Attachment A

To The

Blackstart Resource Service Agreement

A. Blackstart Resources. The Blackstart Resource or Resources governed by this Agreement is/are identified as follows:

1. Please provide the following information about the Blackstart Resource:

   a. Name of the generating facility at which the Blackstart Resource is located.

   _____

   b. Address of the generating facility at which the Blackstart Resource is located.

   _____

   _____

   _____

   _____

   c. Identify which unit(s) at this generating facility will provide the Blackstart Resource service. Please attach a diagram of the generating facility that identifies the boundaries

of the Blackstart Resource in Attachment A-2.

_____

_____

_____

d. Blackstart Resource operator and contact information.

_____

_____

e. Blackstart Resource technical expert and contact information.

_____

_____

_____

_____

2. Isochronous Operation: Please answer YES or NO

c. Can the Blackstart Resource operate in isochronous mode? _____

d. Can the Blackstart Resource be placed in isochronous mode remotely? _____

c. Can the Blackstart Resource be switched from isochronous mode to normal droop mode while online? _____

3. Start-up Characteristics

e. Please indicate the Blackstart Resource staffing conditions.

i. Entirely remotely controllable
ii. Staffed 24 hours per day
iii. Staffed between the hours of _____ and _____, else via call out
iv. Staffed via call out only
v. Other (please specify): _____

b. If the Blackstart Resource is not entirely remotely controllable and/or is not staffed 24 hours per day, please describe the Blackstart procedure and the communication methods available to dispatch personnel to the generating facility and time that it will take to get people there.

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c. Please indicate the starting method for the Blackstart Resource below:

___ Battery ___ Air ___ Propane _____ Other (please specify)

d. The available amount of stored starting energy (e.g. compressed air, batteries, etc.) may limit the number of starting attempts. Other technical considerations (e.g. motor or blade temperatures, etc.) may require an amount of time to elapse between starting attempts. ATC is aware that conditions during an event may reduce the actually achievable number of starts possible. Please describe any starting limitations of the Blackstart Resource for the two scenarios listed below:

i. Initial start-up of the Blackstart Resource (before the first transmission element is energized)

_____

_____

ii. Restarting the Blackstart Resource (assuming that an issue on the transmission system caused the unit to trip)

_____

_____

e. Please describe any coping times to which the Blackstart Resource is subject.

If offline prior to event, unit must start in ____ hrs or remain offline for ____ hrs

If online prior to event, unit must start in ____ hrs or remain offline for ____ hrs

f. Assume that an event occurs. Thirty minutes after the event occurs, ATC contacts the Blackstart Resource owner and requests that the unit be brought online.

i. The Blackstart Resource was offline prior to the event

What is the expected amount of time required from the ATC request until the Blackstart Resource can energize the first transmission element[1]?

_____ mins

ii. The Blackstart Resource was online prior to the event

What is the expected amount of time required from the ATC request until the Blackstart Resource can energize the first transmission element[1]?

_____ mins

4. Minimum and Maximum Unit Output[1]

a. Please provide the maximum net output of the Blackstart Resource.

90 degrees F _____ MW _____ MVAR

10 degrees F _____ MW _____ MVAR

b. Please provide the minimum stable net output of the Blackstart Resource for the first thirty minutes after synchronizing to the grid. Do not include environmental restrictions.

90 degrees F _____ MW _____ MVAR

10 degrees F _____ MW _____ MVAR

c. Please provide the **emergency**[2] minimum stable net output for the Blackstart Resource for the first thirty minutes after synchronizing to the grid. Do not include environmental restrictions.

90 degrees F _____ MW _____ MVAR

10 degrees F _____ MW _____ MVAR

d. Please provide the minimum stable net output for the Blackstart Resource for each of the time periods listed below. Include any applicable environmental restrictions. Assume that the unit is synchronized to the grid at 0 minutes.

_____ MW for 0 – 30 minutes _____ MW for 30 – 240 minutes

e. Describe any operating regimes in which the Blackstart Resource is unable to conform to the parameters provided in the section above. Consider both primary and alternate fuel sources for Blackstart Resources with dual fuel capability.

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_____

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5. Unit Loading Capability

a. What reasonable incremental load increase (largest load block) can the Blackstart Resource initially energize? _____ MW

b. List the maximum MW/min ramp up rate in isochronous mode? _____ MW/min

c. List the maximum MW/min ramp down rate in isochronous mode? _____ MW/min

6. Reactive Power Characteristics

a. Please provide the maximum lagging capability of the Blackstart Resource when operating at 50% of the rated capacity.

90 degrees F _____ MVAR

10 degrees F _____ MVAR

b. Please provide the maximum leading capability of the Blackstart Resource when operating at 50% of the rated capacity.

90 degrees F _____ MVAR

10 degrees F _____ MVAR

7. Fuel Characteristics

a. Please identify the designated Blackstart Resource fuel.

____ Firm Natural Gas ____ Non-Firm Natural Gas

____ Fuel Oil ____ Coal _____ Other (please specify)

b. Describe the onsite fuel capacity and inventory of the Blackstart Resource fuel. ATC recommends maintaining between 8 and 96 hours of Blackstart Resource designated fuel at 50% of rated output.

Fuel capacity _____ gallons (or specify other units)

90 degrees F Fuel inventory to operate at 50% rated output for _____ hrs

10 degrees F Fuel inventory to operate at 50 % rated output for _____ hrs

c. Please identify any alternate fuel type(s) that can be used by the Blackstart Resource.

____ Natural Gas

____ Fuel Oil ____ Coal _____ Other (please specify)

d. Describe the onsite fuel capacity and inventory of any alternate fuel type(s). If the alternative fuel is stored onsite, ATC recommends maintaining between 8 and 96 hrs at 50% of rated output.

Fuel capacity _____ gallons (or specify other units)

90 degrees F Fuel inventory to operate at 50% rated output for _____ hrs

10 degrees F Fuel inventory to operate at 50% rated output for _____ hrs

e. Describe any arrangements or procedures that are in place to deliver additional fuel to the generating facility, if necessary during an extended event.

_____

_____

_____

_____

f. Describe any starting issues related to fuel type, if any exist.

_____

_____

_____

8. Please describe any other operational limitations of the Blackstart Resource to take into consideration that may adversely impact its ability to provide Blackstart Resource service following an event.

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[1] For purposes of the information provided in Section 4, the information should be based on the use of the designated Blackstart Resource fuel.

[2] According to NERC, the emergency rating "specifies the level of electrical loading or output that a system, facility, or element can support, produce, or withstand for a finite period. The rating assumes acceptable loss of equipment life or other physical or safety limitations for the equipment involved."