

Demand Response Pilots

Public Session
September 12, 2014



- Pilot Objectives
- Pilots Timeline
- Structure of DR Pilot market services
- Operation timelines for Pilots
- Technical Requirements
- Next Steps
- Questions

- Test the capability of DR in providing load following services to the IESO administered markets with the option of utilizing a unit commitment process
- Expose new participants to operation in the IESO administered markets
- Develop recommendations to address barriers to entry for DR resources
- Use an RFP process to acquire capacity to participate in pilots

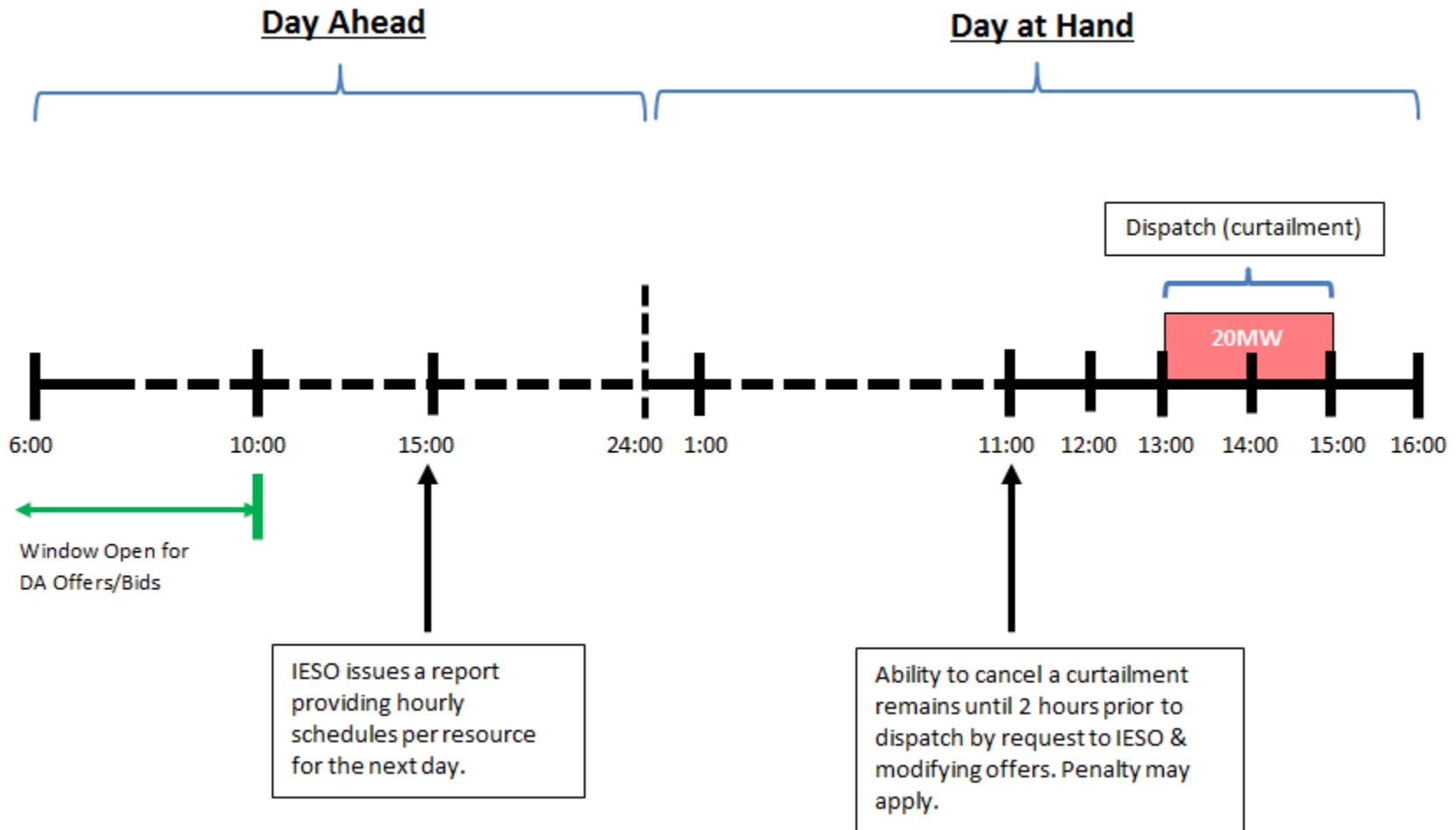
- Key Milestones
 - Finalize Pilot Design by mid-November 2014
 - Draft RFP by end of Q4 2014
 - Post RFP in Early Q1 2015
 - Select Pilot Participants by end of Q1 2015

- Pilot resources will deliver energy to the IESO administered markets through real-time dispatch scheduled in two timeframes:
 - 1 hour ahead
 - 5 minute dispatch
- To facilitate certainty in operation for both MPs and the IESO, a commitment and guarantee program will operate in advance of these timeframes

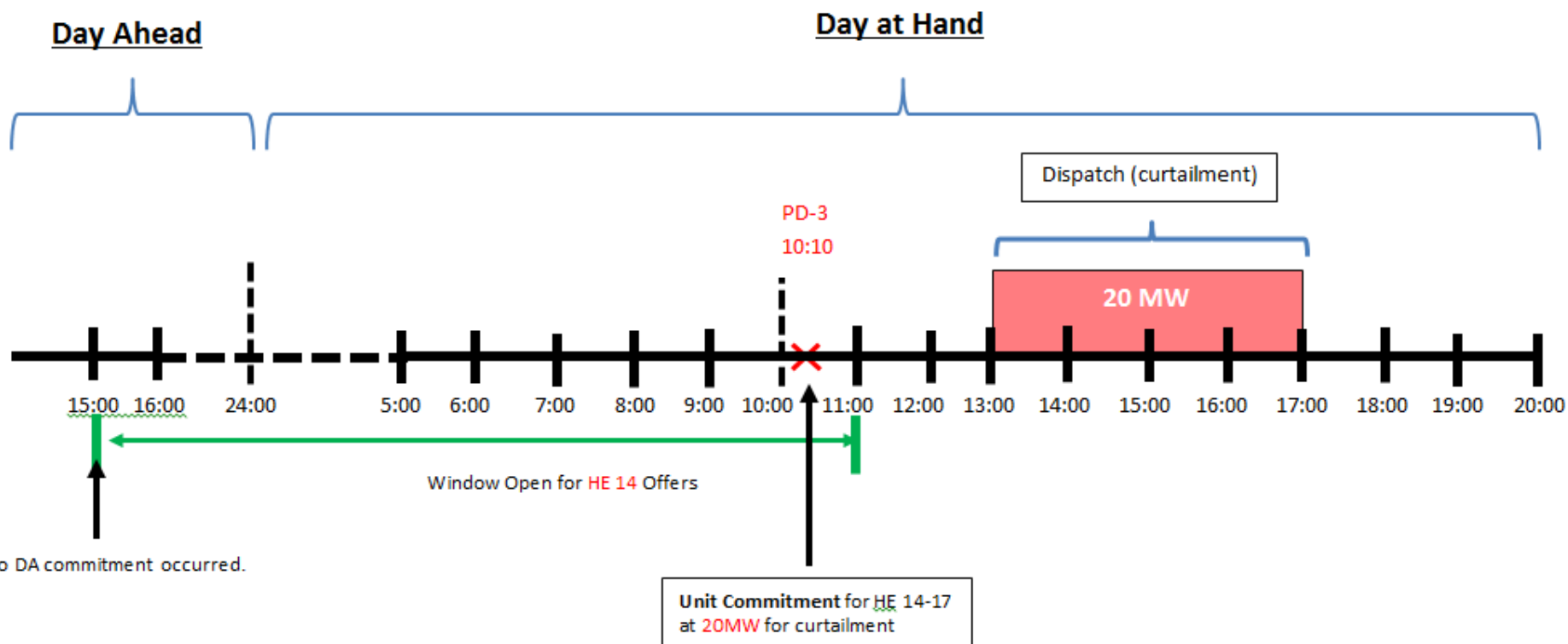
- Day Ahead
 - All DR resources must submit an offer to reduce load day-ahead in order to curtail in real-time
 - DR may register a minimum reduction time (comparable to minimum run-time) of 2 or more hours for commitment
 - Day-ahead schedule will converge to a 5 minute or 1 hour dispatch in real time
 - A Cost Guarantee program will hold them whole to the cost they commit
- 3 Hour Ahead
 - Demand Response resources that were not committed day-ahead can be committed 3 hour ahead and converge to a 5 minute or 1 hour dispatch with a real-time Cost Guarantee to hold them whole

- Real-time 5-minute dispatch
 - DR with flexibility can offer energy into the real-time markets
 - Must meet technical requirements
 - May qualify to offer Operating Reserve
 - Depending on our design, may be eligible for Congestion Management Settlement Credits (CMSC)
- Hour Ahead dispatch
 - Conventional DR may be suitable to an hourly product
 - Will have less onerous technical requirements
 - Not eligible to provide Operating Reserve
 - Depending on pilot design, may be eligible for CMSC

1) Day-ahead Unit Commitment

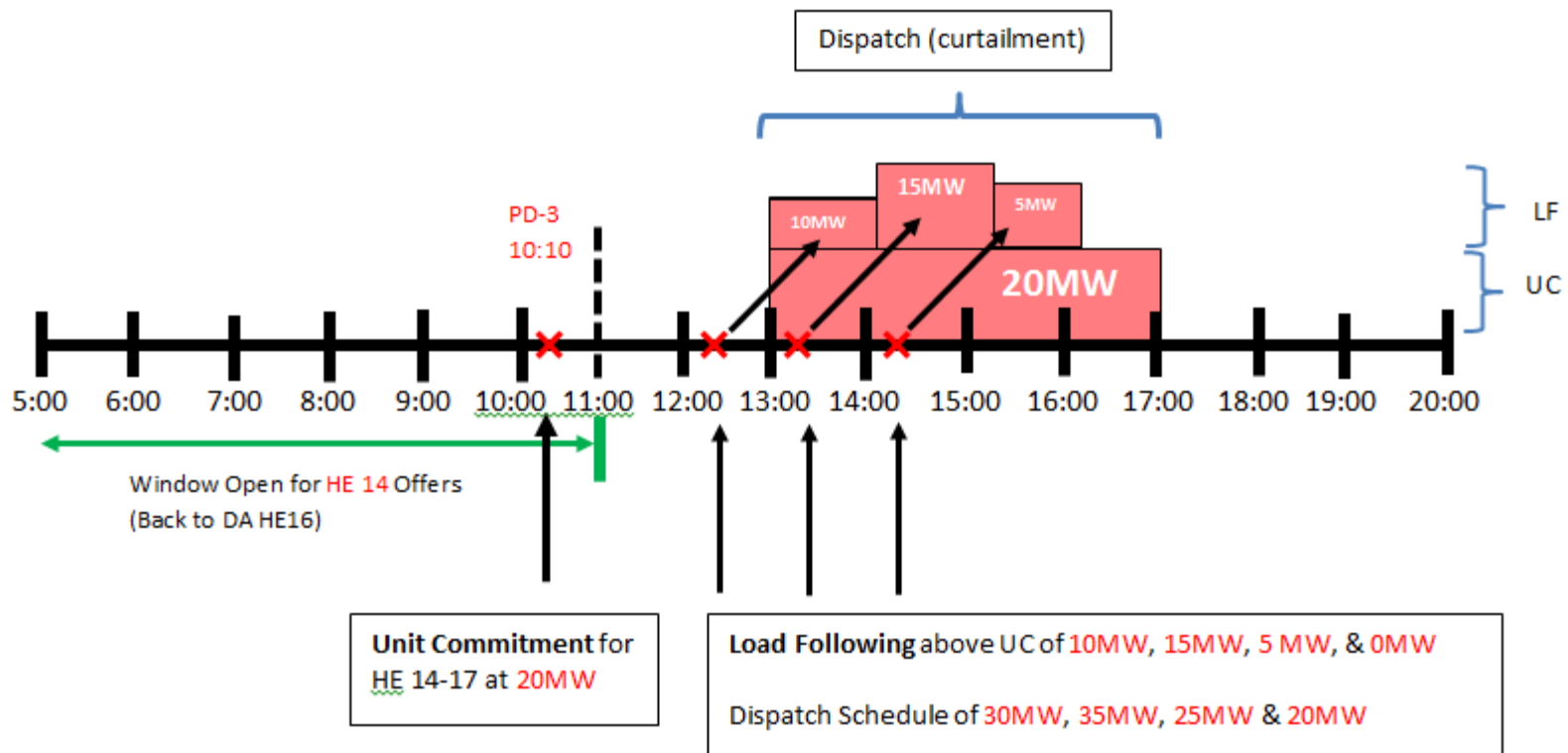


2) 3hr Ahead Unit Commitment (no DA commitment)

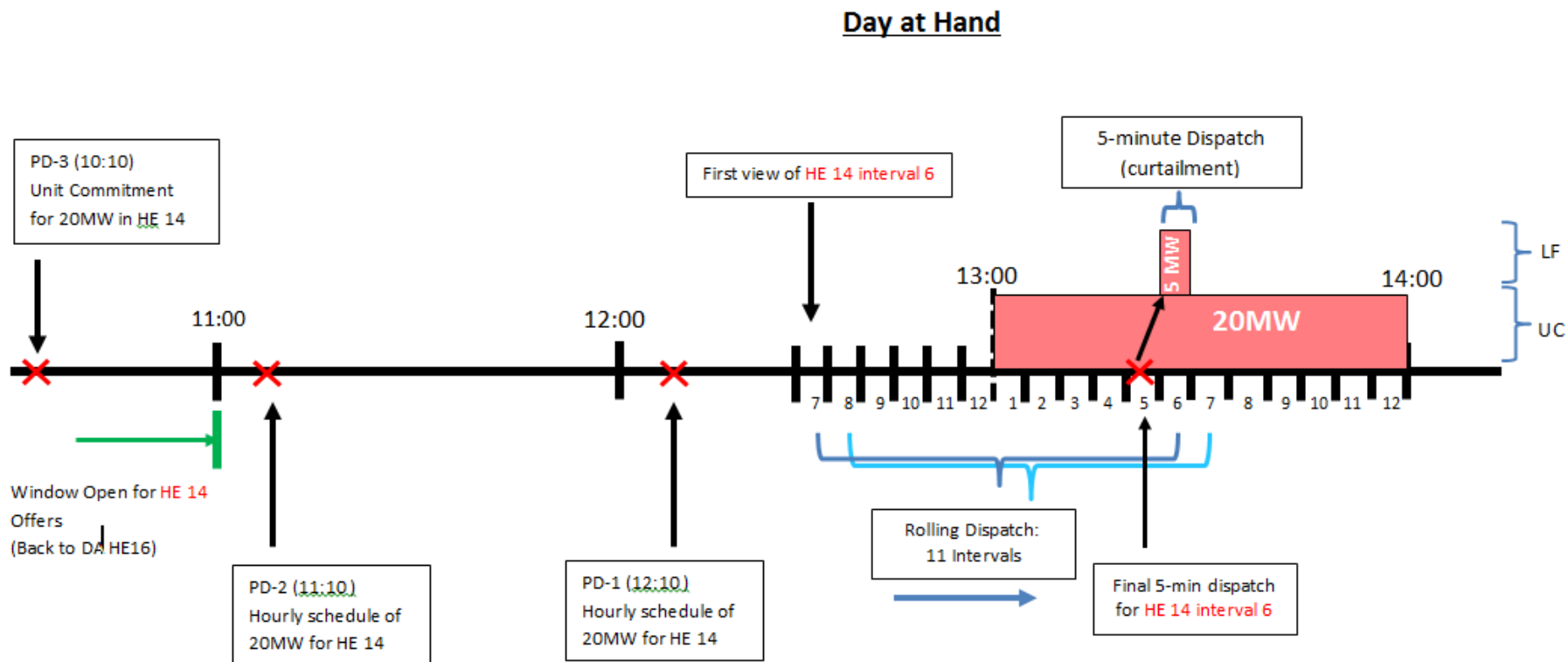


3) 1-hr Load Following with 3hr ahead Unit Commitment

Day at Hand



4) 5-minute Load Following with 3hr ahead Unit Commitment



- Two participant types:
 - Dispatchable Loads
 - Aggregators/Direct Participants as Demand Response participants
- All Pilot Participants:
 - Must submit bids into the market during hours of availability
 - Must have a dedicated telephone line, to be answered live when bids are in the system
 - M&V will be allowed if no wholesale revenue meter for the facility is registered with the IESO
 - Must meet all Market Rule obligations for their participant type

- 5-minute load following pilot:
 - Must have telemetry for control room visibility of the resources and formulation of dispatch
 - Must have a dispatch workstation
- Hourly load following and Unit commitment pilots:
 - No telemetry required
 - No dispatch workstation required
 - Schedule will act as dispatch instruction (IESO private report site)

- IESO will continue to work with members of the pilot sub-committee to understand characteristics of DR resources
- IESO will design the operation and compensation schemes for the pilot program
- IESO will draft the RFP

Please submit questions or feedback to
Stakeholder.Engagement@ieso.ca