

# Startup and Shutdown Penalties

MSWG

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# Startup and Shutdown Penalties

- The *Startup period* is defined here as the period between the time a unit synchronizes to the Grid and the time it reaches its bid minimum generation level.
- The *Shutdown period* is defined here as the period between the time a unit receives a zero basepoint and begins shutting down and the point where it ceases to supply energy to the grid.

# Startup and Shutdown Penalties

- This SU and SD discussion applies to all steam units, not only Combined Cycle.
- Steam units typically have an extended startup and potentially an extended shutdown period.
- Units have two choices under today's rules to recover startup and shutdown costs.
  - Bid an estimate into their startup bid.
  - Bid their startup period into the HAM as a price taker and recover LBMP for startup energy.

# Startup and Shutdown Penalties

- Units not bidding into the HAM simply dump their energy into the RT market and are not paid for it. This creates short term LF variations for the ISO.
- Units bidding into the HAM cannot properly follow dispatch instructions and accrue penalties when startup processes create variations from estimated output.
- The penalties are intended as incentives to modify behavior. They serve no purpose during these periods of operation.

# Startup and Shutdown Penalties

- It is therefore recommended that the under-generation penalty be dropped during unit startup and shutdown periods and that during these periods units be paid LBMP for all energy produced.

# Startup and Shutdown Penalties

- Generators will be allowed to designate when they are in a start-up (SU) or shut down (SD) mode.
- Notification will be via email to a designated NYISO address.
- Submittals to cover SU or SD for any day must be submitted within 24 hours following the subject day.
- When received and applied by the ISO, the SU/SD designation for any hour will be applied for the whole hour.

# Startup and Shutdown Penalties

- The plant will self schedule with the NYISO a good-faith estimate of its energy production rate in quarter-hour increments for any hours when the SU/SD flag is set.
- The self scheduled energy estimates will be used for all NYISO real-time schedule forecasts.
- The SU/SD designation will apply only in real-time as it will have no meaning for the day-ahead commitment and scheduling process.
- The unit cannot use the SU/SD mode during any hour with a day-ahead schedule.

# Startup and Shutdown Penalties

- The plant will not be protected by a real-time bid production cost guarantee for any hour when the SU/SD flag is set.
- Use of the SU/SD flag will not otherwise disqualify a plant from the protection of a real-time bid production cost guarantee for hours when the SU/SD flag is not set.



# Startup and Shutdown Penalties

- To ensure that the elimination of penalties during S/U and S/D is not abused in some way, startup periods will normally be less than two hours. Shutdown periods will normally be less than one hour. Exceptions must be supported with justifications.
- Utilization of this feature will be monitored to identify any potentially abusive behavior.
- The NYISO will retain the right to revoke the ability of any plant to use the SU/SD flag should it detect an adverse market or operational impact and, after consultation with the generator, revoke the right or reach agreement to remedy the adverse impacts.

# Startup and Shutdown Penalties

- Next Steps

- BIC and MC approval June

- BOD approval and FERC filing July

- A detailed technical bulletin describing this rule change and the relevant rules and procedures will be produced and discussed with MPs prior to deployment of this change.