

Hourly Demand Response (HDR) Testing Update

Demand Response Working Group

April 25, 2019

Purpose

- Background
- Performance
- HDR Testing Criteria
- HDR Test Activation Protocol – Update

HDR Testing Background

- As per *Market Rules Chapter 7, 19.4.11* and *19.5.7*, IESO may direct HDR resources to perform activation up to a maximum of two test activations per commitment period
- Testing allows IESO to verify that a capacity obligation is deliverable by the HDR resource
- IESO test activations last for 4 hours per test and all HDR resources are tested in each commitment period
- HDR resources receive non-performance charges for failing a test activation primarily through two settlement charges (Capacity & Dispatch Charge)
- IESO may choose to not test a HDR resource twice within a commitment period based on its successful historical performance in test and in market activations

HDR Testing Background

- HDR receive non-performance charges for failing a test activation primarily through two settlement charges:
 - **Capacity Charge (failure to provide capacity)**
 - Availability Payment for the month is clawed back
 - Capped at one charge per month
 - **Dispatch Charge (failure to follow dispatch)**
 - Availability Payment for the MW the DR resource failed to curtail multiplied by the hourly demand response auction clearing price
 - This charge is multiplied by a non-performance factor (1x, 1.5x, or 2x) depending on whether activation is during a peak period
- Test failure can be referred to IESO's Market Compliance and Assessment Division (MACD) as a potential market rule non-compliance
- As per *Market Rules Chapter 7, 19.4.8* and *19.5.4*, IESO may disqualify participation from future DR auctions when a resource consistently fails to provide performance as per the requirements

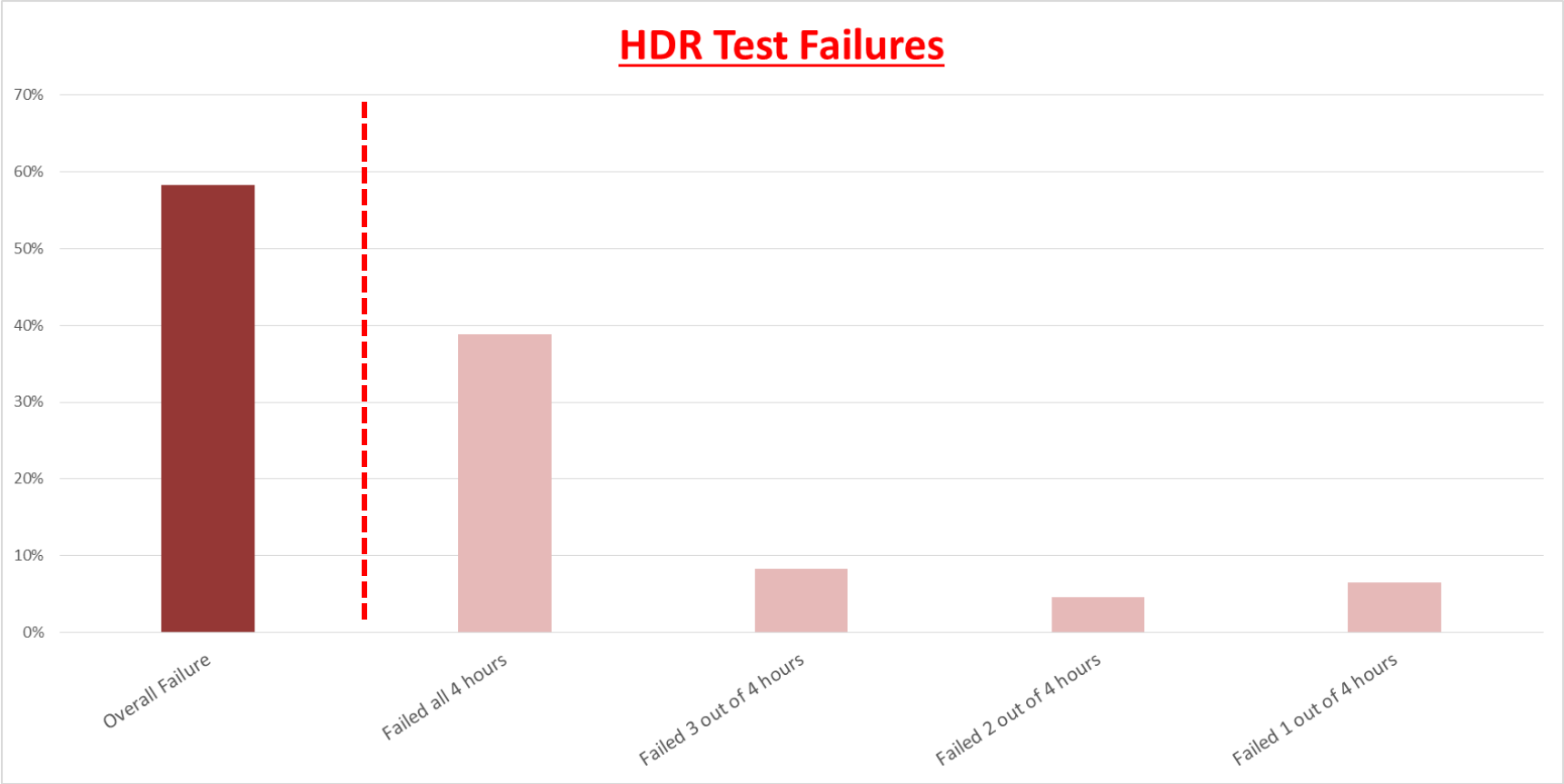
HDR Testing Criteria

- HDR test performance is evaluated based on a resource's ability to:
 - Deliver capacity, measured as the average load reduction over a 4-hour test period, within a 20% deadband, and
 - Follow dispatch, measured as HDR resource's output against its dispatch signals in each interval, within a 15% deadband
- Testing in the ICA will require participants to demonstrate 100% of their capacity obligation
- HDR testing criteria will evolve in TCA as they review qualification and performance measures
- This could include a move to a measure of 100% of a facility's capacity obligation, without deadbands. This will be further explored in TCA Phase 2

HDR Testing Performance

- IESO tests all Physical and Virtual HDR resources in each commitment period
- HDR can request to be tested at another time if they are unable to proceed with the test activation
 - Must file non-performance event; and
 - Bids should reflect inability to provide load reduction
- From Feb 2018 – Jan. 2019, only ~42% of HDR resources cleared testing
 - ~58% failure rate
 - ~39% failed in all hours (4 hour test)

HDR Testing Performance



	Overall Failure	Failed all 4 hours	Failed 3 out of 4 hours	Failed 2 out of 4 hours	Failed 1 out of 4 hours
Percentage	58%	39%	8%	5%	6%

HDR Test Activation Protocol

- As presented during the last DRWG, the IESO will be updating the testing protocol
 - Day ahead notification via phone call will be removed
 - Standby notification will be issued day ahead
 - IESO will also issue a Advisory Notice in advance of the standby notification (to confirm test activation)
- Changes will take effect at the start of the upcoming summer commitment period (May 1, 2019)