



# Blackstart Administration and Testing Changes

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*Customer Training Web Conference*

Kory Haag

LEAD OPERATIONS ANALYST

# Objectives

This web conference will explain the following for Designated Blackstart Resources (DBRs):

- Eligibility requirements
- Commitment types
- Rights and Obligations
- OP-11 forms
- Requirements for communications with ISO and Local Control Center (LCC)
- Changes to the testing requirements
- Requirements during a System Restoration



# INTRODUCTION



# How Blackstart Resources are Chosen

The ISO and System Restoration Working Group choose Blackstart resources based on:

Real Power Capability

Reactive Power Capability

Frequency Control Capability

Voltage Control Capability

Interconnection Voltage

Proximity to nuclear power plants

Proximity to Inter-LCC Interconnection Points

Proximity to Inter-RCA\* Interconnection Points

\*Reliability Coordinator Area

# Eligibility Requirements

- Schedule 16 and OP 11 delineate requirements that a resource must meet:
  - prior to becoming a DBR.
  - on a continuing basis.
- If at any point the resource cannot meet these requirements, the resource must inform the ISO and the applicable LCC.

# OP 11 and Schedule 16 Criteria

## A DBR must be able to:

- ✓ be dispatchable by the ISO/LCC during restoration (may be performed by either the ISO or the LCC).
- ✓ be online within 90 minutes of dispatch.
  - Dispatch is the time the ISO or LCC calls and tells the unit to come online.
  - Dispatch is not the time the outage occurs.
- ✓ start and remain energized without support from offsite power or another DBR (i.e., starting source for a DBR cannot be another DBR).
- ✓ close the output breaker to a de-energized bus.
- ✓ maintain a stable frequency between 59.0-61.0 Hz.
  - ISO/LCC may direct unit to modify frequency to facilitate load restoration or island synchronization.

# OP 11 and Schedule 16 Criteria *(continued)*

## A DBR must have:

- ✓ an Automatic Voltage Regulator and perform reactive testing at least every 5 years
- ✓ access to fuel during a system emergency
  - 2 hours at full load for hydro units
  - 12 hours at full load for thermal units
- ✓ communications capabilities (by unit type):
  - Category A\* must have means of communication separate from public telephone or cellular phone network.
  - Category B\* must have an Iridium Satellite phone system.

*\* New Category A & B commitment types will be discussed shortly.*



*Category B units must have an Iridium Satellite phone system.*

# Commitment Types

## *Changes to Commitments*

### New

- Two major types of commitments established:

**Category A** All units currently in the program

**Category B** New units or units which are currently in the program that the ISO wishes to retain as part of the Restoration Plan

- All resources have the same Eligibility Requirements, Rights and Obligations

### Previous Term and Termination

- 3 year contracts (nominal)
- 1 year notification prior to end of contract to terminate contract
- At end, contract automatically renewed another 3 years unless terminated



# Commitment Types

## *Category A Commitment and Term*

All units in the program will become a Category A DBR, as of January 1, 2013.



- Retains the same terms and termination conditions as previous Schedule 16.
- Receives same compensation as Category B open term units.

After the current term ends, resources must become a Category B DBR to continue in the program (only certain resources have been asked to become Category B).



All Category A commitments will be terminated at the end of their current term.

# Commitment Types

## *Category B Commitment Terms*

### Open Term

- Term continues until terminated by either resource or ISO
- Requires a 2 year advance notification of termination unless mutually agreed upon to terminate earlier
- Resource and ISO may agree to establish a minimum term

### Specified Term

- New units in the program that are not blackstart capable and must be converted
- Obligates units to the program for a minimum of 10 years (could be up to 25 years)
- Allows unit to recover capital cost for conversion

# Rights and Obligations

## RIGHTS

- May take units out of service for planned maintenance\*  
\* *Must inform ISO and LCC of any planned or forced outage*

## OBLIGATIONS

- Follow dispatch instructions of ISO and LCC during restoration
- Cannot be obligated, by another agreement, to provide any other service during a blackout
- Must perform a Blackstart Capability Test at least every 12 months

# Failure to Meet Obligations

- Payment suspended if not corrected within 30 days after Failure to Meet Obligation
- If Failure is during a system restoration, payment shall be suspended immediately
- Includes Forced and Emergency Outages
- Outages approved on the Annual Maintenance Schedule are exempt except if the outage goes more than 5 days over the original planned duration

# OPERATING PROCEDURE 11 FORMS



# Operating Procedure 11 Forms

- Contains multiple forms to be submitted
- All forms are contained in appendices:
  - Application to become DBR
  - DBR Commitment
  - Blackstart Capability Test Reporting Form



# Application to become DBR

## *OP 11 Appendix D*



- Category A units must submit prior to 1/1/2013
- Physical and technical data regarding unit's capability
- Ensures unit meets new Schedule 16/OP 11 requirements



# DBR Commitment

## *OP 11 Appendix G*



- Category A Units must submit prior to 1/1/2013
- Agreement between Blackstart Owner and ISO
- Takes the place of current Schedule 16 signature page
- Units that want to transition to Category B commitment will submit new commitment sheet at that time





# Blackstart Capability Test Reporting Form

*OP11 Appendix E & F*



- Appendix E
  - Form that must be submitted at least annually when DBR is tested
  - Must be submitted to ISO within 30 days of test
- Appendix F
  - Instructions for filling out the Test Reporting Form

# COMMUNICATION AND TESTING REQUIREMENTS



# Communicating Failure to Meet Obligations

- **If the DBR cannot meet Criteria or Obligations they must:**
  - notify **ISO Control Room** within 15 minutes verbally
  - notify **LCC Control Room** within 15 minutes verbally
  - notify **ISO** through email ([blackstart@iso-ne.com](mailto:blackstart@iso-ne.com))
- **The ISO will:**
  - evaluate information
  - determine whether compensation should be affected
  - notify Blackstart Owner

# Testing Requirements

- Test must be requested in outage scheduling program (CROW)
- Testing has changed slightly to reflect changes in Schedule 16 and NERC EOP-005-02
  - Testing must be performed every 12 months instead of annually
  - Units must have **physical** verification of output circuit breaker ability to shut to de-energized bus

The NERC EOP-005-2 standard says:

***“R9. Each Transmission Operator shall have Blackstart Resource testing requirements to verify that each Blackstart Resource is capable of meeting the requirements of its restoration plan. These Blackstart Resource testing requirements shall include:***

***R9.2.2. The ability to energize a bus. If it is not possible to energize a bus during the test, the testing entity must affirm that the unit has the capability to energize a bus **such as verifying that the breaker close coil relay can be energized with the voltage and frequency monitor controls disconnected from the synchronizing circuits.**”***

# RESTORATION PERFORMANCE



# Restoration Performance Criteria



- DBRs that are used to begin system restoration must:
  - startup without external support
  - be online within 90 minutes of receiving startup order
  - self-supply load for stable operation
  - be able to shut output circuit breaker to a de-energized bus
  - provide real power, reactive power, frequency, and voltage support as directed by the ISO or LCC
- May see voltage excursions up to  $\pm 10\%$  of nominal
- May see frequency excursions up to  $\pm 1$  Hz



# MARKET INFORMATION SYSTEM (MIS) REPORT



# Blackstart Service

## *Where Can I Find Blackstart Service Information?*

- MIS Reports are available via File Transfer Protocol (FTP) site
  - Secure site
  - Access required to view reports
  - Your Security Administrator (SA) assigns FTP access
- Reports are in Comma Separated Value (CSV) format





# MIS Report

- Report name: *sd\_bsoperations*
- Provides pertinent operational data including:
  - Date of last Blackstart Capability Test
  - Date of last PASSED Blackstart Capability Test
  - Date next Blackstart Capability Test is due
  - Date of Failure to Maintain or Failure to Perform
  - Date correction of Failure is due
  - Commitment type and effective date
- Participants can *only* access information for their own DBRs



# Summary



## Introduction

- Eligibility Requirements
- Commitment Types
- Rights and Obligations



## Operating Procedure 11 Forms



## Requirements

- Communications
- Testing



## Restoration Performance



## MIS Report

# Important Information for Current Blackstart Generators



- All current Blackstart Generators:
  - will become Category A DBRs as of 1/1/2013
  - must fill out OP 11 Appendix D
  - must sign a new commitment (OP 11 Appendix G)

- Compensation as of 1/1/2013 will be based upon information provided in:
  - OP 11 Appendix D
  - OP 11 Appendix G
  - OATT Schedule 16

*For details about compensation changes, come back to watch the **Blackstart Settlement Changes** web conference.*

*Register via ISO-TEN.*

**November 15, 2012**

**1:00pm**

- Please submit OP 11 forms by 12/15/2012

# Customer Support



- Generators *not* currently in the program but interested in participating should contact **Customer Support**.
- [Ask ISO](#)
  - Self-service interface for submitting inquiries
  - Accessible through the SMD Applications Homepage
  - Requires a valid digital certificate with the role of Ask ISO/External User
  - Contact your Security Administrator for assistance
- Phone: 413-540-4220
  - Monday through Friday, 7:30 A.M. to 5:30 P.M. Eastern Time
  - Recorded/monitored conversations
- Email: [custserv@iso-ne.com](mailto:custserv@iso-ne.com)

# Resources

- [OATT Schedule 16\\*](#)
- [OP 11\\*](#)
- [OP 12](#)
- [Schedule 2 Business Procedure](#)
- [SROT Training](#): *System Restoration Module*
  - *You must request the SROT curriculum in ISO-TEN to access this training.*
- [Blackstart Settlement Changes web conference](#)
  - *November 15, 2012 at 1:00 p.m.*

*\* Version will be updated after 1/1/2013*