



ISO Course Outline

Course Title:	Multi-Stage Generation (MSG) Resource Modeling
Course Topics:	<ul style="list-style-type: none">• Defining a Multi-Stage Generation Resource• Registering MSG Resources in Master File• Ancillary Services for MSG Resources• Bidding and Scheduling Rules• Outage Management• Settlement Impacts• Compliance
Intended Audience:	This class is intended for individuals who wish to gain a better understanding of what Multi-Stage Generation Resources are, how they are registered in Master File and how they are bid and scheduled into the Day-Ahead and Real-Time Markets. This class is designed as part of the Multi-Stage Generation Modeling project implementation scheduled for October 1, 2010.
Course Description:	This course is designed as a high level overview of the new MSG project initiative that describes what Multi-Stage Generation Resource are, how they are registered in the Master File, and how they are used in the Day-Ahead and Real-Time Markets. The class will complete exercises to complete a Resource Data Template for an MSG resource. The course continues with a high level overview of settlement and compliance impacts as well as bidding and scheduling in the Day-Ahead and Real-Time Markets.
Pre-Requisites:	None
Offering:	<p>This class will be available as an instructor-led New Initiative class from June through September, 2010. Project implementation is scheduled for October 1, 2010.</p> <p>Materials from this course will be included in the Market Transactions classes offered quarterly after October, 2010.</p>



Module Topics and Objectives

What is a Multi-Stage Generation Resource

By the end of this section, the participant will be able to:

- Describe the characteristics of a Multi-Stage Generation Resource
- Describe what configurations are and how they are used
- Describe what transition times are

This section will present high level project information and will answer the following questions:

1. What is an MSG Resource
2. How is it different from a non-MSG Resource
3. What are configurations
4. What does transition mean?

Registering Resources in Master File

By the end of this section, the participant will be able to:

- Describe the minimum and maximum number of configurations allowed for an MSG resource
- Describe the purpose of a transition matrix
- Describe the timeline for changes

This section will present an overview of how MSG Resources are registered in Master File and will answer the following questions:

1. Why are configurations and transitions important?
2. How long does it take to make changes to configurations or transitions?
3. What kind of information must I have to register an MSG resource?

Bidding and Scheduling MSG Resources in the Markets

By the end of this section, the participant will be able to:

- Describe the SIBR rules as they apply to the number of configurations a participant may offer into the Day-Ahead and Real-Time Markets
- Describe the rules behind transitioning between configurations
- Describe what it means to have a Default Configuration



This section will present information on SIBR Rules and Master File validations for bidding and scheduling MSGs into the market and will answer the following questions:

1. How many configurations can I submit into the Day-Ahead or Real-Time Market?
2. How do I bid in for my RA Obligation?
3. How do I bid or self-provide Ancillary Services?
4. How will I know what configuration I'm supposed to be in when I get dispatched or receive a schedule?

Outage Management

By the end of this section, the participant will be able to:

- Describe the how to report outages by configuration
- Describe how to report Pmin or Pmax rerates by configuration

This section will present information related to how to report outages in SLIC by configuration and will answer the following questions:

1. Can I report outages for only certain configurations?
2. Can I report outages for upper operating configurations or lower operating configurations?
3. Is there some impact to transition costs when there is an outage or rerate?

Settlement Implications

By the end of this section, the participant will be able to:

- Describe the settlement impacts resulting from the implementation of this project

This section will present a high level overview of the settlement implications of this project and will answer the following questions:

1. What charge codes will be impacted by this project?
 2. Are transition costs includes as part of Bid Cost Recovery?
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Compliance

By the end of this section, the participant will be able to:

- Describe when Ancillary Service No-Pay would be triggered
- Self provided AS versus bid-in AS by configuration

This section will present high level information AS and RUC compliance and will answer the following questions:

1. Under what conditions would AS No Pay be triggered based on specific configurations?
2. How do configurations affect AS/RUC availability?
3. What happens with a DA AS Self Provision or Award if the ISO selects a RT Configuration that cannot support the DA AS Self Provision/Award?

