

INTRODUCTION

Short-Term Reserve (STR) is a 30-minute rampable generation capacity product provided by online or offline resources to be converted to energy within the STR deployment period (30 minutes). It will be co-optimized with energy and ancillary services products. The product separately addresses market-wide, sub-regional and local short-term reserve needs.

MISO developed the STR product to provide a market-based solution for addressing short-term needs and align its markets with the operational challenges that drive STR needs. MISO is planning a December 7, 2021, launch date.

FREQUENTLY ASKED QUESTIONS

Overview

What are the primary operational challenges that drive STR needs?

- Managing the contractual obligation to restore flows on the Regional Directional Transfer (RDT) constraint under agreed limits within 30 minutes. This includes 2500 MW North to South flows and 3000 MW South to North flows.
- Positioning local areas to retain ability to relieve overload on Interconnection Reliability Operating Limits (IROL) within 30 minutes as dictated by NERC requirements.

What is MISO's current approach to protect the system for STR Needs?

- MISO currently uses out-of-market commitments in Reliability Assessment Commitment processes;
- Long-lead resources are committed to pre-position local areas and the South Sub-Region; and
- Quick-start resources in the North/Central are committed in Real-Time to address non-locational STR needs.

How will STR be better than MISO's current approach?

- STR will improve unit commitment efficiencies, improve reliability, and minimize production costs by moving commitment decisions used to manage RDT into the market.
- STR will provide market revenues to manage Sub-Regional and Local STR needs. Out-of-market commitments that are currently used to manage these needs have historically resulted in high uplift payments.
- Unmet reliability needs still exist despite current out-of-market commitments. STR will explicitly model reliability needs in the clearing and dispatch engines to ensure committed capacity is rampable for STR needs.

What are the benefits of the STR product?

- The STR product assures that rampable capacity is available to meet short-term market requirements.
- STR increases the pool of resources able to do so, which may especially benefit local areas and the South Sub-Region.
- STR will provide transparent price signals that value reliability needs in the market.
- STR will improve efficiency through the co-optimization of STR needs with other operational needs addressed through the markets.
- STR aligns with the Independent Market Monitor (IMM) recommendations to implement a 30-minute product to incorporate Voltage and Local Reliability (VLR) and RDT commitments into the market.
- STR revenues benefit qualified resources that participate in this new market product.

What operational issues or market efficiency opportunities will not be addressed by the STR product?

- The STR product will not address voltage issues in local areas. Although, addressing other local reliability issues by STR can secondarily benefit voltage issues.
- The STR product will not completely eliminate uplift payments. MISO will still need to pre-position Local areas with long lead units that cannot be committed in the markets. Although, including STR in Multi-day RAC studies may provide some improvements for such commitments.



Short Term Reserve Primer

Implementation

How does MISO establish STR needs?

- MISO calculates separate STR requirements for local, sub-regional, and market-wide needs.
- Local and sub-regional STR needs are determined by using Reserve Procurement Enhancement (RPE) constraints. These constraints dynamically determine requirements based on the loss of generation elements and associated change in flow, and the flow limits.
- The market wide STR requirement will be initially set at 1.5 times the largest generator contingency.

How does STR capacity and ramp interact with other products?

- On individual resources, cleared STR capacity may overlap with Contingency Reserve (CR) and Up Ramp Capability Product (RCP).
- Resource ramp rate is available to all products.

How will STR clear?

- Short-Term Reserve will be a separately cleared product in the Day-Ahead and Real-Time Markets and will be co-optimized with energy and ancillary service products.
- Online STR is cleared on an opportunity cost basis and deployed by Unit Dispatch System (UDS).
- Offline STR is cleared based on an offer price and requires operator commitment instructions.

How is the STR product settled?

- Opportunity costs and/or offline offers will set prices under normal conditions. Demand curves will set prices under scarcity.
- Cleared STR is paid zonal STR Market Clearing Prices (MCPs). Costs are allocated similar to other reserves by load-ratio share, by Reserve Zones.
- The charge type names are being finalized to include in a revised Business Practice Manual (BPM) which will be published in Q2 2021.

How is STR performance measured?

- Online STR is subject to existing excessive/deficit performance charges when not responding as instructed.
- Offline STR capacity that receives a commitment instruction must reach its economic minimum.
- Failure to respond results in deployment failure charges.

Resource Participation

What resources are required to participate in STR?

- Resources that clear as capacity in the Planning Resource Auction (PRA) must participate in STR.

What types of resources may qualify to provide STR?

- Generation, Demand Response Resource Types I and II, Stored Energy Resource Type II, and External Asynchronous Resources may qualify to provide STR.
- Online dispatchable resources, excluding Dispatchable Intermittent Resources (DIR) and Intermittent Resources, may provide online STR.
- Offline resources that can reach their economic minimum output within 30 minutes, sustain output for 60 minutes and have a minimum run time of four hours or less may provide offline STR.

How do Market Participants register resources to provide the STR product?

- MPs need to register their STR default parameters by emailing help@misoenergy.org and submitting a [change request and commercial model template](#) by September 15, 2021, in preparation for the December product launch. MISO will provide updates through the [MISO Help Center](#) and Market Subcommittee meetings, and announce open registration expected in June 2021.