

# California Battery Charger Regulations

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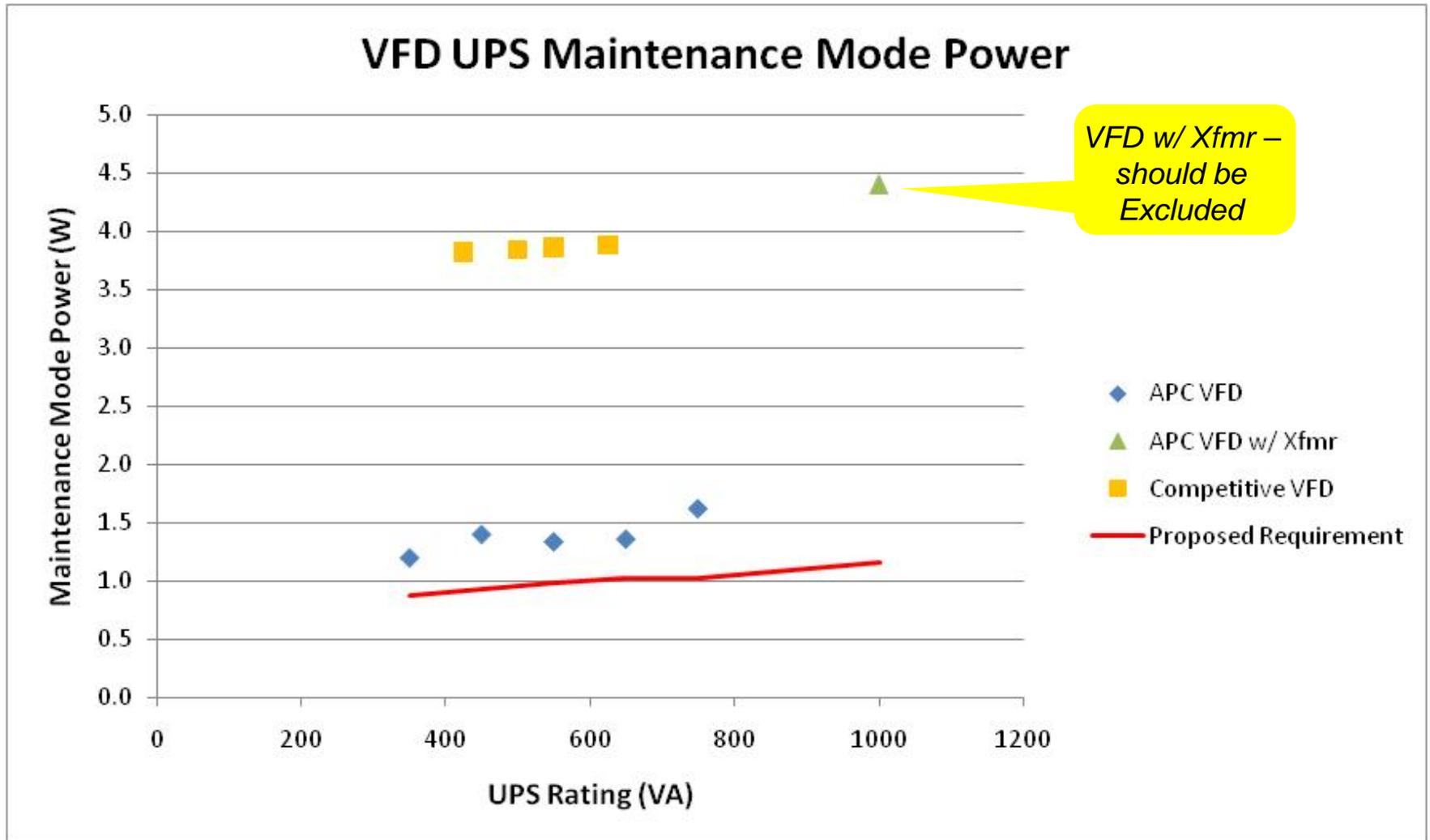
# Thanks

- Docket No. 11-AAER-2
  - Adopting IEC 62040-3, 2<sup>nd</sup> Edition for UPS Definitions
    - Reduces Complexity
    - Aligns to International Norms
  - Reduced Complexity by Narrowing Battery Charger Scope to VFD
    - Largest Volume of UPS Systems Sold
    - Proposal for Scope Refinement to also exclude:
      - All UPSs with output Voltage Regulating Transformers or at least VFD UPSs capable only of correcting under-voltage

# Concerns

- **We're Unaware of Any UPS Systems That Meet the Proposed Criteria**
  - Systems We Currently Produce
  - Systems We Have in Development
  - Non-APC Systems in the Market Competitively Analyzed
    - Not Exhaustive
    - DoE Information Was Unavailable Prior to This Meeting
- **Development Cycle Time**
  - Given the Breadth of Consumer UPS systems 15 Months is Insufficient to Redesign the Entire Product Line
    - May Result in Limiting Product Variety, or Withdrawing Models from the Market
- **UPS Are NOT Just Battery Chargers**
  - UPS Systems are Equipped with Battery Chargers
  - UPS Systems Continuously Monitor For Trigger Event Conditions
    - The Nature of Failover Events Require Continuous Monitoring
  - UPS Systems have Network or Other Communications Connectivity

# Proposed Limits – Measured Values



# Recommendations

- We Propose Adders or Revisions of Proposed Levels for UPS Systems
  - Maintenance mode requirement for VFD UPSs without output Voltage Regulating Transformers =  $1.8 + 0.0021 \times E_b$  Watts (1 Watt Adder)
  - Maintenance mode requirement for VFD UPSs with output Voltage Regulating Transformers:
    - Exclude From Regulations; or,
    - =  $3.8 + 0.0021 \times E_b$  Watts (3 Watt Adder)
- Request Extension of Compliance Date for Consumer UPS systems to July 1, 2014

# Next Steps

- The Methodology for Compliance Measurement Will Prove Challenging
  - High Probability for False Failures of UPS Systems During Compliance Testing for Lab Inexperienced with UPS Systems
  - Short Term:
    - APC Will Work to Utilize the Existing Test Procedure and Document Additional Steps Required to Demonstrate Compliance
    - We Will Seek Technical Corrections to the Test Procedure and/or Deviations to Ensure Compliance
  - Long Term: Propose to IEC Technical Working Group a Charger Efficiency Method for Addition to IEC 62040-3