

Emergency Load Reduction Program Metering and Verification Plan

Revenue Metering Sub-Committee Meeting

March 8, 2006

Dave Wilkinson



How Do You Implement an Emergency Load Reduction?

- q Turn off discretionary / controllable loads**
- q Utilize on site generation (typically emergency generators) to self supply a portion of site load**
- q Utilizing power system connectivity to shift load from an ELRP meter location to an non-ELRP meter location is not allowed**
- q Result must be genuine NET REDUCTION in real time MW demand load on the IESO controlled grid**

Metering and Verification Plan

q Project Goals:

- **Intuitive recognition of load reduction based on “interval” data submission from ELRP participant**
- **Meter data integrity to support audit requirements**
 - ü End point source meter data and supporting documentation available to IESO for inspection and review on request
 - ü Meter ownership records, installation records, calibration certificates, instrument transformer records, etc.
- **Efficient settlement for activated ELRP events**
 - ü Limited number of ELRP activation events per year will require manual settlement processes initially
 - ü Ensure expedient payment to ELRP participants to ensure fair treatment, recognize impact of cash flow
 - ü Encourage end point participation in ELRP via aggregators

- q Each customer will be required to submit a unique M&V Plan specific to their project for IESO approval as part of registering in the ELRP**
- q Load Reduction MW will be determined based on MWh differences calculated on a clock hour basis during the customer specific ELRP activation period**
- q We expect the ELRP to be activated 3 times this summer if the weather is similar to 2005**

q Metering equipment options:

- Registered Wholesale Metering (RWM) installations
- Retail electricity market revenue metering installations that include a 0.5% accuracy class (or better) interval meter owned by the LDC
- Customer-owned interval meters (sub-meters)
- Non-interval kWh meters
- Operational meters
- No Meters – statistical sampling

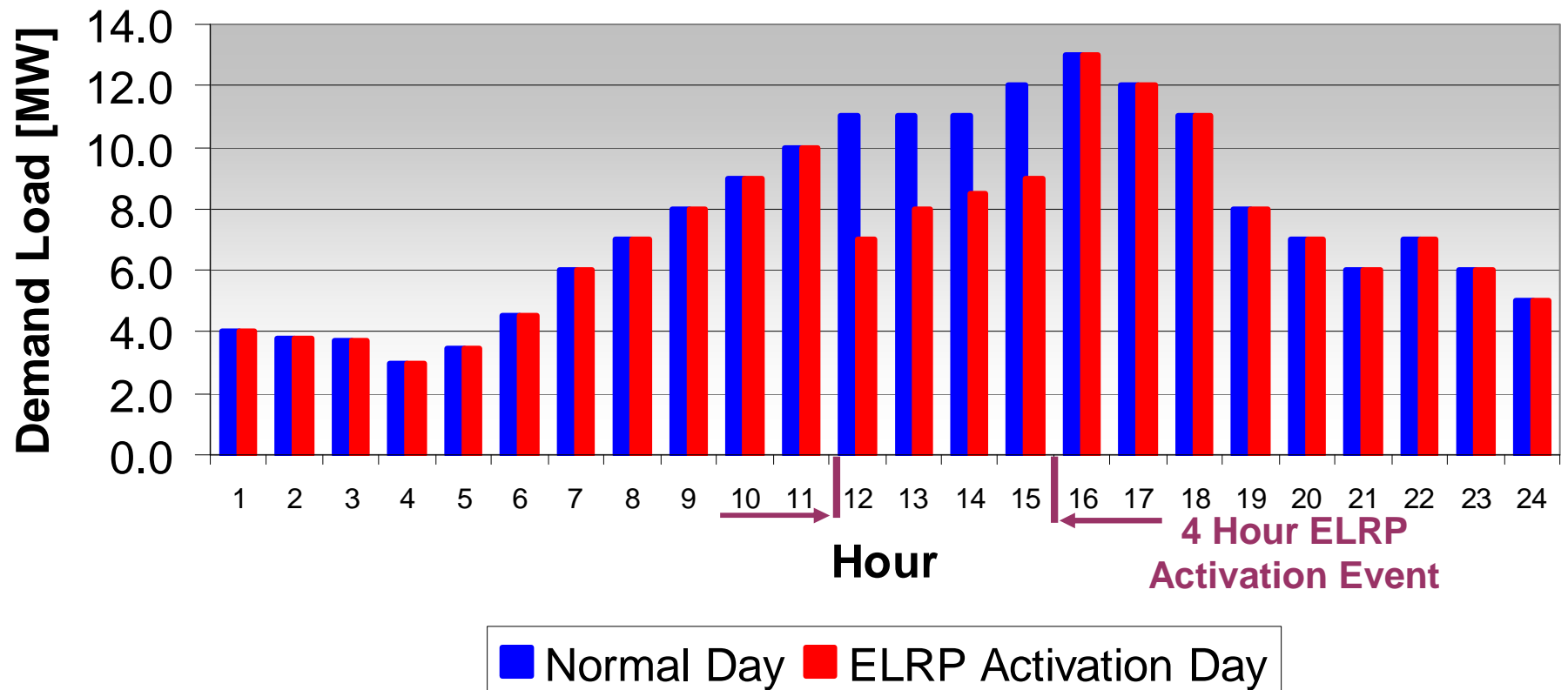
- q Should losses be considering in calculating the MW demand reduction?**
- q Where interval meter data is not available, what level of security, accuracy and control must the participant provide in the process of developing an “equivalent to interval meter” data stream?**

How Should the “REAL” Load Reduction Be Measured?

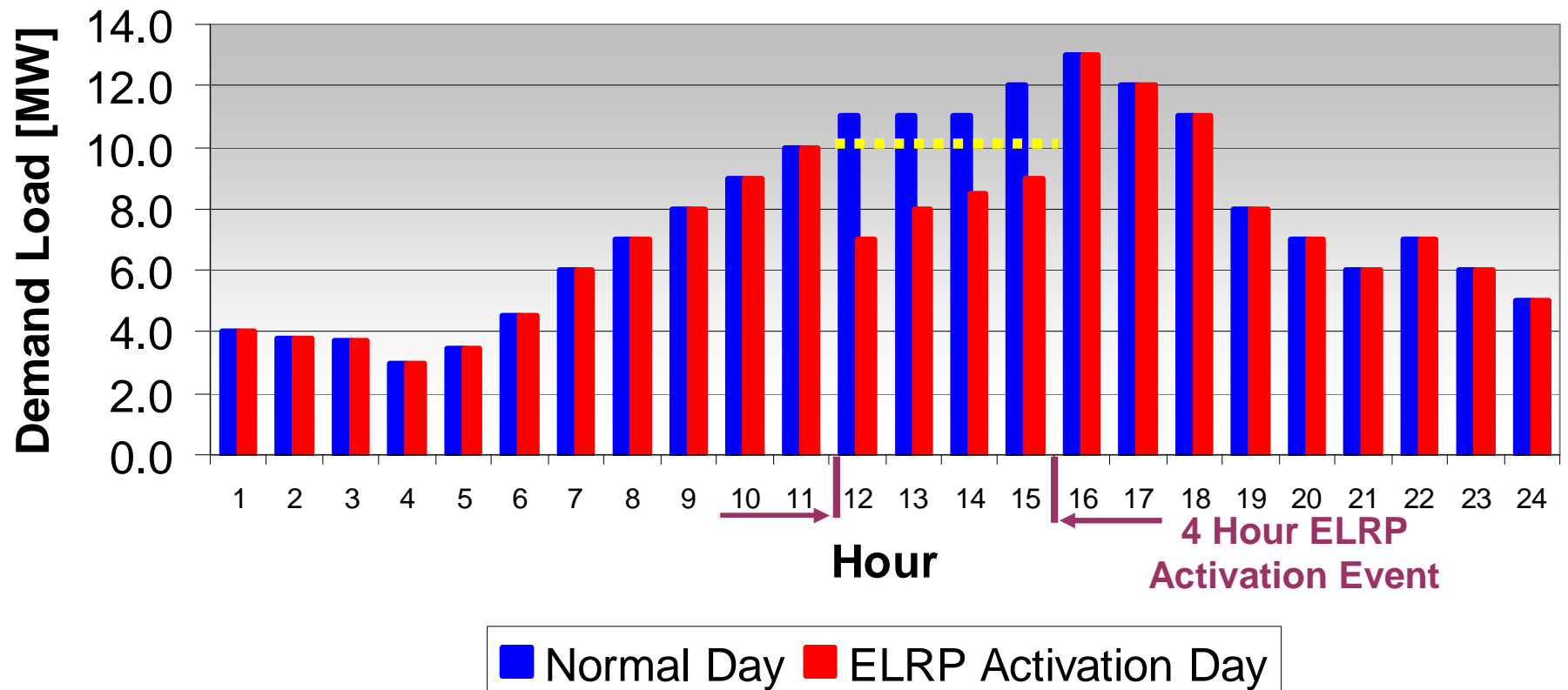
q What value do we subtract from to calculate the difference?

- **Historic baseline**
 - ü Improved accuracy – at what cost?
- **Clock hour energy prior to activation**
 - ü Simple to implement
- **Average of energy in 2 clock hours prior to activation**
 - ü Allows for smoothing of load’s response to activation event
- **Simple Average of the energy in the clock hour before and clock hour after activation**
 - ü Factors in the impact of “load returning” on the calculation
- **Straight line average of the energy in the hour before and hour after activation**
 - ü Increasing level of calculation complexity – additional real benefits?

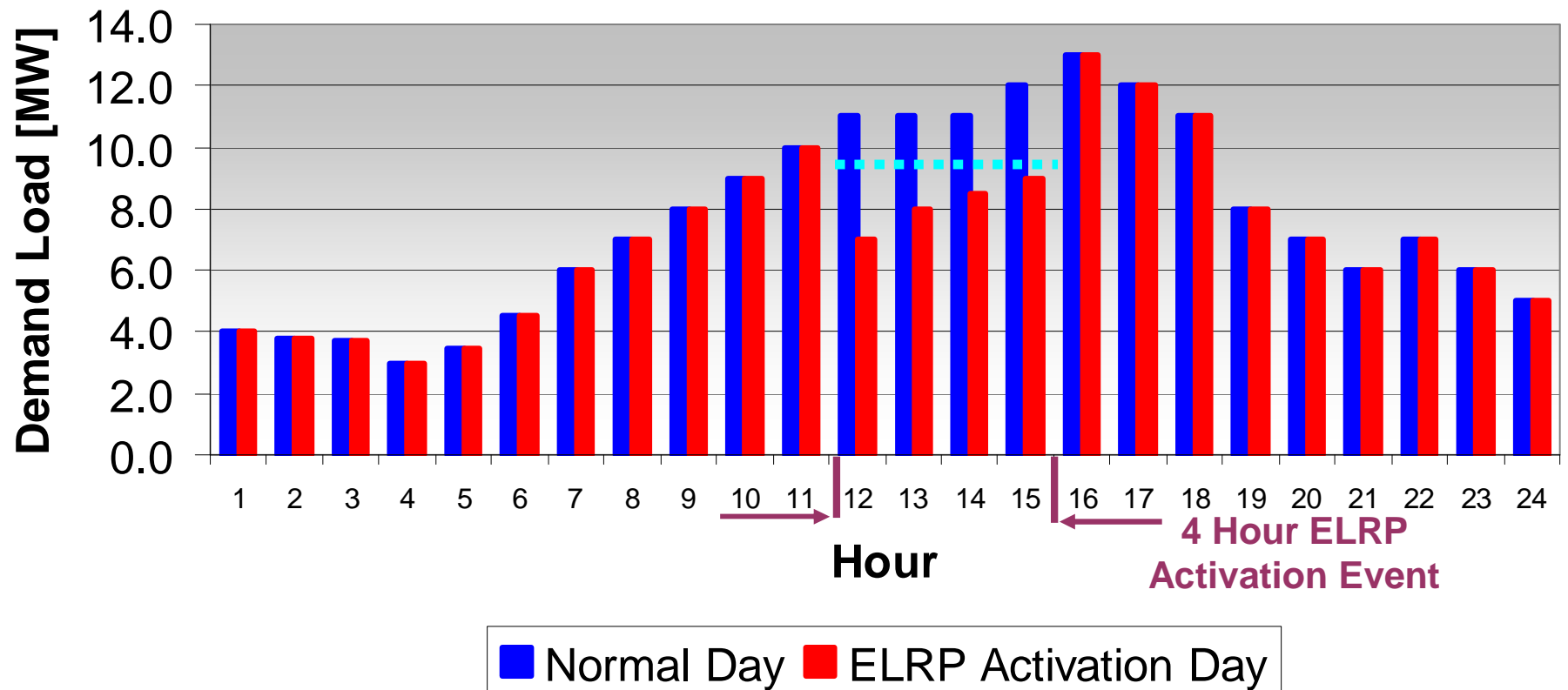
ELRP M&V Options



ELRP M&V Options

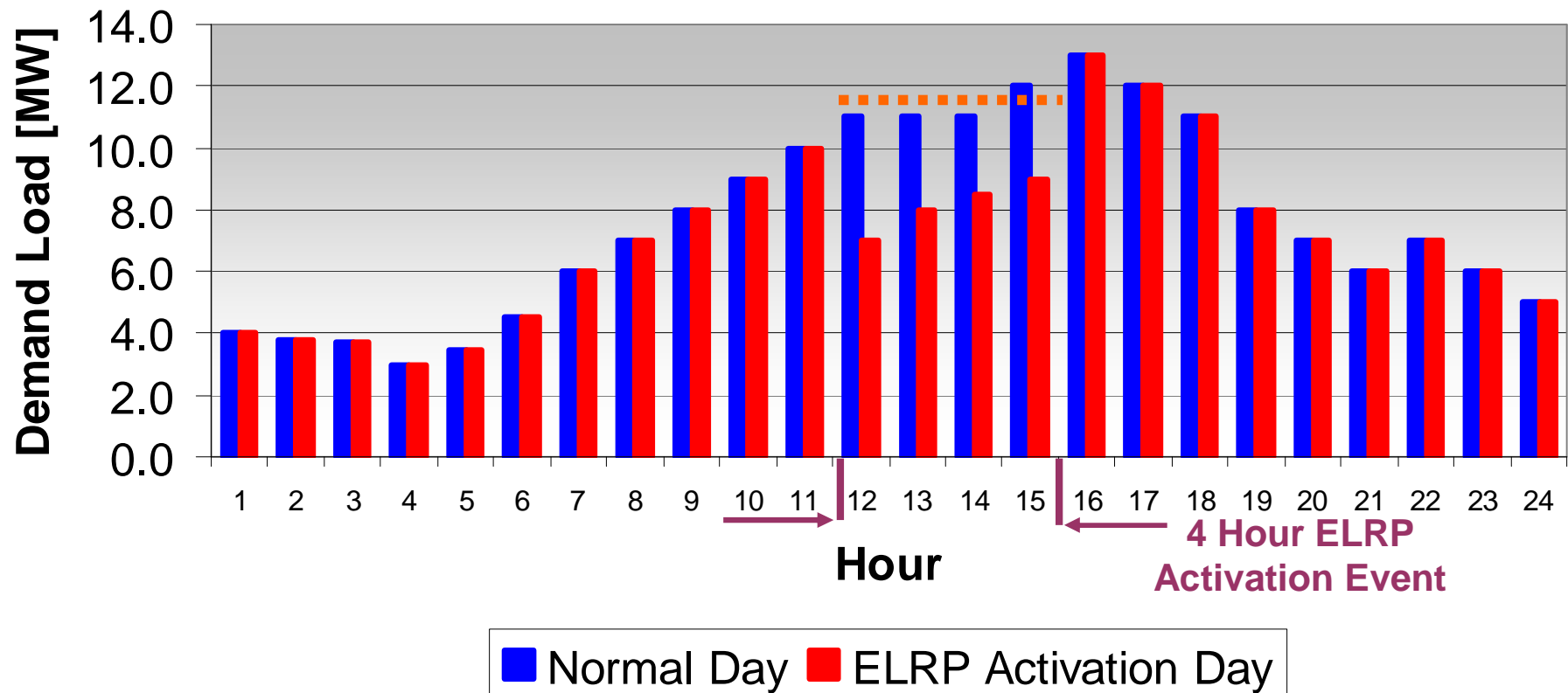


ELRP M&V Options

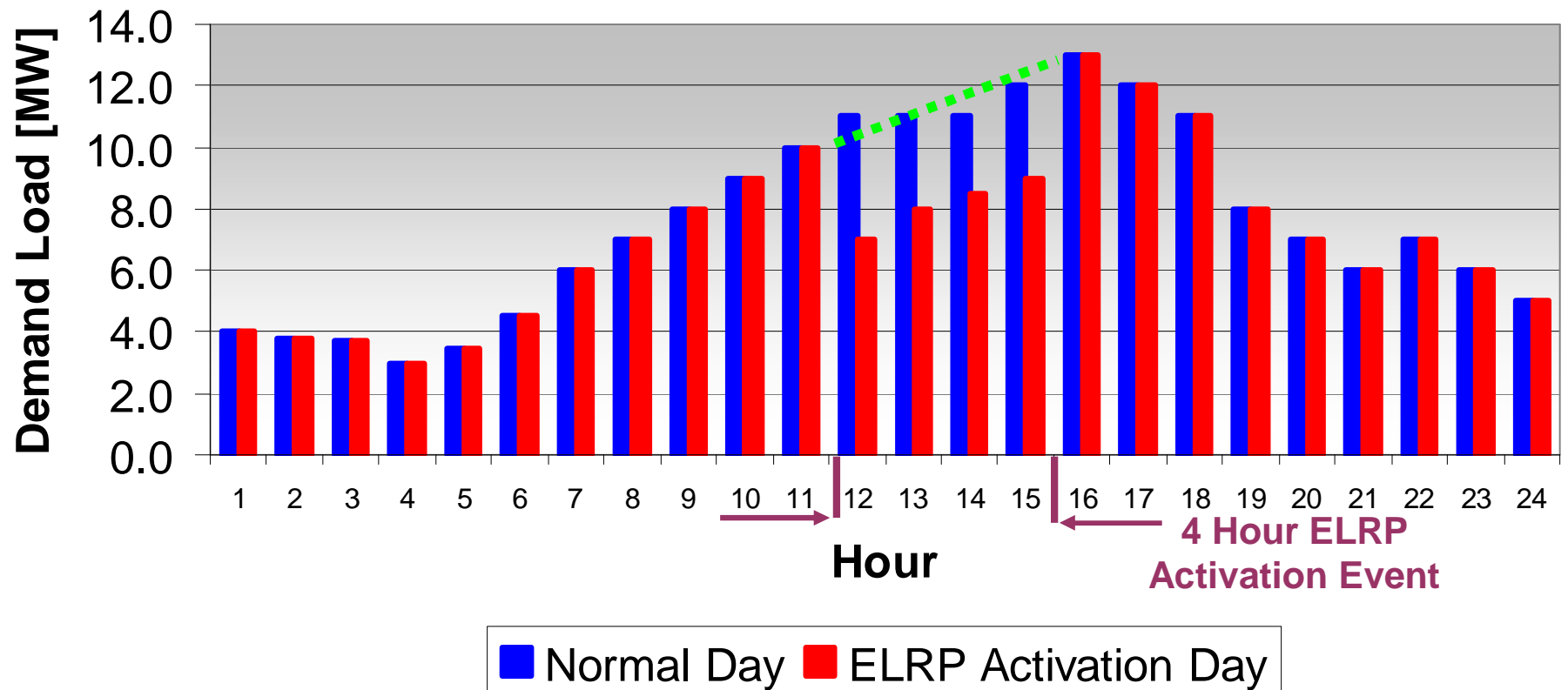


Hour Before and Hour After Average MW Demand

ELRP M&V Options



ELRP M&V Options



Suggestions and Comments

