

**ERCOT BUSINESS PRACTICE**

**Non-Spinning Reserve Service Deployment and Recall Procedure**

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**PROTOCOL DISCLAIMER**

This Business Practice describes ERCOT Systems and the response of these systems to Market Participant submissions incidental to the conduct of operations in the ERCOT Texas Nodal Market implementation and is not intended to be a substitute for the ERCOT Nodal Protocols (available at <http://nodal.ercot.com/protocols/index.html>), as amended from time to time. If any conflict exists between this document and the ERCOT Nodal Protocols, the ERCOT Nodal Protocols shall control in all respects.

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## Nodal Market Non-Spinning Reserve Service Deployment and Recall Procedure

There are three situations that will cause Non-Spinning Reserve Service (Non-Spin) to be deployed.

* Detection of insufficient capacity for energy dispatch during periodic checking of available capacity.
* Disturbance conditions such as a unit trip, sustained frequency decay or sustained low frequency operations.
* SCED not having enough energy available to execute successfully.

In each case, the ERCOT operator will make the final decision and initiate the deployment. The ERCOT operator shall deploy Non-Spin in amounts sufficient to respond to the operational circumstances. This means that Non-Spin may be deployed partially over time or may be deployed in its entirety. If Non-Spin is deployed partially, it shall be deployed in increments of 100% of each Resource’s capacity. To support partial deployment, ERCOT shall, following the Day-Ahead Market (DAM), rank, for each hour of the Operating Day, the Resources supplying Non-Spin in an economic order based on DAM Settlement Point Prices Partial Non-Spin deployment and recall decisions shall be based on each Resource’s economic cost order.

## Non-Spin Deployment

ERCOT will deploy Non-Spin when AS capacity monitor shows (HASL – Gen) ≤ 200 MW during normal load ramps and (HASL – Gen) ≤ 500 MW during high load ramp/peak load hours or Physical Responsive Capacity ≤ 2500 MW. Emergency processes will govern the deployment of NSRS during Emergency state.

* 1. Off-Line Generation Resource reserved for Non-Spin
* The QSE will be sent a Resource specific Dispatch Instruction that Non-Spin has been deployed.
* The Dispatch Instruction must include the expected amount of *capacity* that will be available for SCED and the anticipated duration of the deployment.
* The QSE must have the Resource On-Line and ready for SCED dispatch of Base Points within 25 minutes of the Dispatch Instruction.
* SCED will respond to the changes in Resource Status that are received by telemetry from the QSE. A typical sequence would be from OFFNS to ONTEST and to ON once the Resource is ready for SCED dispatch.
* Once the Resource is On-Line it is dispatched as any other Generation Resource including any provisions for processing generation less than the Resource’s LSL.
* The Resource must, at a minimum be capable of providing all the Non-Spin energy to SCED within 30 minutes of the Dispatch Instruction.
* The QSE will ensure that the Non-Spin A/S Schedule telemetry for that unit has been reduced to zero within 20 minutes of the Dispatch Instruction.
  1. Load Resource reserved for Non-Spin
* The QSE will be sent a Resource specific Dispatch Instruction that Non-Spin has been deployed.
* The Dispatch Instruction must include the MW level of load *energy* to be interrupted by the Load Resource and the estimated duration of the deployment.
* Non-Spin procured from a Load Resource block offer must be deployed as a block.
* The Load Resource must, at a minimum, interrupt not less than 95%, nor more than 150% of the requested deployment energy within 30 minutes of the Dispatch Instruction.
  1. On-Line Generation Resource with an Energy Offer Curve
* The QSE will be sent a Resource specific Dispatch Instruction that Non-Spin has been deployed.
* The deployment will be for the total amount of *capacity* on that Resource that had been reserved for Non-Spin,
* ERCOT will automatically calculate new HASL constraints for SCED using the telemetry of the Resource’s Non-Spin Ancillary Service Schedule.
* The QSE shall reduce the Resource’s Non-Spin Ancillary Service Schedule to zero with in 20 minutes following a deployment instruction.
* The Resource must, at a minimum, be able to dispatch to its Non-Spin Resource Responsibility within 30 minutes of the Dispatch Instruction.
  1. On-Line Generation Resource with Output Schedules
* The QSE will be sent a Resource specific Dispatch Instruction that Non-Spin has been deployed.
* The Dispatch Instruction must include the additional amount of *energy* (MW) that needs to be produced by the Resource and the estimated duration of the deployment.
* For DSR’s providing Non-Spin, as soon as the QSE receives the deployment, ERCOT shall adjust the HASL for the Resource with the QSE provided Real-Time telemetry Non-Spin Schedule and the QSE shall adjust the telemetry Output Schedule and Non-Spin Schedule to reflect the Non-Spin deployment. A DSR QSE with a Load Resource that has provided Non-Spin will ensure that the Output Schedule is not reduced to reflect the load deployment if the Load Resource is part of the DSR Load that the Resource follows.
* For non-DSR’s (with Output Schedules) providing Non-Spin, ERCOT shall adjust the HASL for the Resource with the QSE provided Real-Time telemetry Non-Spin Schedule and shall increase the Output Schedule used in SCED by the difference between telemetry Non-Spin Responsibility and Schedule to reflect the amount of Non-Spin energy provided by the Resource in response to the Non-Spin deployment.

## Recall of Non-Spin Deployment

Non-Spin will be recalled when (HASL- Gen) ≥ deployed Non-Spin plus 500 MW and PRC is ≥ 3000 MW.

* After recall, QSE will be allowed to control the unit down to its LSL at the Normal Ramp Rate and then trip it off-line if the QSE wants to shutdown the Resource. A QSE with a Generation Resource that was previously Off-Line will be allowed to keep the unit On-Line after minimum online time, provided the difference between its HSL and LSL have capacity to restore the AS Schedule to the AS Resource Responsibility.
* A QSE with a Generation Resource (with an Energy Offer Curve) that will stay On-Line will restore the Non-Spin A/S Schedule for that unit and let the ERCOT Resource Limit Calculator update the HASL prior to the next SCED execution. If the unit MW level is higher than the new calculated HASL then the unit will ramp to the new HASL at the SCED Down Ramp Rate.
* A QSE with a DSR Generation Resource (with an Output Schedule) that will stay On-Line will back out the Non-Spin addition that was made to the Output Schedule. This can be incrementally deleted depending on the size of the deployment and Normal Ramp Rate. For non-DSR Generation Resources, ERCOT will back out the deployed Non-Spin by the difference between telemetry Non-Spin Responsibility and Schedule. SCED will use the QSE submitted non-DSR Output Schedule once the Non-Spin schedule is restored
* A QSE with a Load Resource that has provided Non-Spin will ensure that the load energy and Non-Spin capability is restored within three hours from the expiration of the Non-Spin deployment. If it is not, the Non-Spin capability must be replaced by the QSE on other Generation or Load Resources capable of providing the service.