Methodology for Evaluation of Non-Controllable Load Resource RRS Deployments
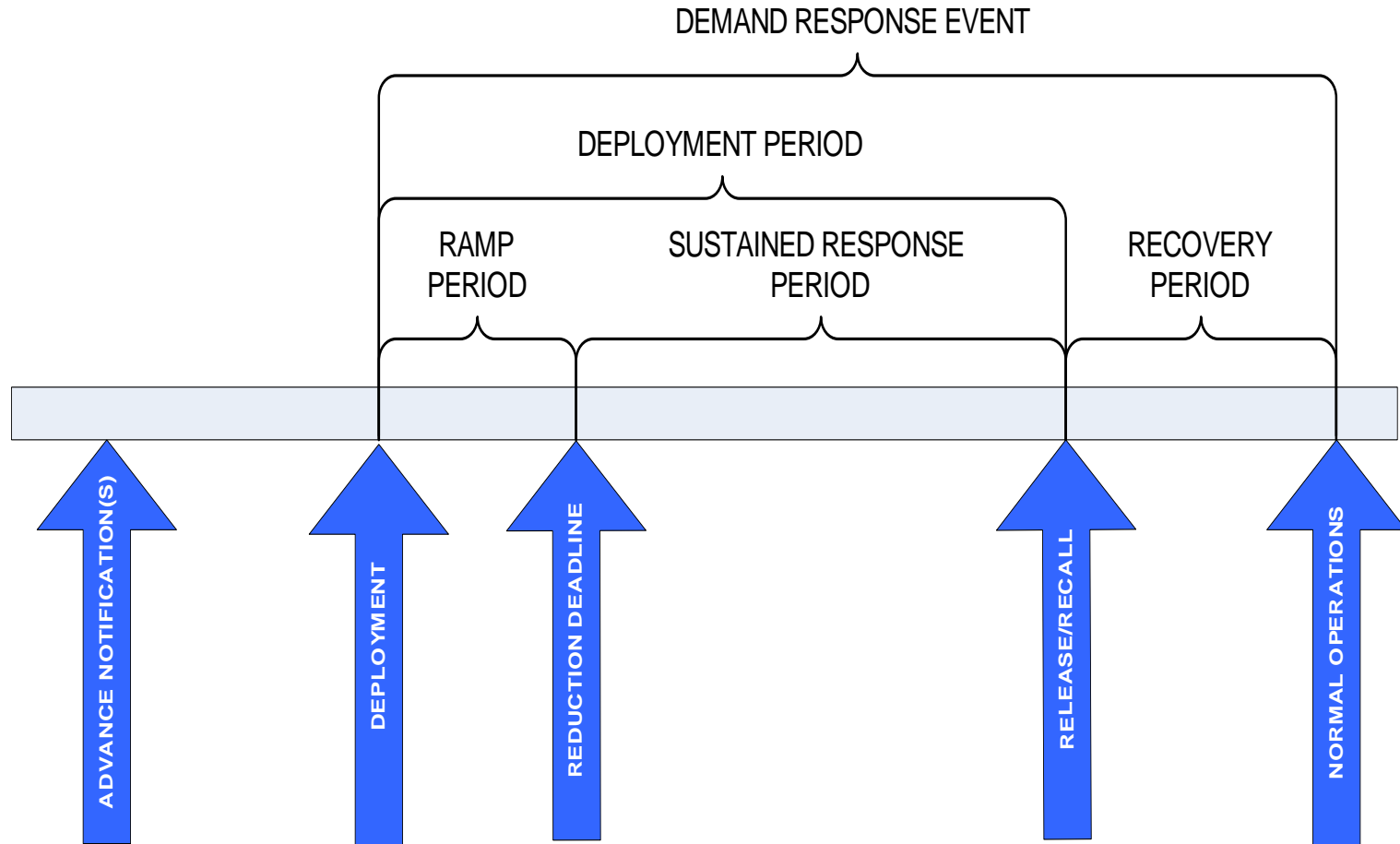
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DSWG Meeting

10/8/2010

- **NPRR 243 Changes the way ERCOT evaluates Non-Controllable Load Resource (NCLR) Deployments of Responsive Reserve Service**

- **Initial focus is on QSE Aggregated Performance**

- **Based on the results of that evaluation, individual NCLRs are then evaluated**

- **Results are tabulated and then posted to the MIS**

- **Unsatisfactory deployment performance can result in complaints being filed with the TRE and PUCT Compliance Organizations**

- **Poor deployment performance for individual Loads can also result in revocation of Provisional Qualifications and suspension from ERCOT Ancillary Service market activities**

Load Resource Deployment Timing

NAESB Definitions

- **QSE Responsibility is aggregated from the individual NCLR AS Responsibilities based on the deployment type**
  - Both groups, Single Group, UFR, Houston IROL, Individual
- **Determine the Start Time for the Deployment**
  - Start time for UFR is based on time stamp for Hi-Speed Recorders
  - Start time for VDIs is based on the instruction being issued and acknowledged by the QSE
- **Baseline Calculation**
  - Based on 2-sec telemetered values
  - Calculate a five minute average just prior to the Deployment Start Time

Additional considerations

- **Treatment of deployments that occur solely from UFR action**
  - Dependent on analysis of event recorders and other data to determine the extent of the frequency excursion

- **Treatment of deployments that are initially the result of UFR action and then a VDI(s) is issued to deploy remaining LRs**
  - Need to look at depth and duration of the UF event
  - If the UF spike exceeds the 59.7 hz and 20 cycle threshold, VDI will govern the QSE analysis
  - LRs that trip on UF will be given a 00:00 mm:sec deployment time

- **Treatment of LRs that deploy but did not have an AS Responsibility**
  - Give credit to Group deployments as indicated

- **Treatment of LRs that are assigned to Group 2 but need to deploy with Group 1 due to End Use Customer Operational Requirements**
  - QSEs need to identify these dependencies
  - Will still be evaluated with Group 2 Aggregation, but will show a 00:00 mm:sec deployment time

QSE Performance Evaluation (cont.)

- **Confirm that QSEs changed the telemetered schedules for each LR to reflect the deployment within one minute of receiving the instruction**

- **Calculate the amount of Load deployed for each individual Load Resource (instantaneous Load minus the baseline)**

- **Aggregate the individual deployed Load values for each deployment Group**

- **If the aggregated response is at least 95% and not more than 150% the QSE is considered to have passed, if not it failed**

- **Compare results during the remaining 15 minute intervals of the deployment to determine whether the QSE met their obligations throughout the sustained response period**

- **Once recalled, review the LR recovery to determine whether the QSE was able to meet its obligations at the end of the three hour recovery period including changing its telemetered schedule to reflect the recall**

Reporting

- **Review the results with each QSE**
- **As required by internal ERCOT procedures provide LR deployment analysis and results to System Operations for reports to TRE, ROS and others as required**
- **QSE level results will be posted to the MIS Secure area on a monthly basis**
- **Complaint forms will be filed with TRE for any potential Protocol violations**

Resource Specific Evaluations

- **Resource specific evaluations are done for each LR that had an RRS schedule being telemetered to ERCOT at the time of the deployment**

- **Baseline measurements are done as shown in the earlier slide**

- **Deployed Load is calculated based on instantaneous Load in MW, 10 minutes after the Deployment Start Time which is subtracted from the Baseline Load value**

- **Compare results during the remaining 15 minute intervals of the deployment to determine whether the LR met their obligations throughout the sustained response period**

- **Once recalled, review the LR recovery to determine whether the LR was able to meet its obligations at the end of the three hour recovery period including changing its telemetered schedule to reflect the recall**

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- **If QSE "passed" based on the aggregated performance evaluation:**
  - Individual LRs that contributed to that performance and dropped at least 95% of their Load that was present at the start of the Deployment Period will be considered to have "passed"
  - All other Load Resources will be considered to have "not passed". Note this does not mean they failed.
- **If QSE "failed" based on the aggregated performance evaluation:**
  - Individual LRs that contributed to that performance and dropped at least 95% of their Load that was present at the start of the Deployment Period will be considered to have "passed"
  - All Load Resource that had a telemetered RRS schedule and did not deploy or were slow in responding will be considered to have "failed"

- Resources that "fail" two manual deployments within any 365 day period will be subject to suspension for 6 months

- Resources that have not "passed" during a manual deployment in the last 365 days will be subject to an Unannounced Interruption Test

- LRs that are under a Provisional Qualification, and had a scheduled RRS telemetered value and "fail" to deploy in response to a VDI will have their Provisional Qualification revoked regardless of whether the QSE "passed" or not

- In order to return from a suspension, a LR will be required to pass a qualification test as part of their reinstatement process

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Monthly Responsive Reserve Performance Report - Non-CLR Load Resource Performance Data
(Excludes Controllable Load Resources)

<Reporting Month>

<QSE-A Name>

Resource Name	Deployment Time	Recall Time	Resource Schedule Update Performance	Resource Deployment Performance	Return To Responsibility Performance
	D1	R1	PASS	PASS	PASS
	D2	R2	PASS	PASS	PASS
Resource1	D3	R3	PASS	PASS	PASS
	D4	R4	FAIL	PASS	PASS
	D1	R1	PASS	PASS	PASS
	D2	R2	PASS	PASS	PASS
Resource2	D3	R3	PASS	FAIL	PASS
	D4	R4	PASS	PASS	PASS

<QSE-B Name>

Resource Name	Deployment Time	Recall Time	Resource Schedule Update Performance	Resource Deployment Performance	Return To Responsibility Performance
	D1	R1	PASS	PASS	PASS
	D2	R2	PASS	PASS	PASS
Resource3	D3	R3	PASS	PASS	PASS
	D4	R4	PASS	FAIL	PASS
	D1	R1	PASS	PASS	PASS
	D2	R2	PASS	PASS	PASS
Resource4	D3	R3	PASS	PASS	PASS
	D4	R4	PASS	PASS	PASS

<Report execution datetime stamp>

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Monthly Responsive Reserve Performance Report - QSE Performance Data

<Reporting Month>

<QSE-A Name>

Deployment Time	Recall Time	Resource Schedule Update Performance	Resource Portfolio Performance
D1	R1	FAIL	PASS
D2	R2	PASS	PASS
D3	R3	PASS	PASS
D4	R4	PASS	PASS

<QSE-B Name>

Deployment Time	Recall Time	Resource Schedule Update Performance	Resource Portfolio Performance
D1	R1	FAIL	PASS
D2	R2	PASS	PASS
D3	R3	PASS	PASS
D4	R4	PASS	PASS

<Report execution datetime stamp>