



California Energy Commission

Overview of Electricity Infrastructure Issues

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Why Are We Here?

- Southern California faces unique challenges
- Electricity infrastructure planning requires results from complex analyses that are newly implemented for 10-year time horizons
- Uncertainty (or understanding it) is evolving
- Multiple agencies have independent authority to act on portions of the puzzle, but not the entirety of it
- Receive feedback from panel and public



Infrastructure Assessments

- Ongoing Forums for Infrastructure Planning
 - Energy Commission Integrated Energy Policy Report (IEPR)
 - California Independent System Operator (CAISO) Transmission Planning Process (TPP)
 - California Public Utilities Commission (CPUC) Long-Term Planning Process (LTPP) Rulemaking
- Other Forums or Studies
 - California Air Resources Board (CARB) Assembly Bill 1318 project
 - South Coast Air Quality Management District (SCAQMD) energy policy guiding the Air Quality Management Plan (AQMP)
 - Studies such as Rocky Mountain Institute study of 2050



Forces Driving Results

- Load growth supporting economic expansion
- Once-through Cooling (OTC) Policy
 - OTC policy adopted by State Water Resources Control Board in May 2010
 - Specific compliance date for each OTC facility/unit
 - Compliance is likely through repowering, not retrofitting
- Renewable Portfolio Standard (RPS) Requirements
 - Achieve 33 percent of applicable retail sales by 2020
 - Governor Brown's goal of 12,000 megawatts of distributed generation
- Demand-side Policies
 - Energy efficiency and demand response



Standards Guiding Assessments

- Reliability Standards to be Maintained
 - National and Western regional reliability standards
 - System-wide, e.g. maintain 15% planning margin
 - Local capacity requirements to protect end-users in transmission-constrained areas
 - Zonal constraints, e.g. Path 26 limits imports N->S
 - Flexible resources to integrate renewables into the system
- Attainment Differences within Southern California
 - Southern California encompasses three air districts: San Diego APCD, Ventura APCD and SCAQMD
 - Offset supply vs demand will eventually constrain growth



Other Objectives

- Reducing Public Health & Safety Risks
 - Fukushima increased awareness of risk to nuclear power plants
 - Federal air quality initiatives may influence cost and availability of imports from the rest of the Western Interconnection
- Costs to Ratepayers
 - There are limits to what ratepayers can afford
 - Manufacturing and business sector has to compete with other locales with different priorities



Agency Coordination

- Energy Commission demand forecasts are a foundation for various CPUC and CAISO assessments
- SWRCB OTC Policy
 - Energy Commission, CPUC and ISO collaborated to propose linkage of compliance with availability of replacement infrastructure
 - Energy Commission, CPUC and CAISO and other state agencies annually advise on compliance date changes
- Energy Commission, CAISO, LADWP and CPUC are assisting CARB to implement AB 1318 studies



Recent Analytic Studies

- CAISO used inputs from Energy Commission and CPUC in assessing the replacement needs for OTC-induced retirement in its area
- CAISO studies of impacts of the San Onofre Nuclear Generating Station outage for summer 2012 revealed insights about importing power into San Diego previously not fully understood
- CAISO and Los Angeles Department of Water and Power analyses for AB 1318 are extensions of OTC studies



Forthcoming Analytic Studies

- CARB intends to pull together final analytic elements for AB 1318 project, prepare a draft report, review results in workshops and submit to the Governor and Legislature
- CAISO plans to study nuclear replacement more thoroughly, and report to Energy Commission and CPUC in 2013, perhaps updating its OTC replacement analyses
- Energy Commission staff will:
 - Assess the implications of uncertainty on infrastructure need
 - Address AQMP electrification in its 2013 demand forecasts



Forums for Action

- CPUC's 2012 LTPP intends to:
 - Provide procurement authorization in 2012 to investor-owned utilities to continue the process of OTC replacement,
 - Examine renewable integration needs in 2013
- CAISO's 2012-13 TPP will provide a basis for Board approval of needed, small transmission upgrades or rationale for larger projects needing a Certificate of Public Convenience and Necessity from the CPUC
- Energy Commission will continue processing Applications for Certification to create buildable generating facilities



Remaining Challenges

- Complete AB 1318 study, work with SCAQMD and stakeholders to address potential issues
- Thoroughly understand the costs/benefits of options for replacing nuclear power in California
- Assure that generation procurement processes fully address need for system, local, and flexible resources at an affordable cost for ratepayers and with sustainable revenues for generators
- Advise SWRCB of any major changes in OTC compliance dates by March 2013



Next Steps

- Hear from today's presenters
- Panel of experts raise questions or comments from their perspective
- Public comments
- Energy Commission requests written comments using the five questions on the agenda
- IEPR will consider how much of these issues to address in 2012 IEPR Update versus defer to the 2013 IEPR