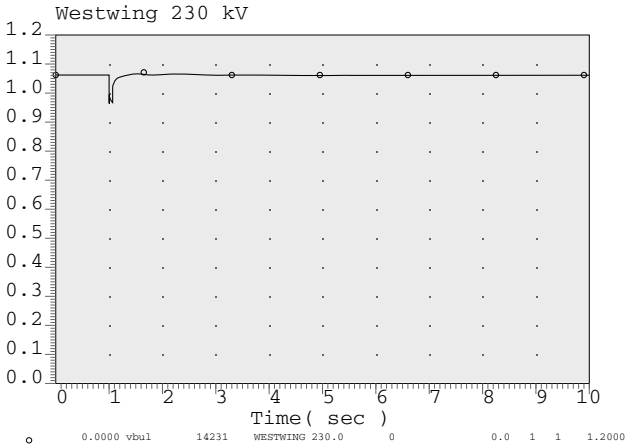


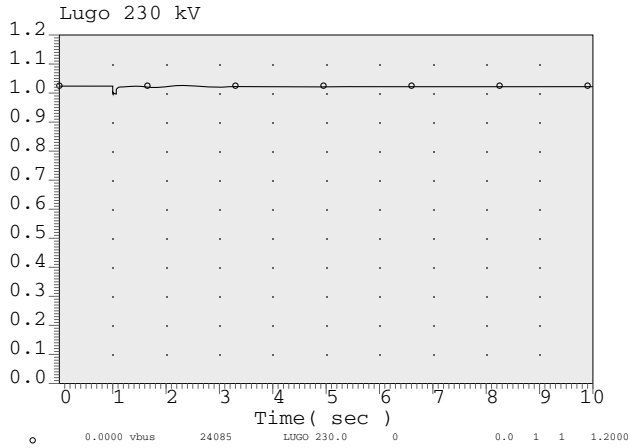


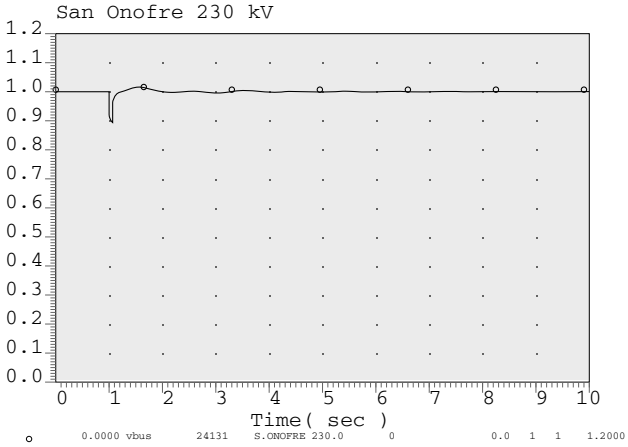


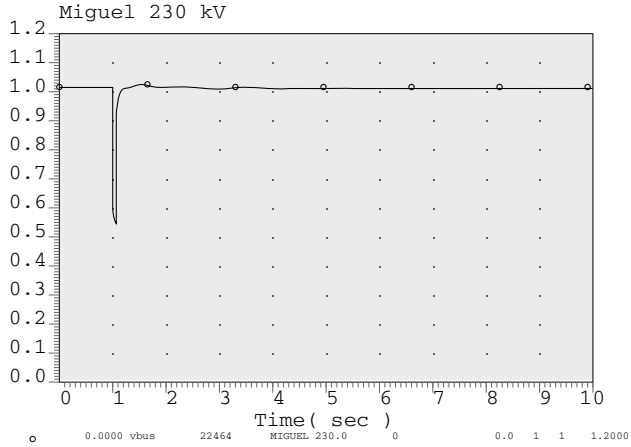
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

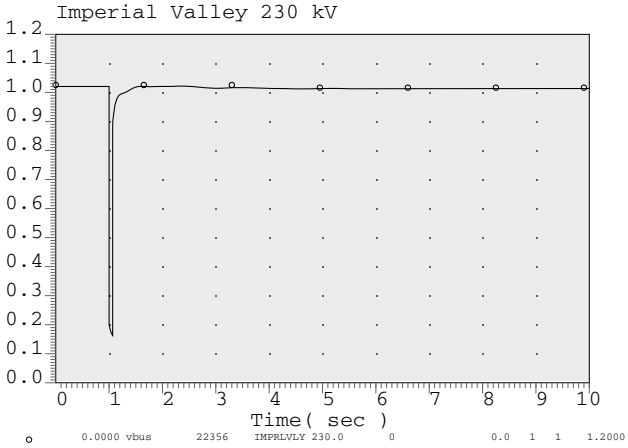
Bus Voltage

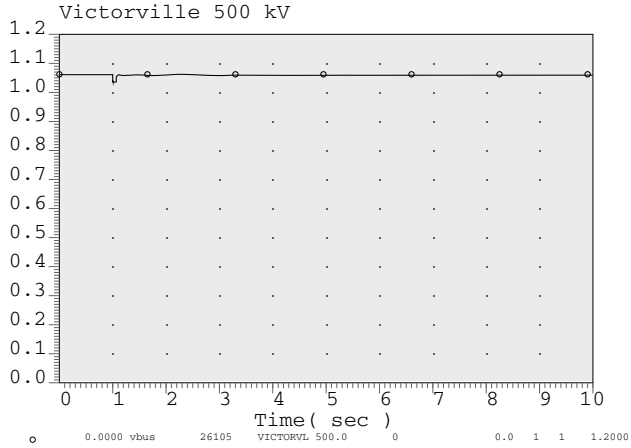






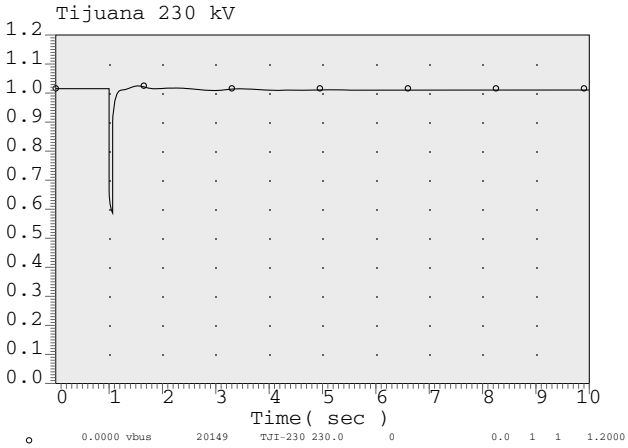


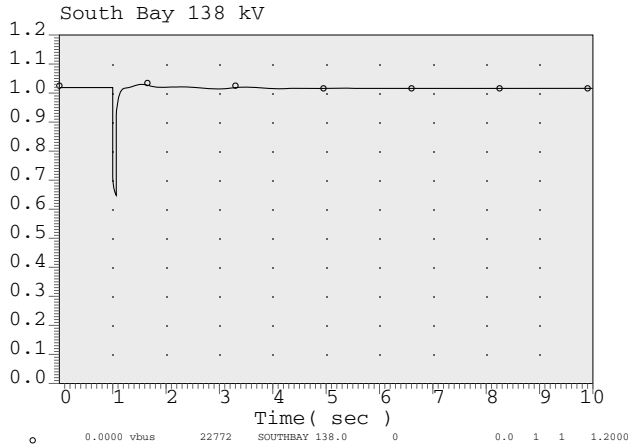


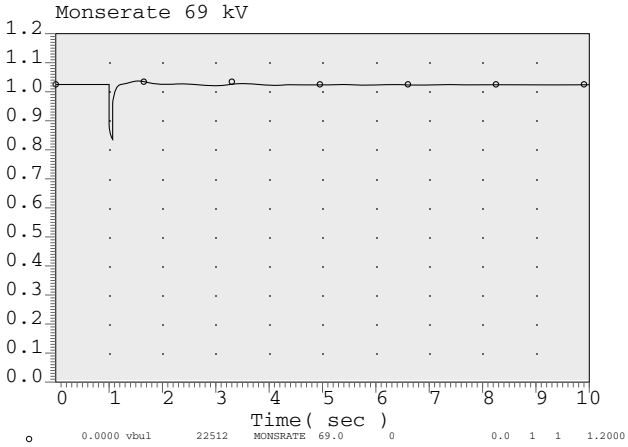


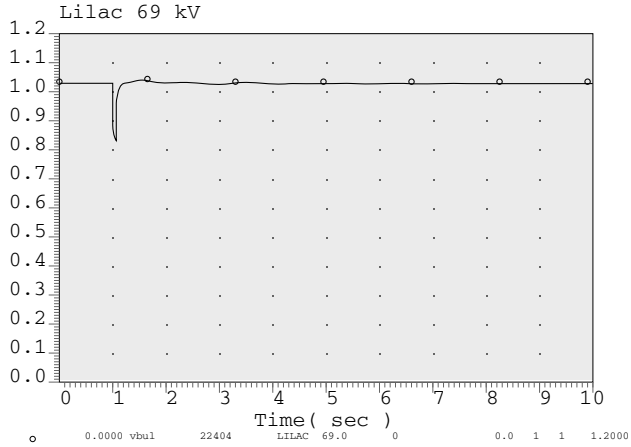
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

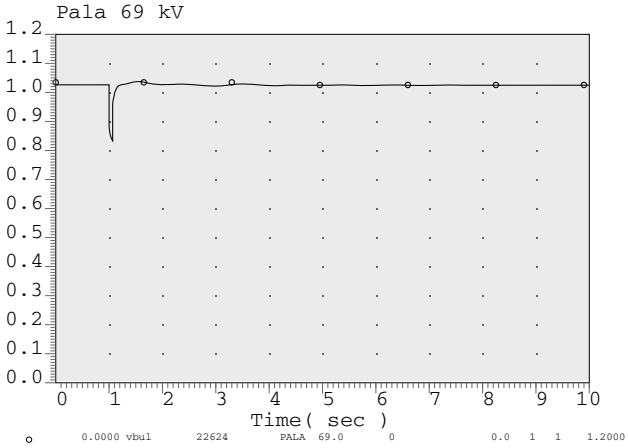
Bus Voltage

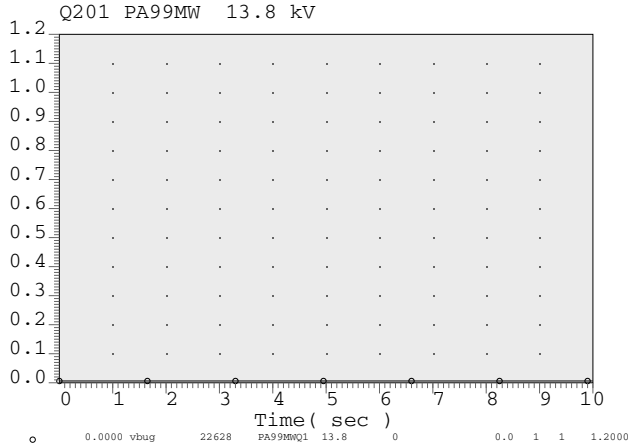






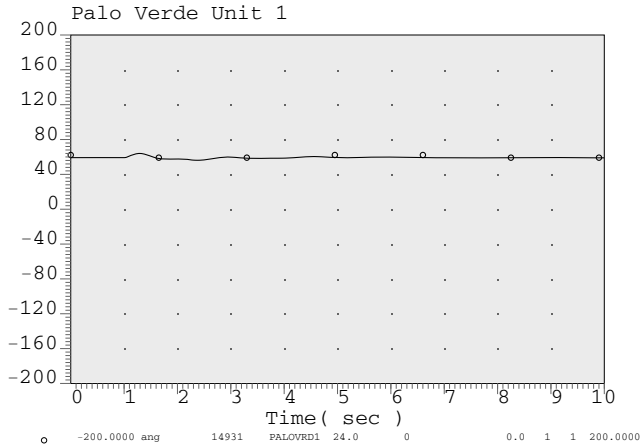


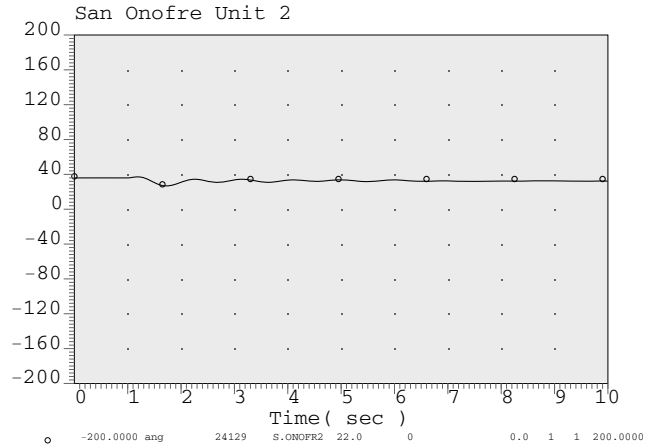


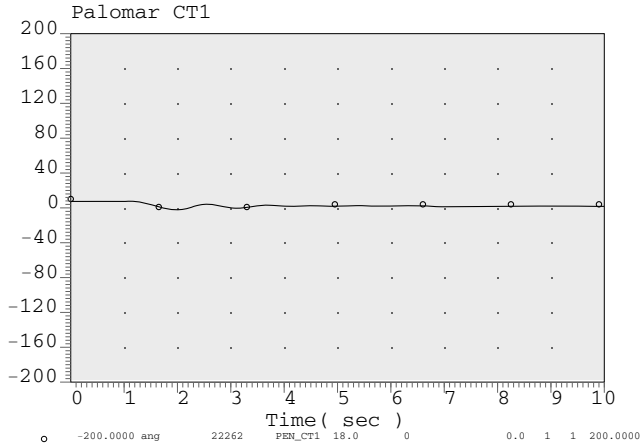


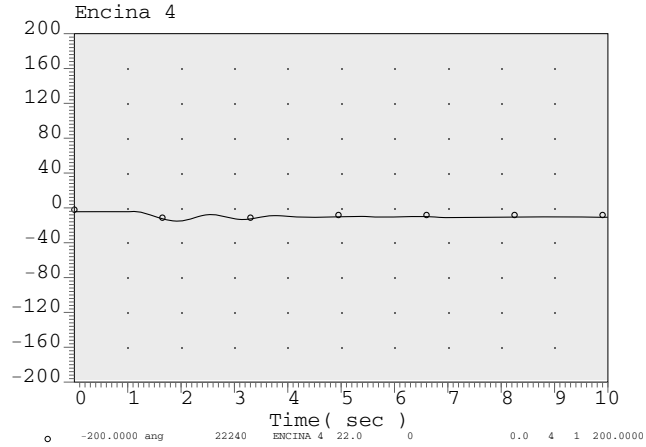
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

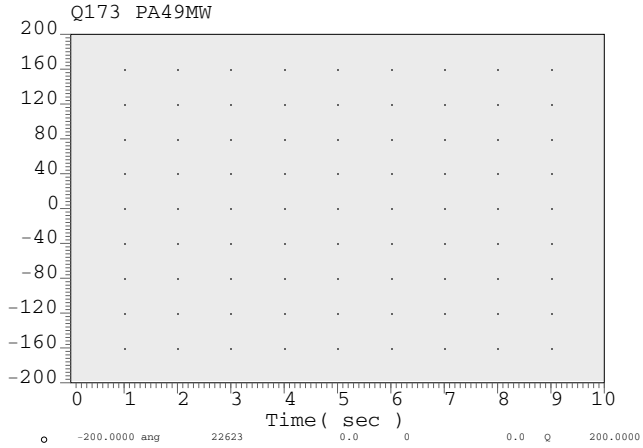
Relative Rotor Angle

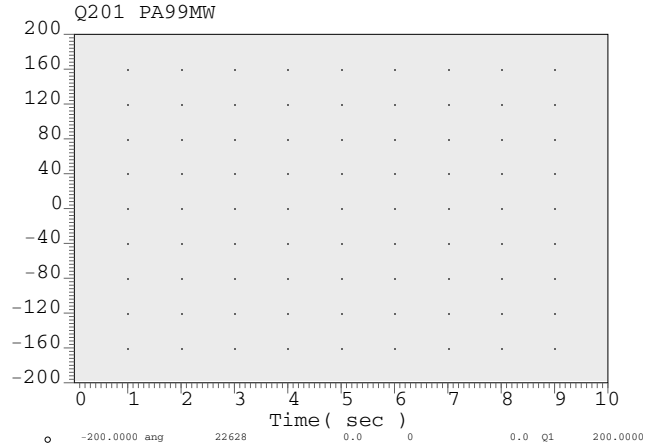






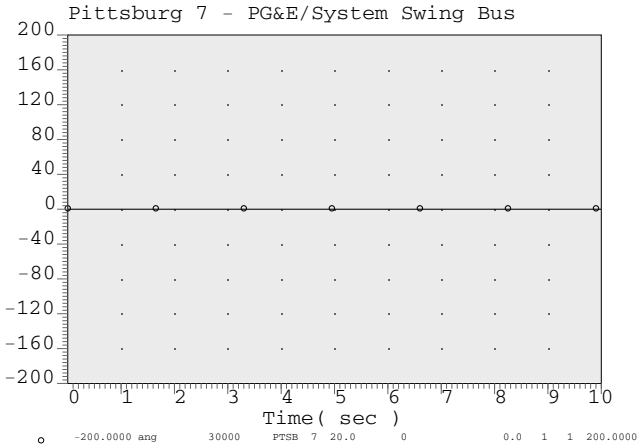


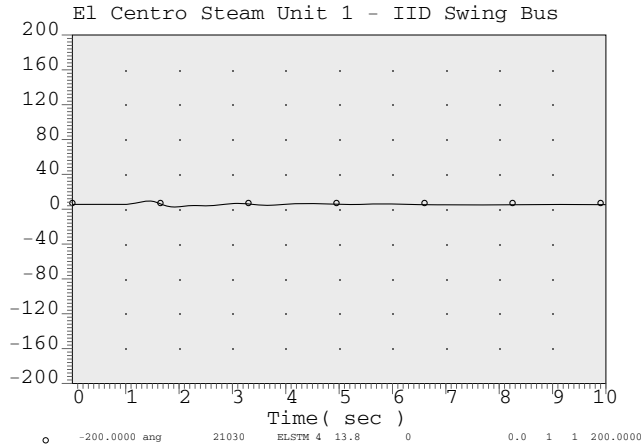


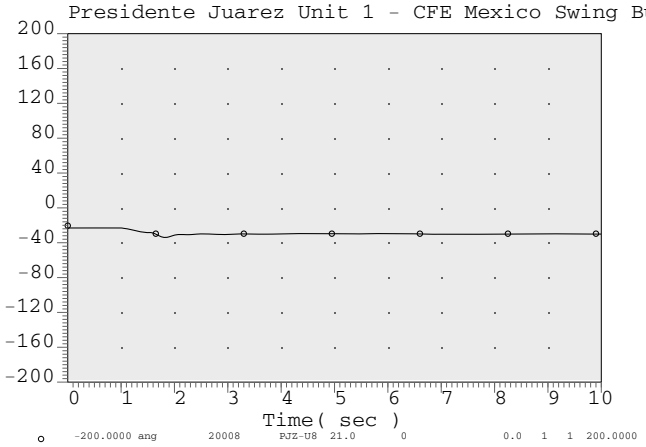


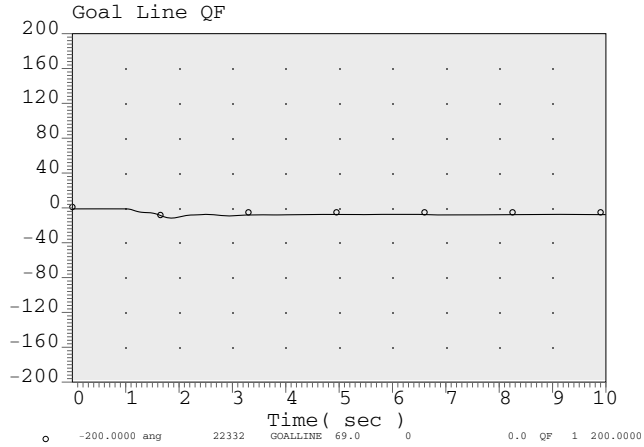
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

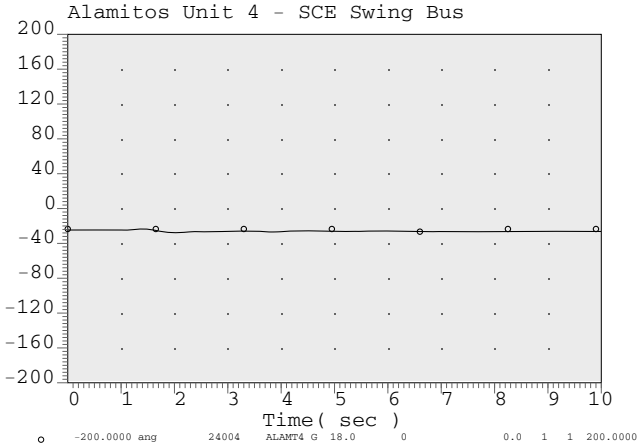
Relative Rotor Angle

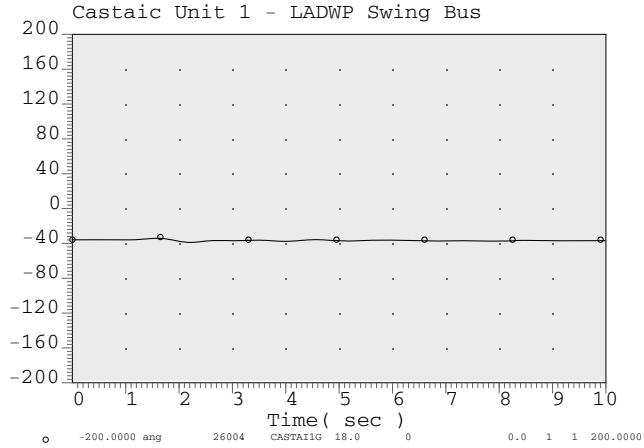






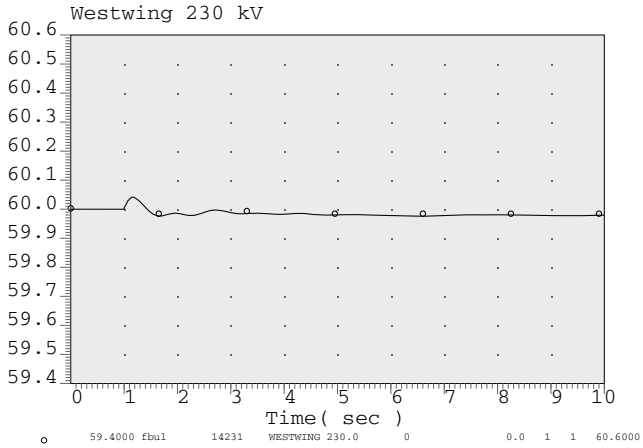


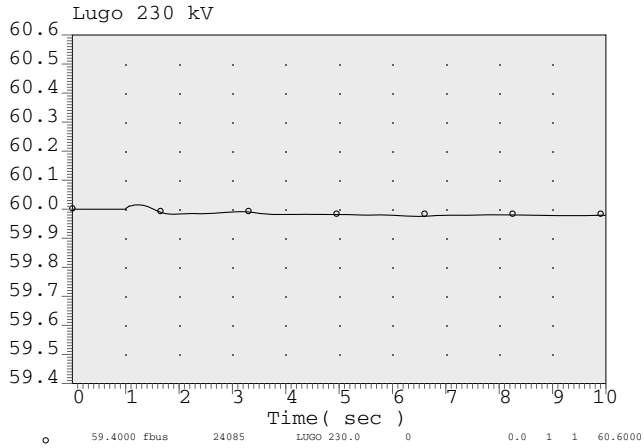


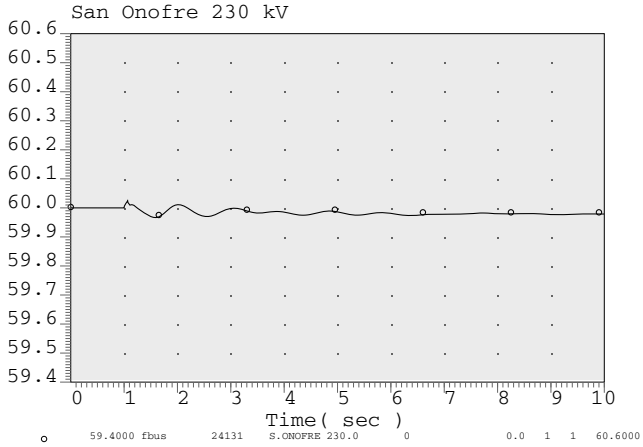


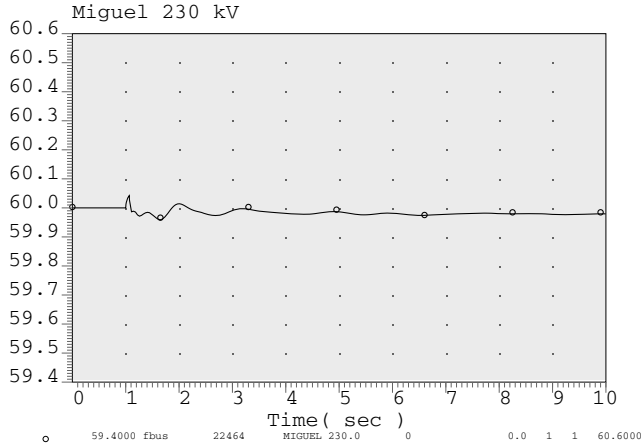
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

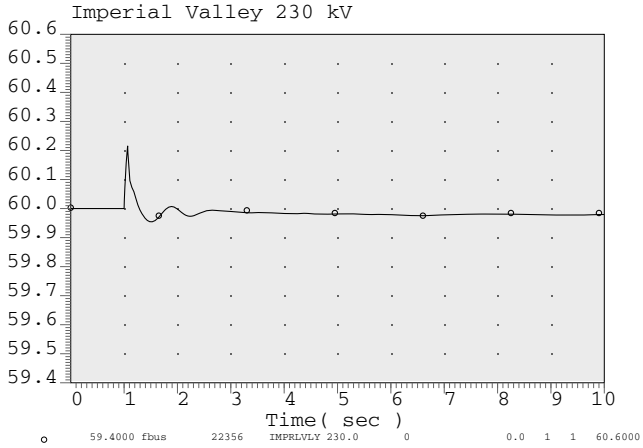
Bus Frequency

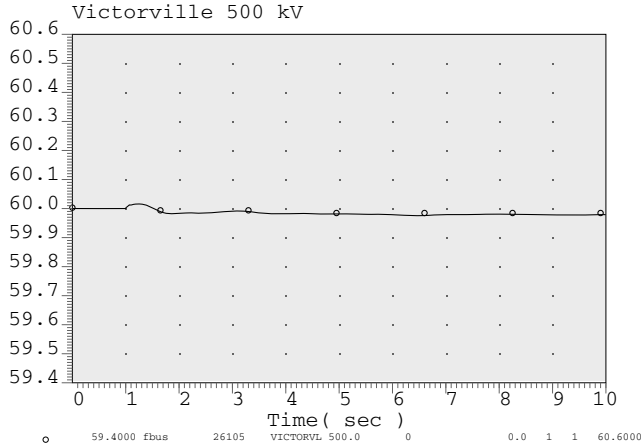






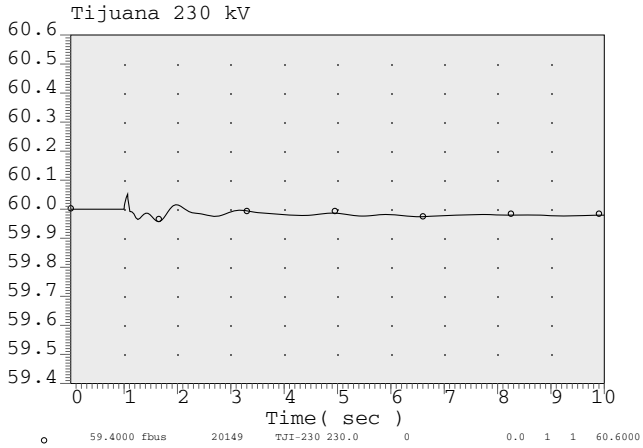


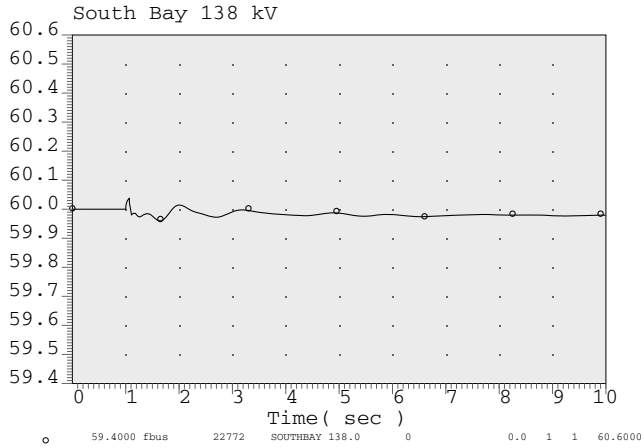


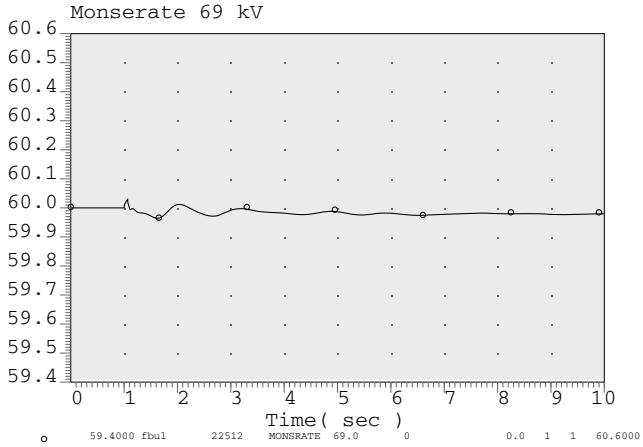


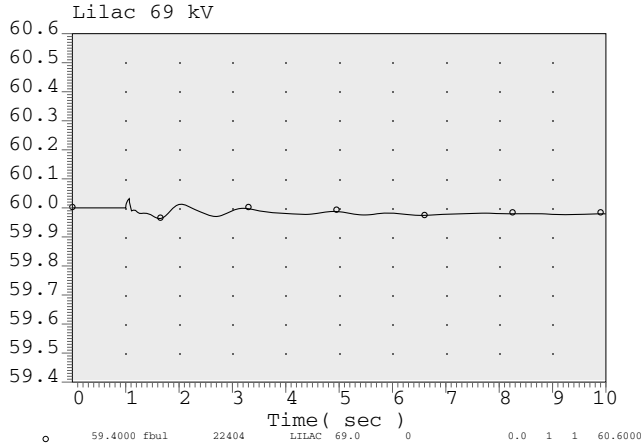
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

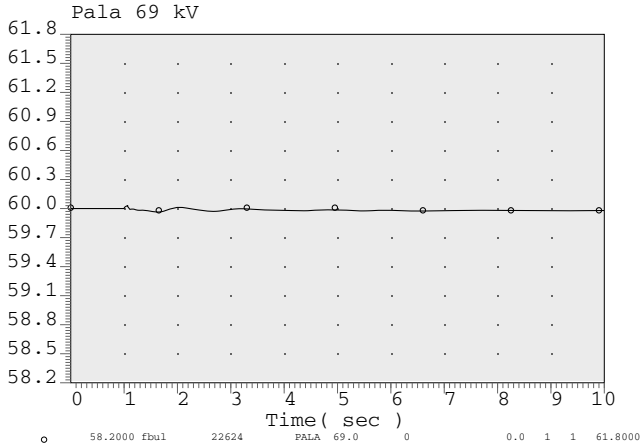
Bus Frequency

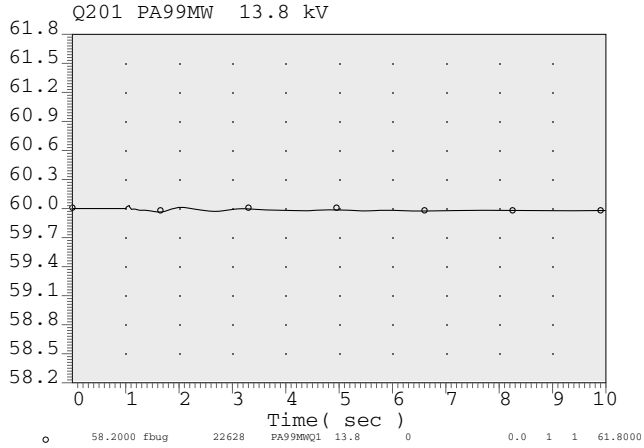






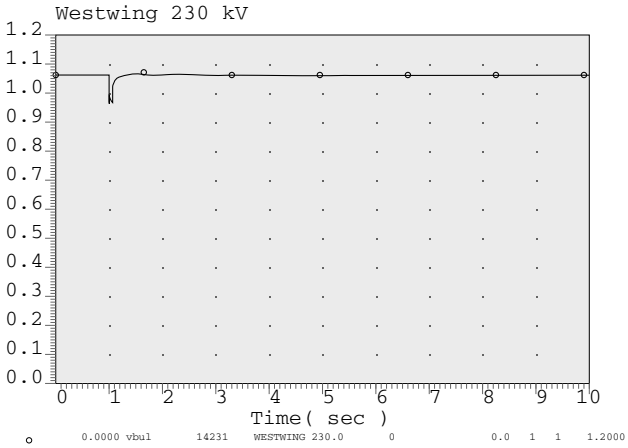


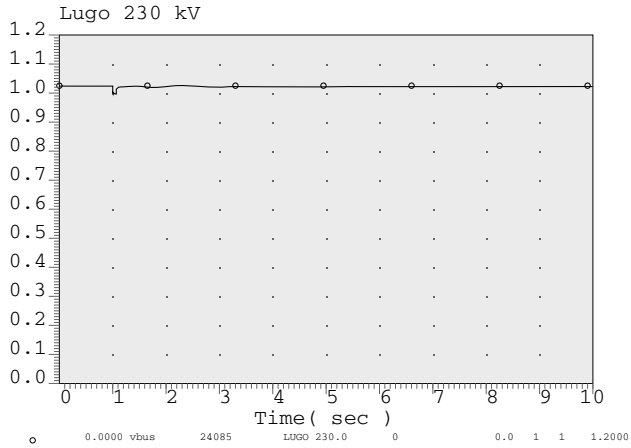


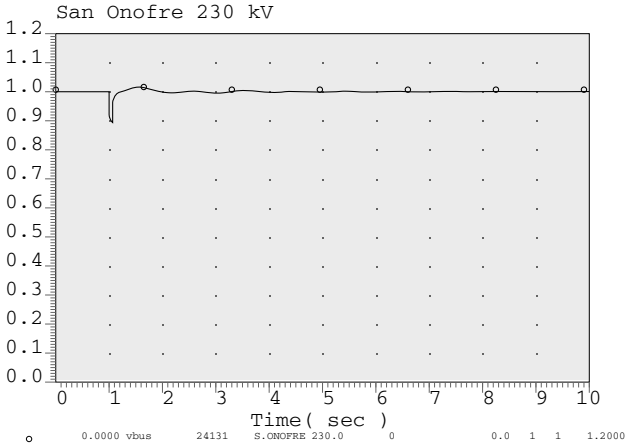


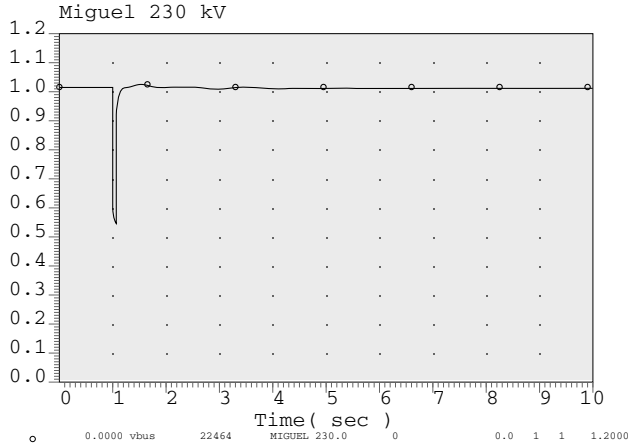
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

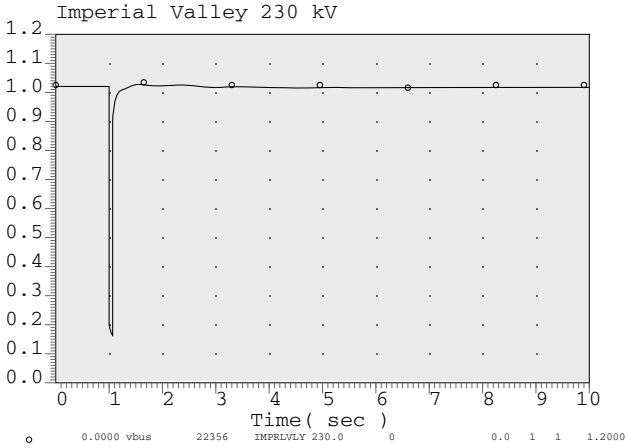
Bus Voltage

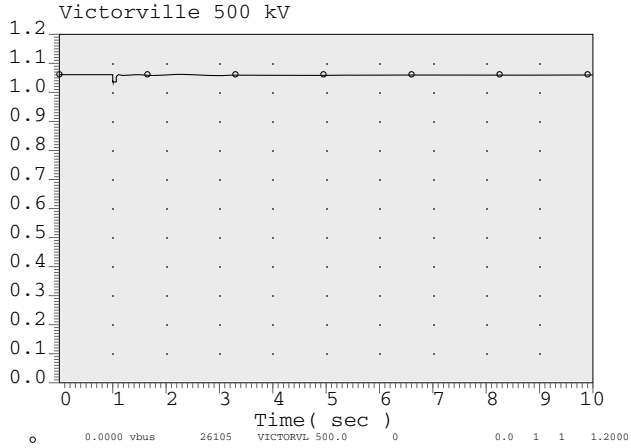






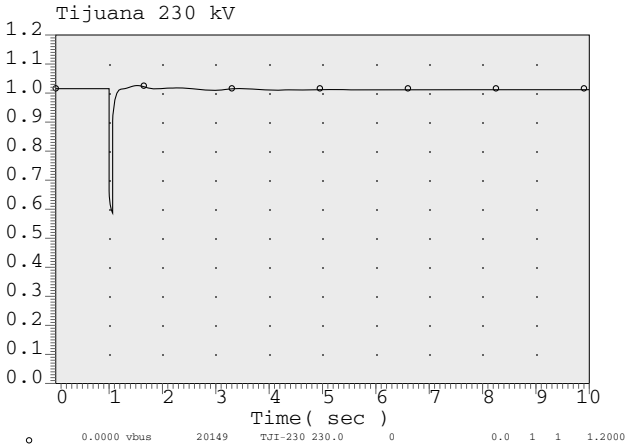


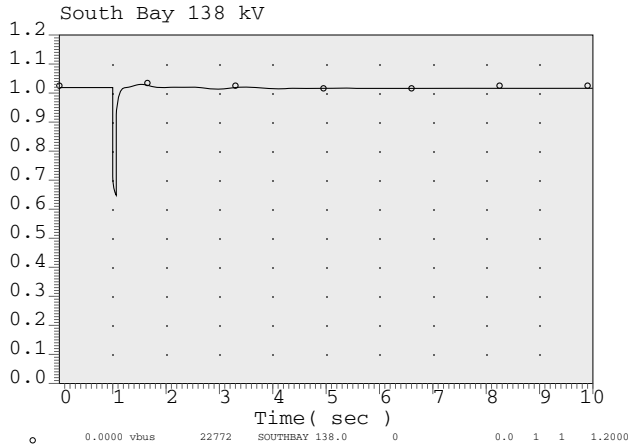


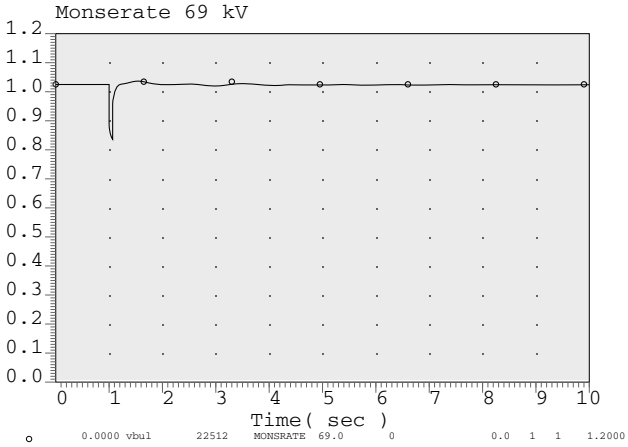


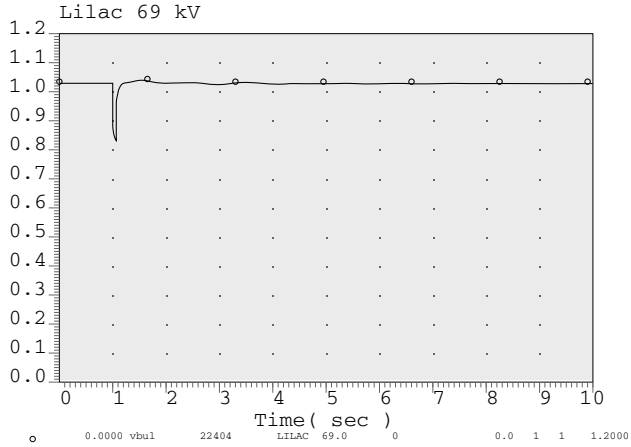
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

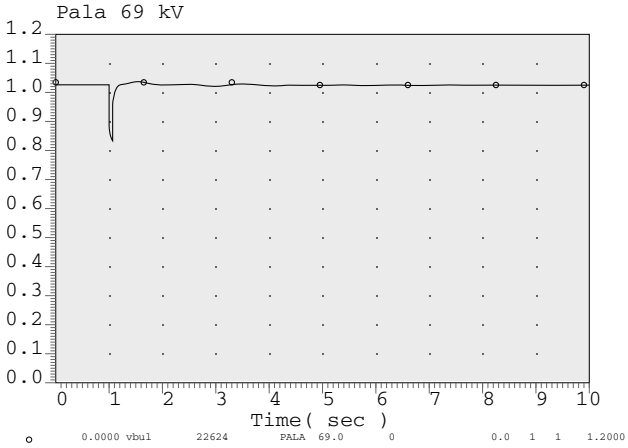
Bus Voltage

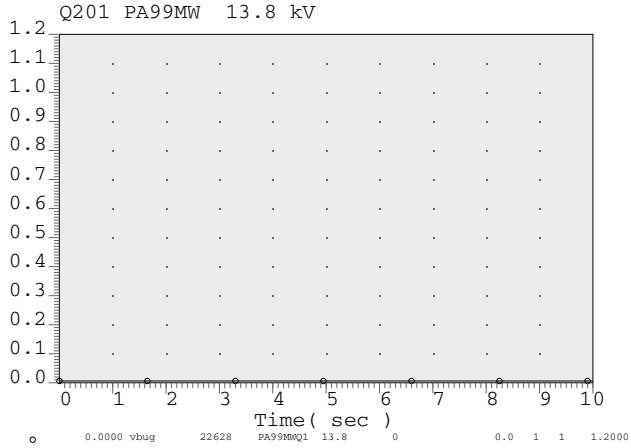






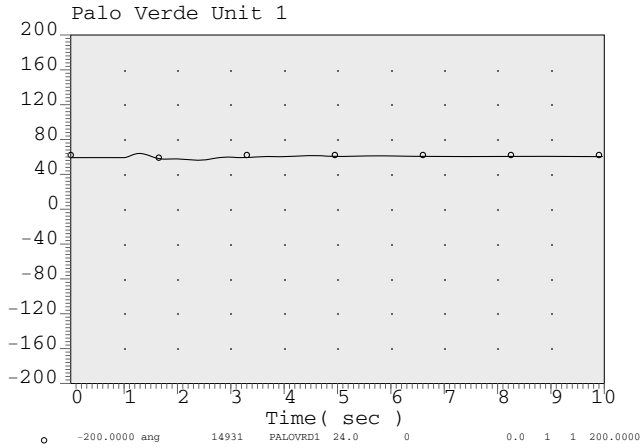


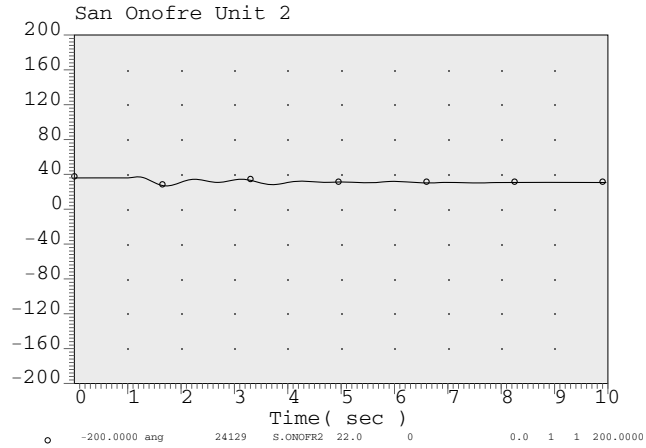


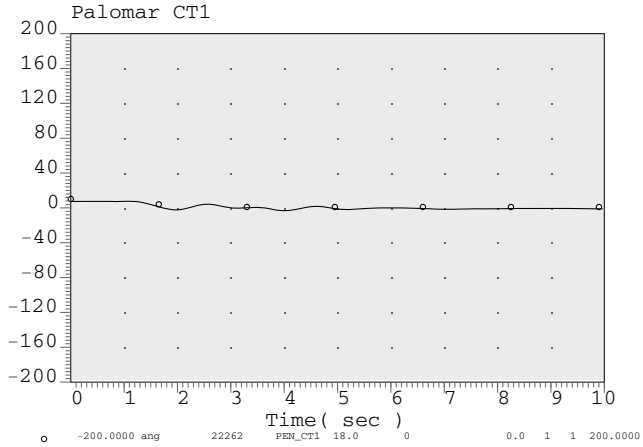


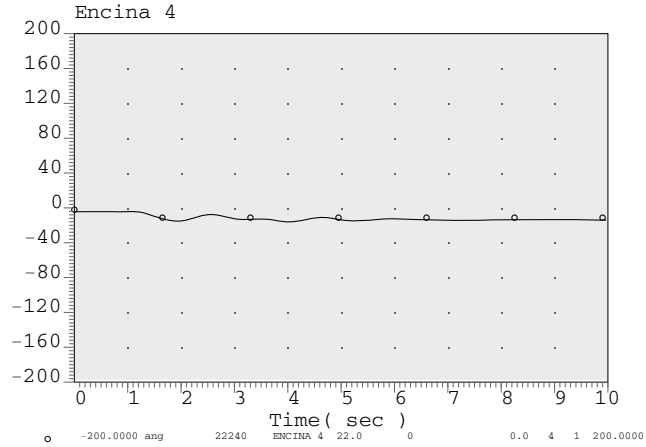
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

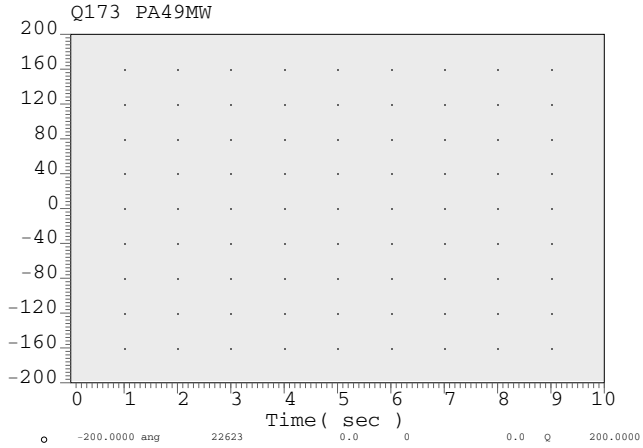
Relative Rotor Angle

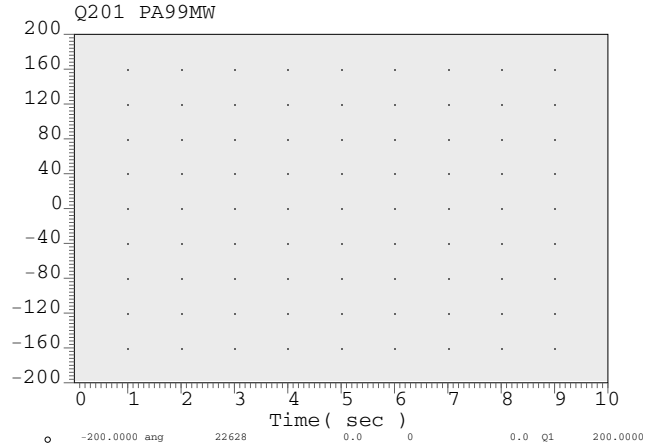






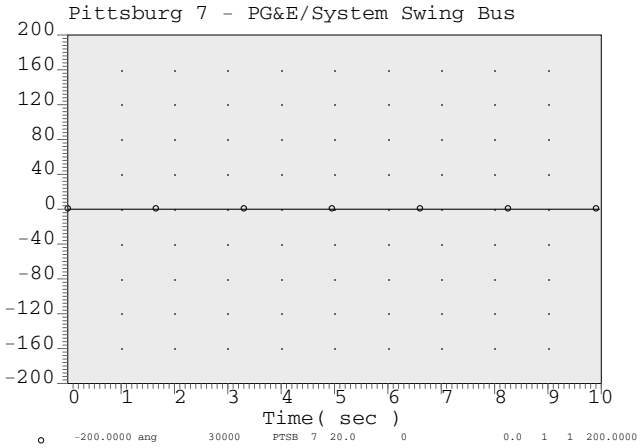


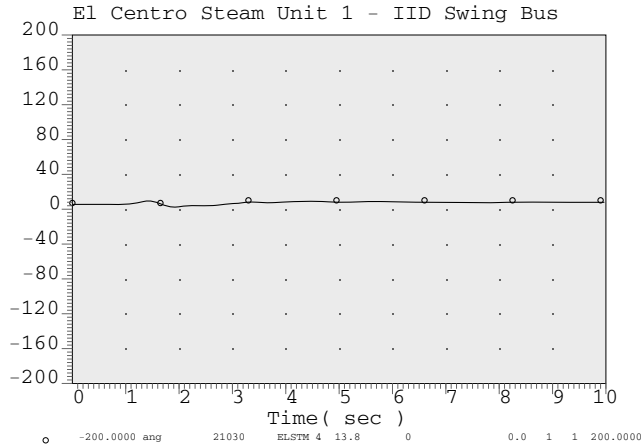


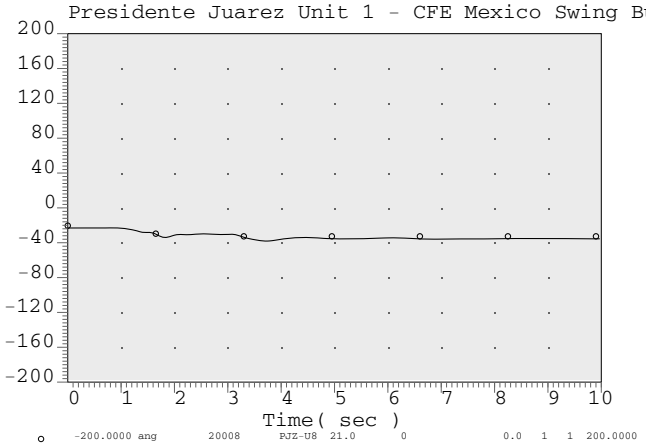


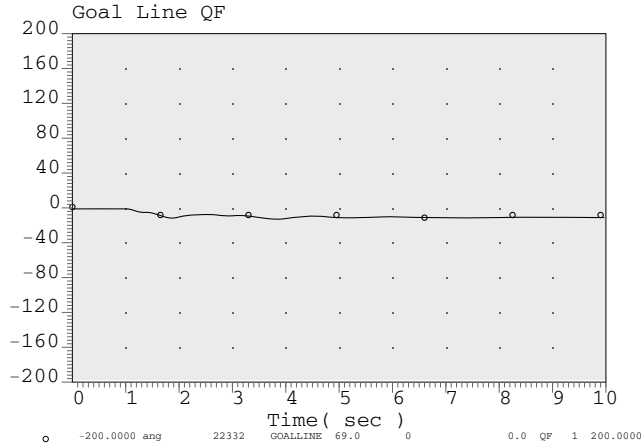
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

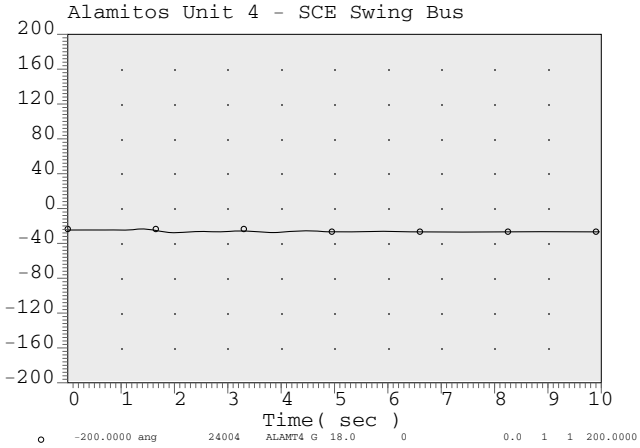
Relative Rotor Angle

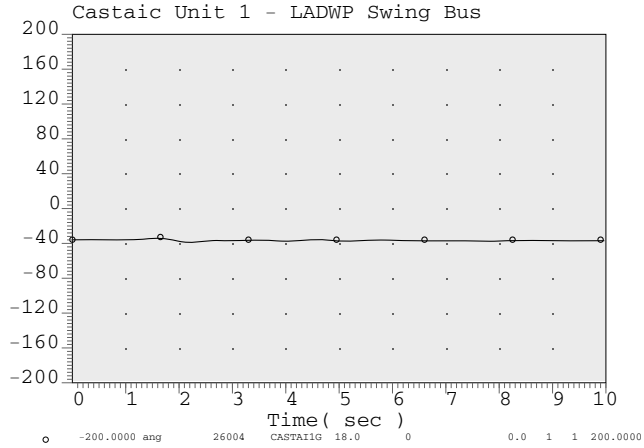






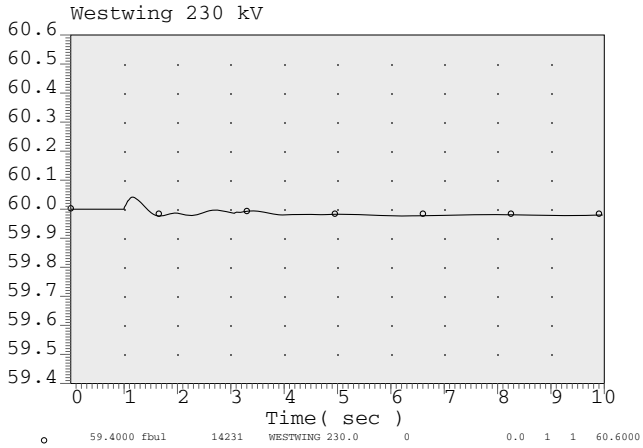


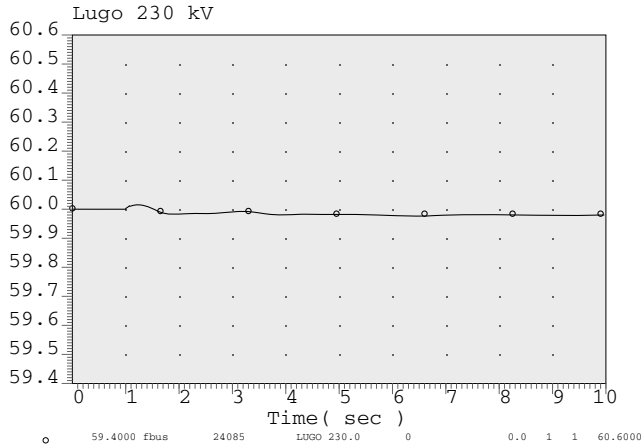


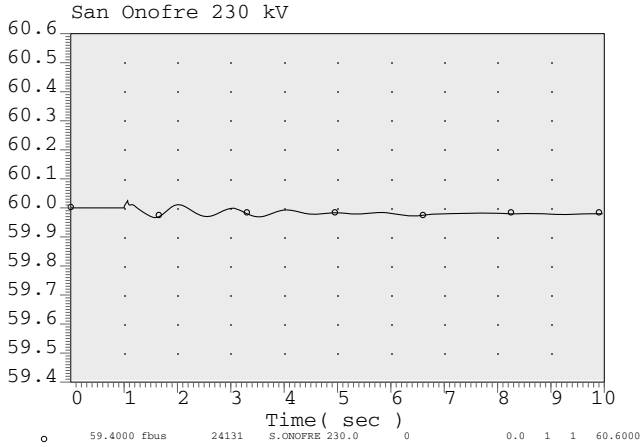


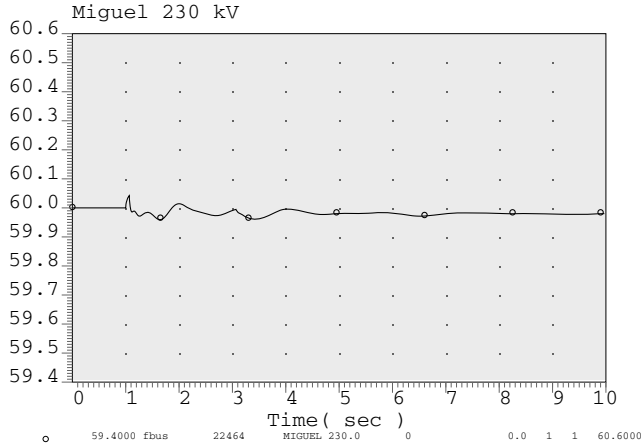
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

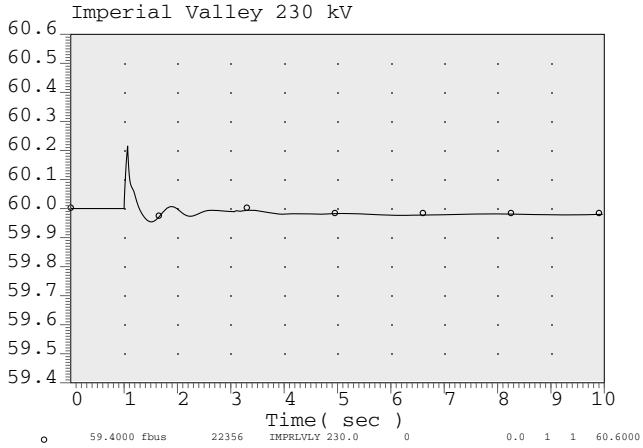
Bus Frequency

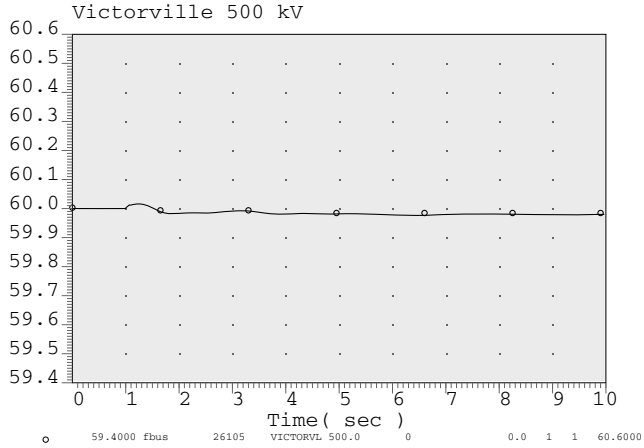






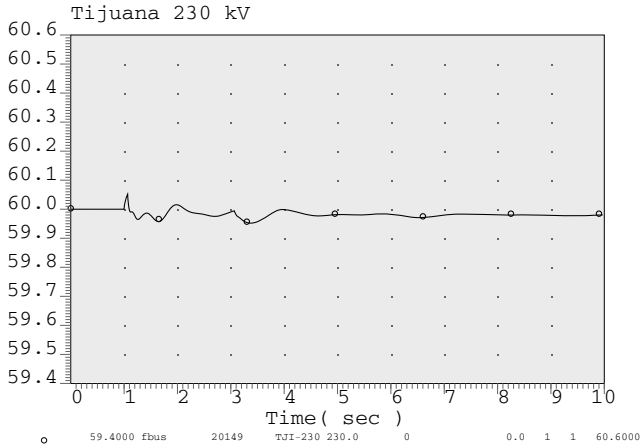


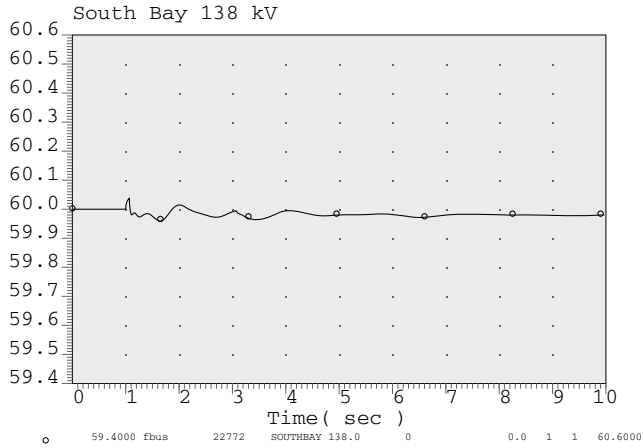


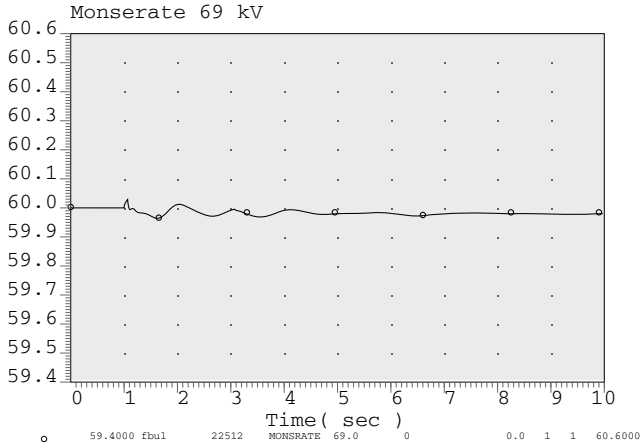


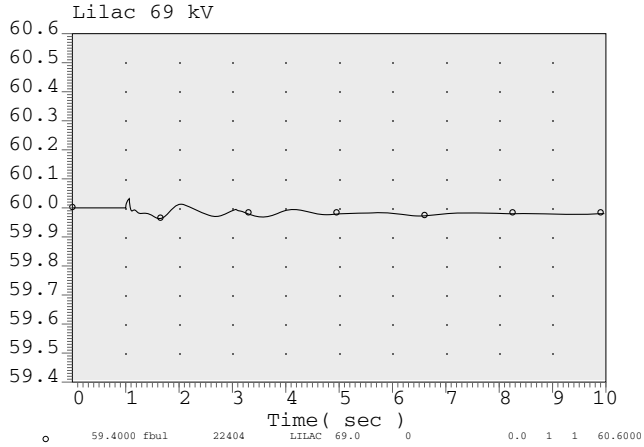
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

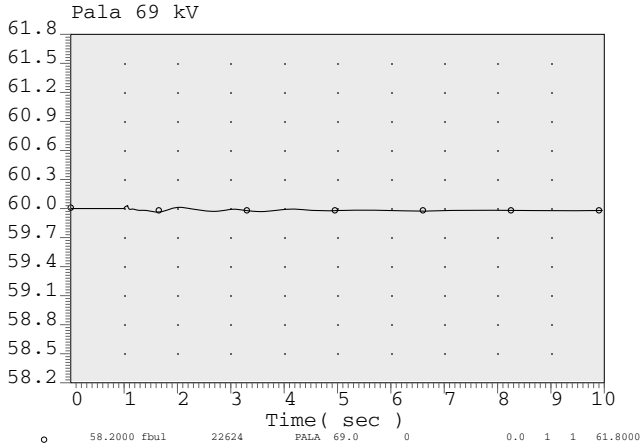
Bus Frequency

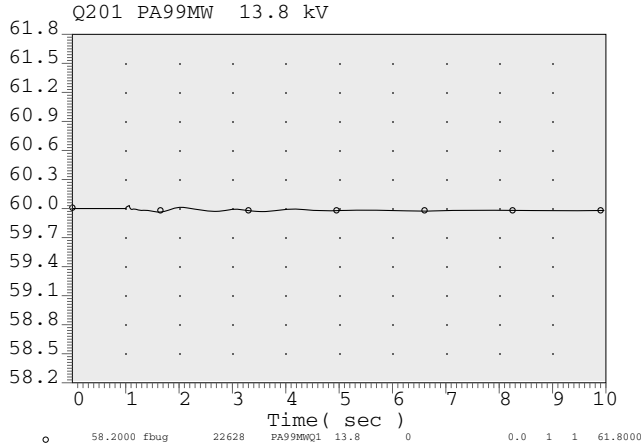






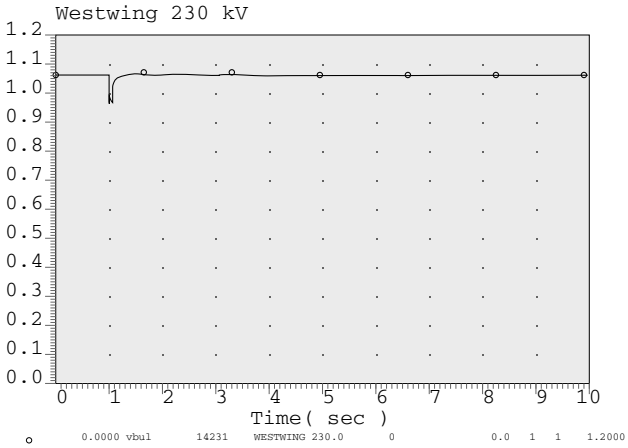


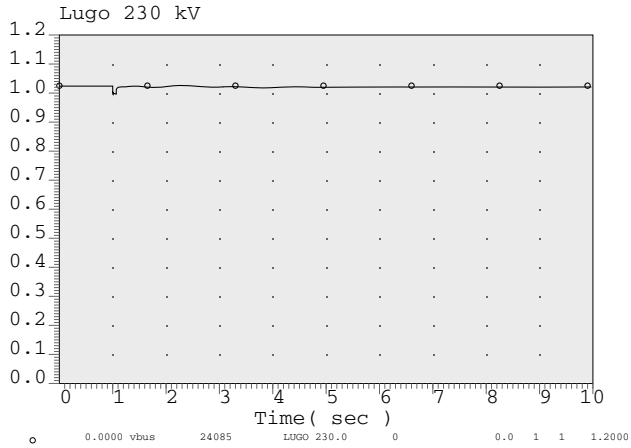


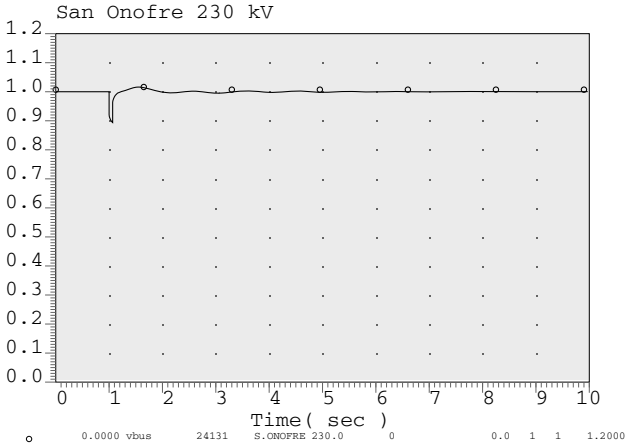


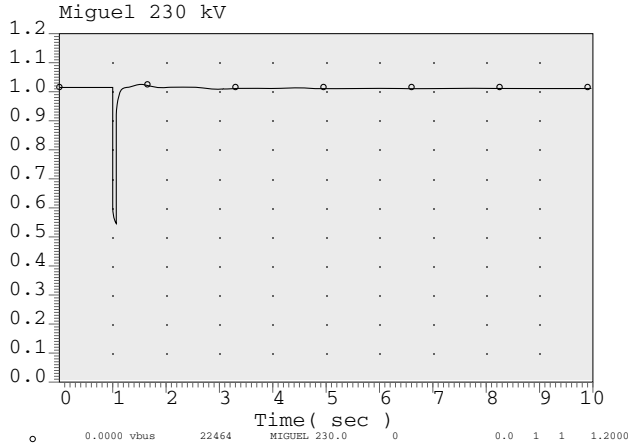
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

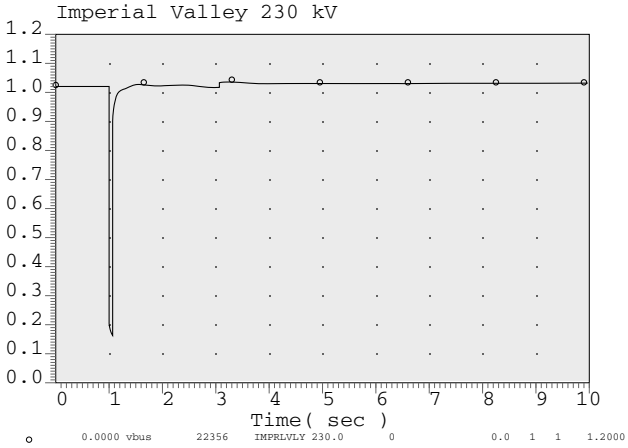
Bus Voltage

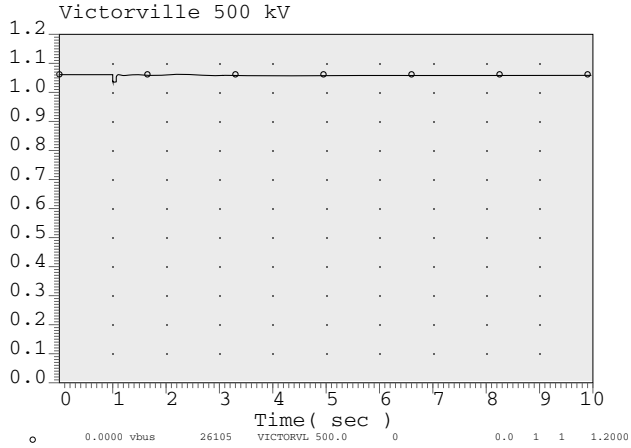






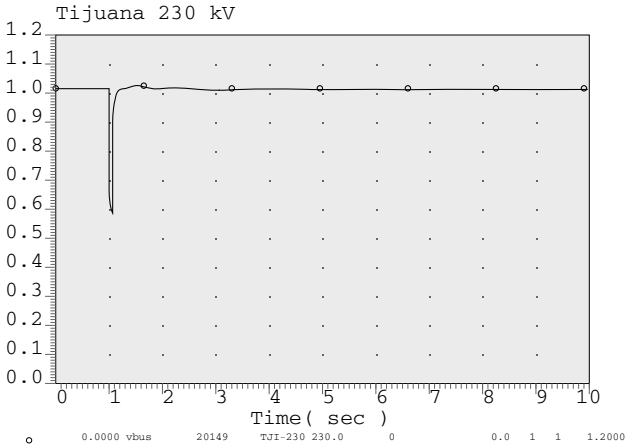


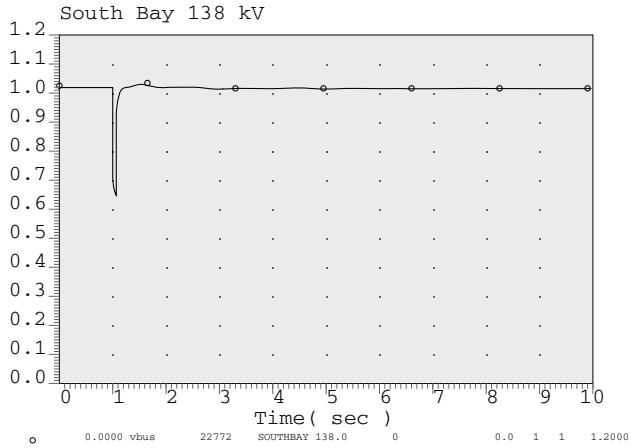


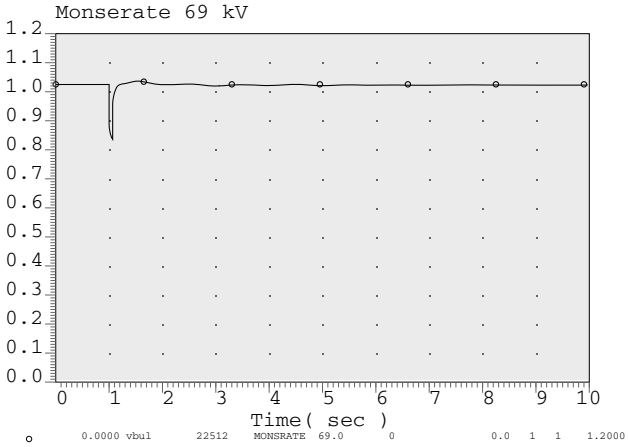


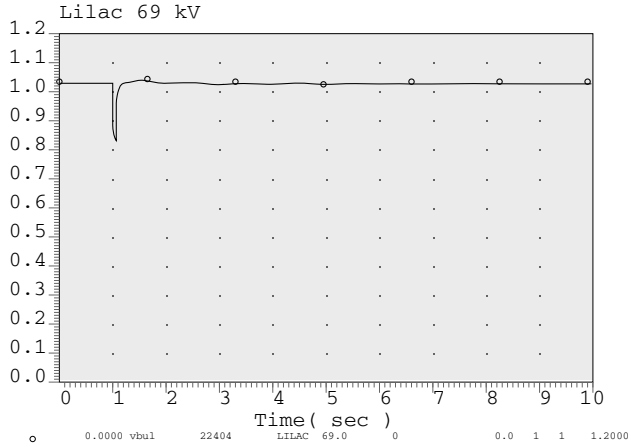
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

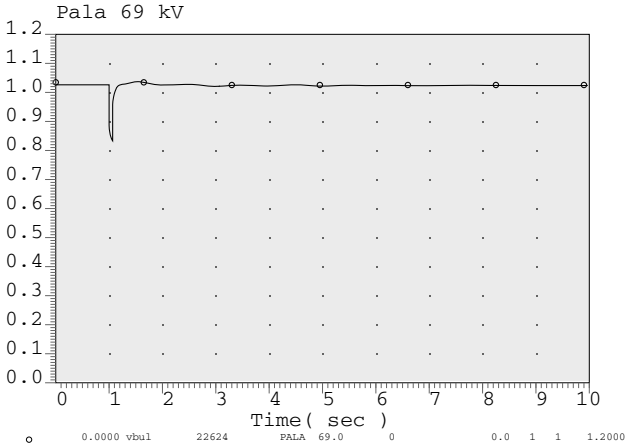
Bus Voltage

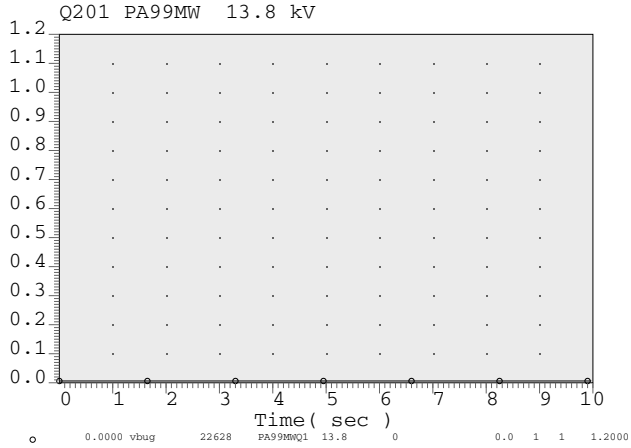






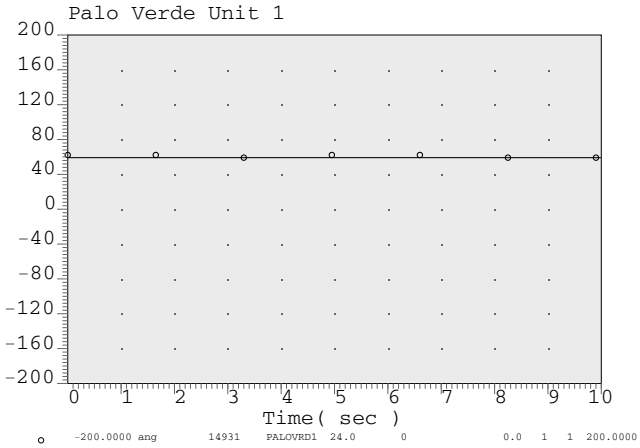


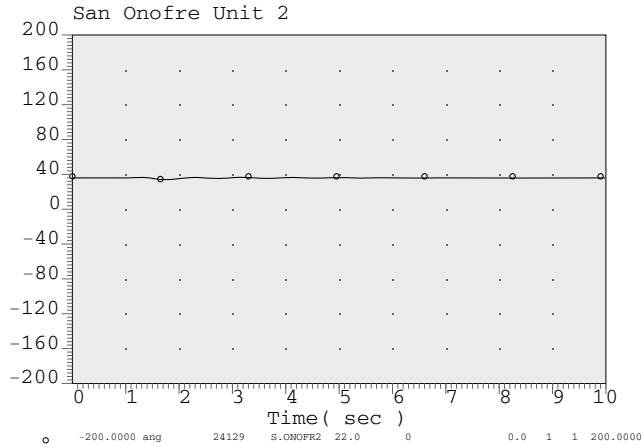


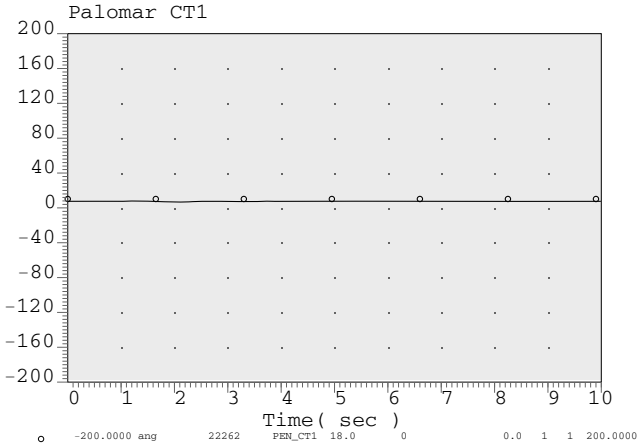


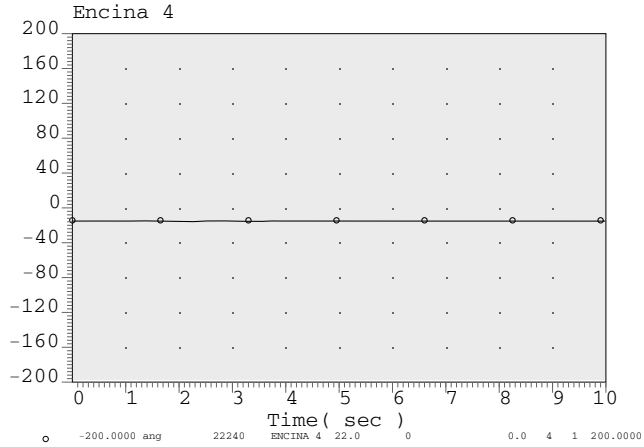
SDG&E 2008/09 Light Winter - Q201 ISIS COD Pre-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

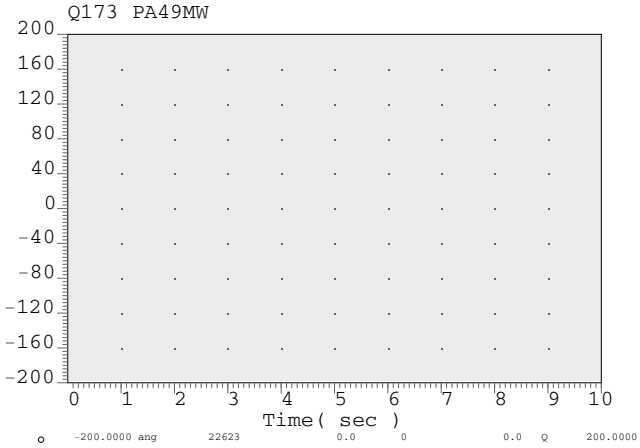
Relative Rotor Angle

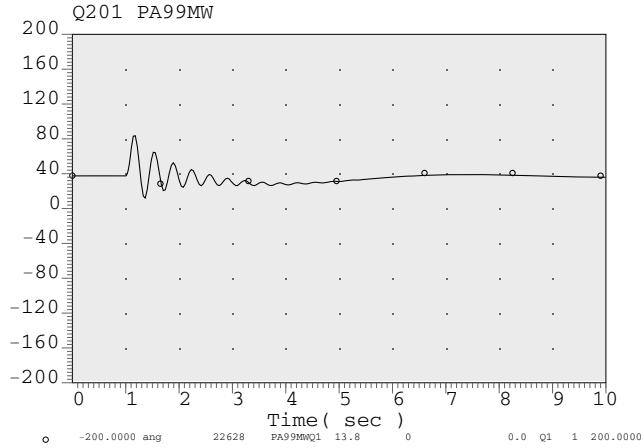






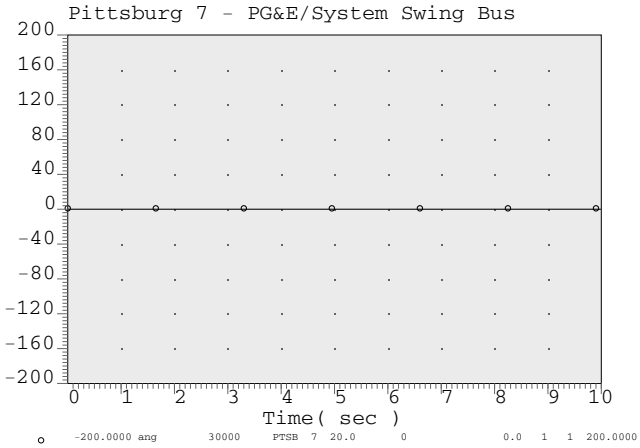


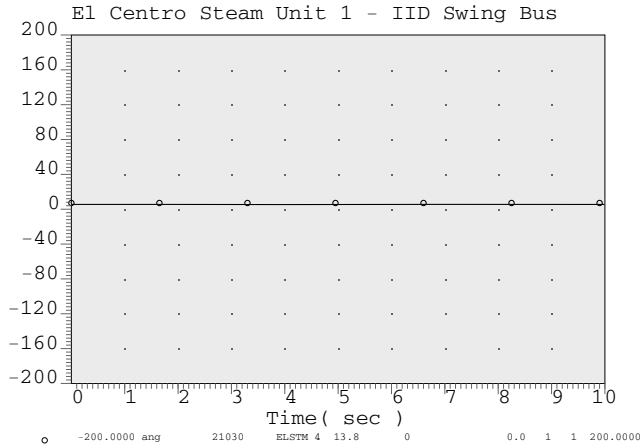


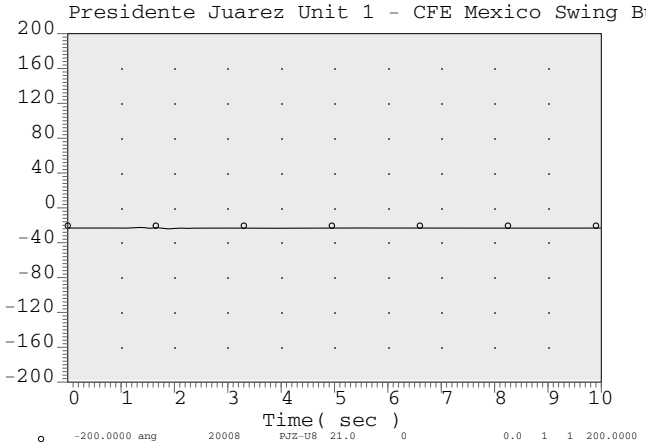


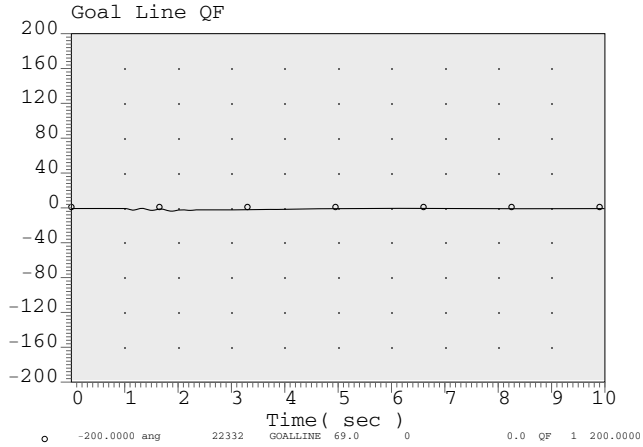
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

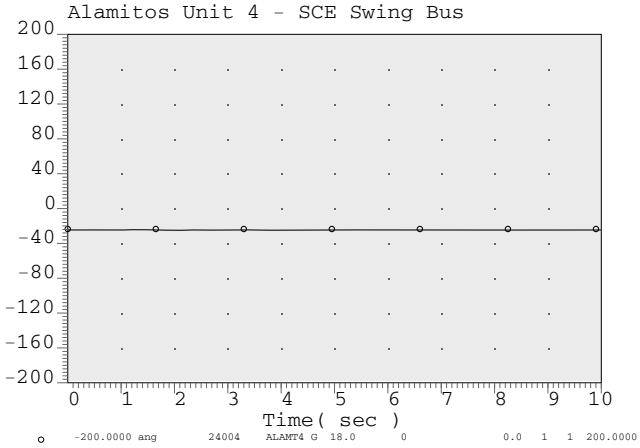
Relative Rotor Angle

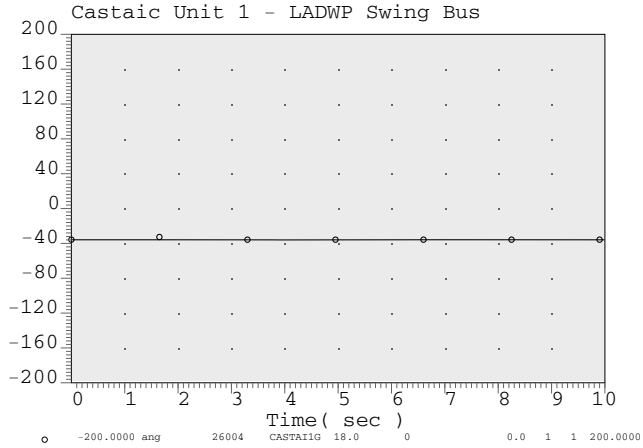






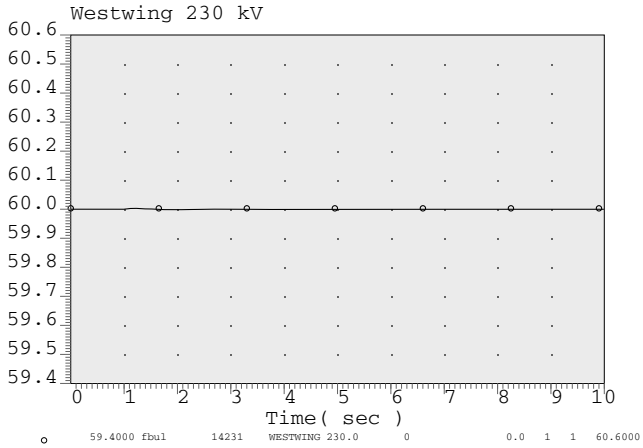


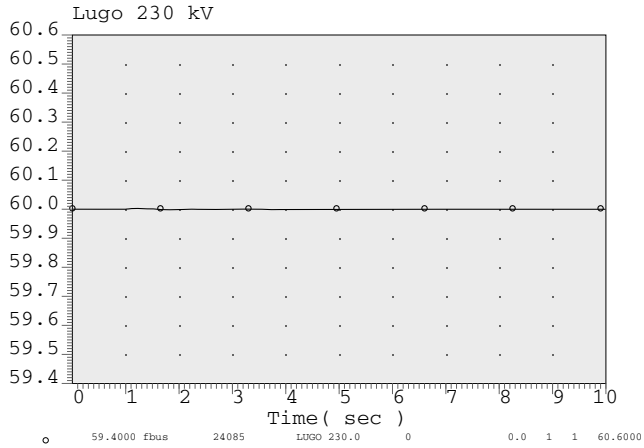


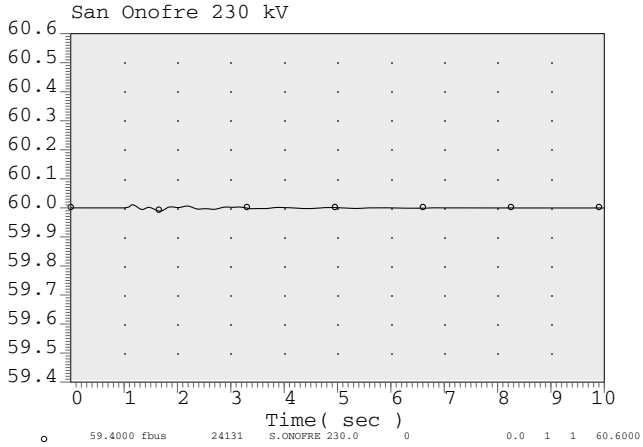


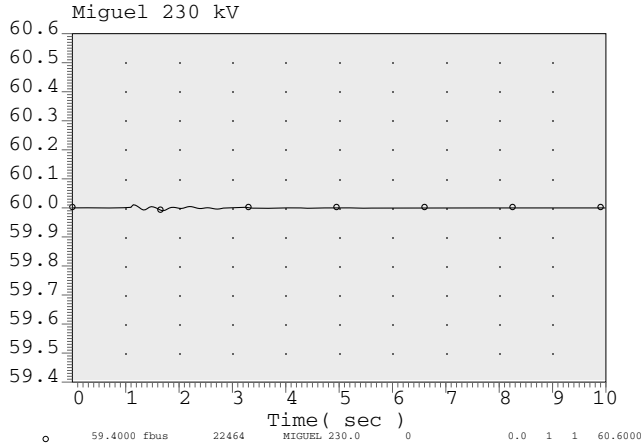
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

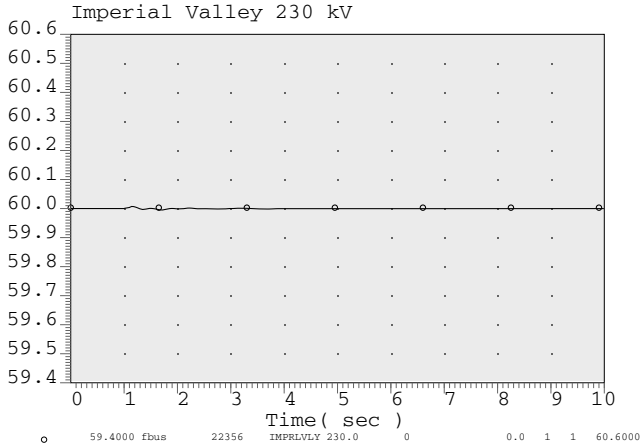
Bus Frequency

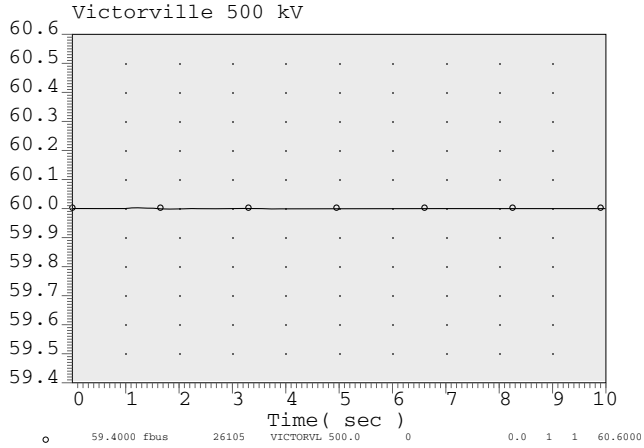






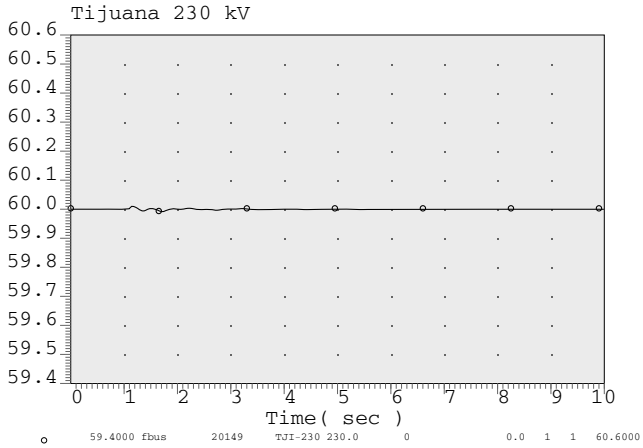


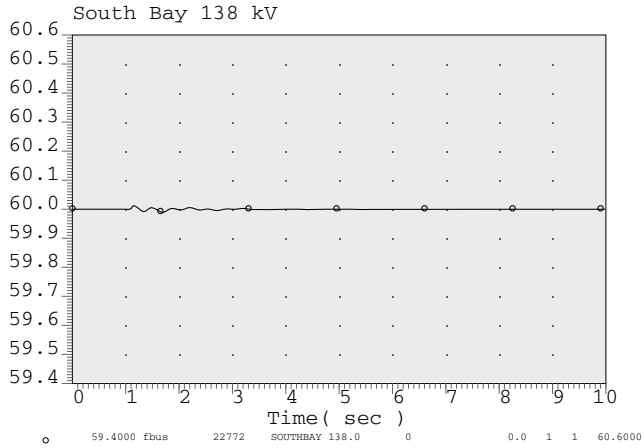


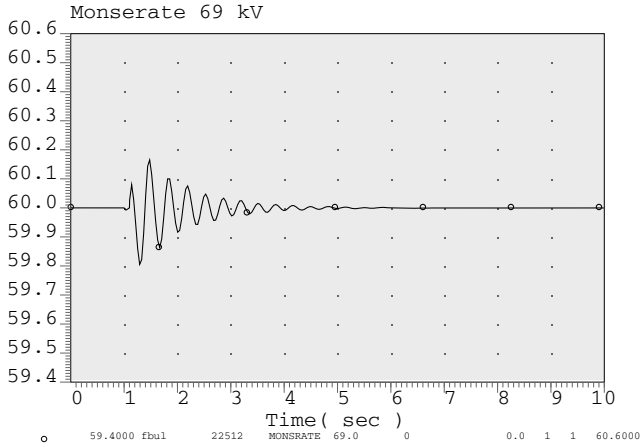


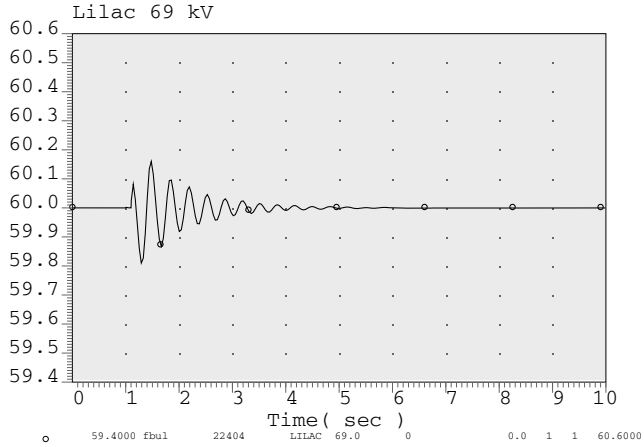
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

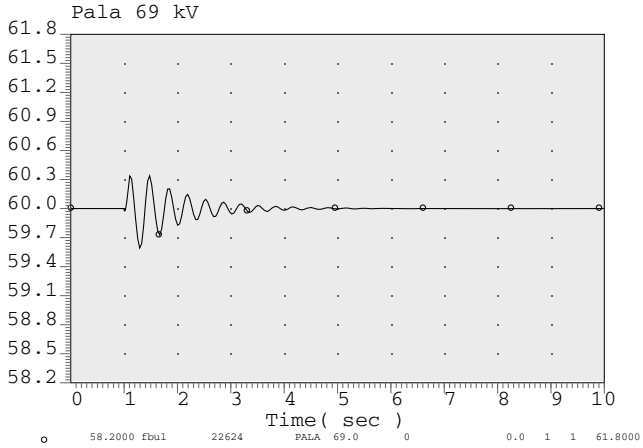
Bus Frequency

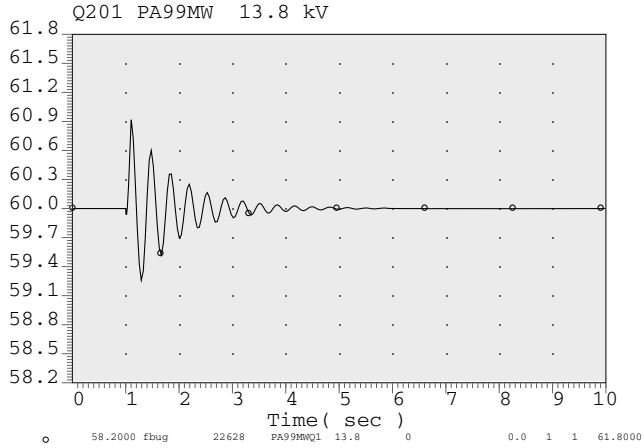






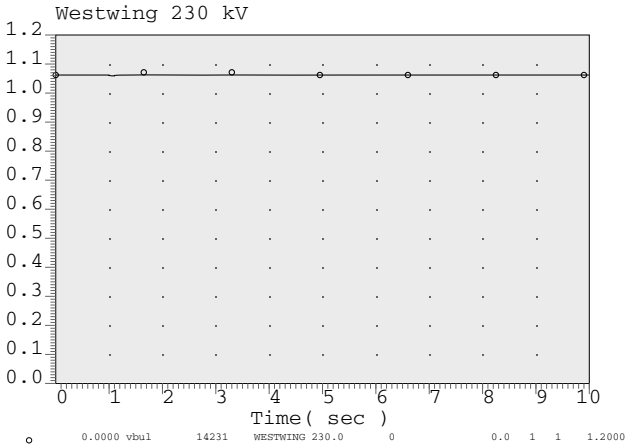


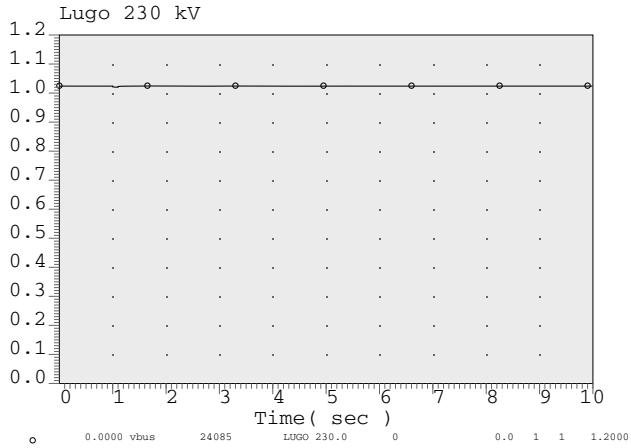


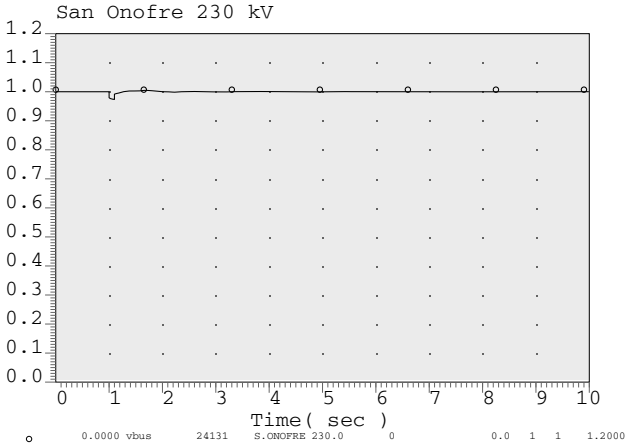


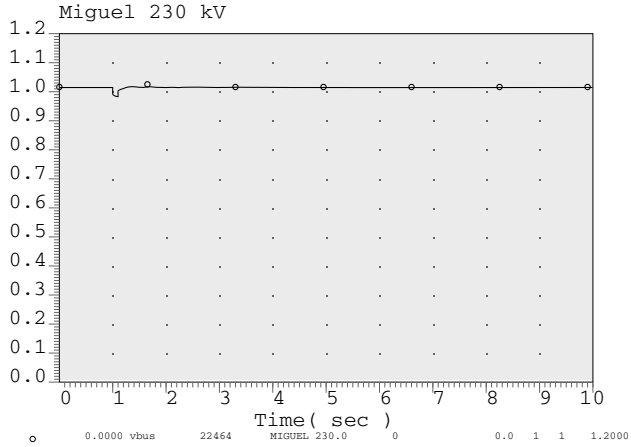
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

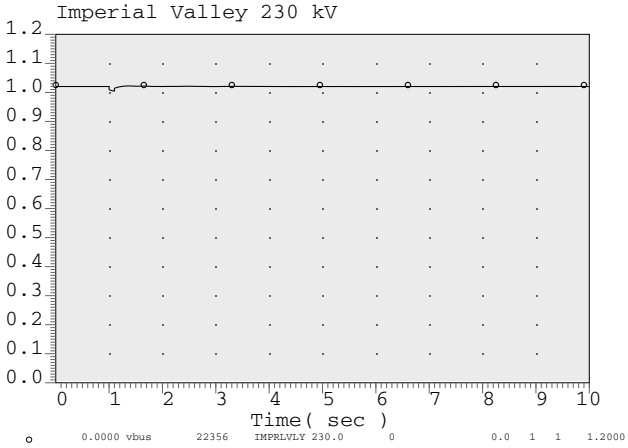
Bus Voltage

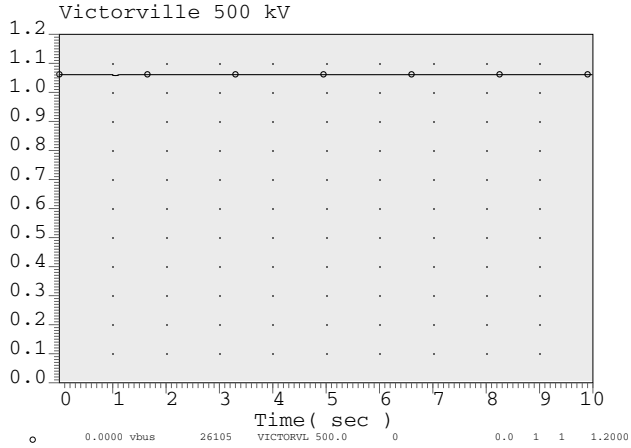






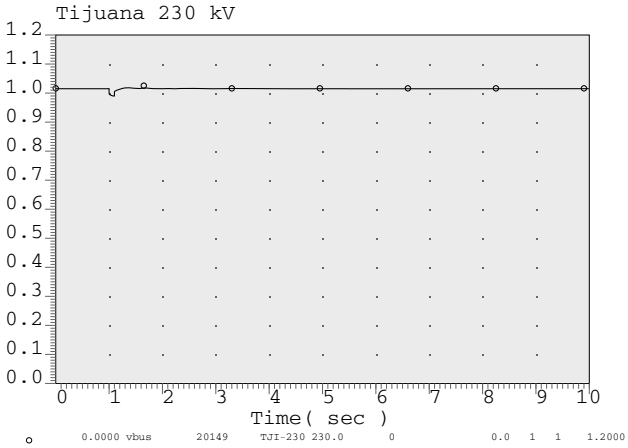


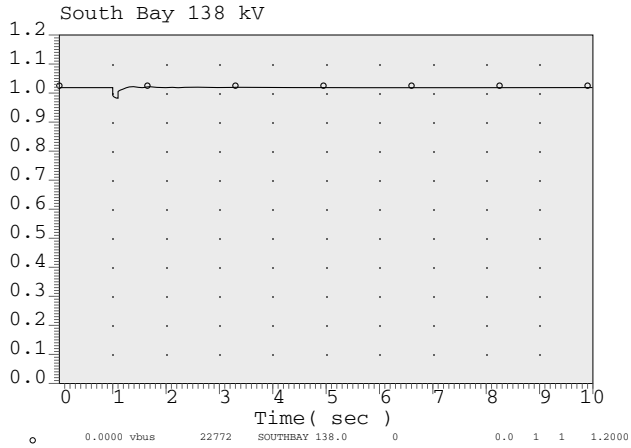


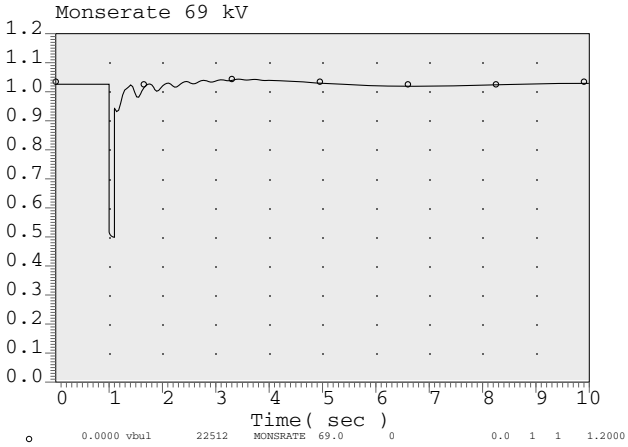


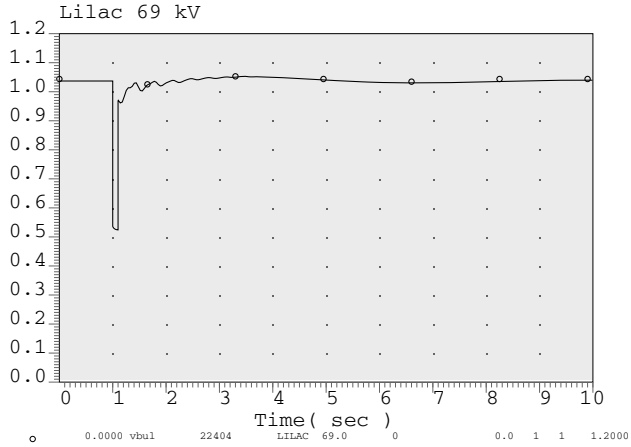
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

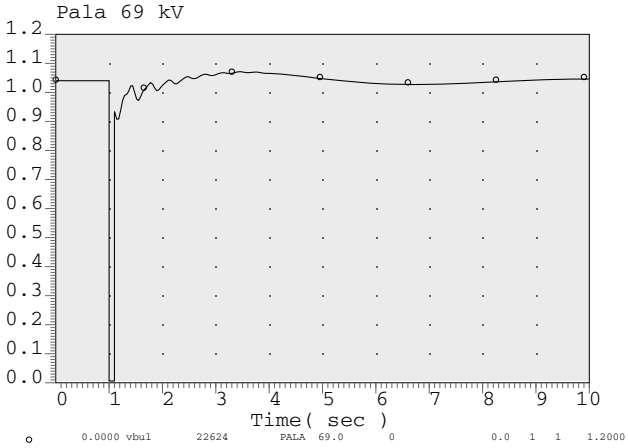
Bus Voltage

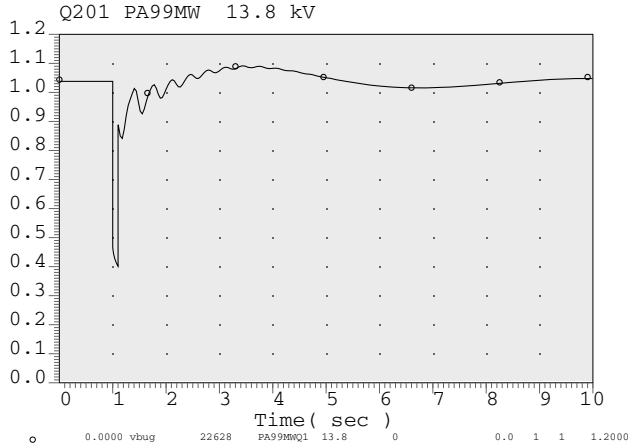






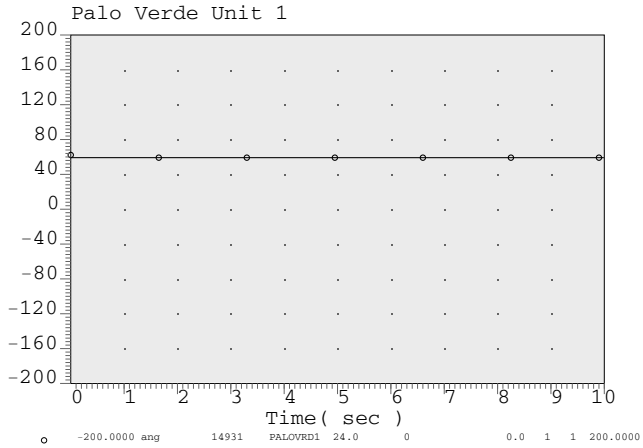


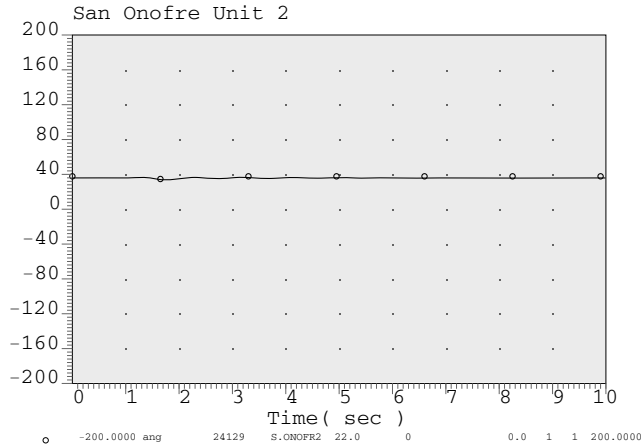


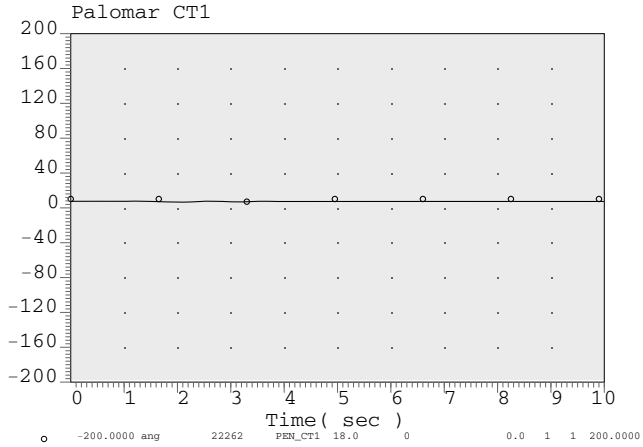


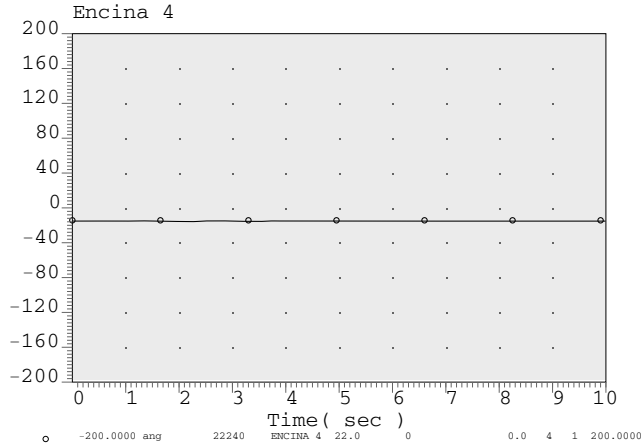
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV

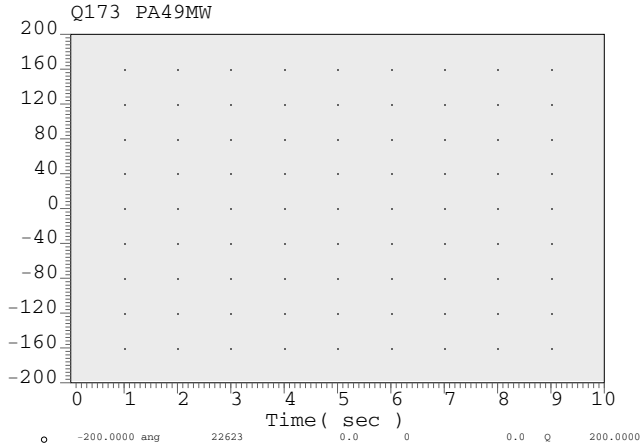
Relative Rotor Angle

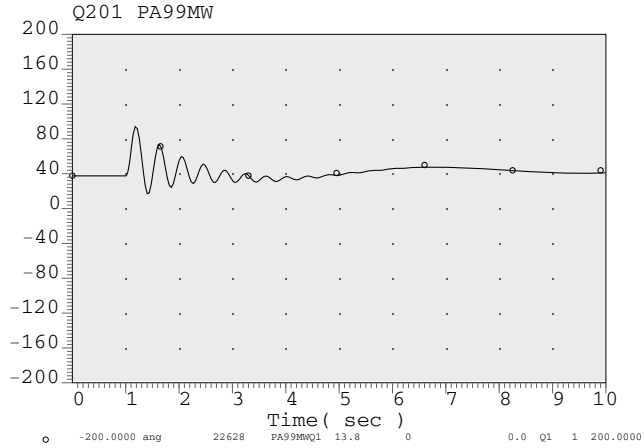






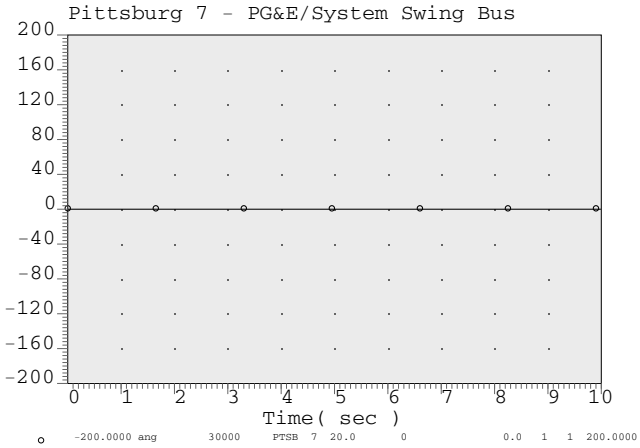


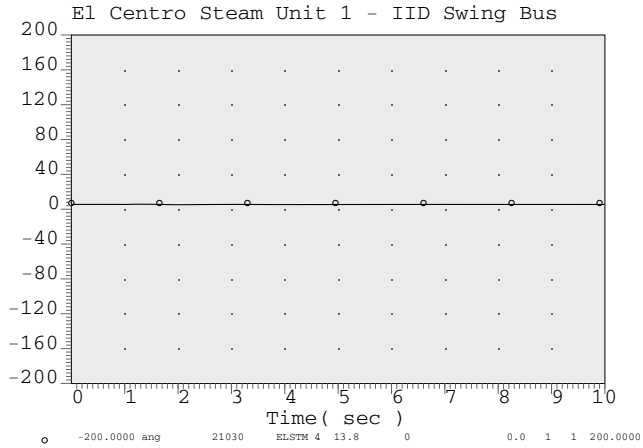


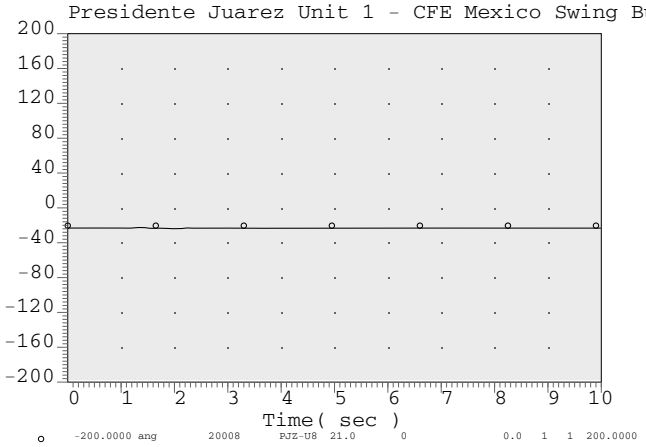


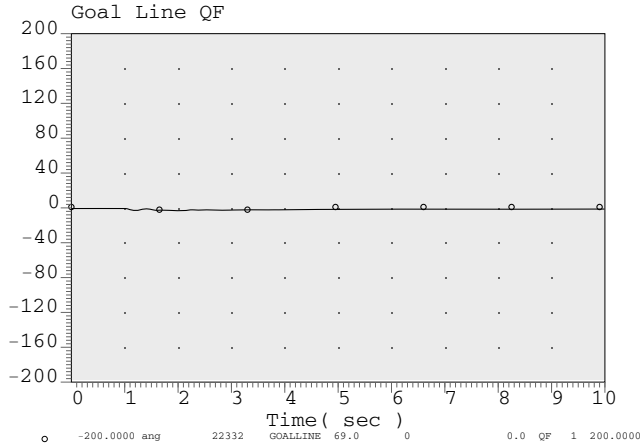
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

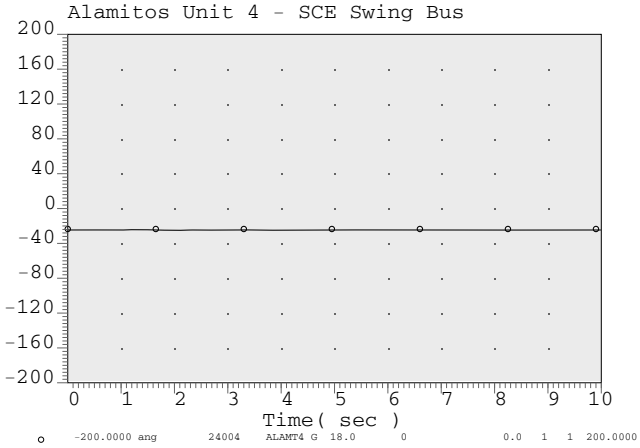
Relative Rotor Angle

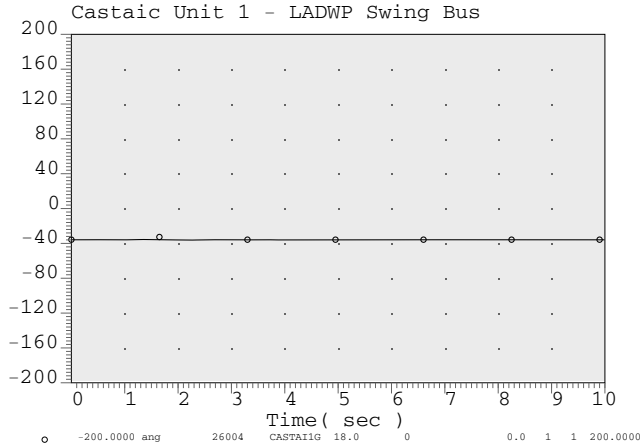






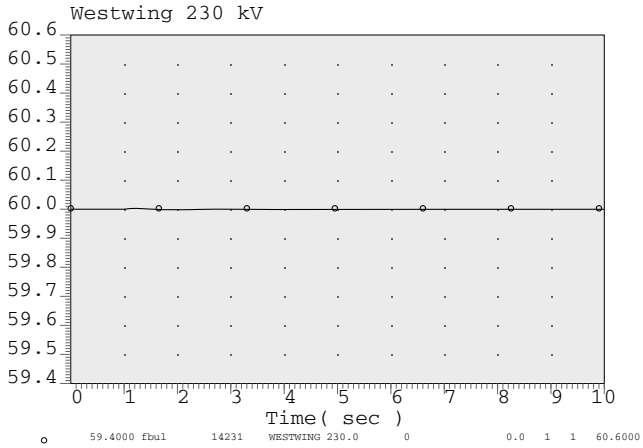


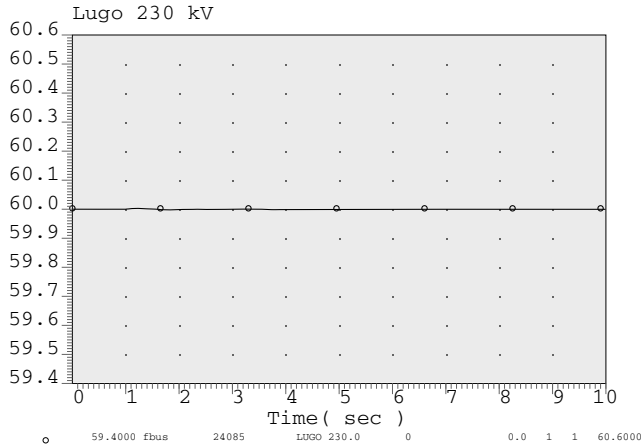


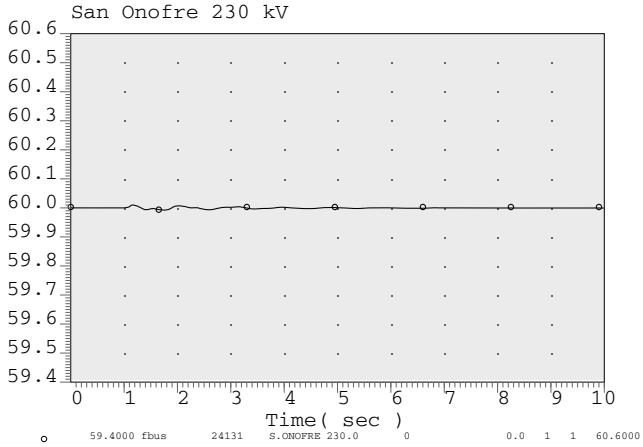


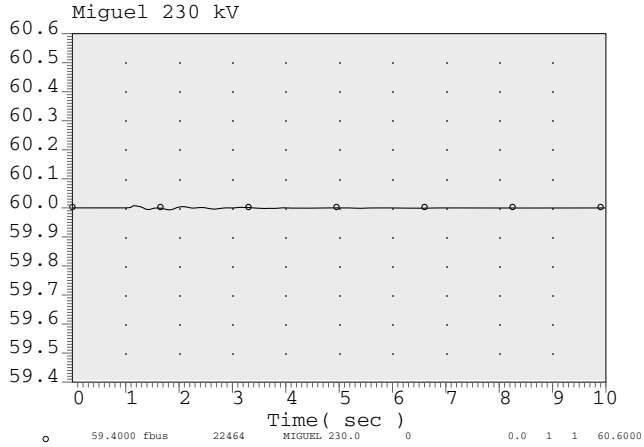
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

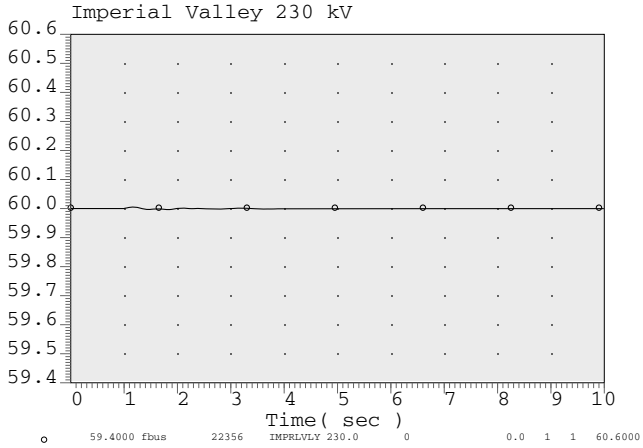
Bus Frequency

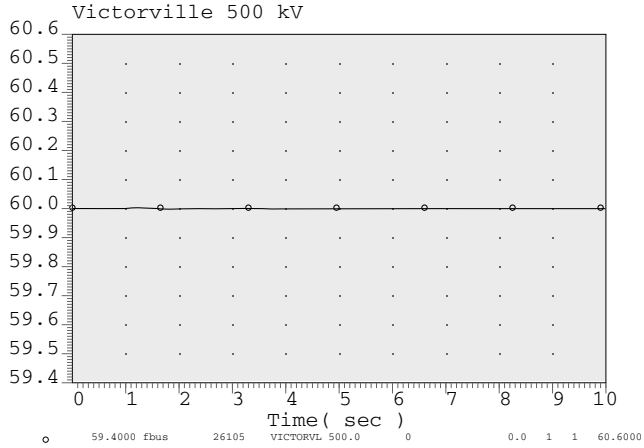






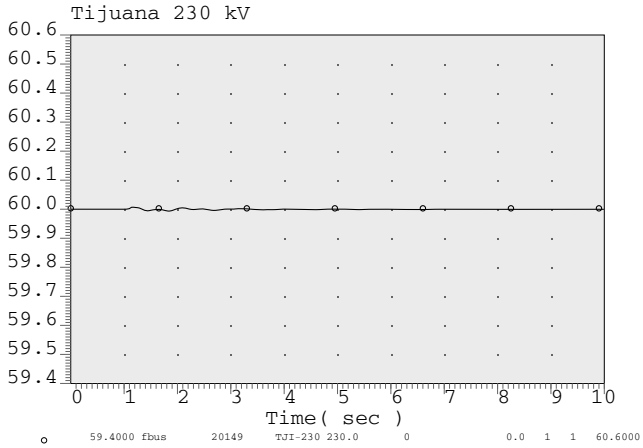


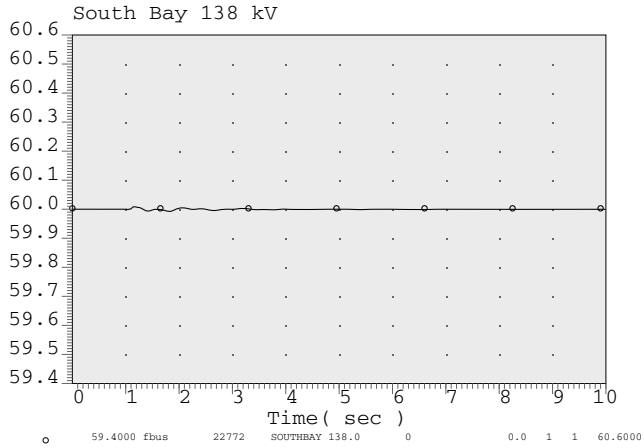


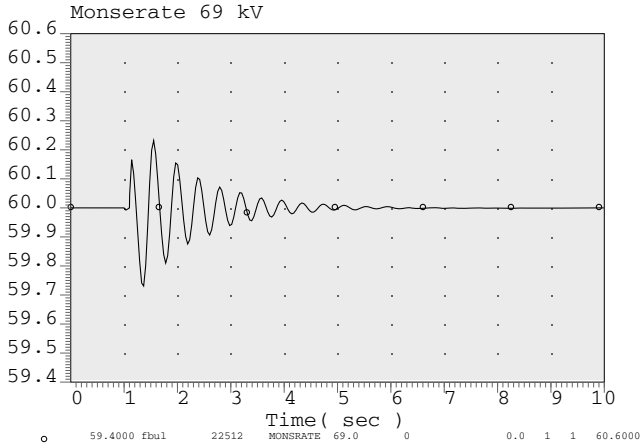


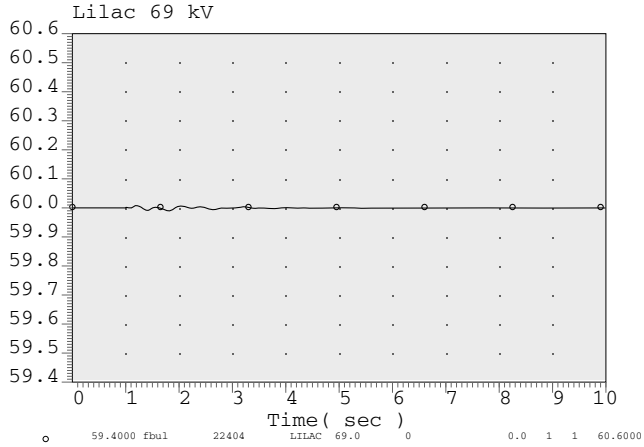
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

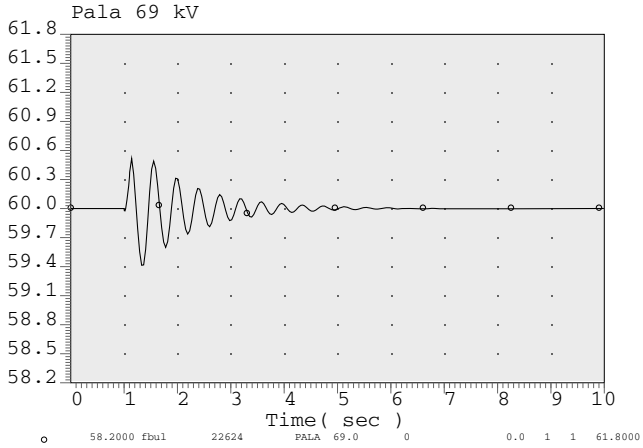
Bus Frequency

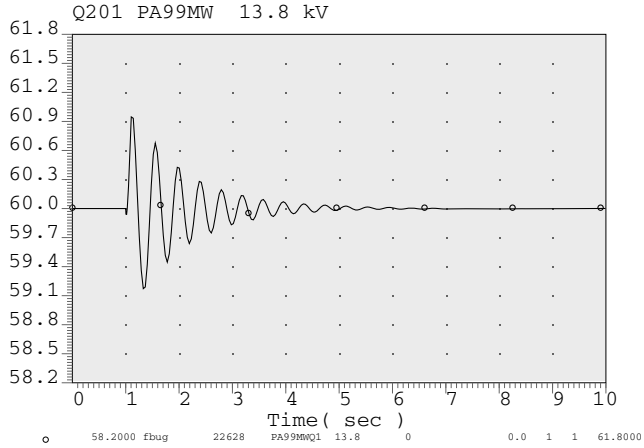






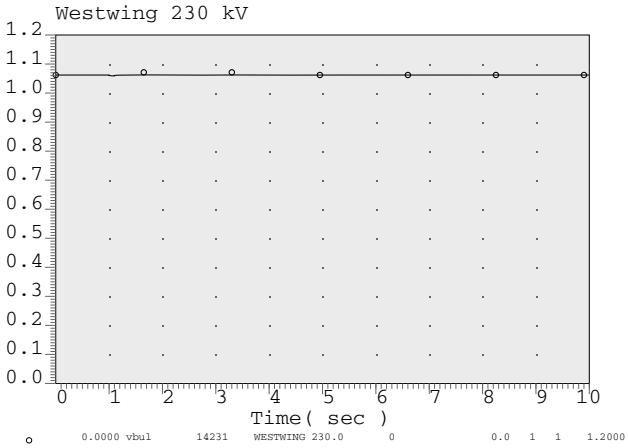


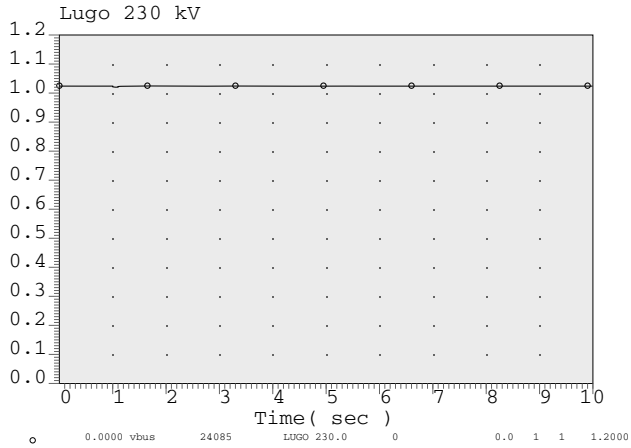


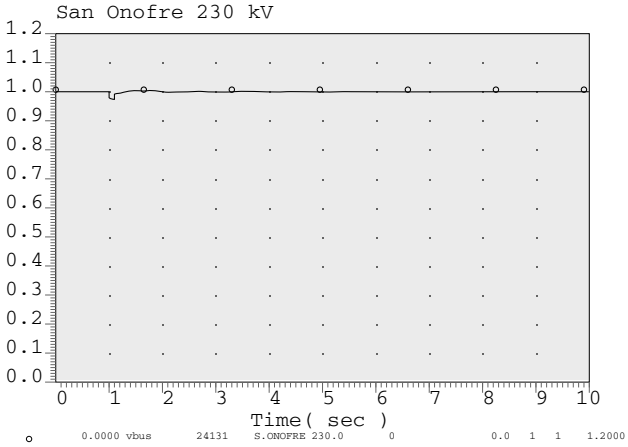


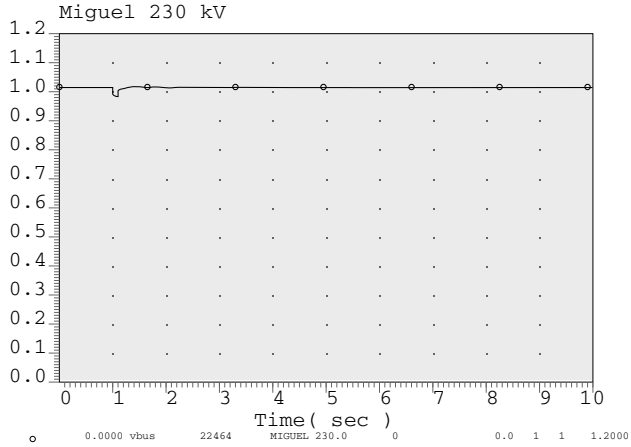
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

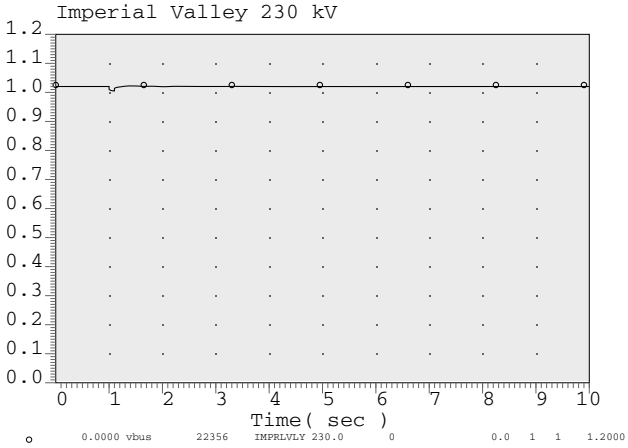
Bus Voltage

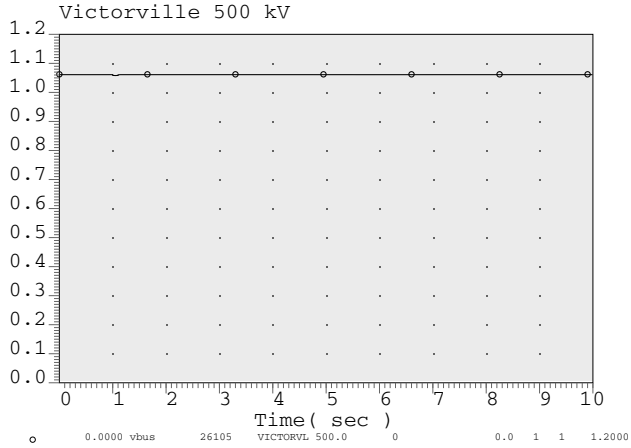






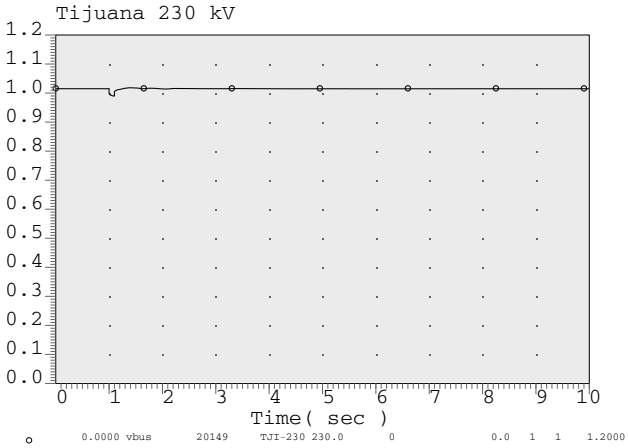


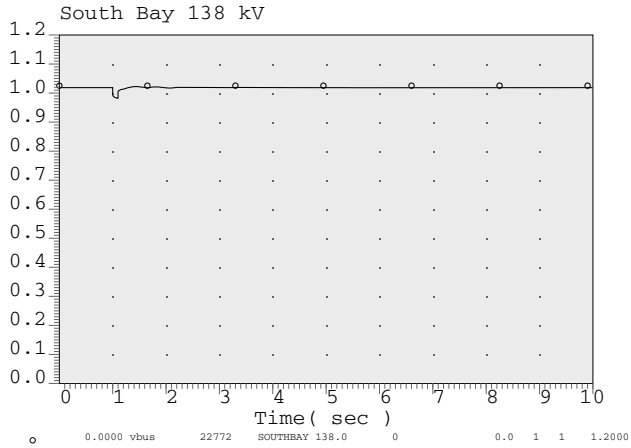


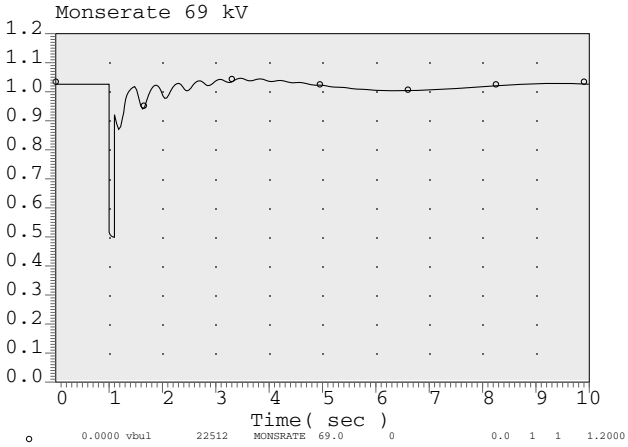


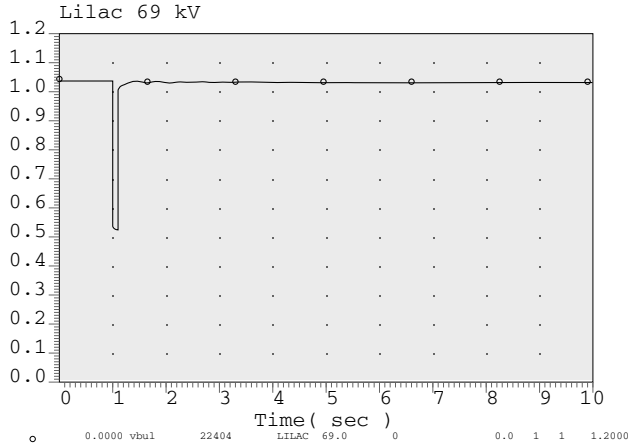
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

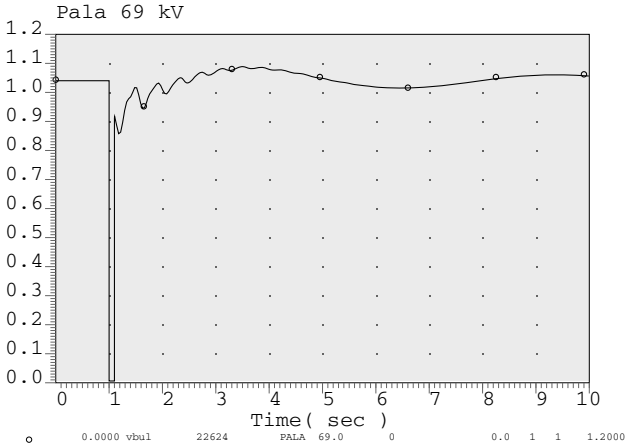
Bus Voltage

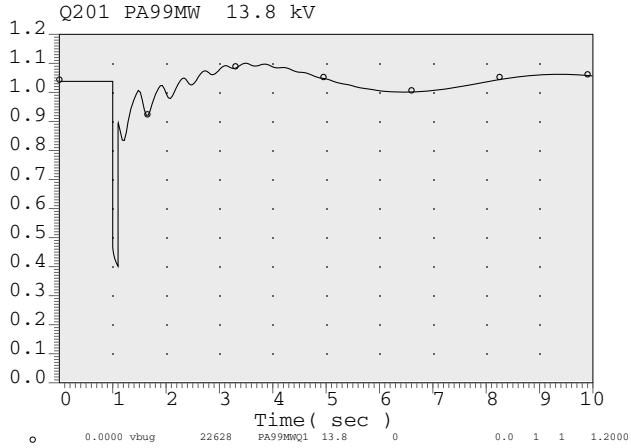






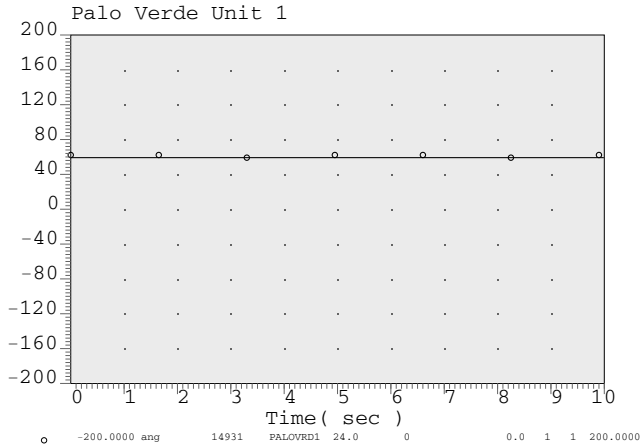


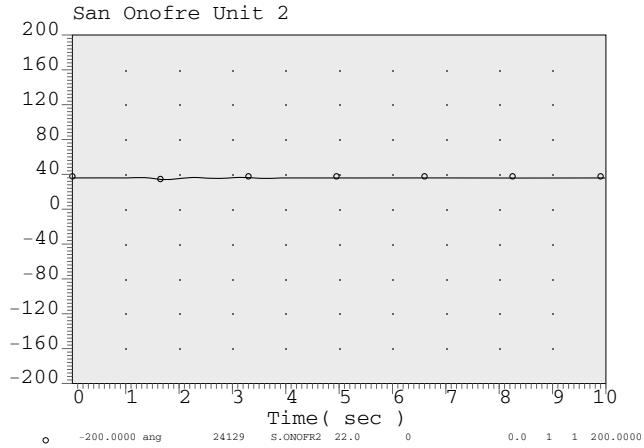


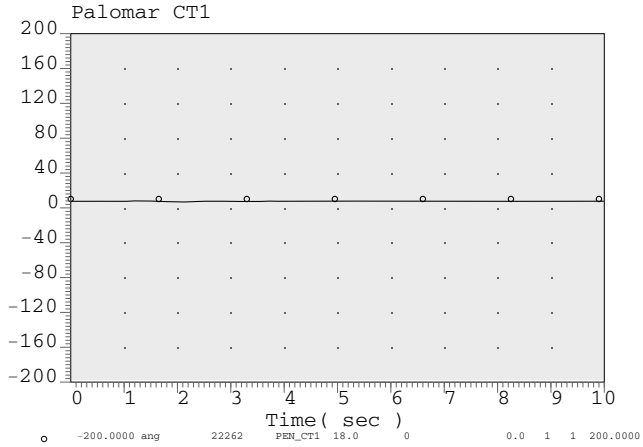


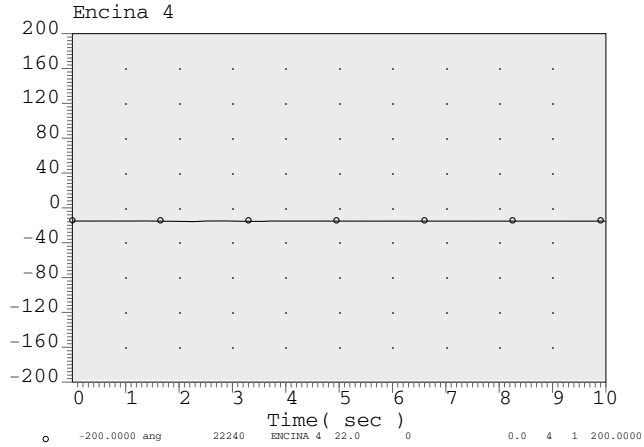
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Pala - Lilac 69 kV TL6932

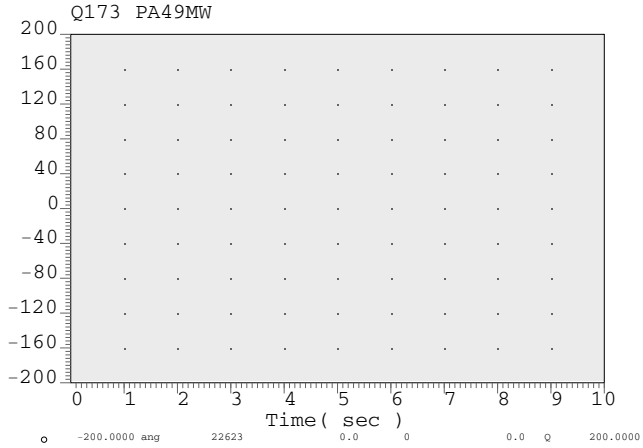
Relative Rotor Angle

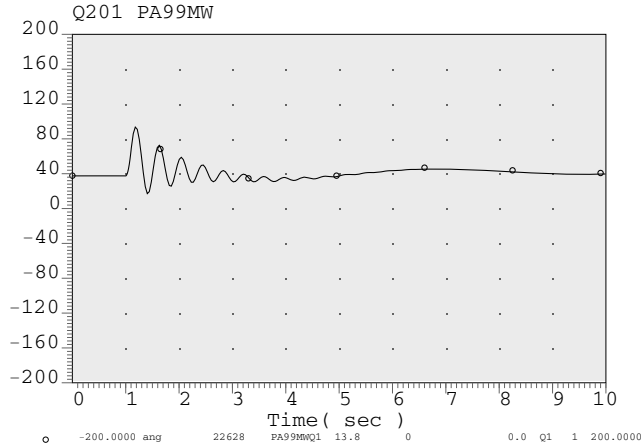






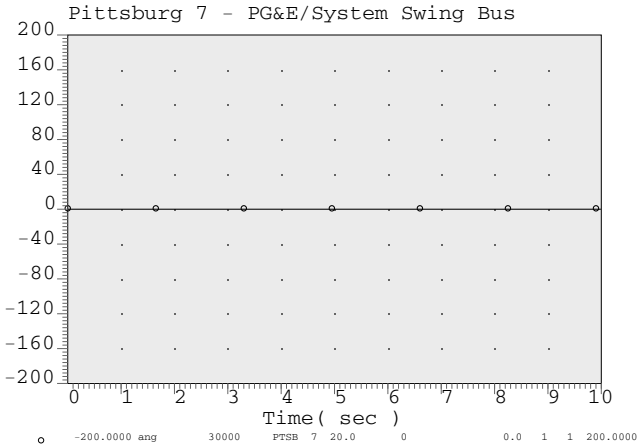


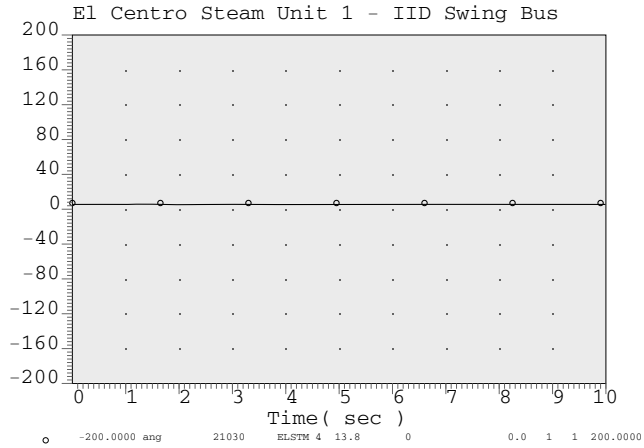


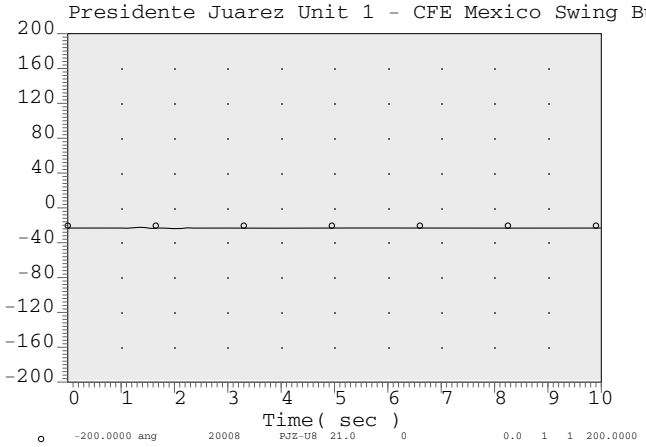


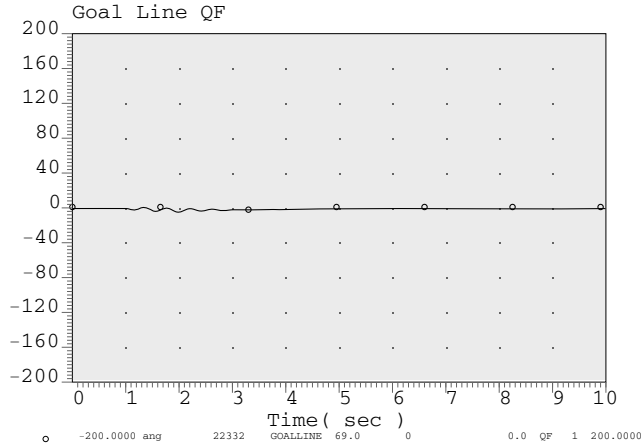
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

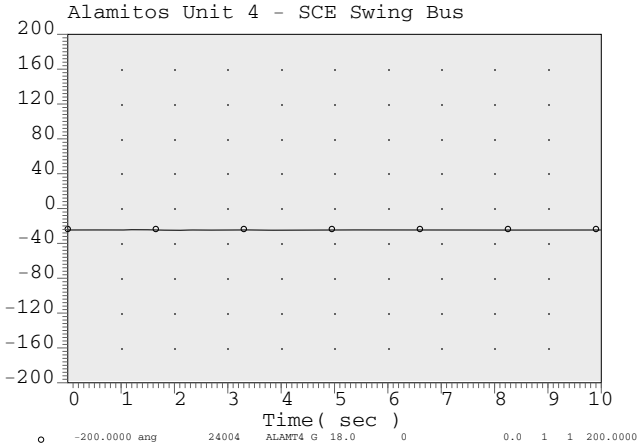
Relative Rotor Angle

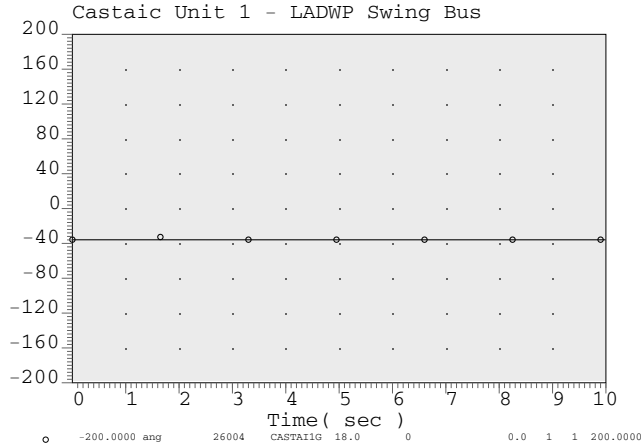






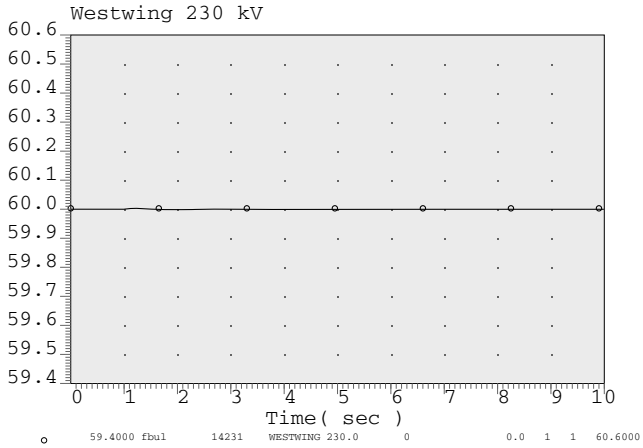


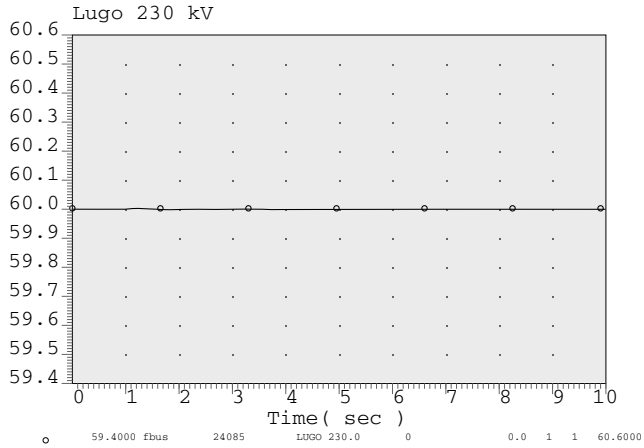


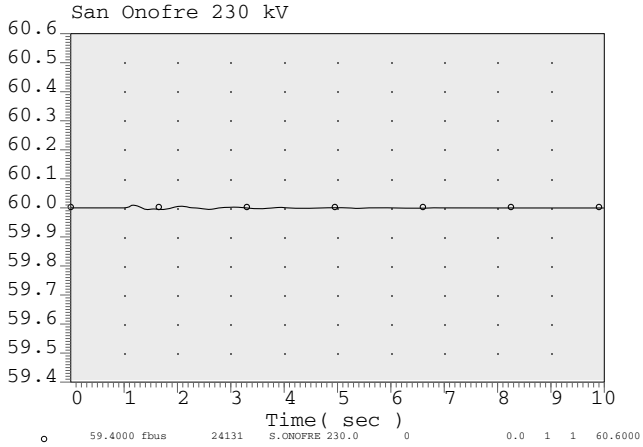


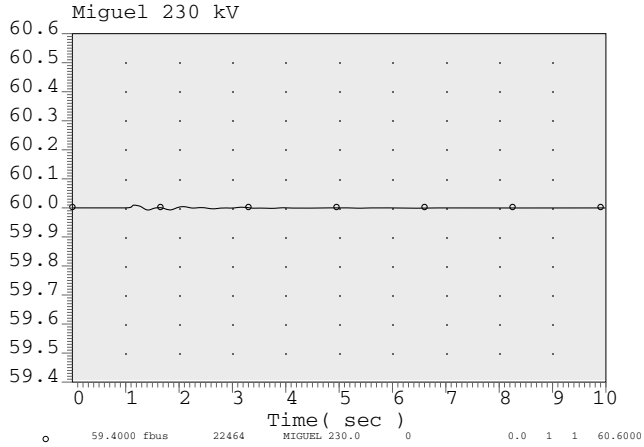
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

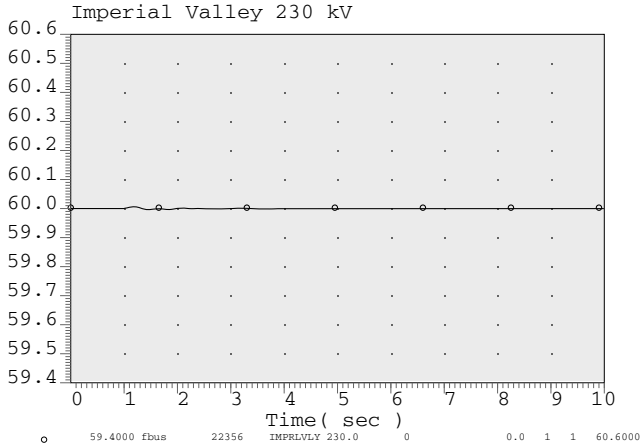
Bus Frequency

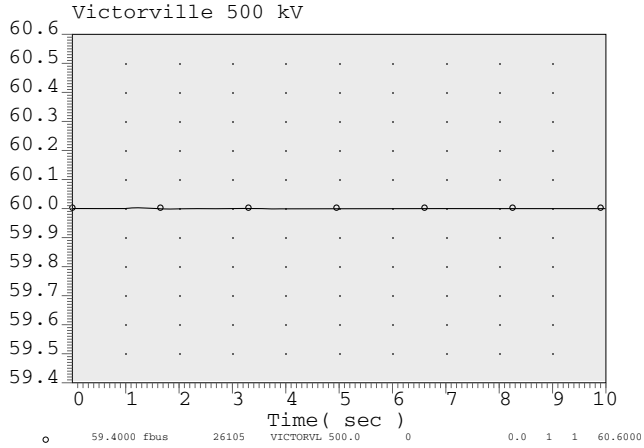






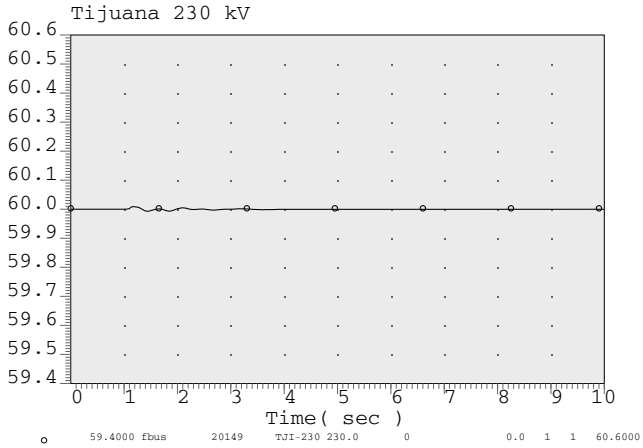


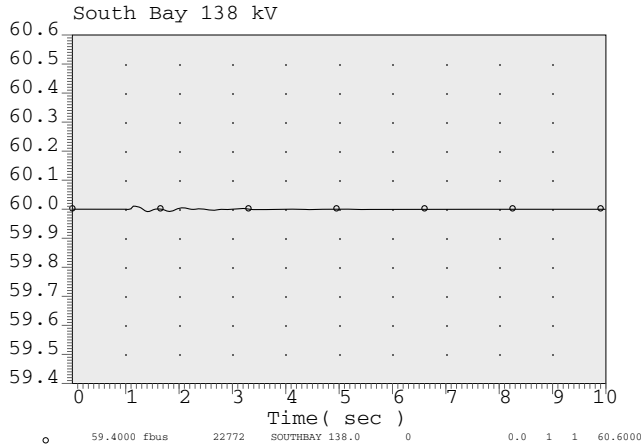


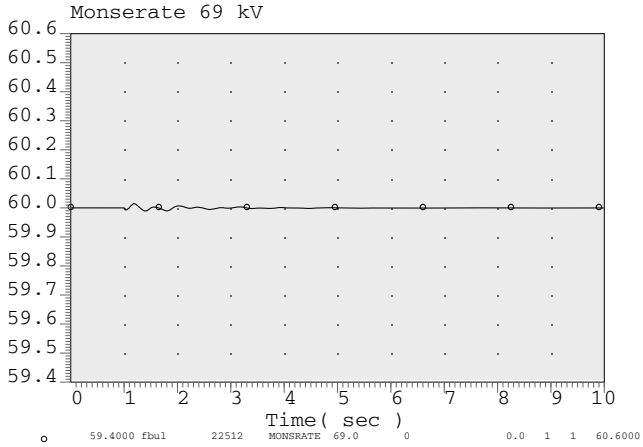


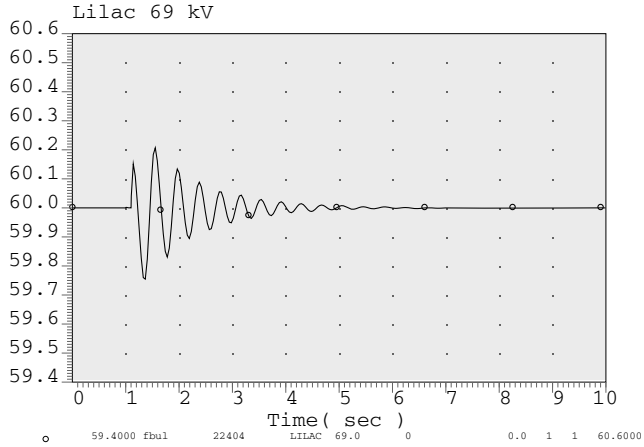
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

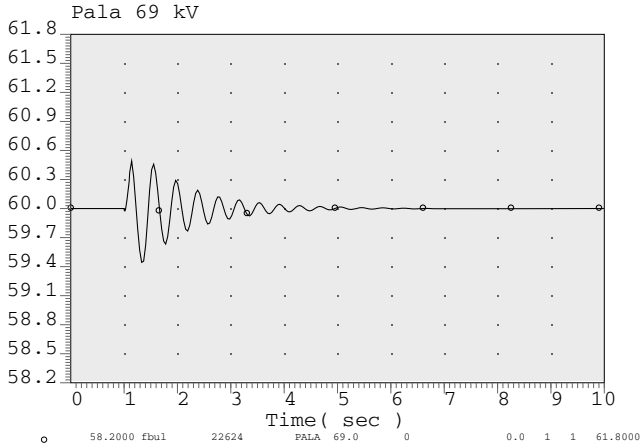
Bus Frequency

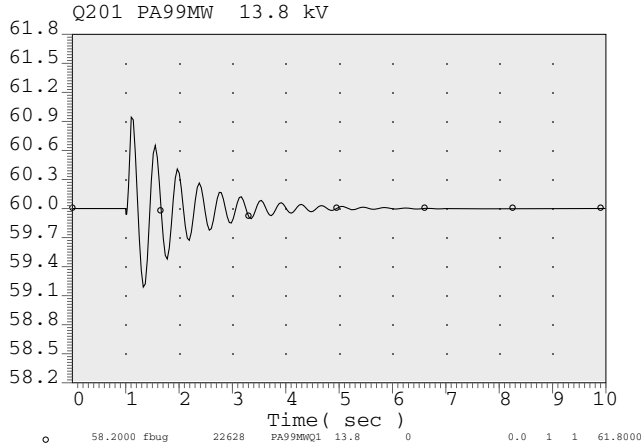






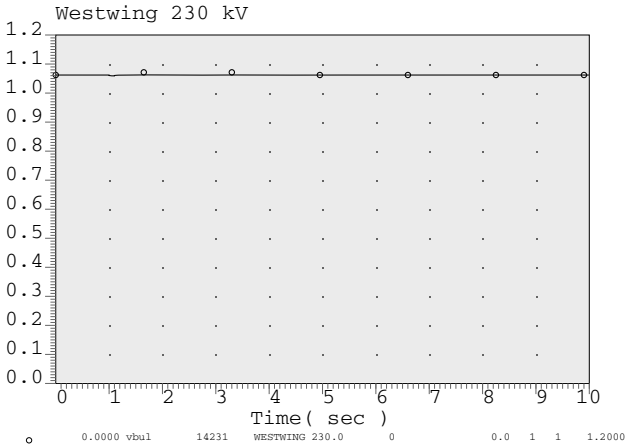


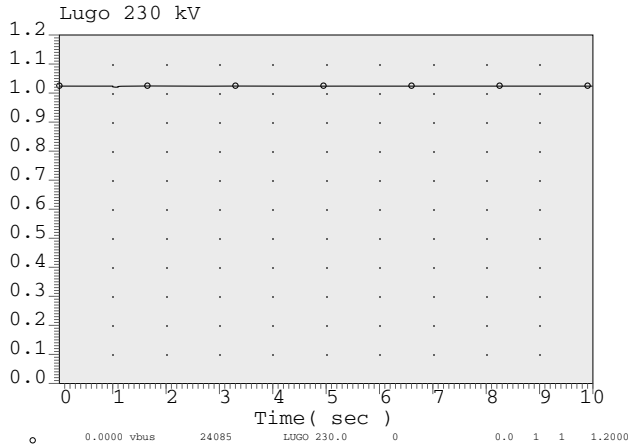


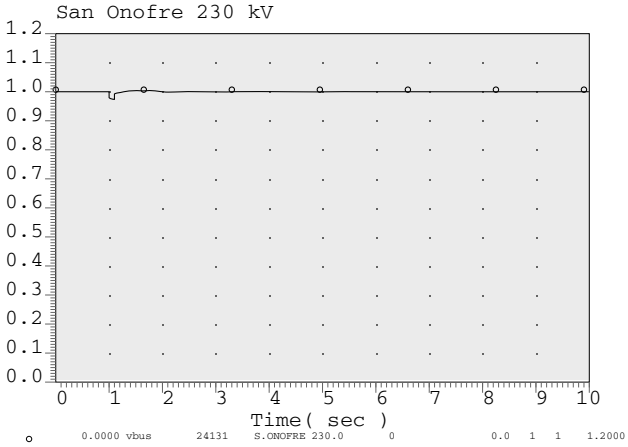


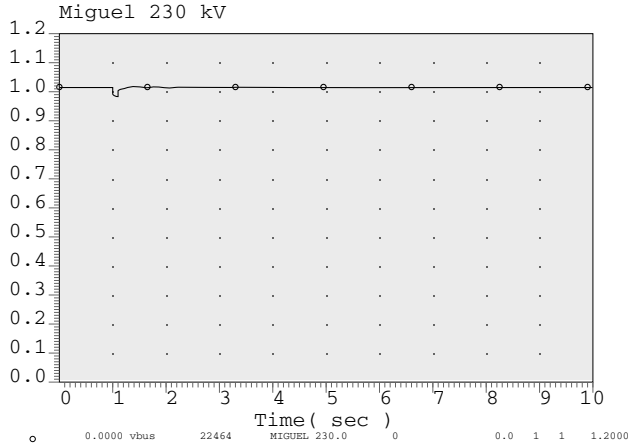
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

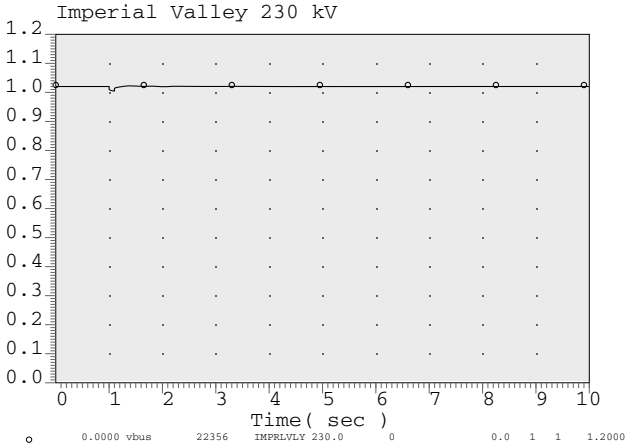
Bus Voltage

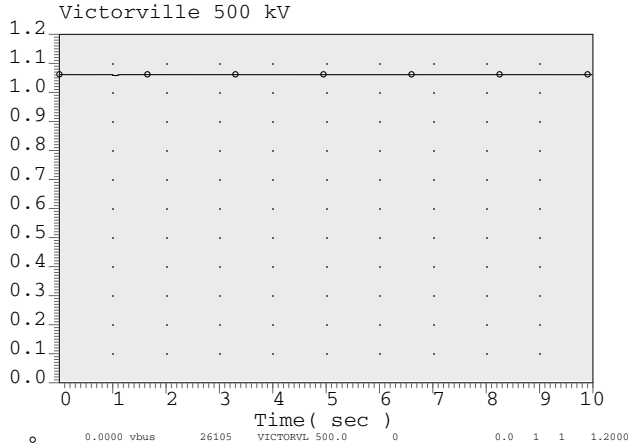






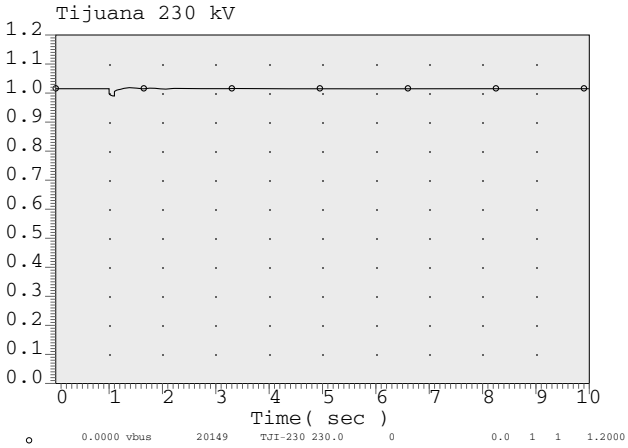


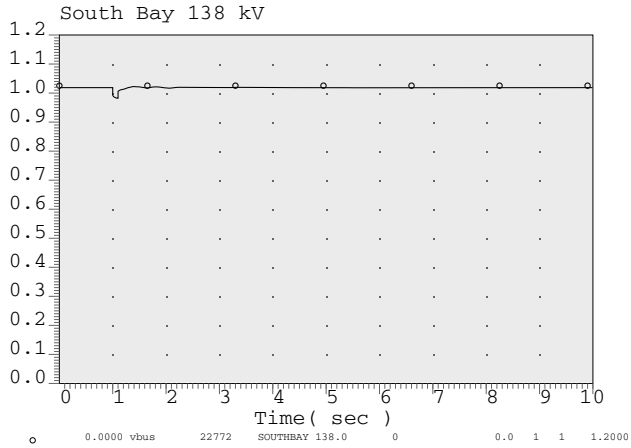


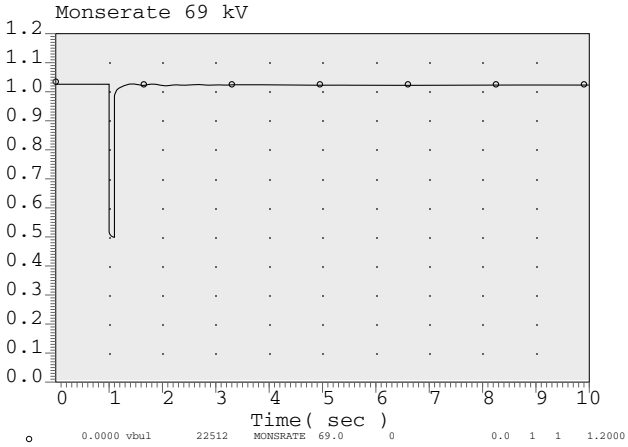


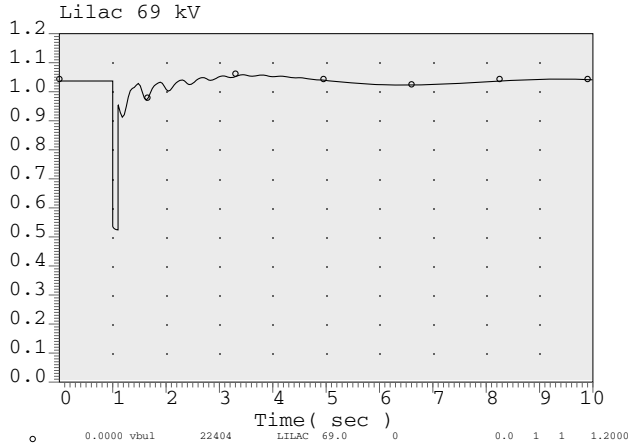
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

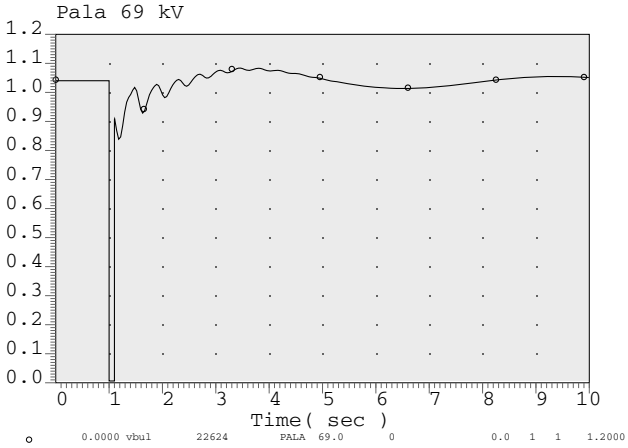
Bus Voltage

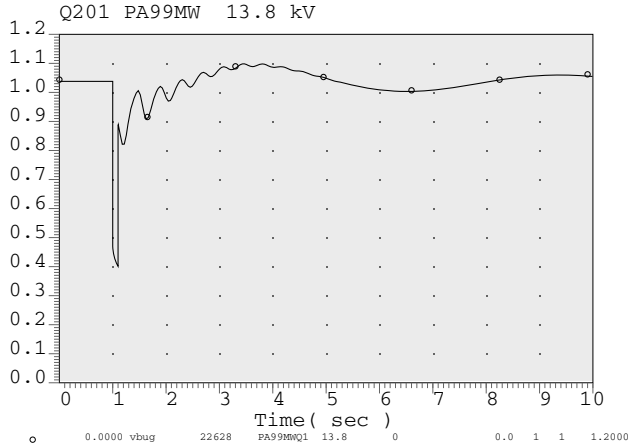






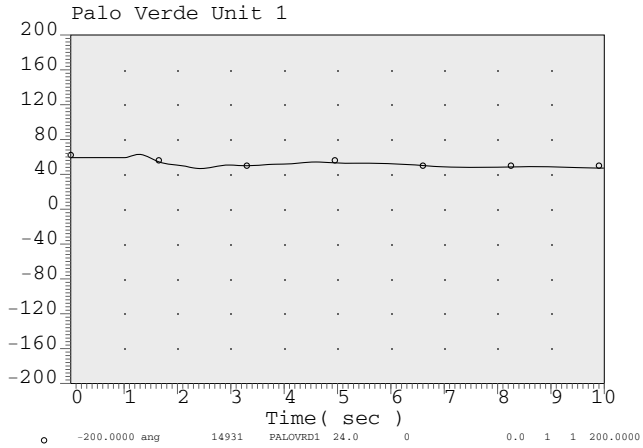


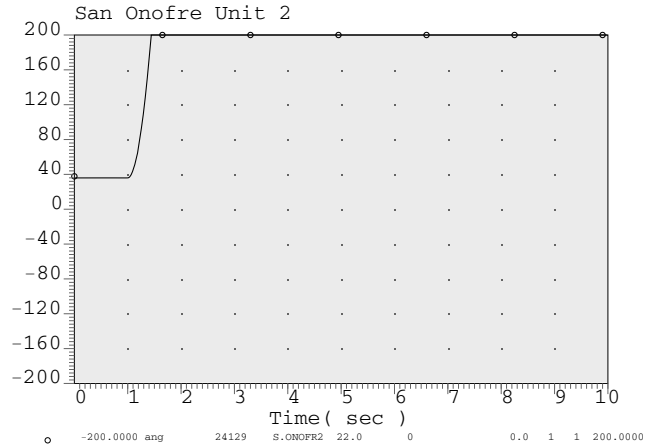


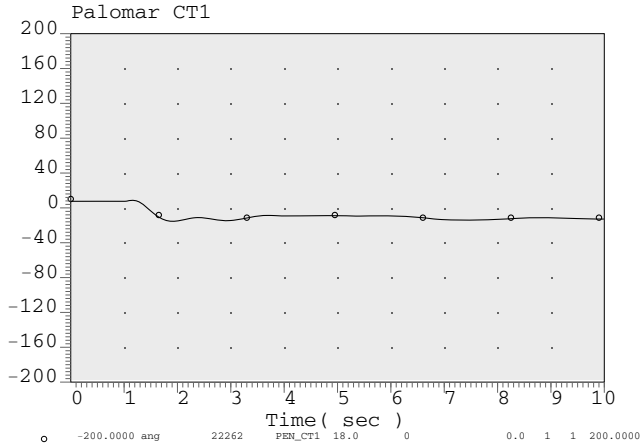


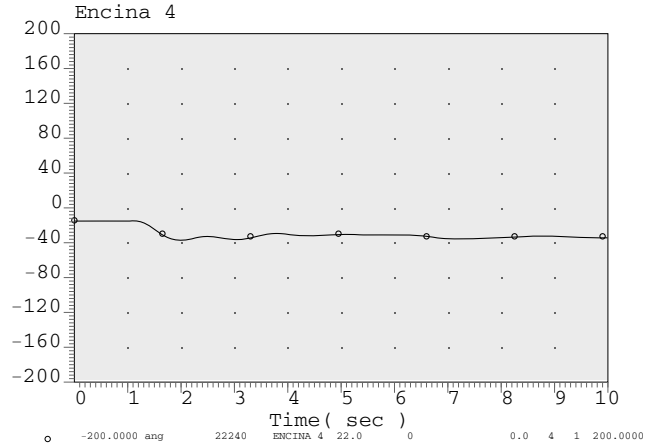
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at Pala 69 kV, trip Avocado-Monserate-Pala 69 kV TL698

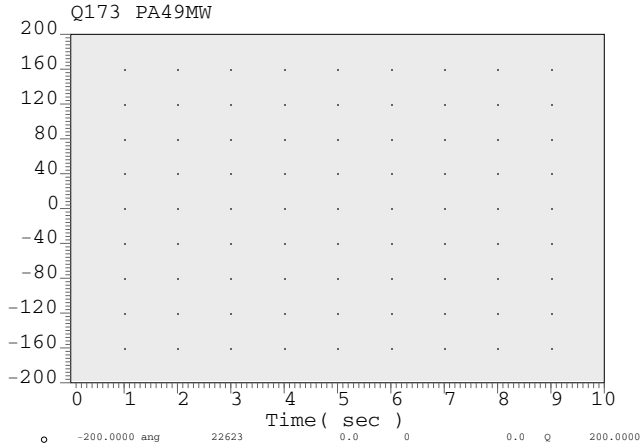
Relative Rotor Angle

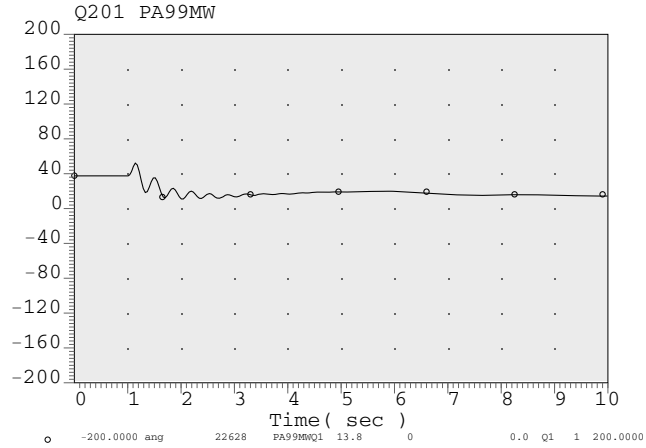






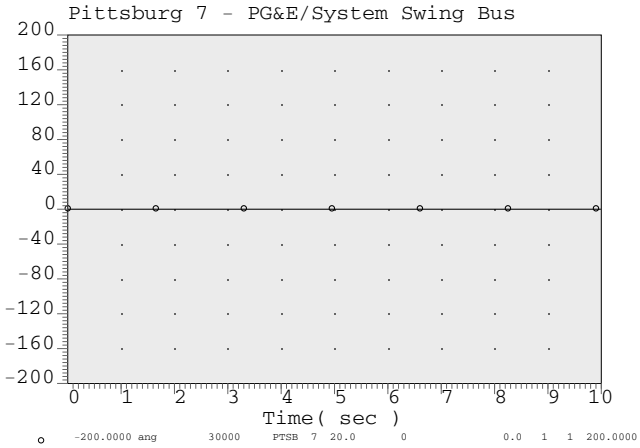


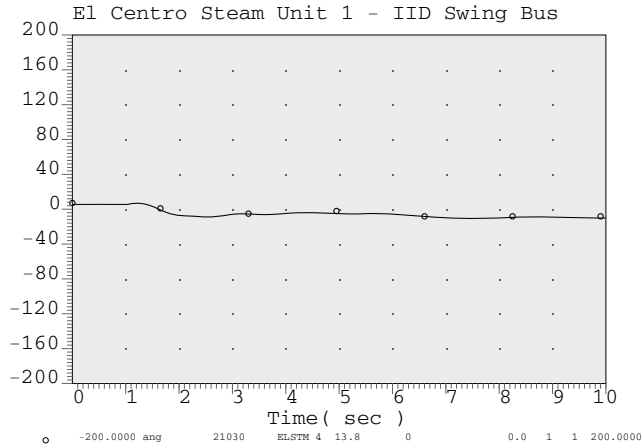


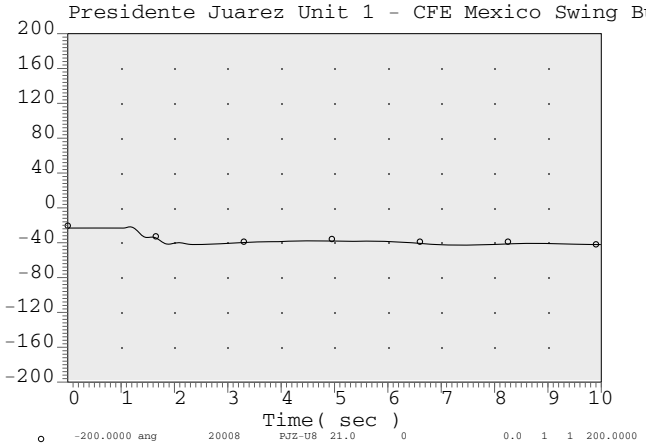


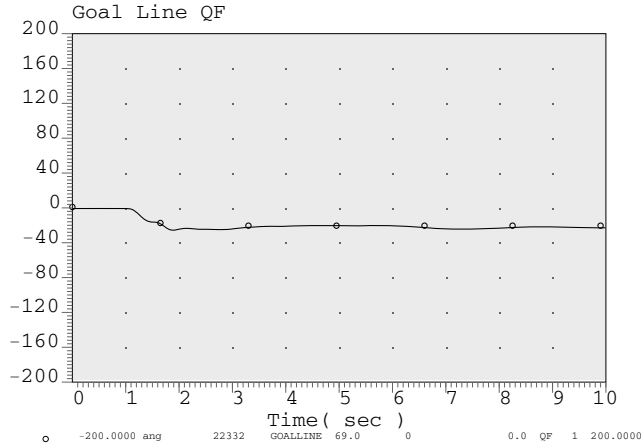
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

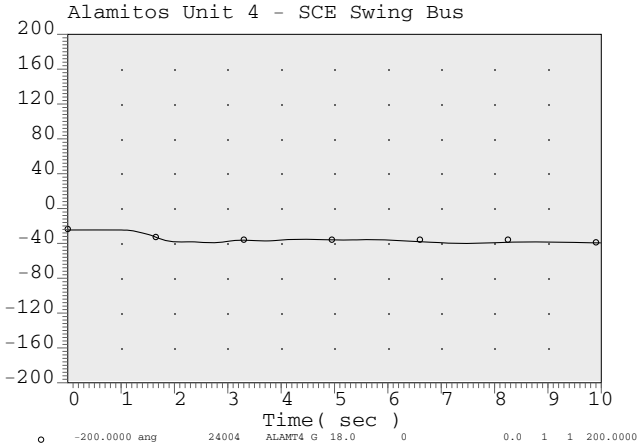
Relative Rotor Angle

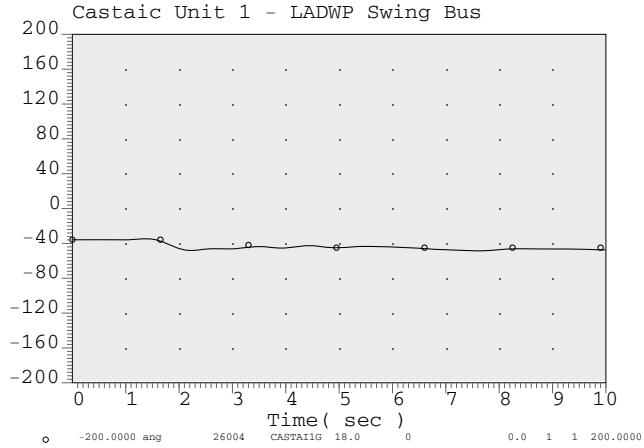






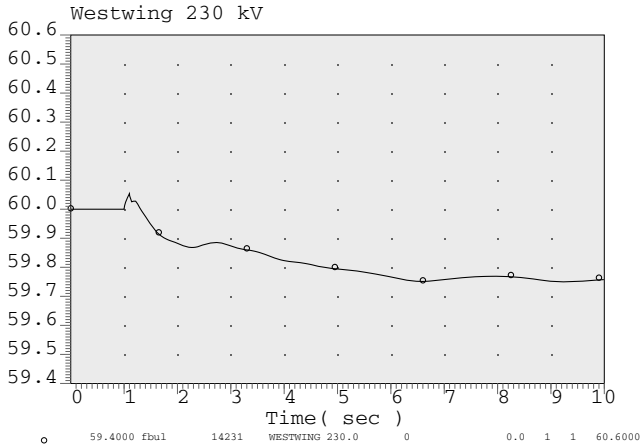


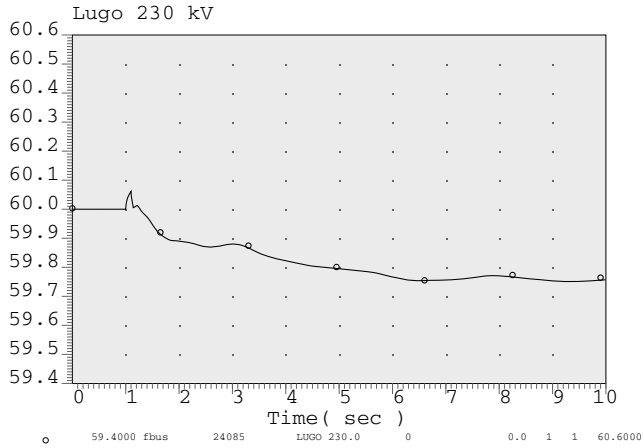


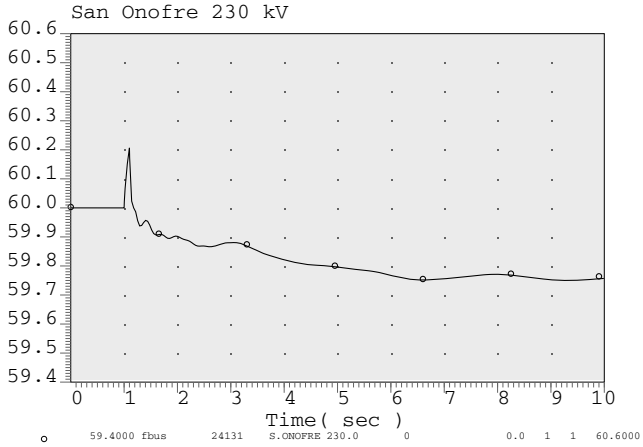


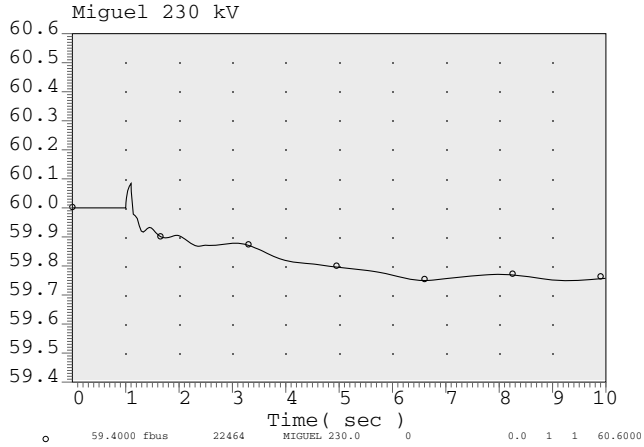
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

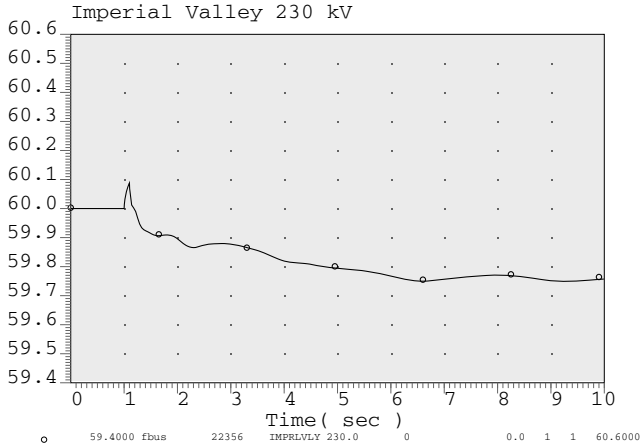
Bus Frequency

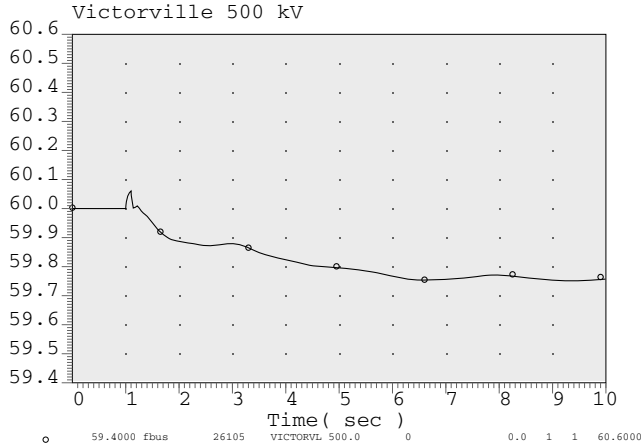






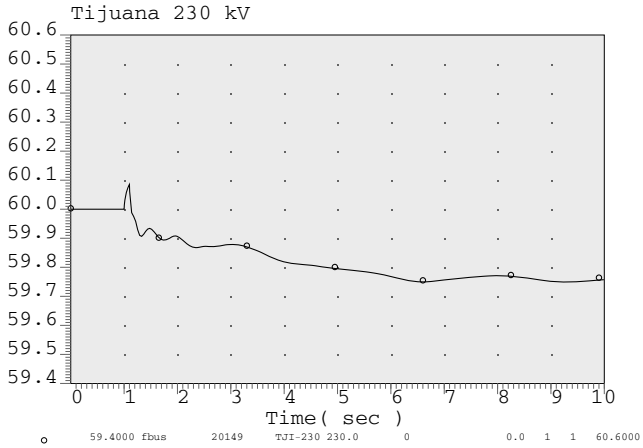


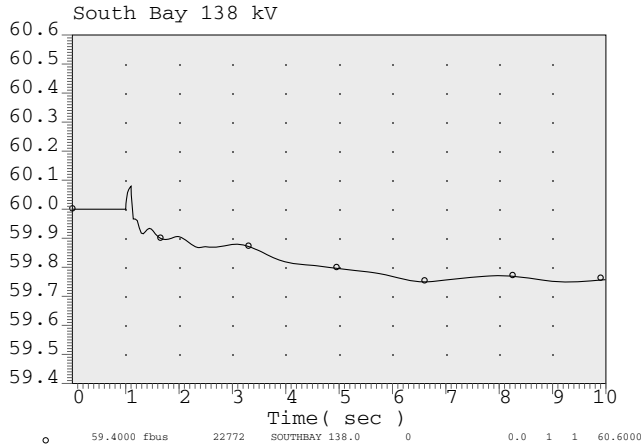


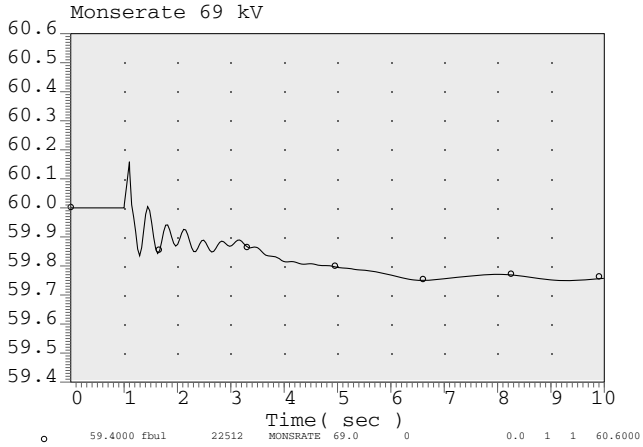


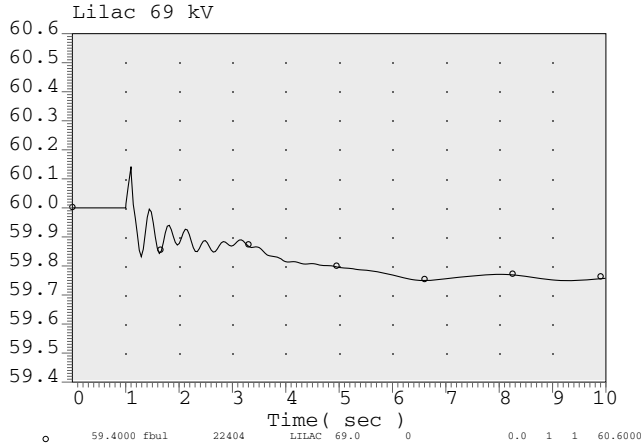
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

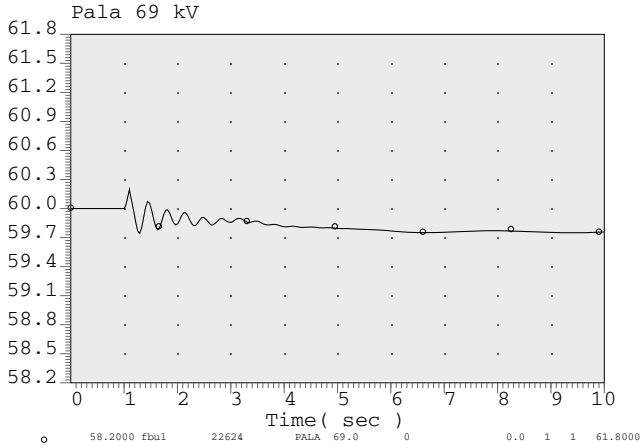
Bus Frequency

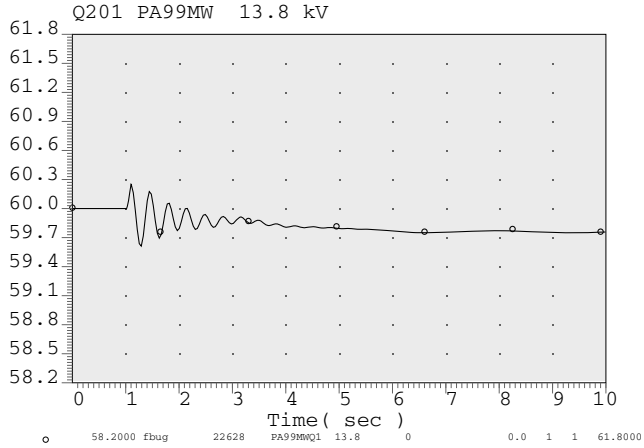






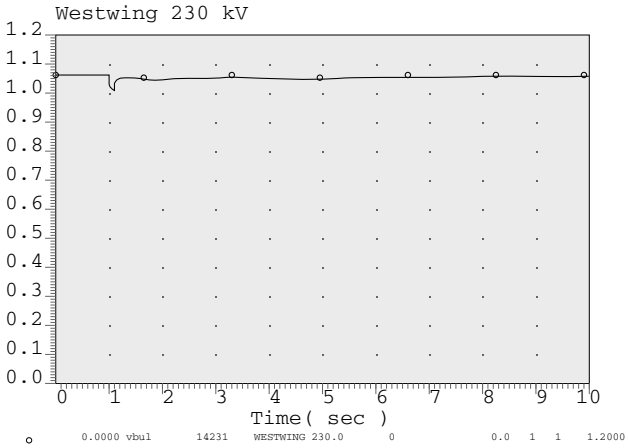


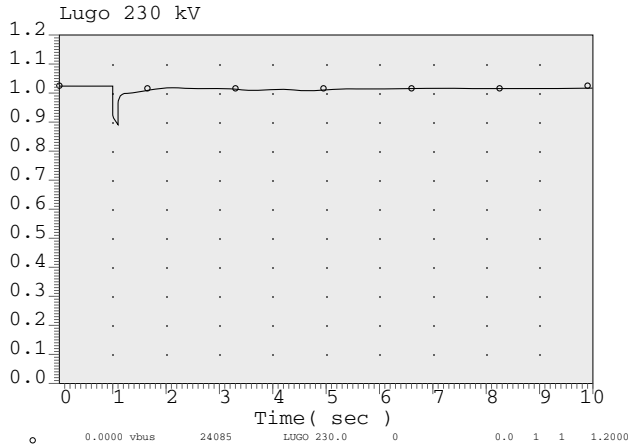


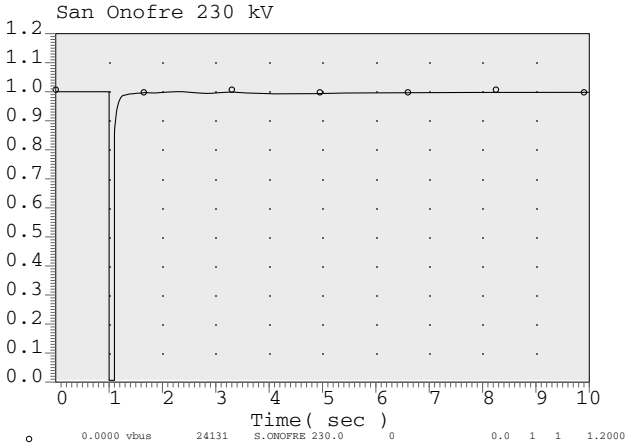


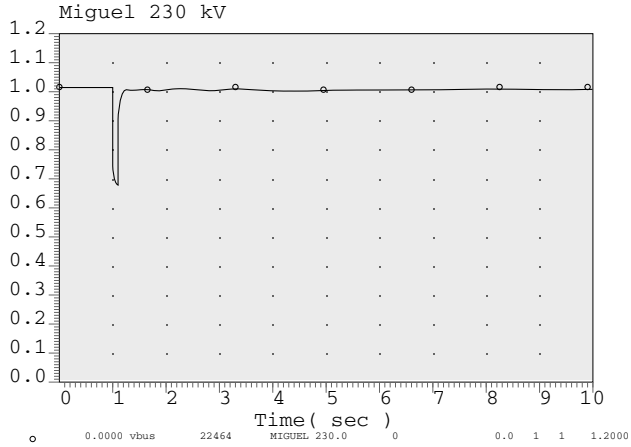
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

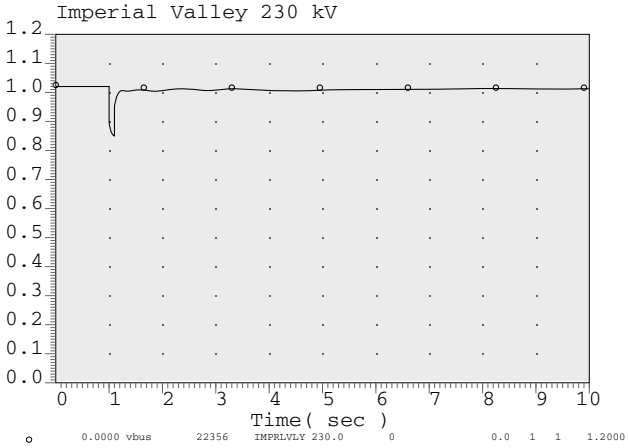
Bus Voltage

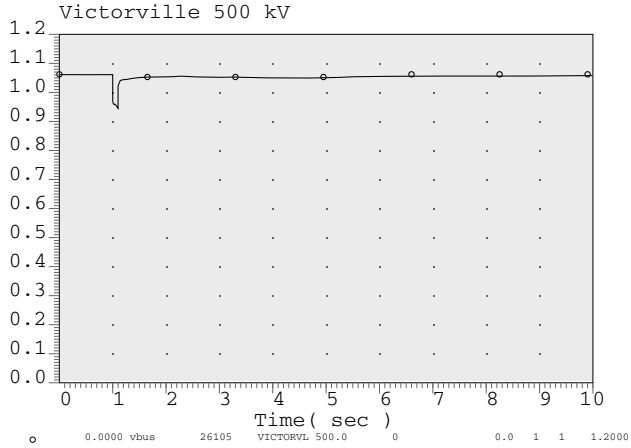






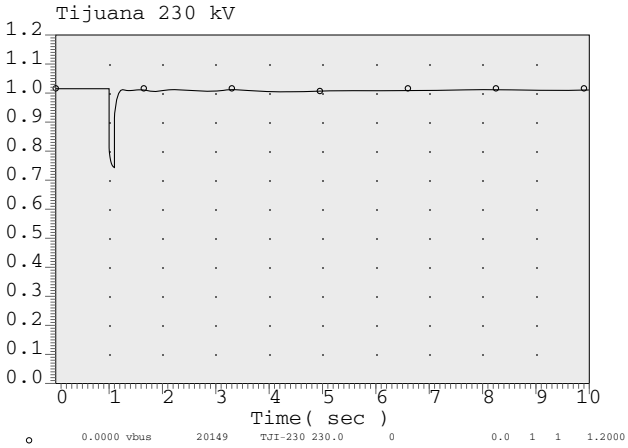


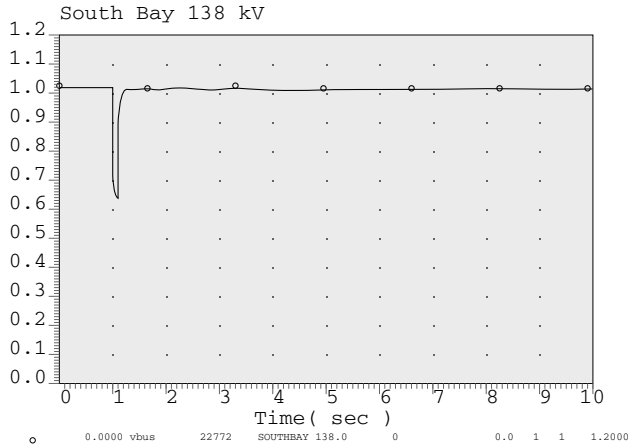


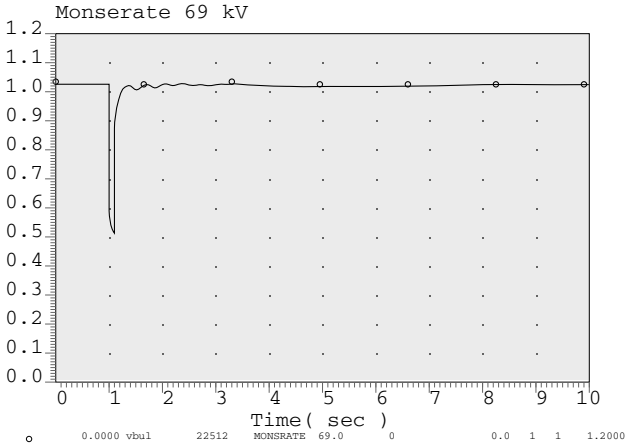


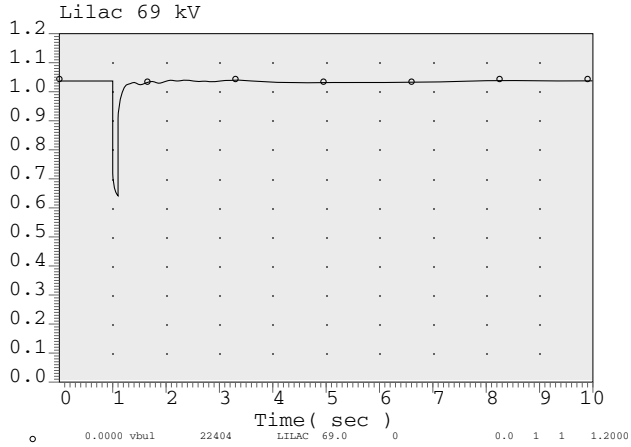
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

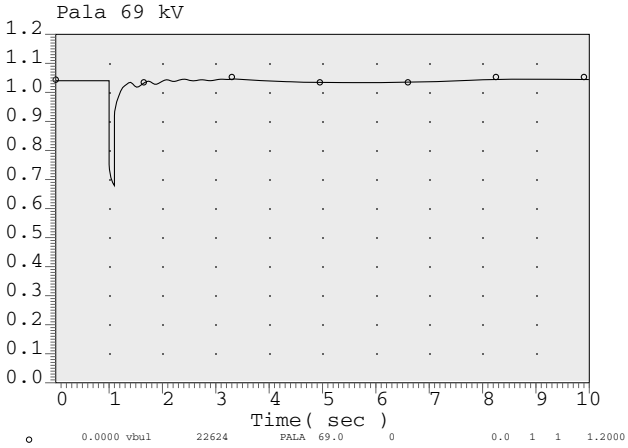
Bus Voltage

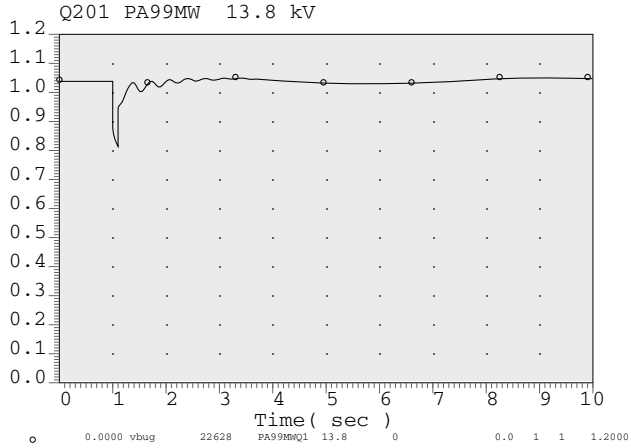






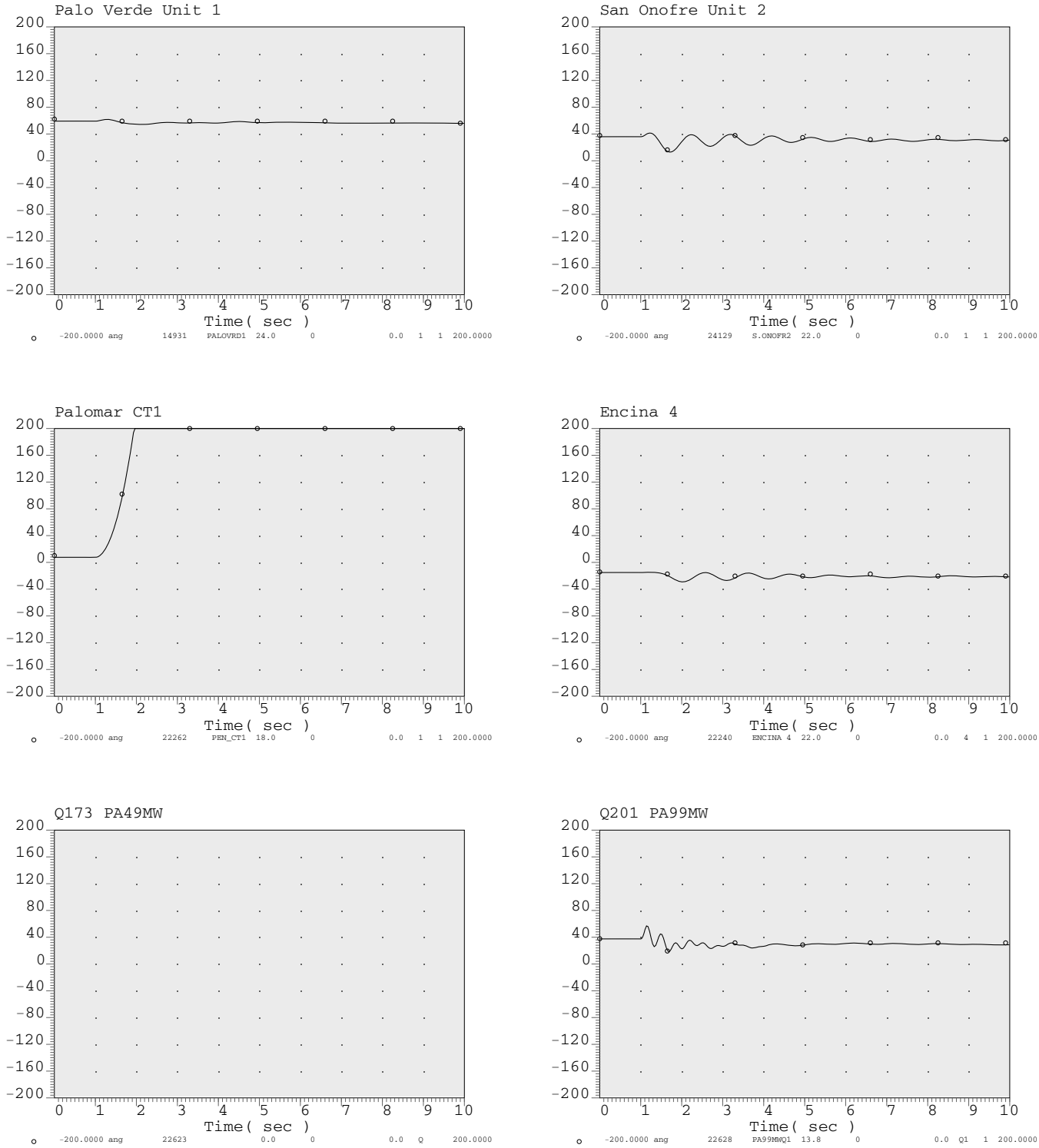






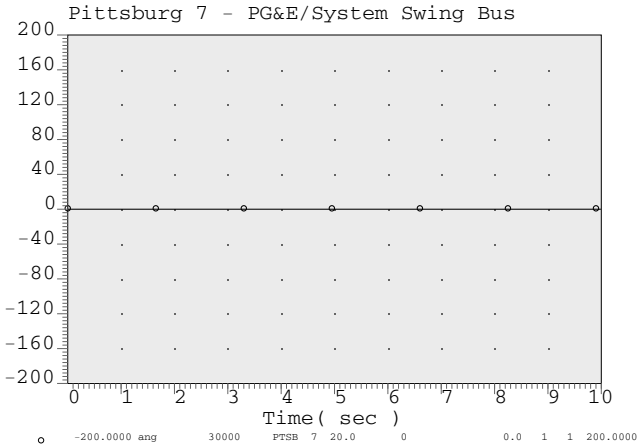
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at San Onofre 230 kV, trip SONGS units #2 and #3

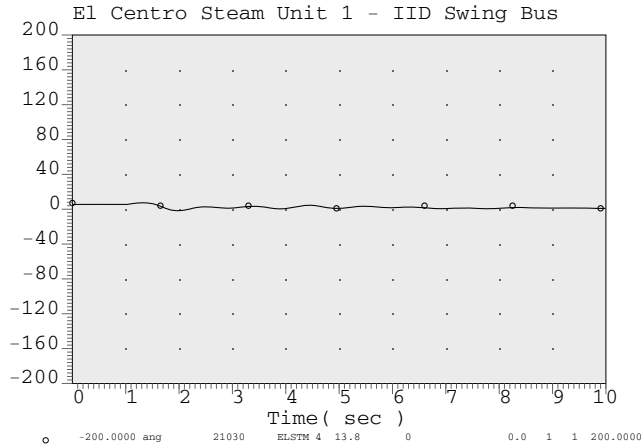
Relative Rotor Angle

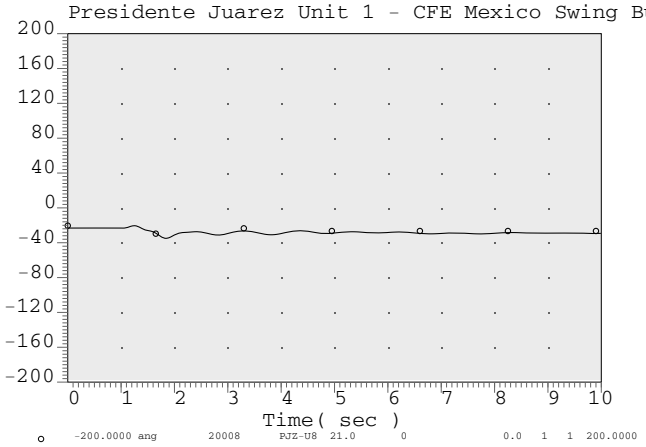


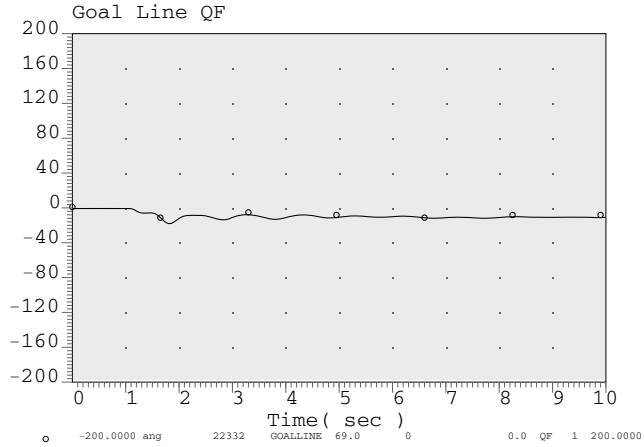
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

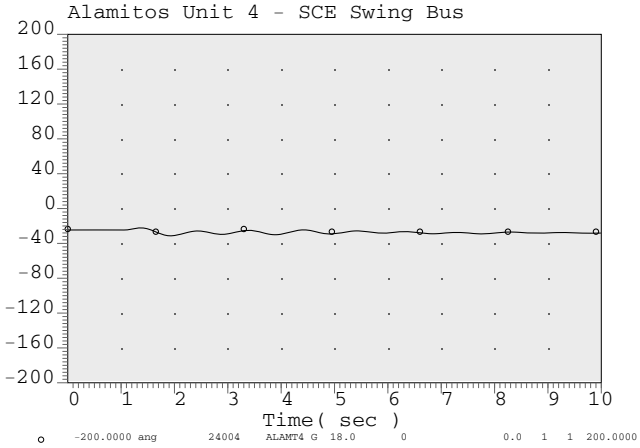
Relative Rotor Angle

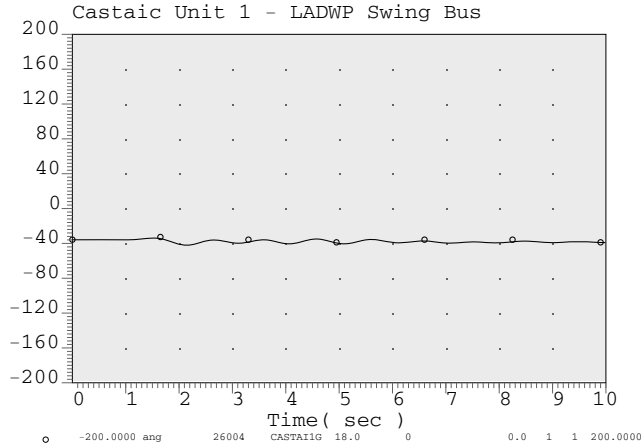






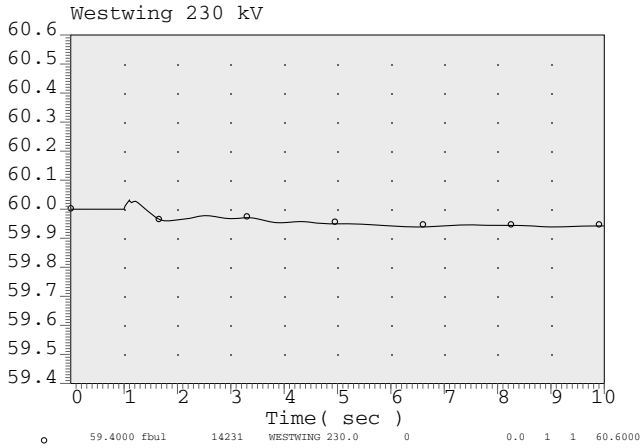


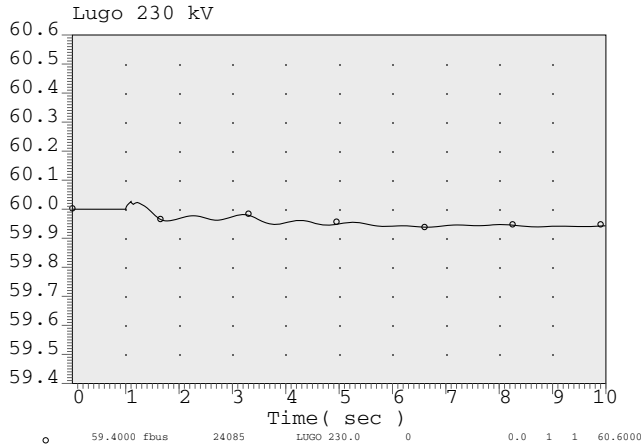


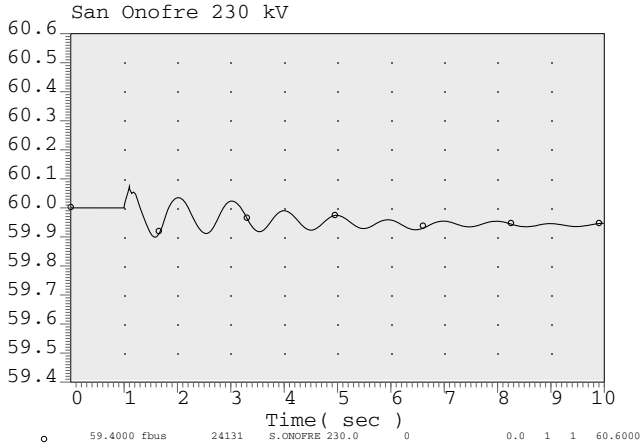


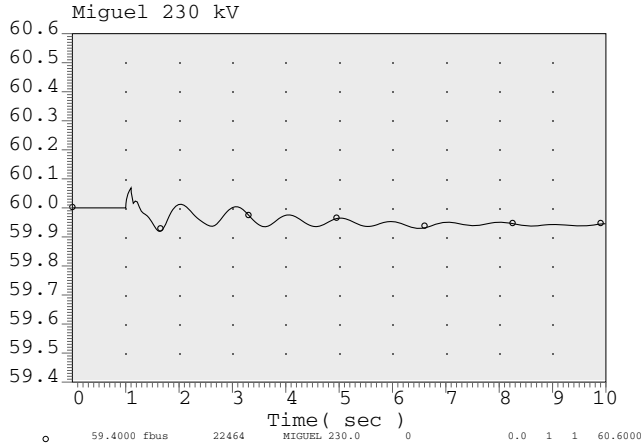
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

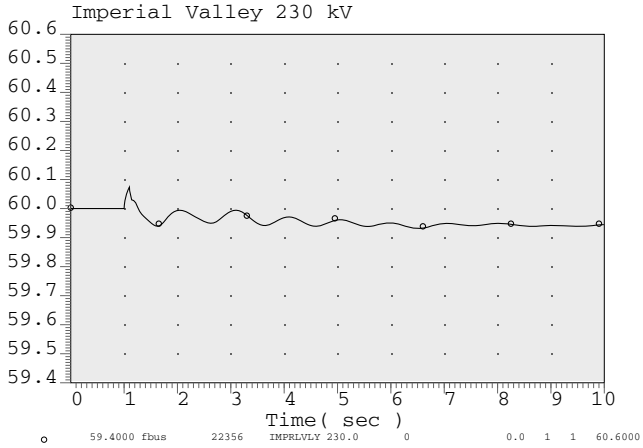
Bus Frequency

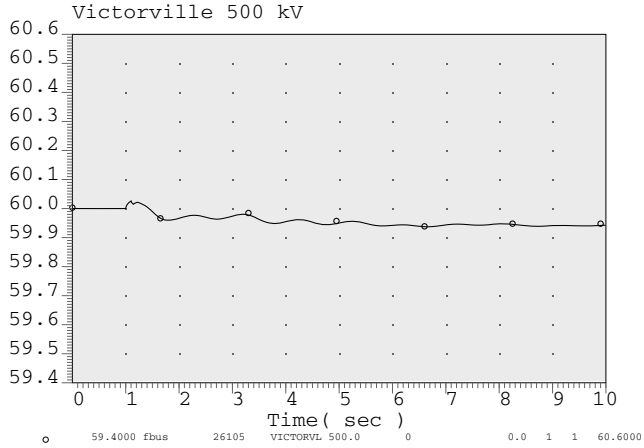






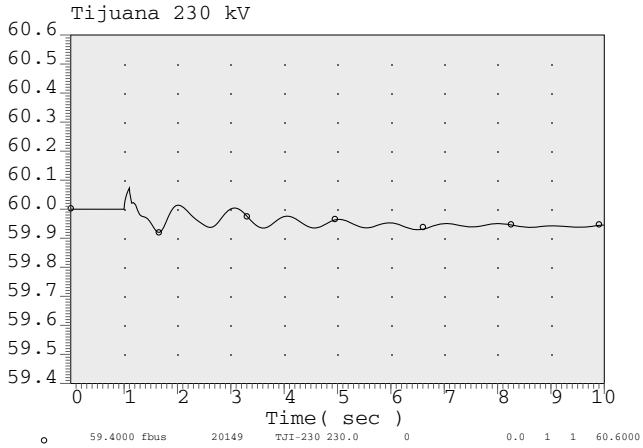


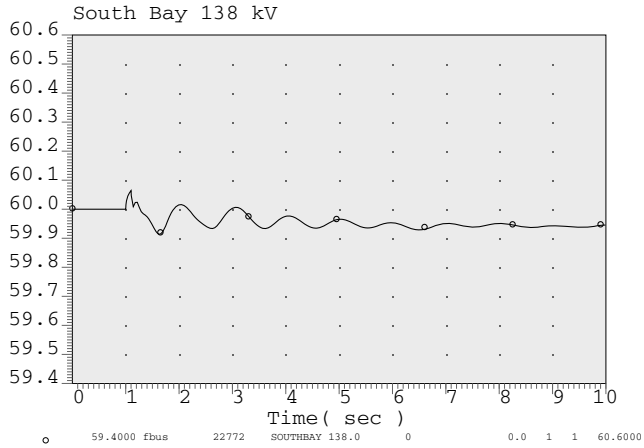


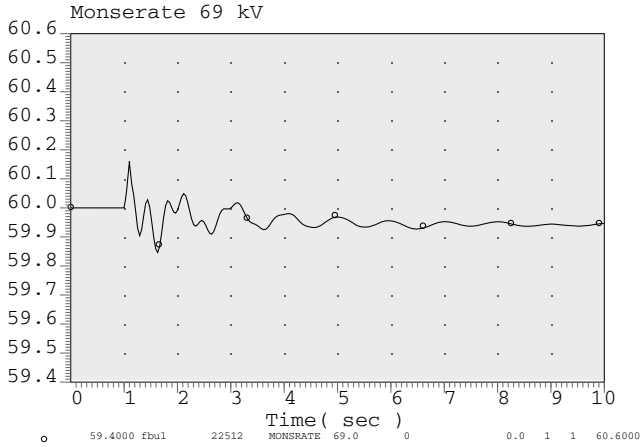


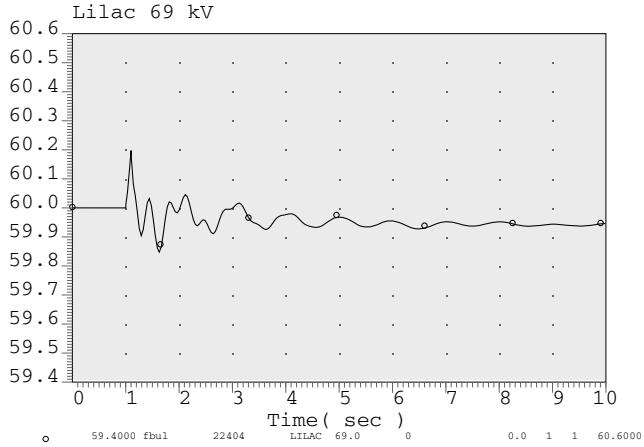
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

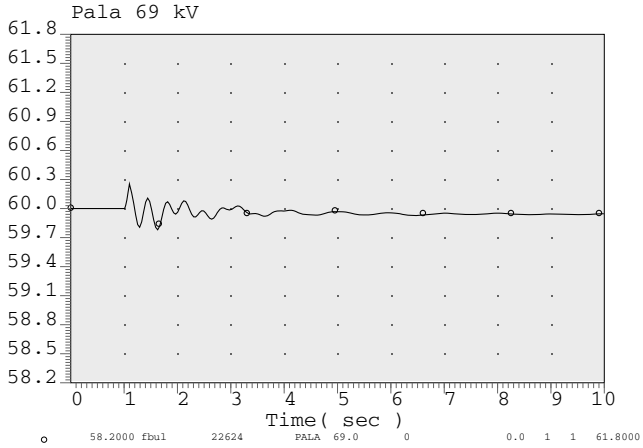
Bus Frequency

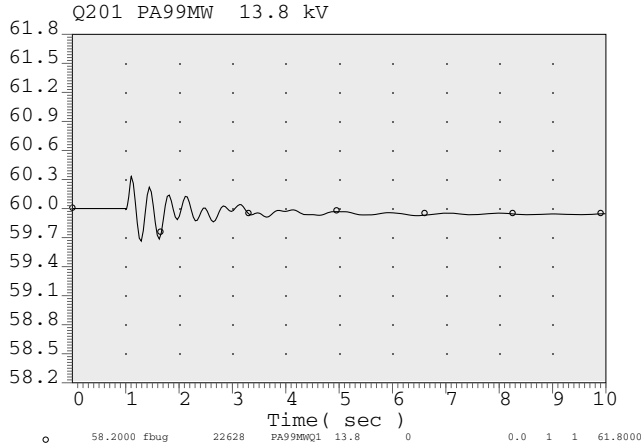






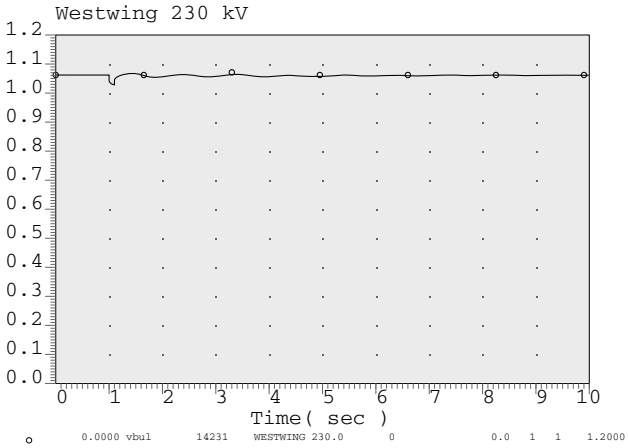


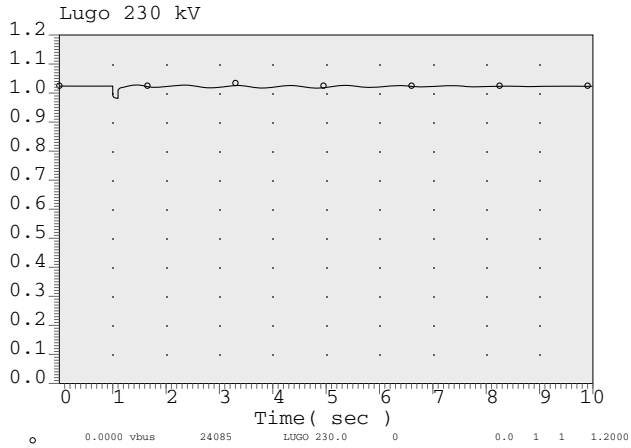


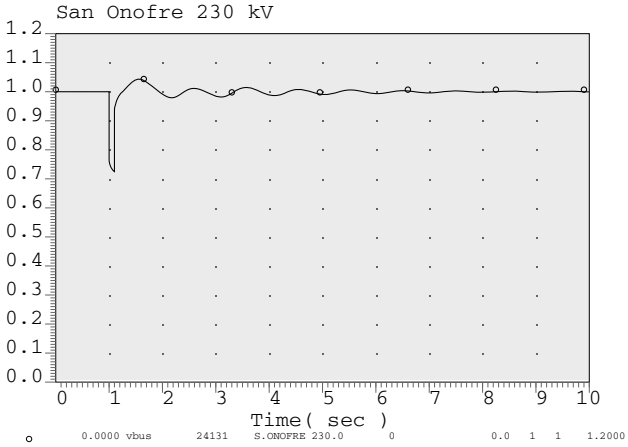


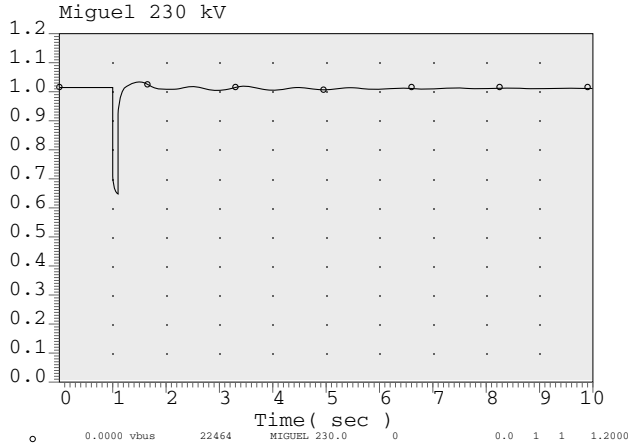
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

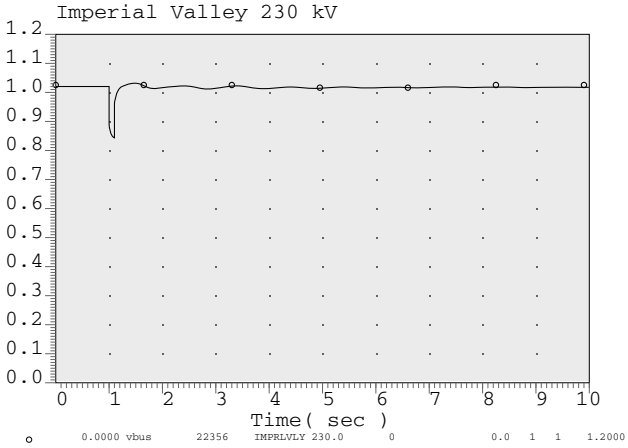
Bus Voltage

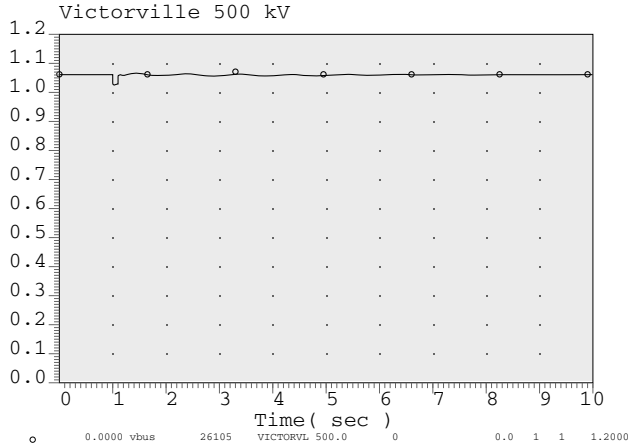






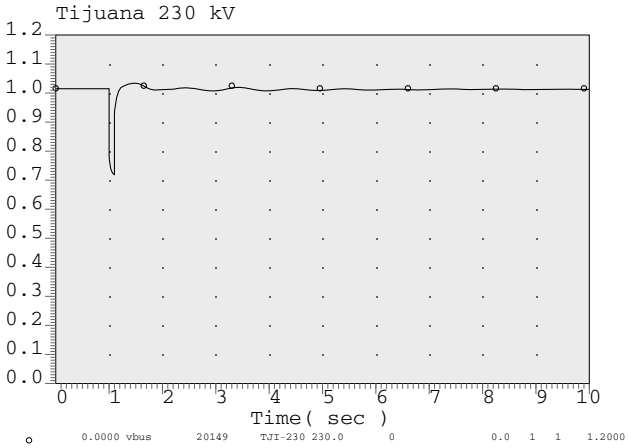


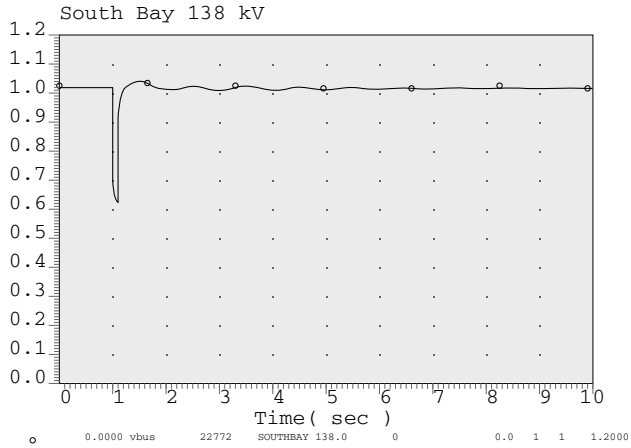


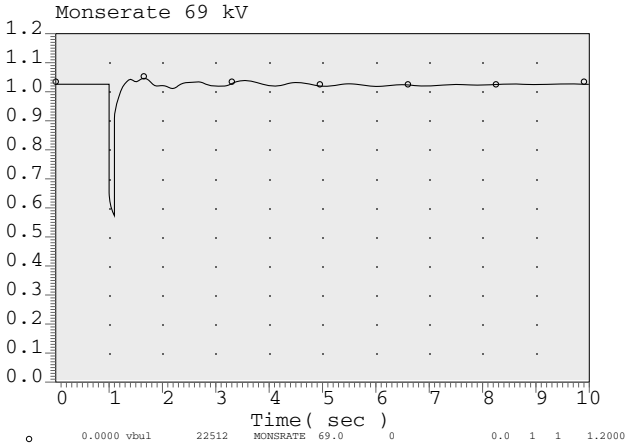


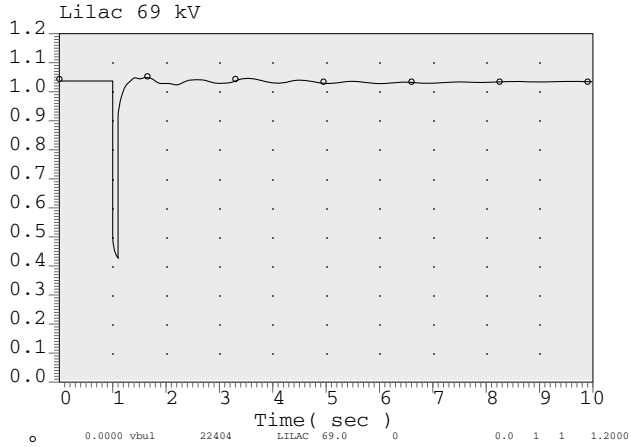
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

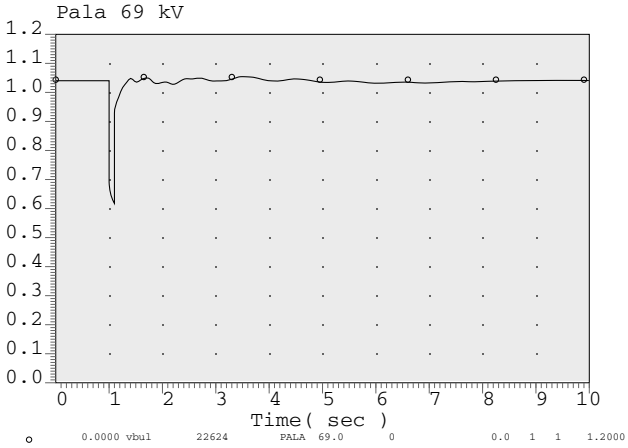
Bus Voltage

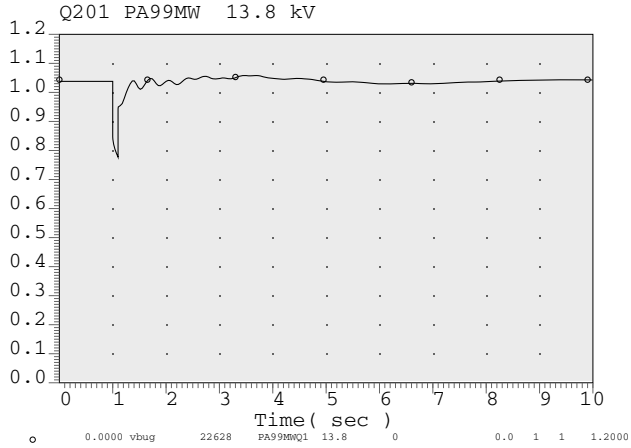






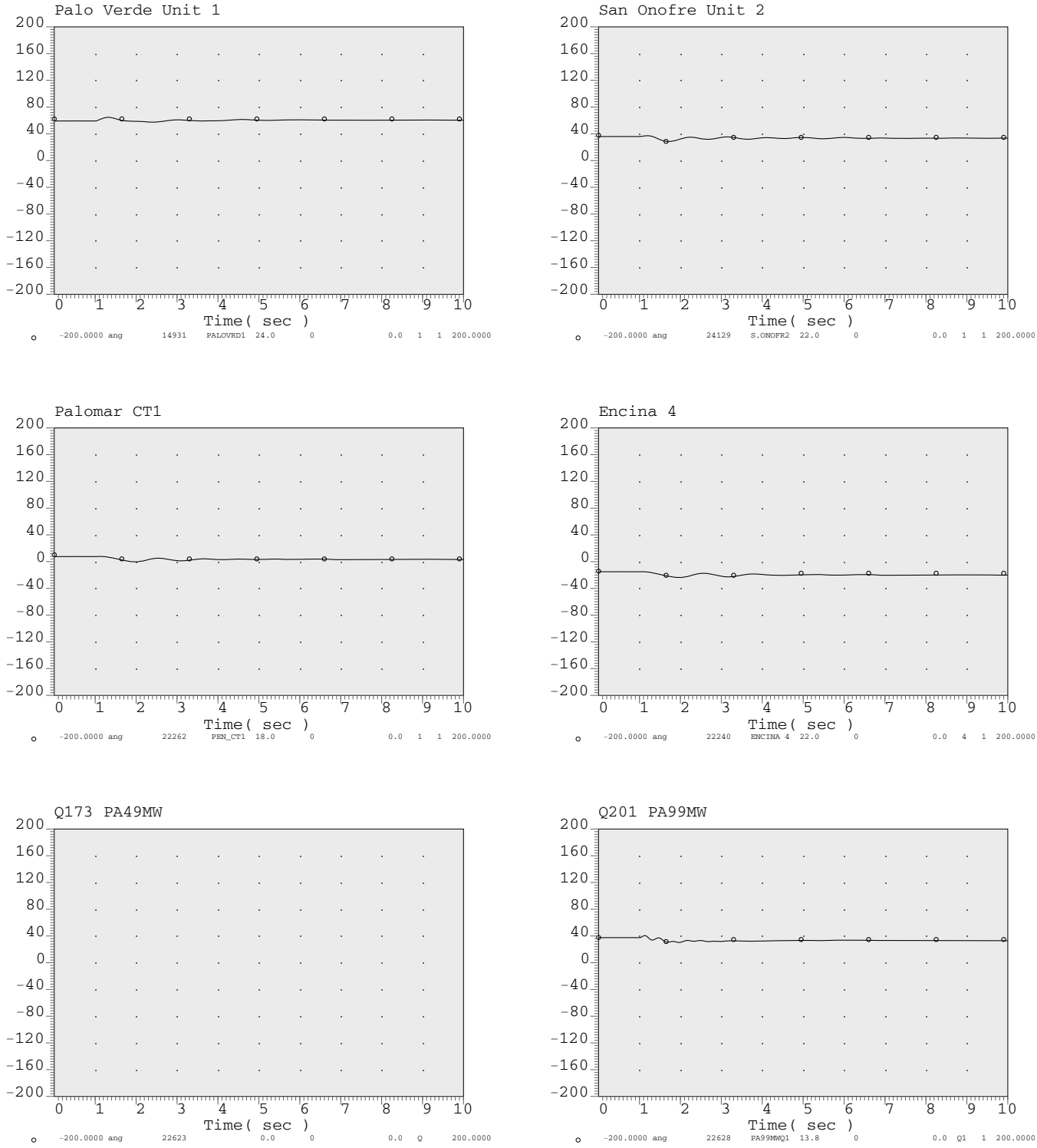






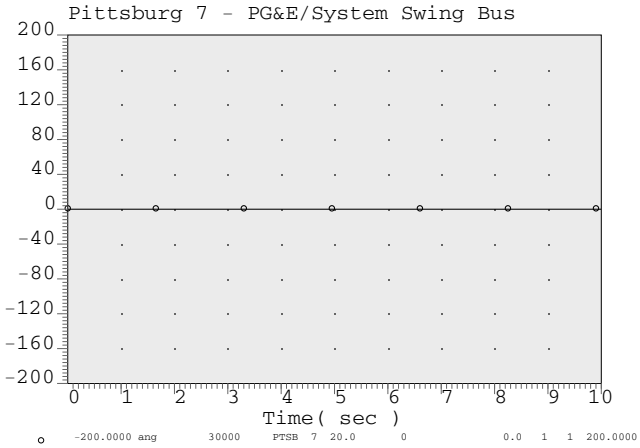
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 6 cycle fault at PEN, trip PEN units 1, 2 and 3

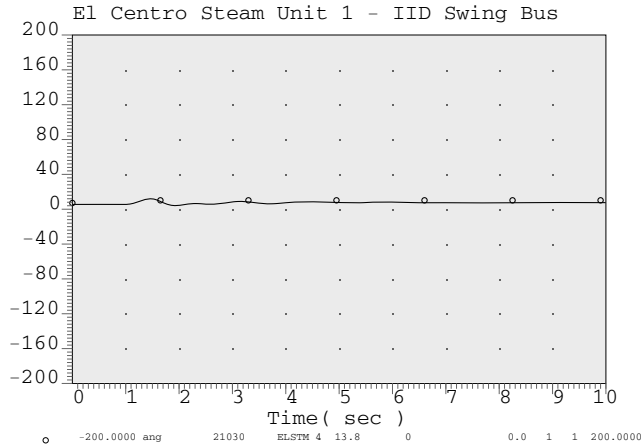
Relative Rotor Angle

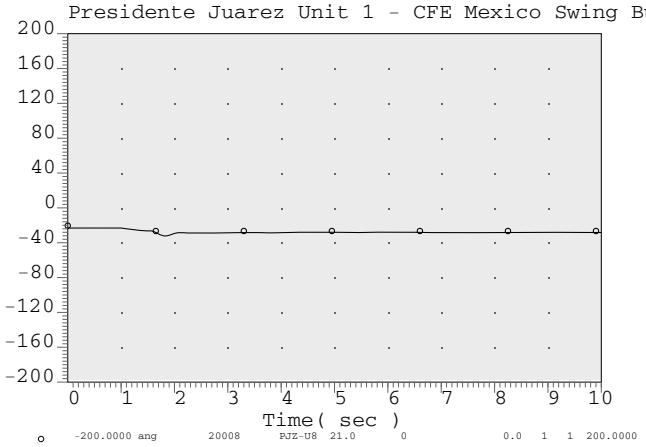


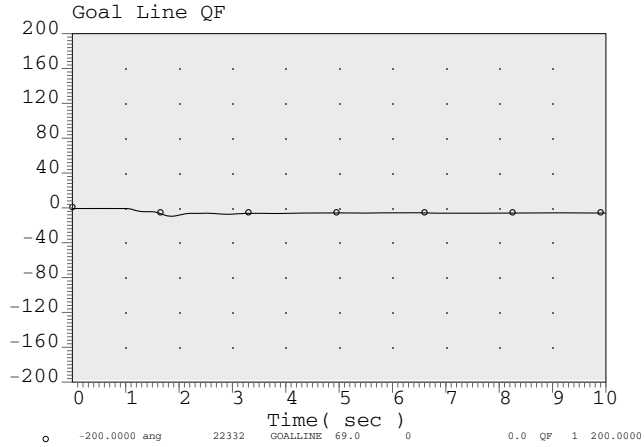
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

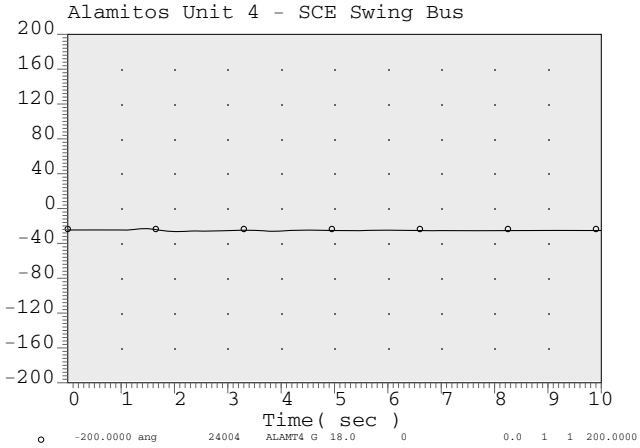
Relative Rotor Angle

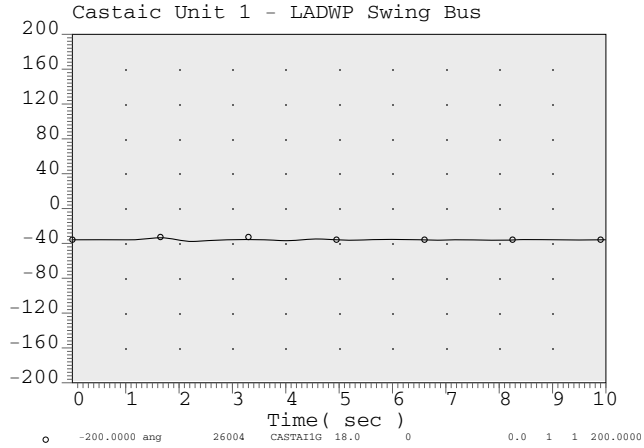






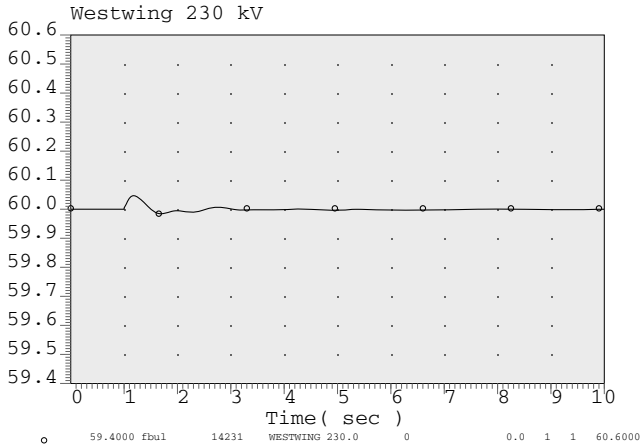


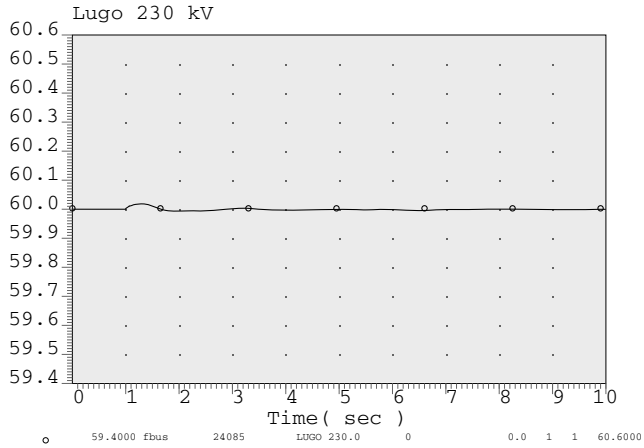


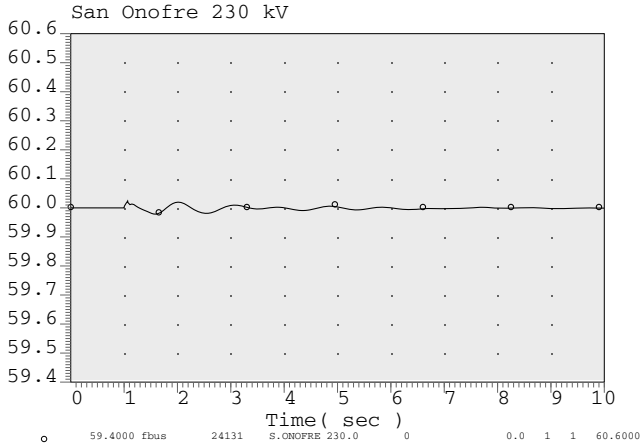


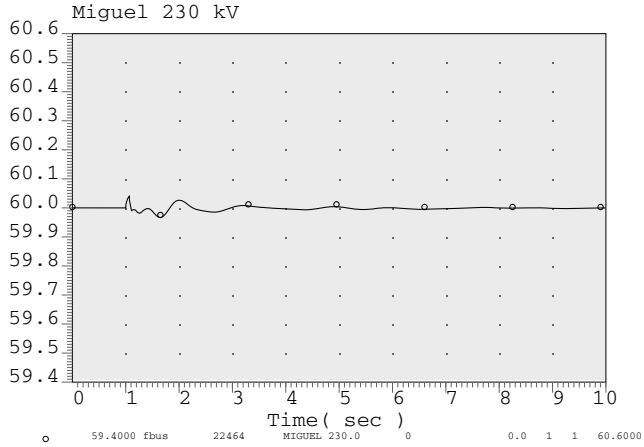
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

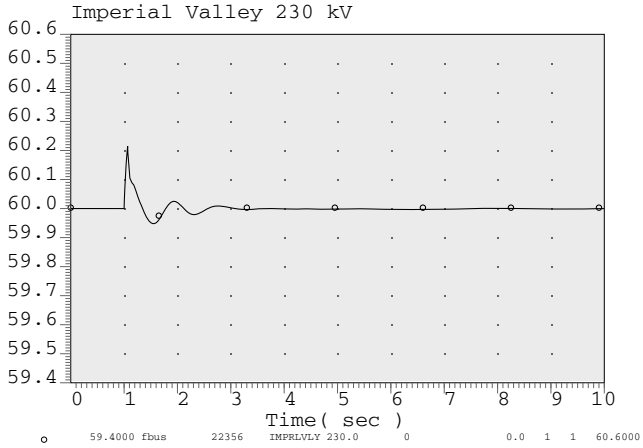
Bus Frequency

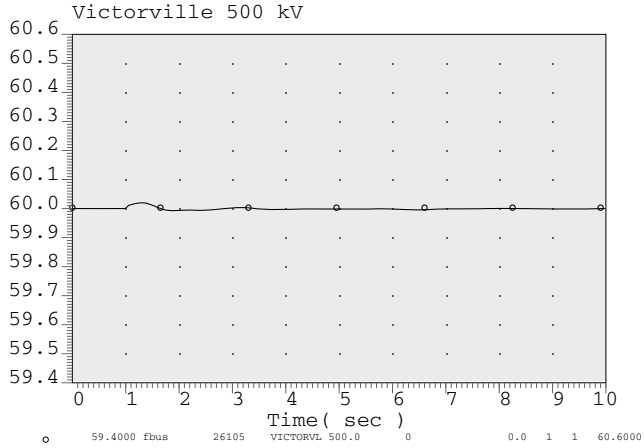






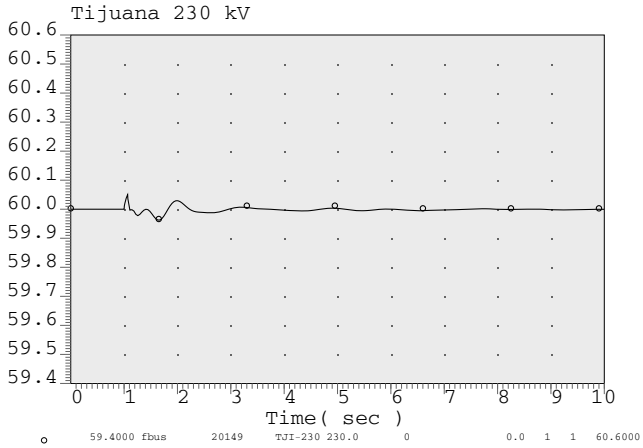


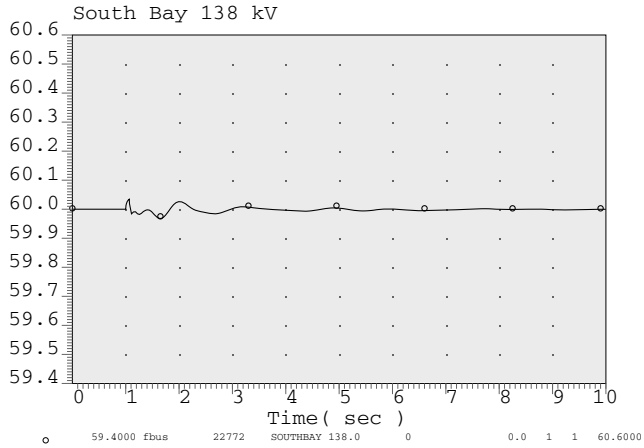


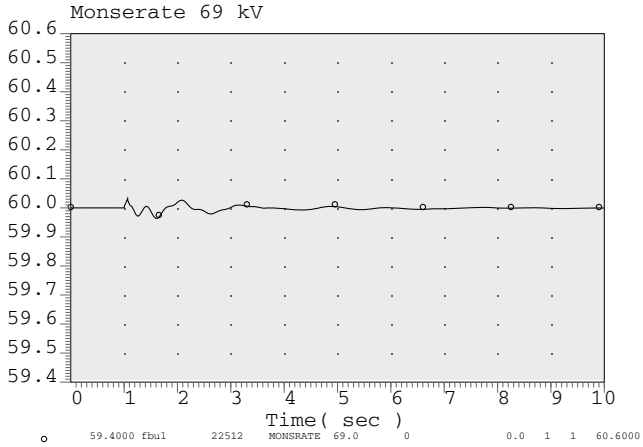


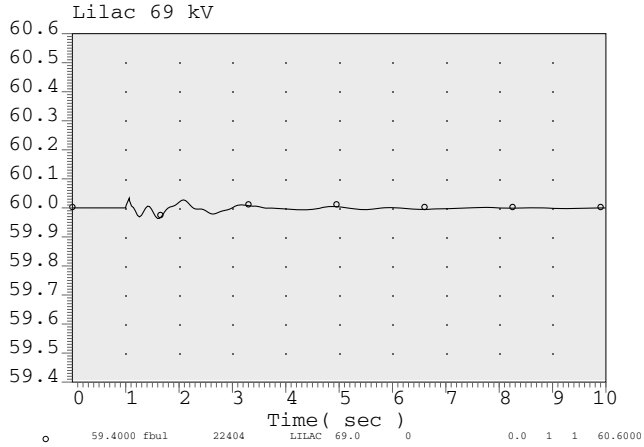
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

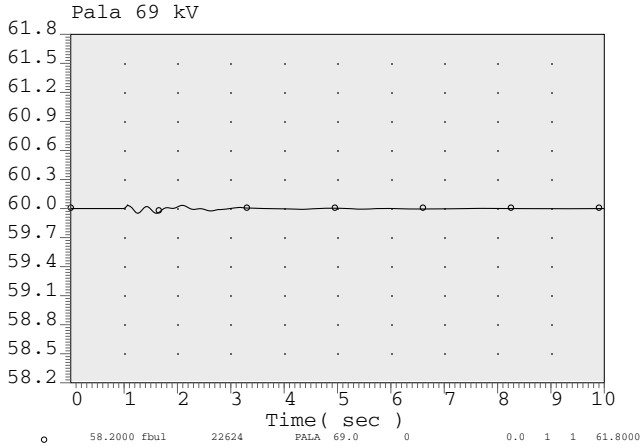
Bus Frequency

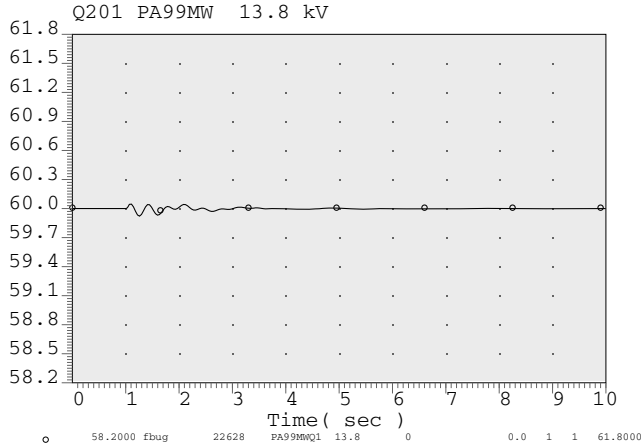






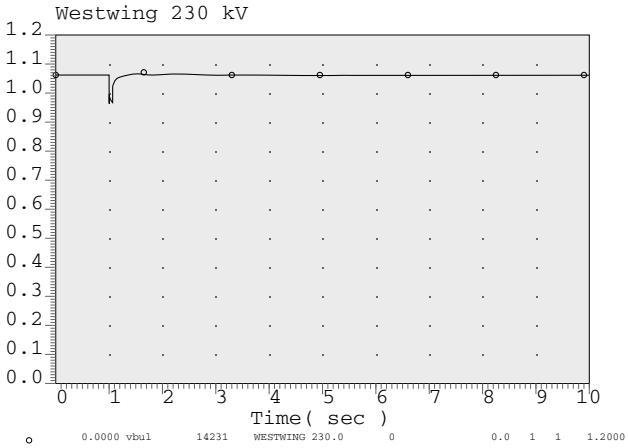


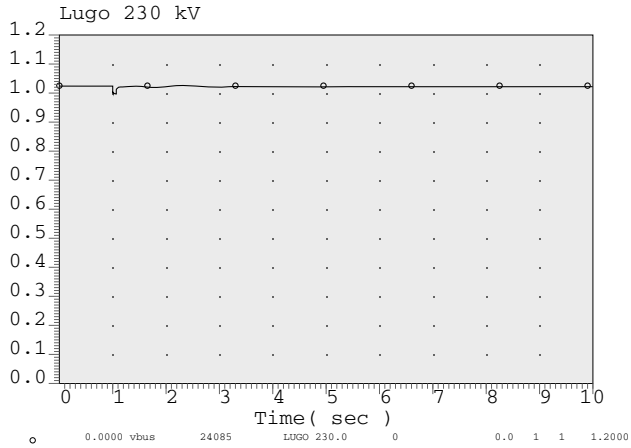


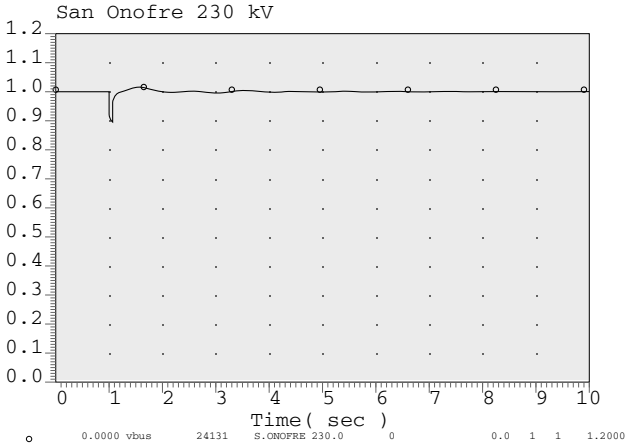


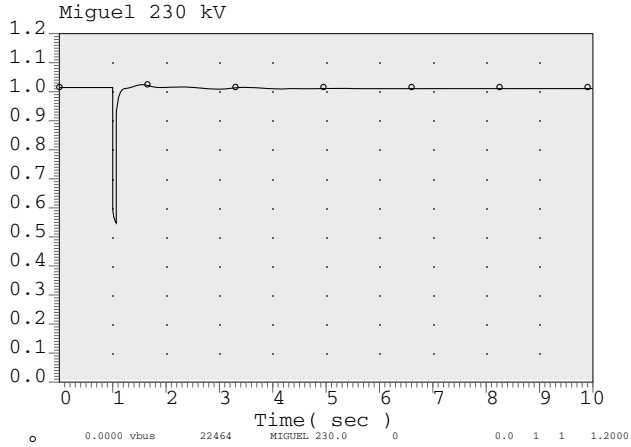
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

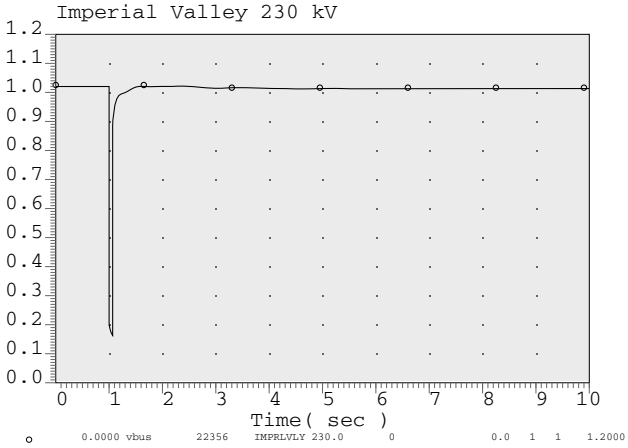
Bus Voltage

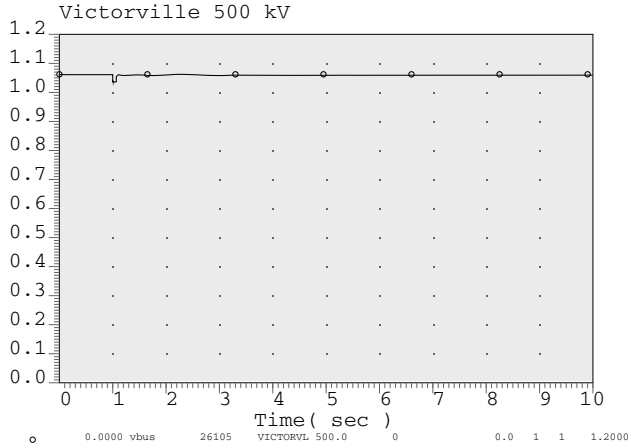






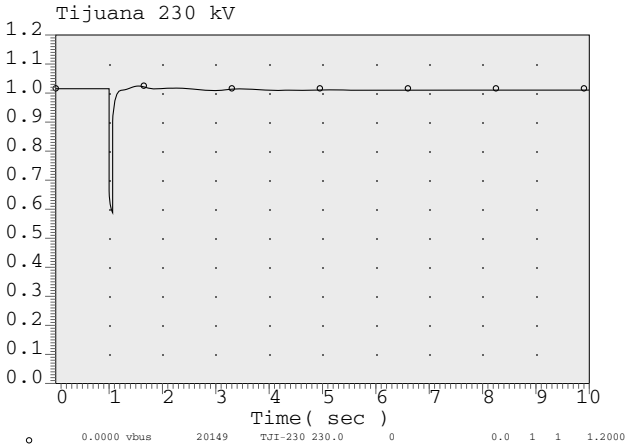


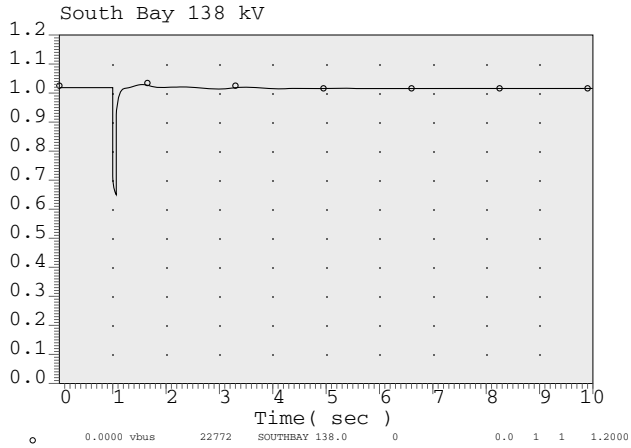


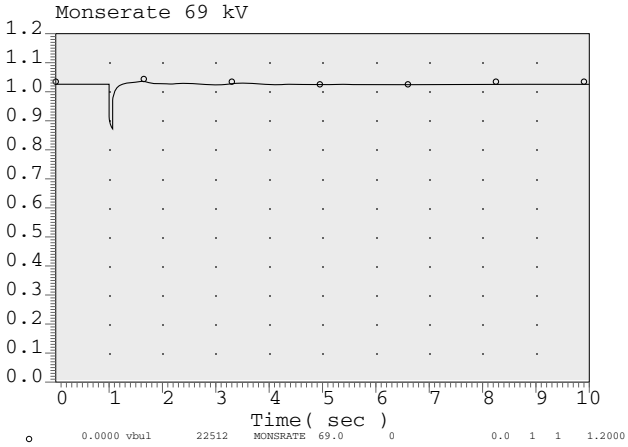


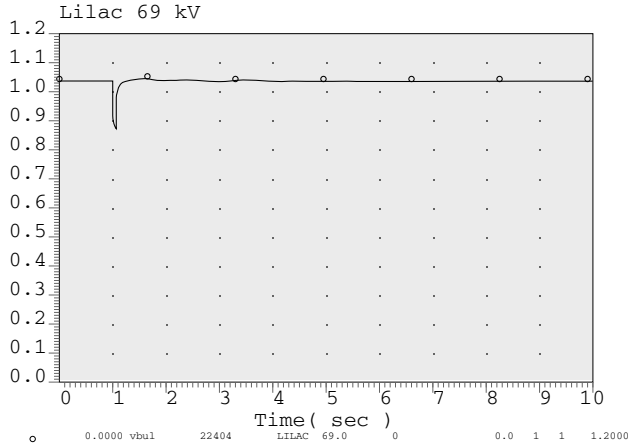
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

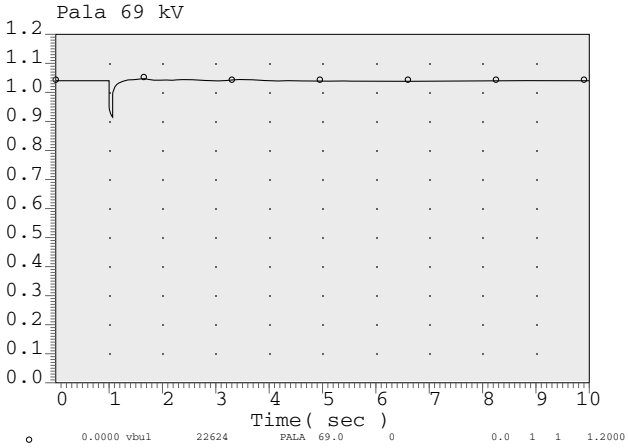
Bus Voltage

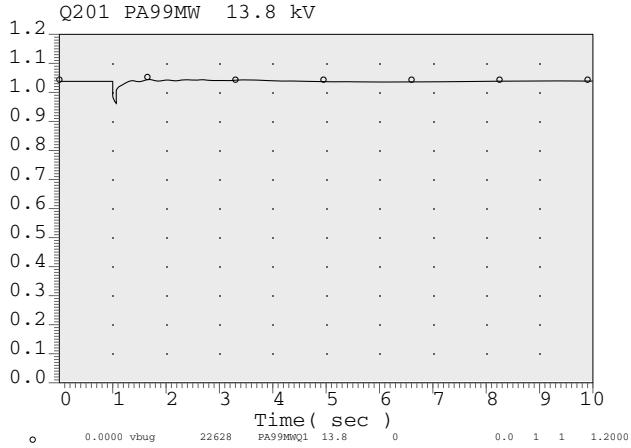






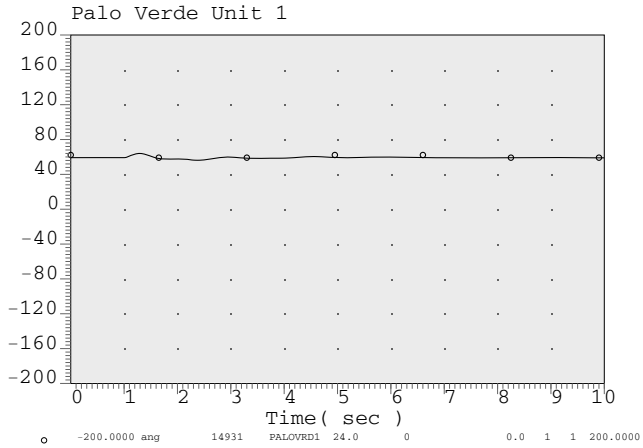


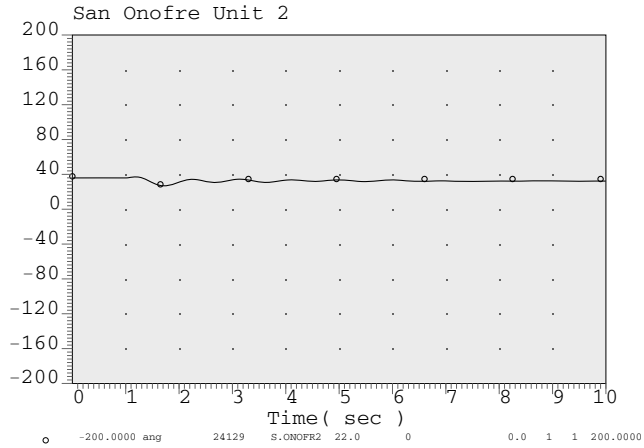


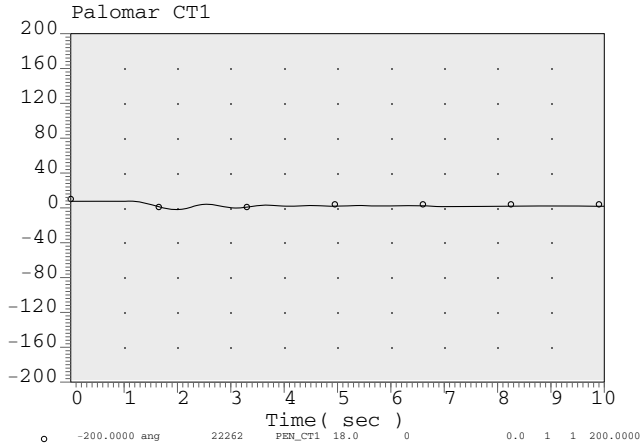


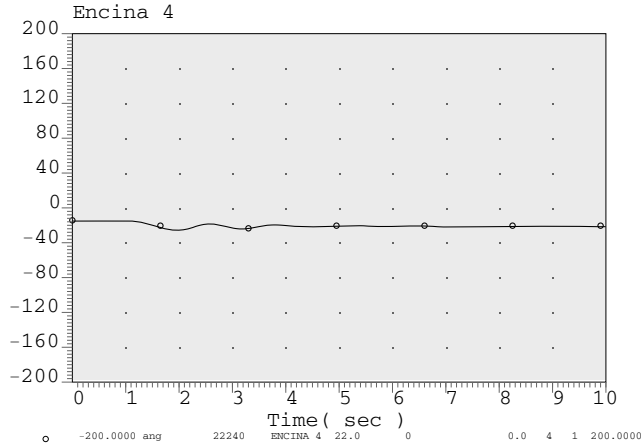
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV

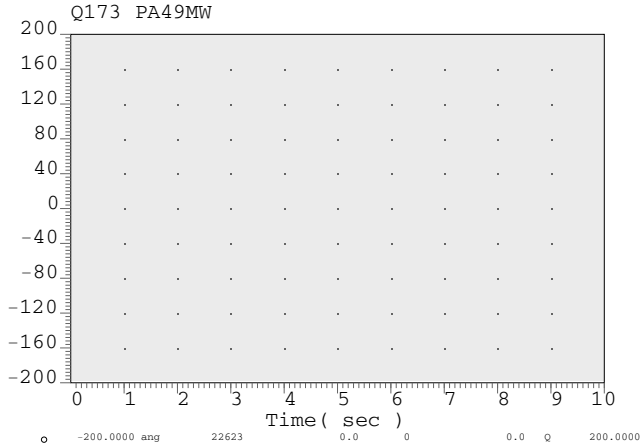
Relative Rotor Angle

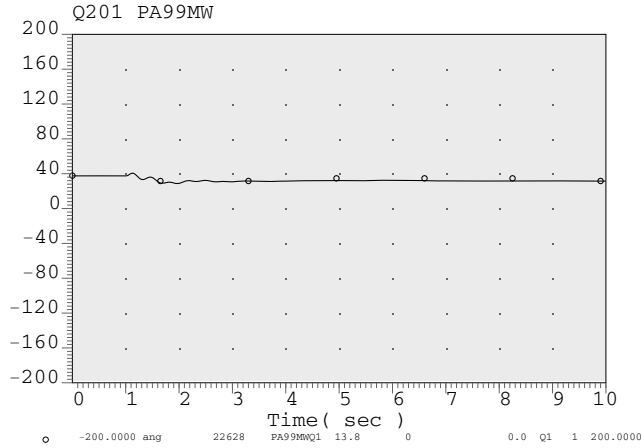






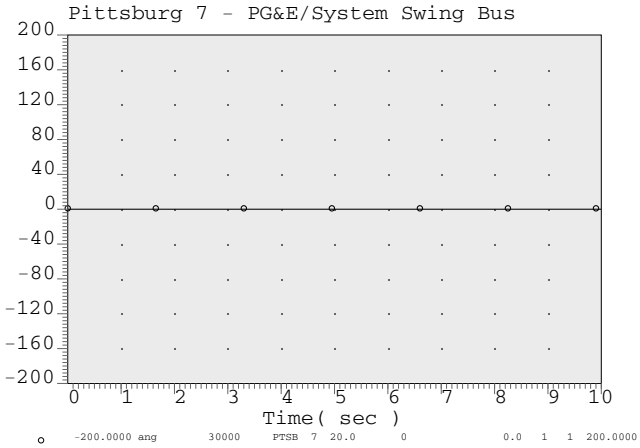


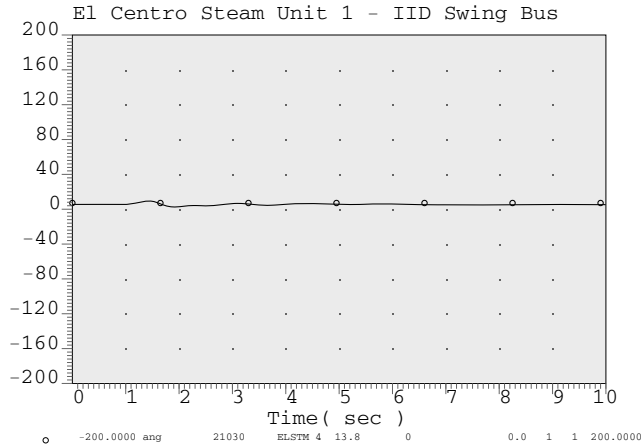


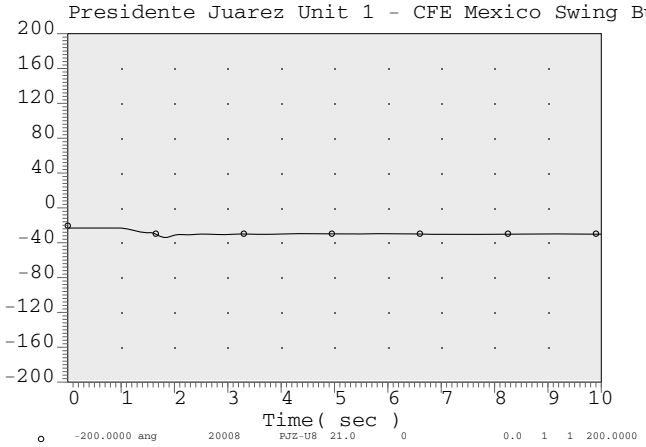


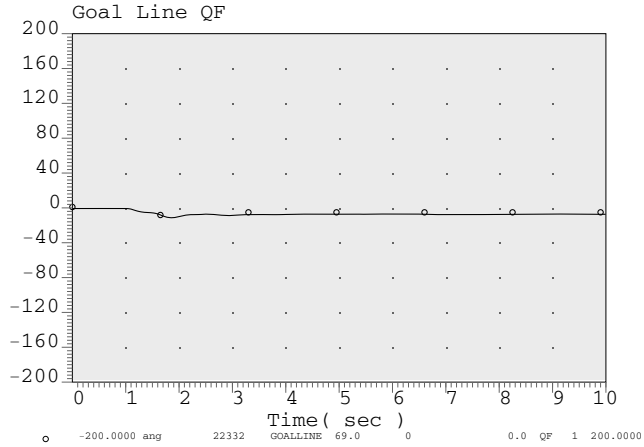
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

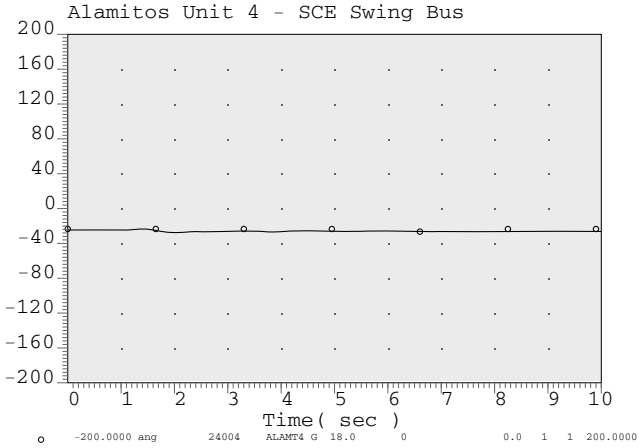
Relative Rotor Angle

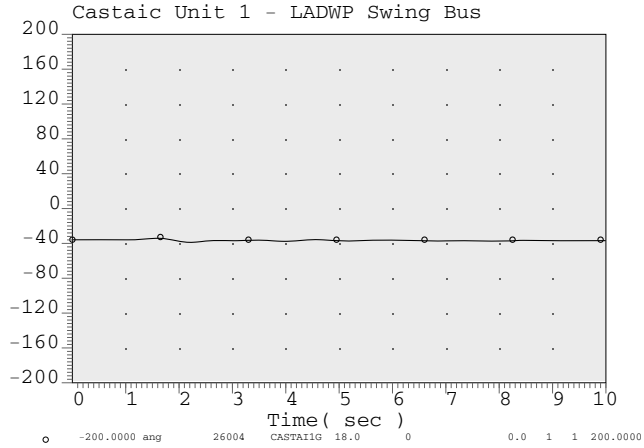






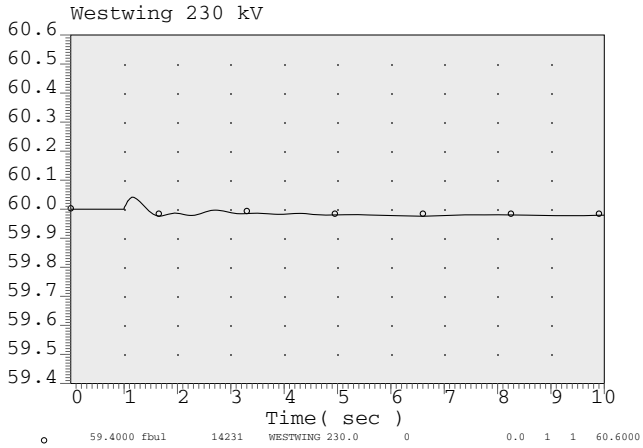


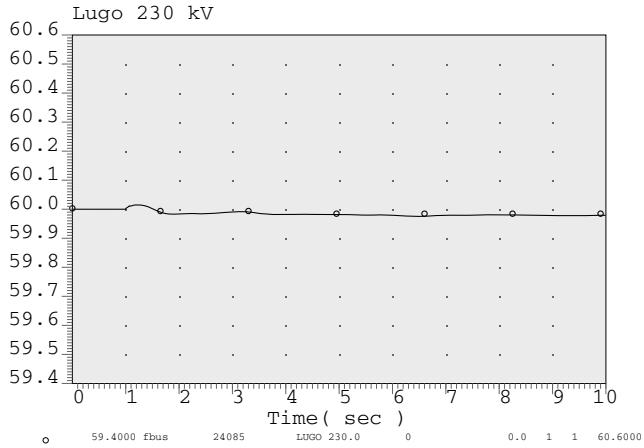


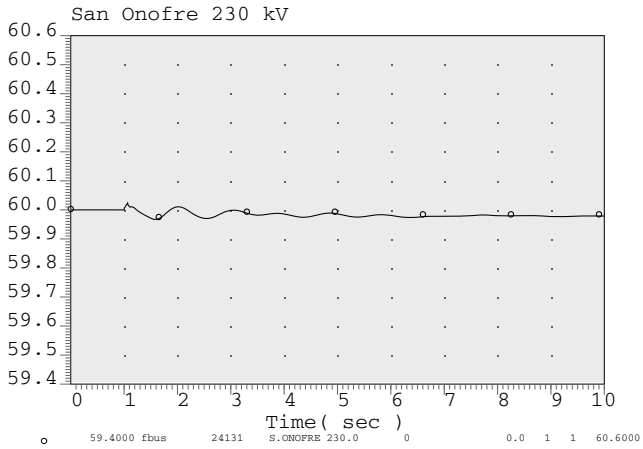


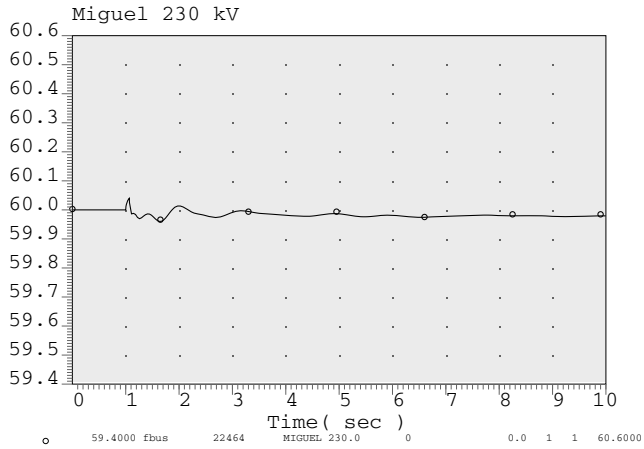
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

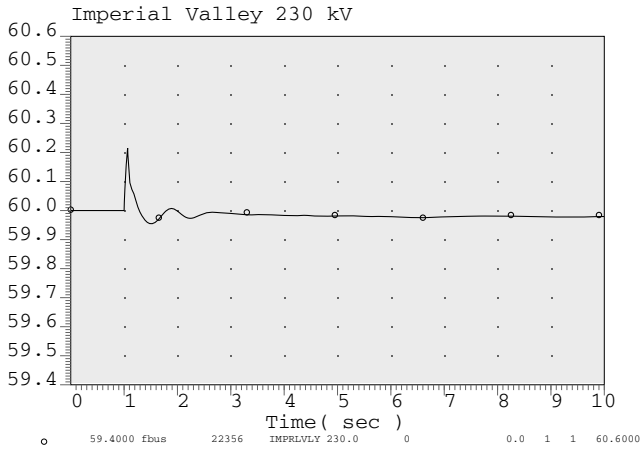
Bus Frequency

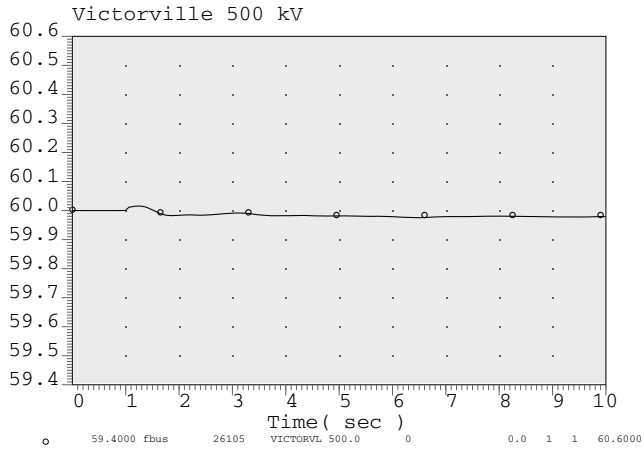






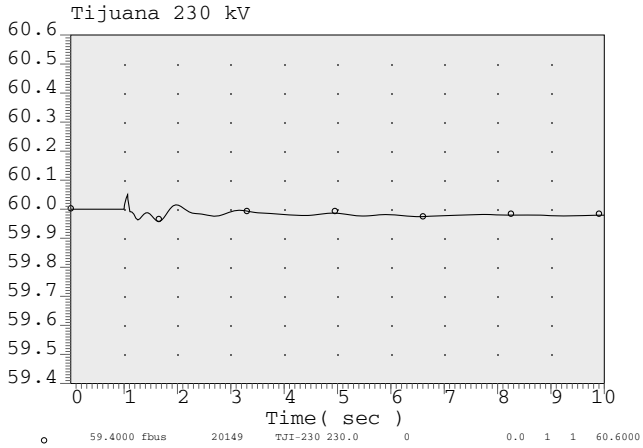


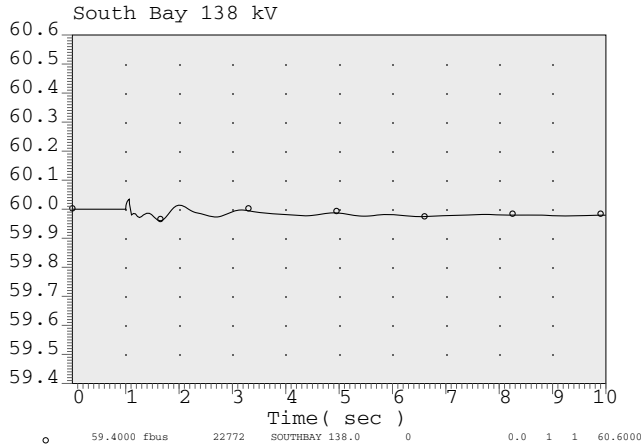


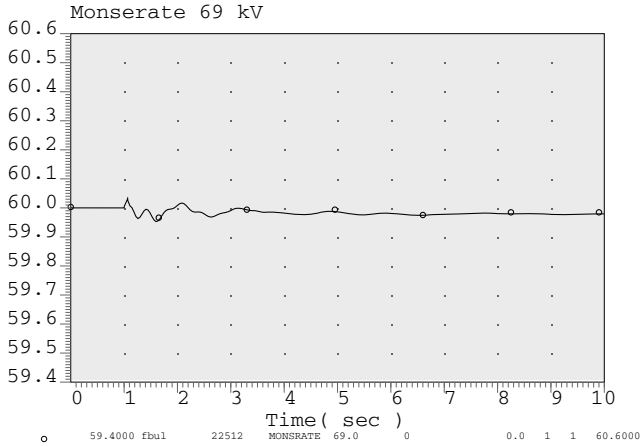


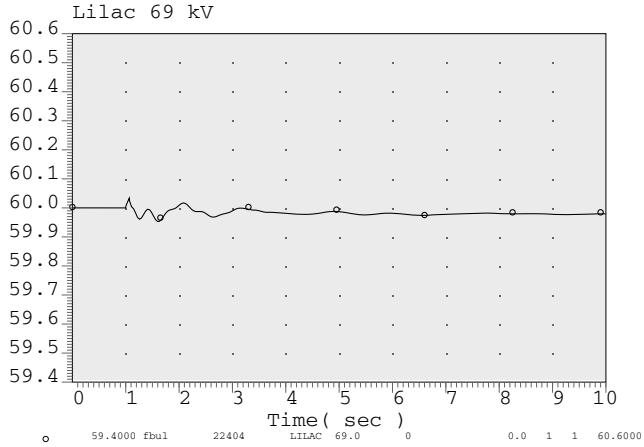
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

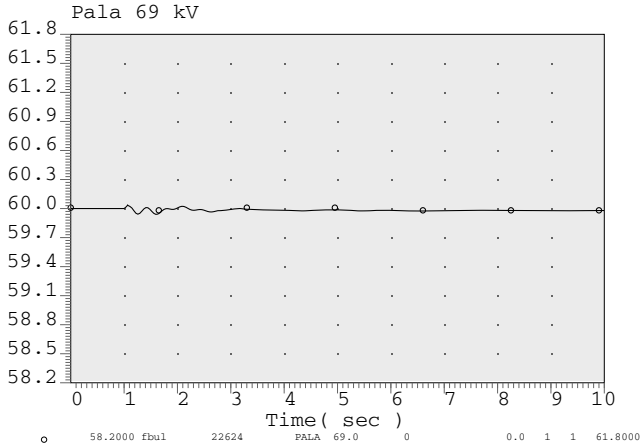
Bus Frequency

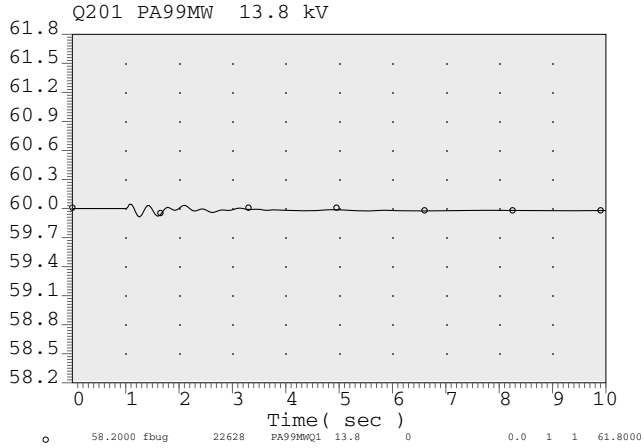






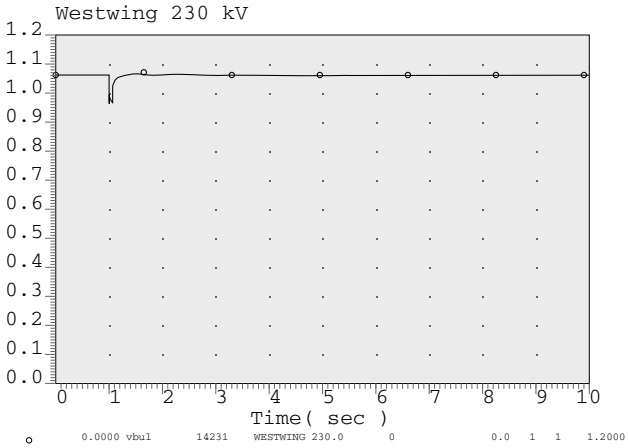


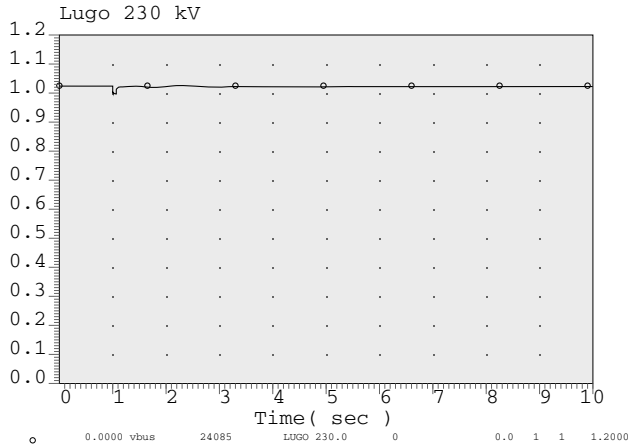


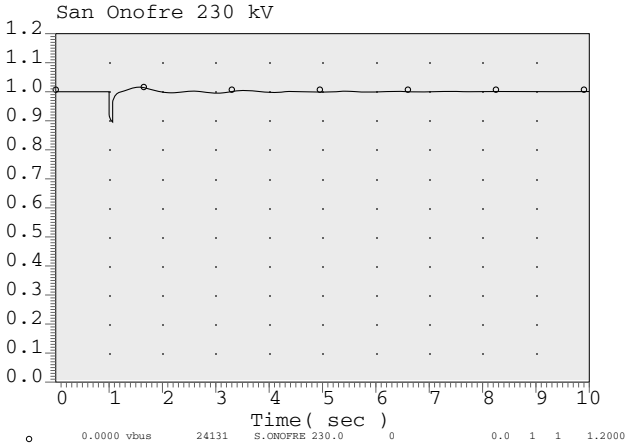


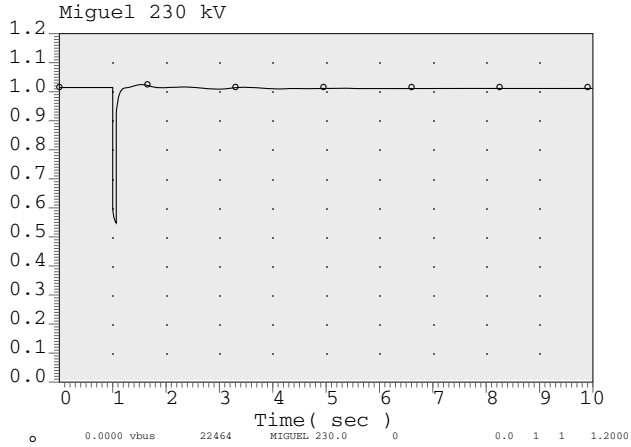
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

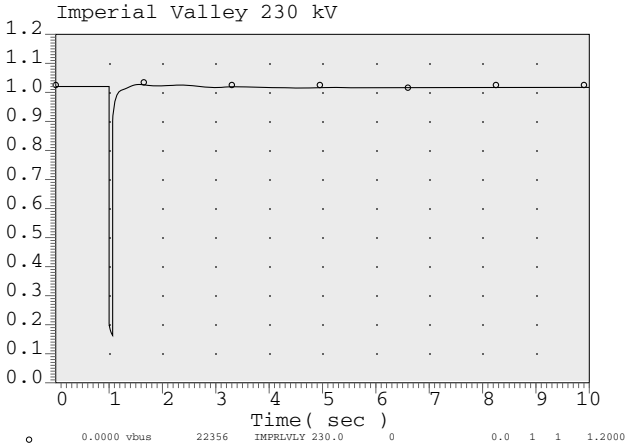
Bus Voltage

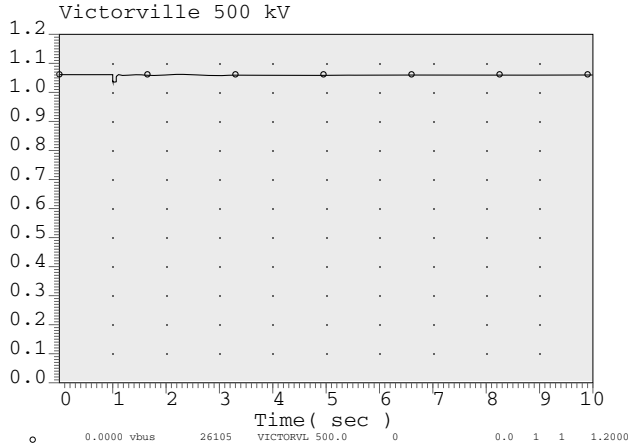






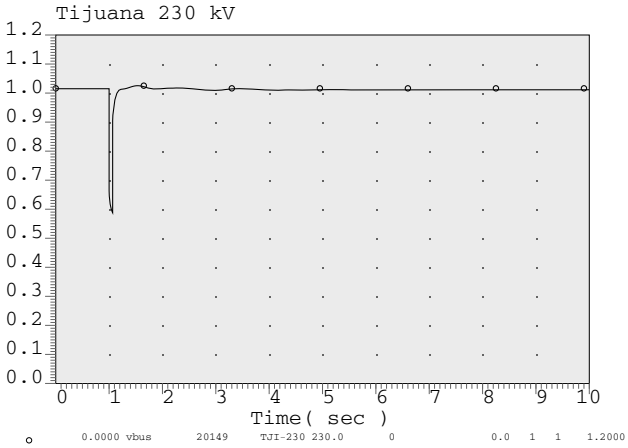


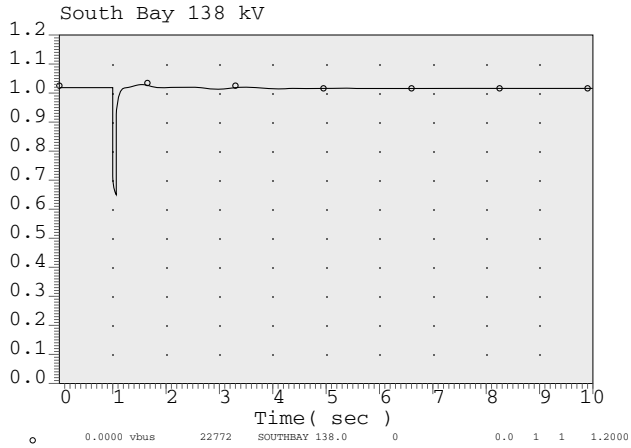


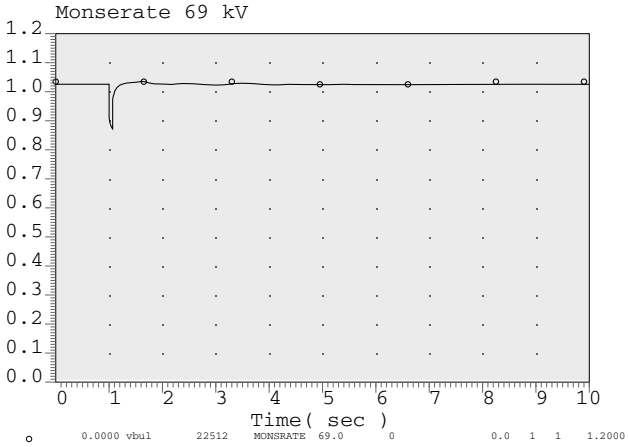


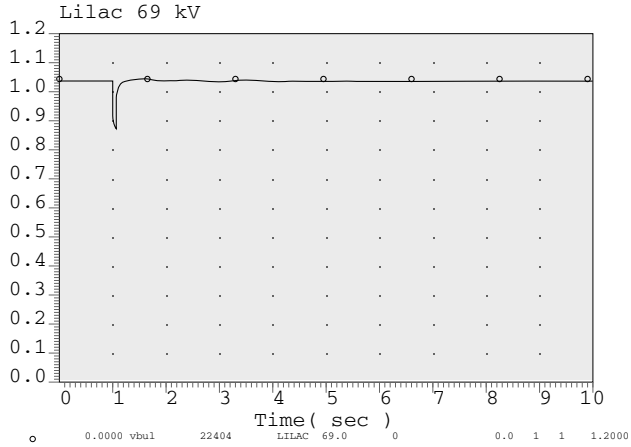
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

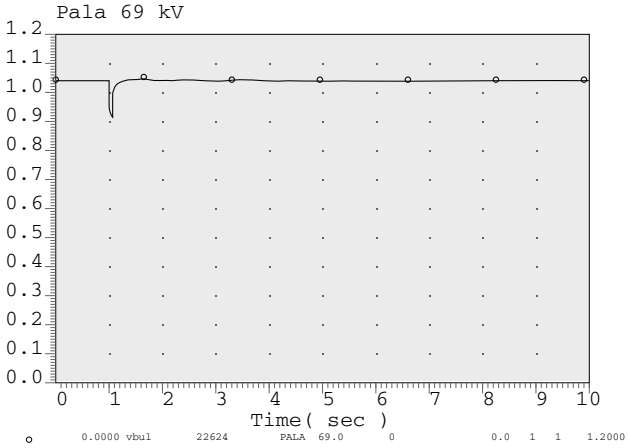
Bus Voltage

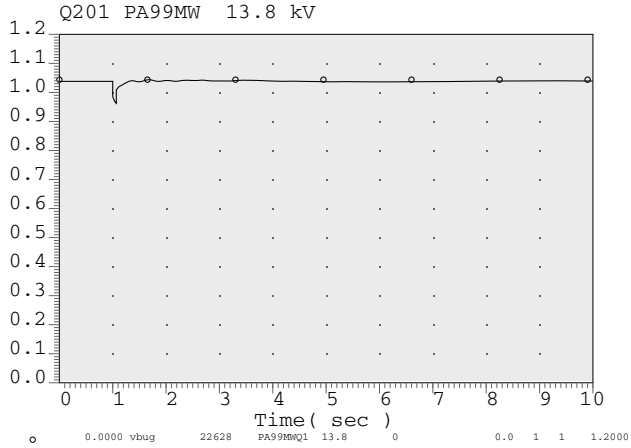






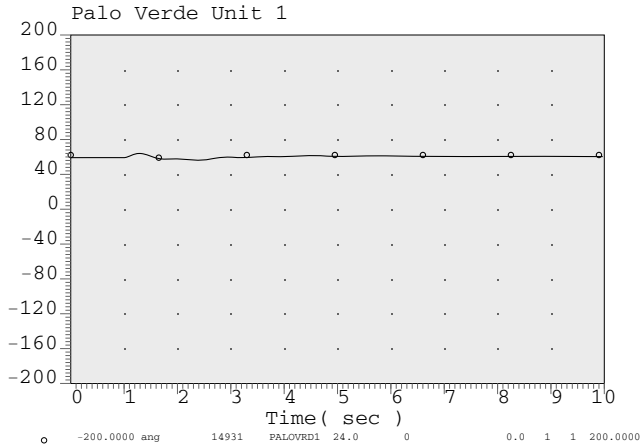


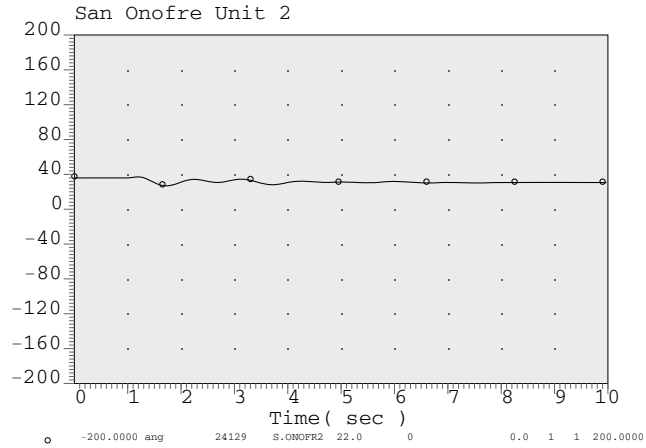


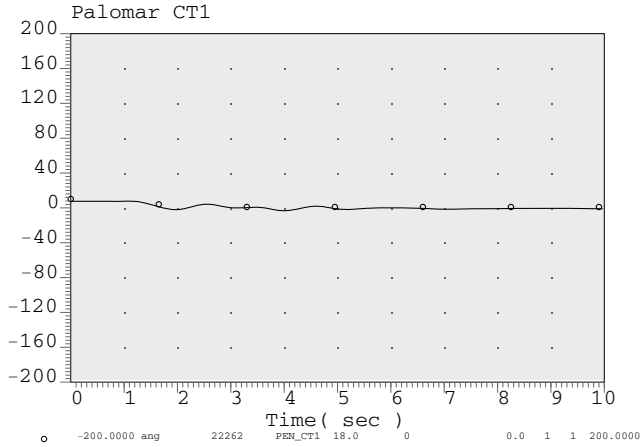


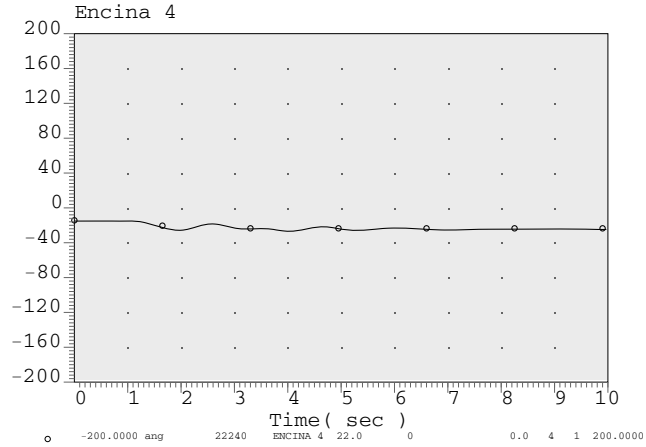
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.1

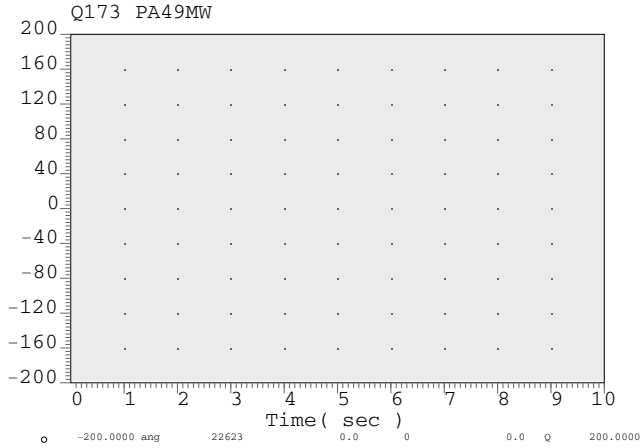
Relative Rotor Angle

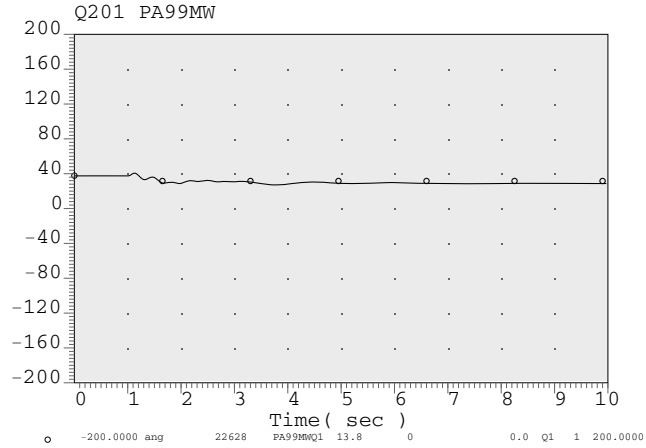






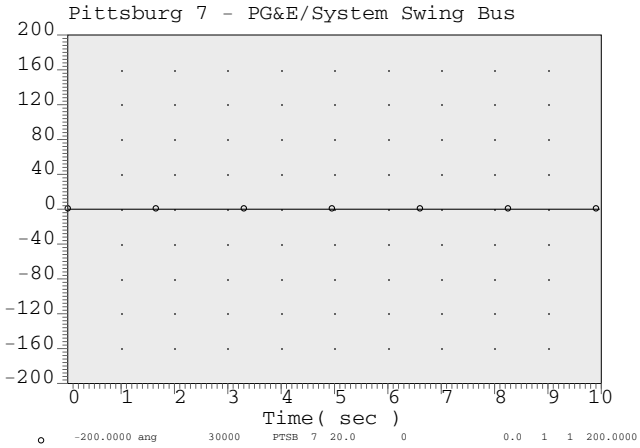


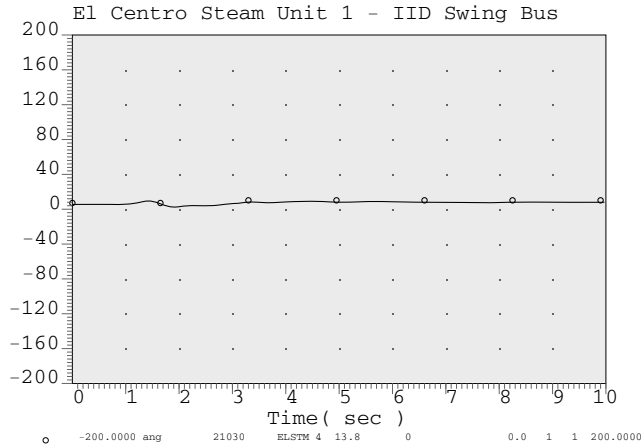


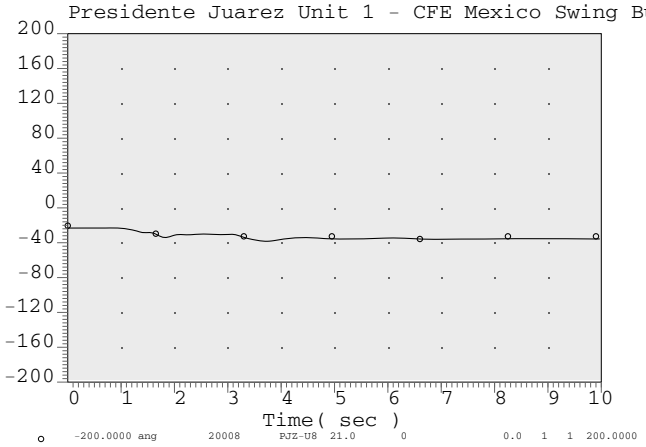


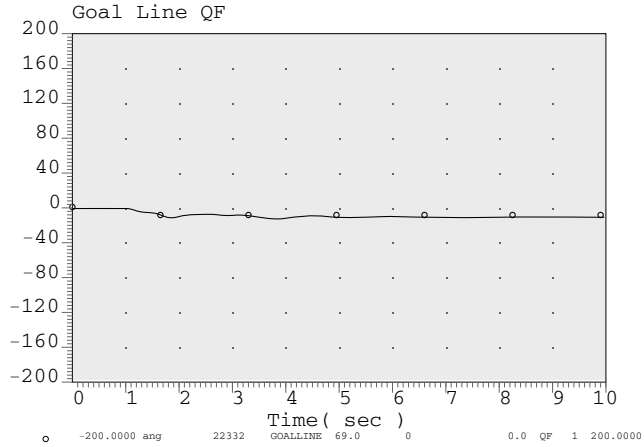
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

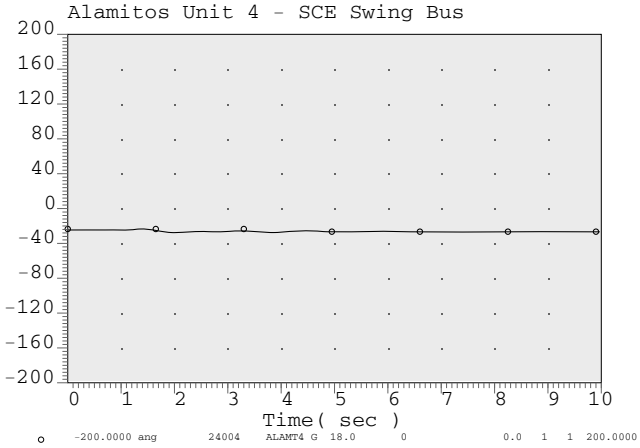
Relative Rotor Angle

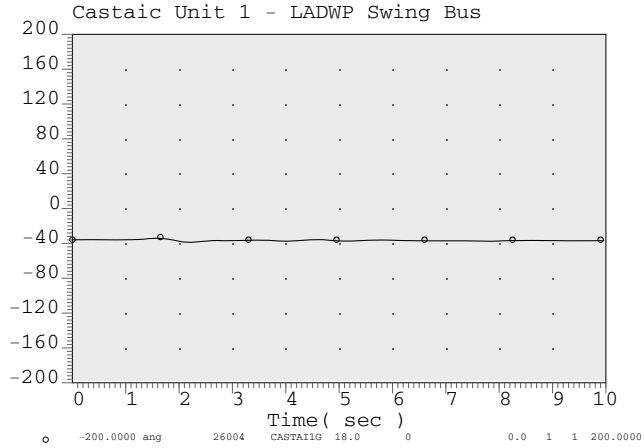






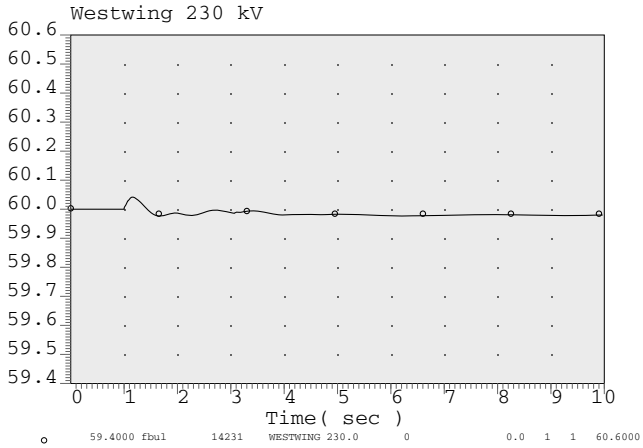


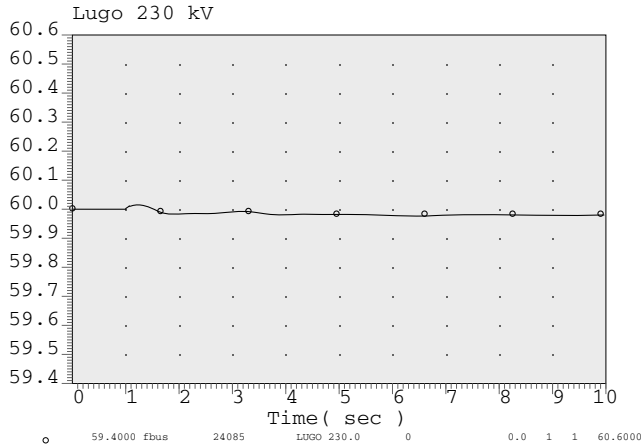


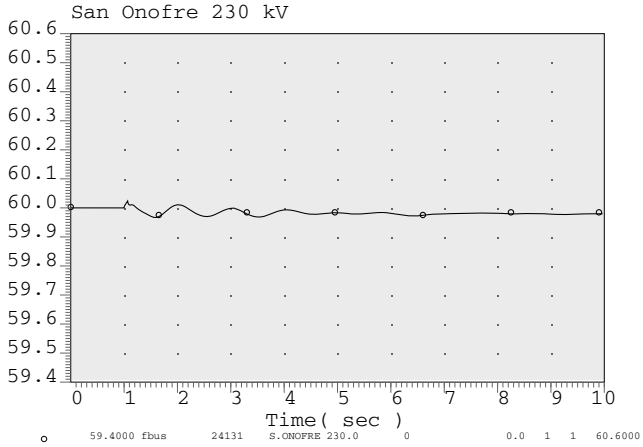


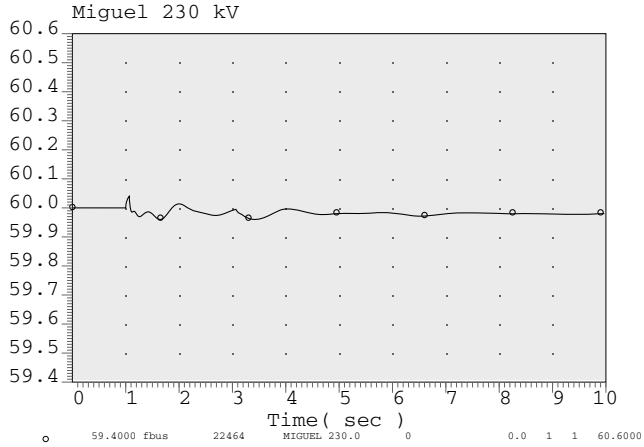
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

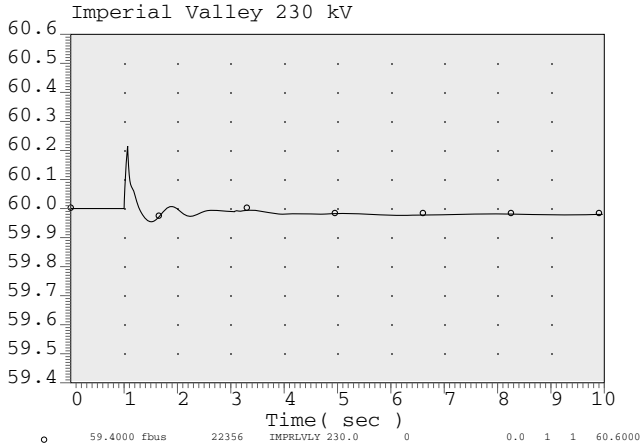
Bus Frequency

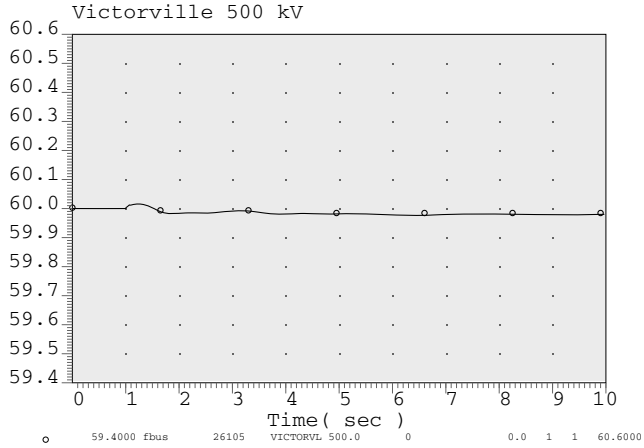






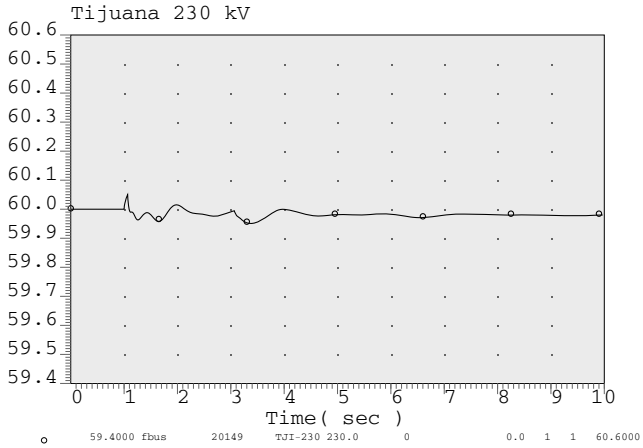


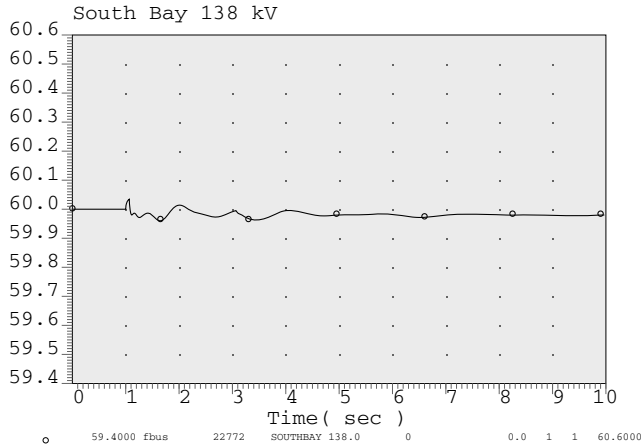


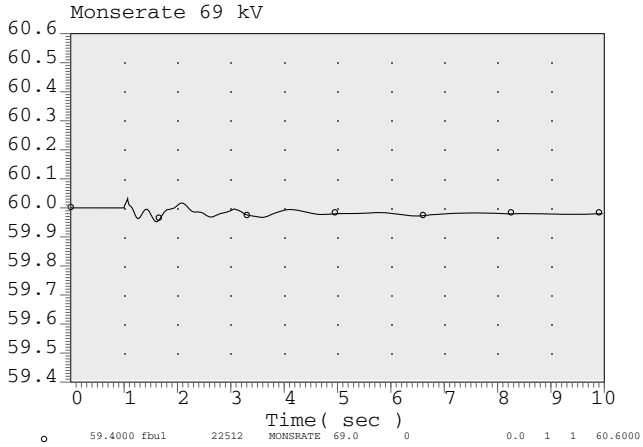


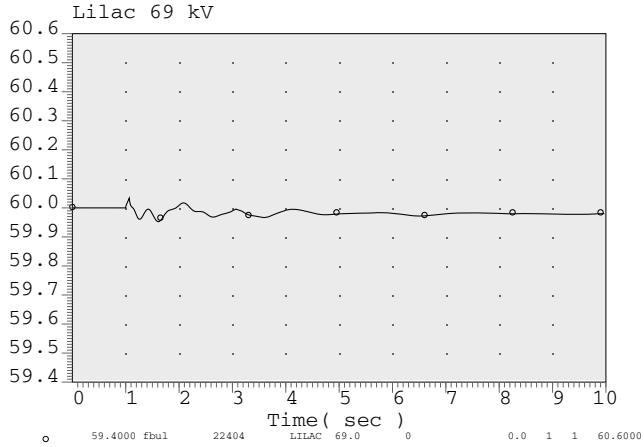
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

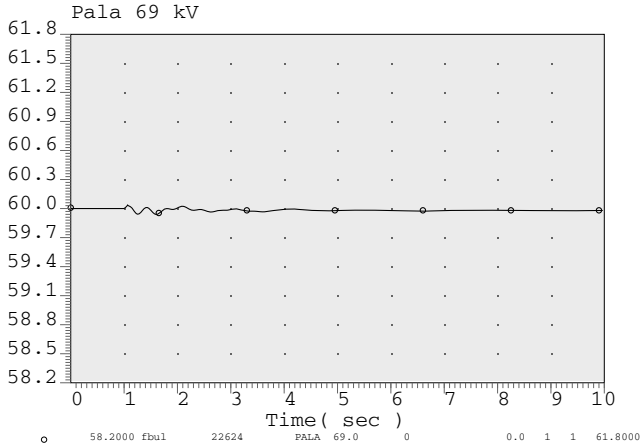
Bus Frequency

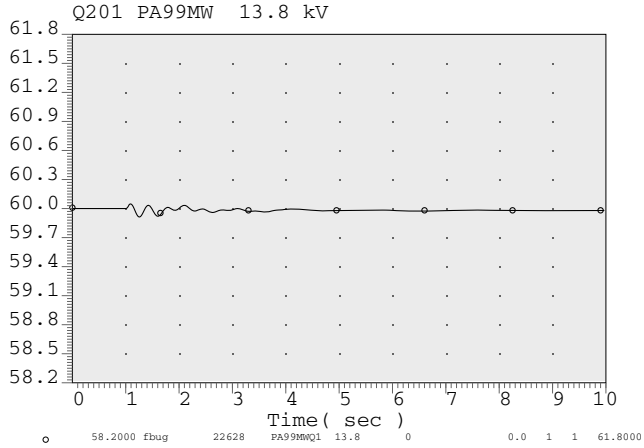






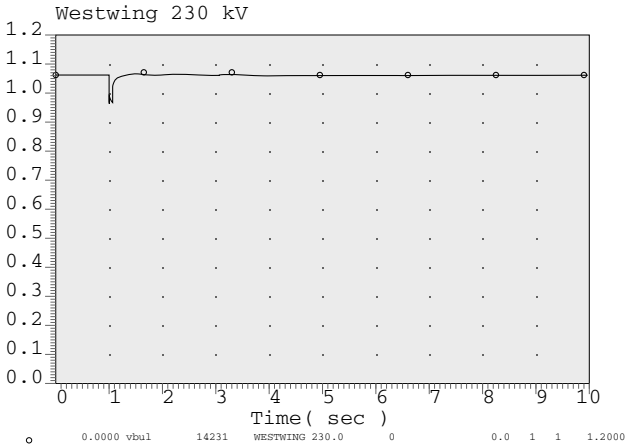


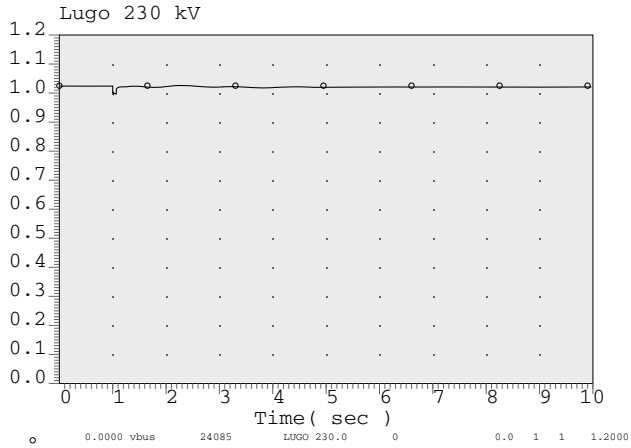


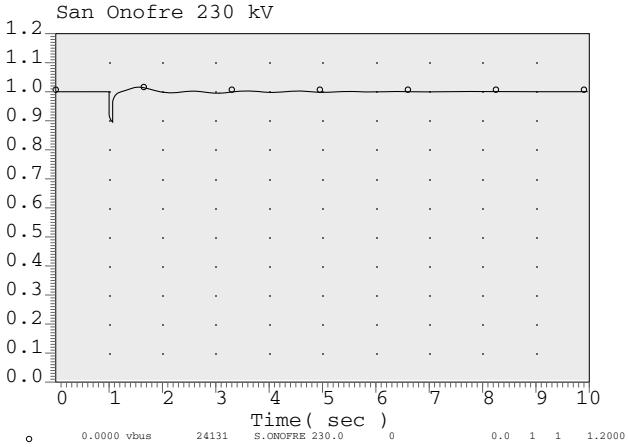


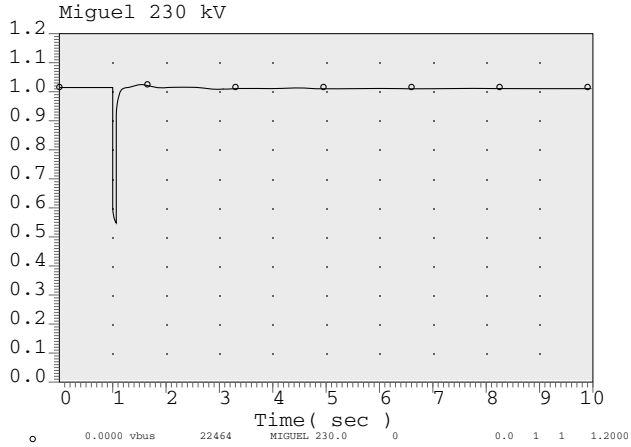
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

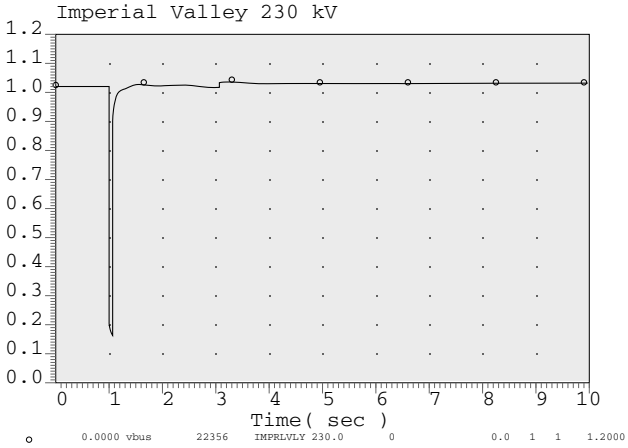
Bus Voltage

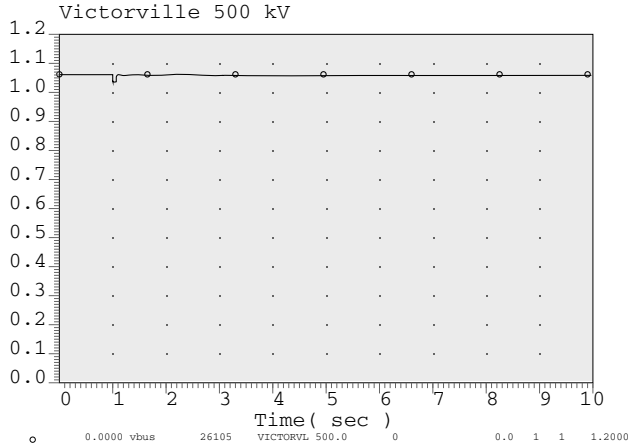






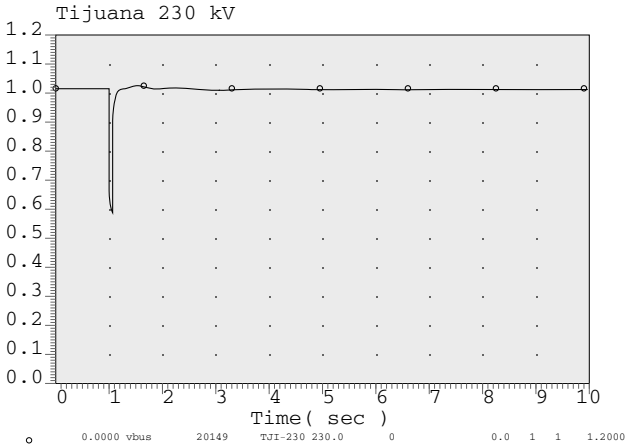


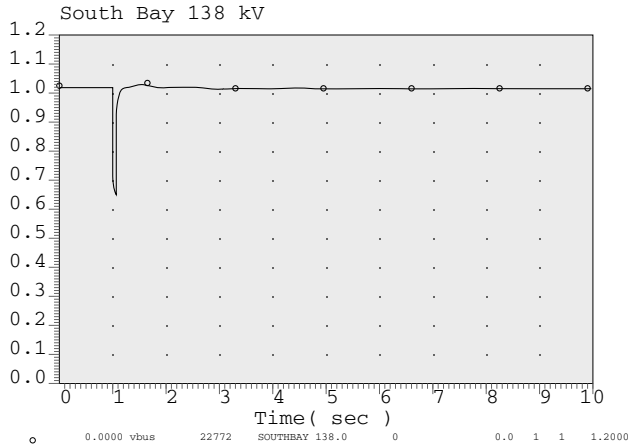


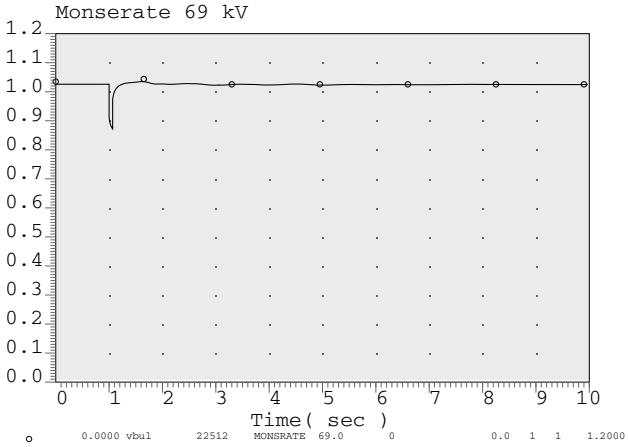


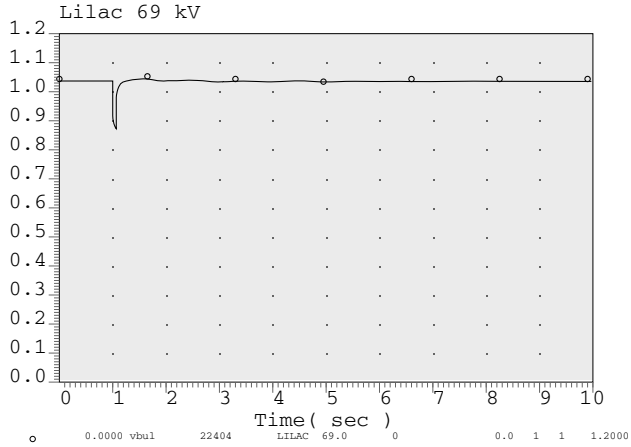
SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2

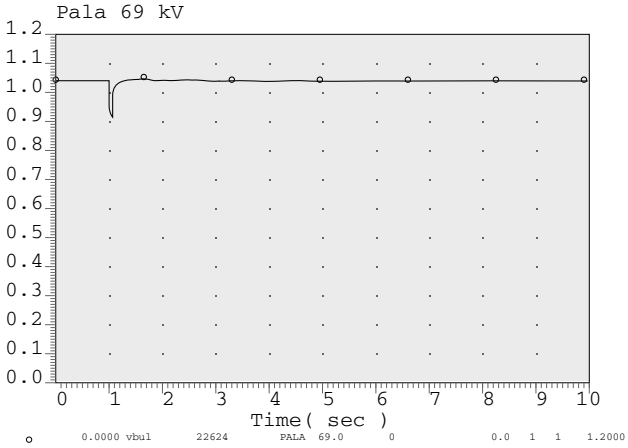
Bus Voltage

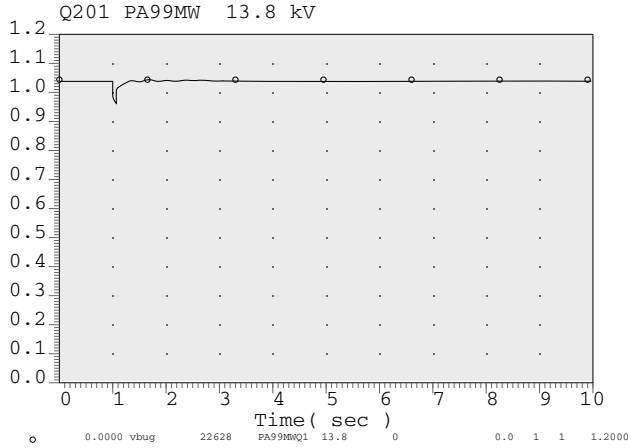












SDG&E 2008/09 Light Winter - Q201 ISIS COD Post-Project Case w/out Q173
case prepared for post-transient/transient stability analysis
3-phase 4 cycle fault at IV/Wind, trip IV/Wind - Miguel 500 kV with SPS 6.2