# Transitions for Large Changes in AS Responsibility between Operating Hours in Real-Time

**Issue**

ERCOT has recently observed that in order to have sufficient headroom to cover Ancillary Service obligations at the top of an hour, some QSEs whose Resources are being dispatched by SCED at the top are choosing to deviate from base points to ensure sufficient headroom is available to provide Ancillary Service at the top of the hour when AS obligation begins. The concern of the QSE is that at the top of the hour, ERCOT’s Security Constrained Economic Dispatch (SCED) may not be able to dispatch the unit down fast enough to cover its AS obligation because of ramp rate restrictions and in turn, the unit will be short AS capacity and potentially face compliance issues. That said, this voluntary Base Point deviation can be large enough to cause frequency to drag, and in some cases, prompt ERCOT Operators to take mitigating actions, such as a manually offset to the Generation To Be Dispatched (GTBD) value in order to make up for the expected generation deviation.

**Proposed Solution**

ERCOT recognizes that with the recent changes to the High Ancillary Service Limit (HASL) (NPRR 527, 687 and 710), transitioning from not carrying AS obligations to carrying large amounts of AS obligations can pose significant movement in the output of a Generation Resource that may not be achievable within a five minute SCED interval.

As a result, ERCOT is proposing that new Resource Status types, namely TRNSUP & TRNSDWN, be created and used anytime an online Generation Resource chooses to preposition itself in preparation for AS Obligation changes at the top of the hour. Resource Limit Calculator would need to be updated to calculate HDL & LDL as follows

1. If the telemetered Resource Status is TRNSDWN, then HDL = MW Telemetered – (Down -Ramp \*5)
2. If the telemetered Resource Status is TRNSUP, then LDL = MW Telemetered + (Up-Ramp \* 5)

These limits will ensure that when these new Resource Status are used, Base Points will be assigned by taking the Generation Resource’s telemetered ramp rate for the next 5 minutes into account.

This approach will provide SCED a transparent way of evaluating a Generation Resource’s operations plan and appropriately assign Base Points to the rest of ERCOT’s Generation fleet.

This approach will also ensure that ERCOT’s PRC & ORDC price adders continue correctly to capture & reflect capabilities from Generation Resources that are in a transitional state.

ERCOT recognizes that the solution proposed above will require ERCOT Market Rules and system changes and proposes the following interim solution primarily for combined cycles with NFRC, while these changes are vetted through the Stakeholder process.

1. A Generation Resource that is looking to preposition itself in anticipation of an AS Obligation at the top of the next hour should telemeter a Responsive Reserve Schedule (RRSC) of 0.0001 MW and a non-zero NFRC. This will cause SCED to provide Base Points to the Generation Resource that will bring the unit out of NFRC, which typically has ramp restrictions.
2. When the Generation Resource switches to carrying AS Obligations at the top of the hour, it should already be at an output level from where SCED should be able dispatch it down further to an output level that ensures deliverability of the AS Obligation within one interval.
3. HSL need not be changed under this option.

Another alternate interim solution could be updating HSL to preposition for the AS obligation before the top of the hour when AS obligation starts.