

ISO Rules

Part 300 System Reliability and Operations

Division 304 Routine Operations

Section 304.2 Electric Motor Start Requirements



External Consultation Draft

August 3, 2018

Applicability

1 Section 304.2 applies to:

- (a) the **operator** of an industrial complex that has been identified by the ISO; is:
 - ~~(i) in the Empress Area with an electric motor of a size twenty five thousand (25 000) horsepower or larger;~~
 - ~~(ii) the Shell Limestone industrial complex; or~~
 - ~~(iii) the Edson Gas Storage industrial complex;~~
- (b) the **operator** of ~~the a~~ **transmission facility** that has been identified by the ISO operates bulk transmission line 854L from the 39S Bickerdike substation to the 397S Bonbow substation; and
- ~~(c) the operator of the transmission facility that operates 348S Marlboro substation; and~~
- ~~(dc) the ISO.~~

Requirements

ISO Identification

2 The ISO must notify an operator of an industrial complex or transmission facility if they have been identified by the ISO as having to comply with this Section 304.2.

ISO Approval Prior to Starting an Electric Motor

23(1) The operator of an industrial complex must have the prior verbal approval of the ISO by means of direct access telephone to start an electric motor at the industrial complex, in accordance with the area-specific requirements set out established by the ISO in Appendix subsection 4(1).

(2) The operator of an industrial complex must report to the ISO by means of direct access telephone when an attempt to start the electric motor has been completed, whether successful or not.

(3) The ISO must notify the operator of the transmission facility in the regional area of the industrial complex that there has been a request to start up the electric motor, and confirm that the operator of the transmission facility is not aware of any reliability reason to not start the electric motor.

Specific Area-specific Requirements

34(1) Subject to the specific requirements set out in Appendix 1, the ISO must grant approval to start the electric motor unless the ISO has reliability concerns, in addition to those set out in Appendix 1, that would prevent the electric motor start. The ISO must publish on the AESO's website any area-specific requirements applicable for starting an electric motor.

(2) The operator of an industrial complex and the operator of the a transmission facility comply with the area-specific requirements established by the ISO in subsection 4(1) must become familiar with the additional specific area requirements set out in Appendix 1.

(3) The ISO must, if the requirements in subsections 3 and 4(2) have been met, approve the start of the electric motor unless the ISO has reliability concerns that would prevent the start of the electric motor.

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Appendices

~~Appendix 1 – Specific Area Electric Motor Start Approval Requirements~~

Revision History

Effective Date	Description
<u>20xx-xx-xx</u>	<u>Revision to move Appendix 1 to Information Document and associated amendments</u> <u>Administrative amendments</u>
2014-07-02	Amended subsections 4(1), 4(2) and 5(1) of Appendix 1 by unbolding the references to “outages” and adding the words “or derate” after the word “outages”
2012-05-31	Initial release

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Appendix 4

Specific Area Electric Motor Start Approval Requirements

Empress Area Electric Motor Start

Conditions for Approval

~~1(1) — If the ISO receives a request from the operator of an industrial complex in the Empress Area, other than the Sand Hills industrial complex, to start an electric motor of a size of twenty five thousand (25 000) horsepower or larger, then the ISO must grant approval to start the electric motor unless the ISO is aware of any other electric motor start of a size of twenty five thousand (25 000) horsepower or larger already in progress in the Empress Area.~~

~~(2) — If the ISO receives a request from the operator of an industrial complex that is the Sand Hills industrial complex to start the fifty four thousand (54 000) horsepower electric motor located at that industrial complex, then the ISO must grant approval to start the electric motor, but only if the ISO is confident that the following reliability conditions are met:~~

- ~~(a) the bulk transmission lines designated as 944L, 945L, 951L, 1001L and 1002L, and the 163S Amoco Empress 240/138 kV transformer must all be in service;~~
- ~~(b) the 840S McNeill converter station must not be ramping in response to a dispatch;~~
- ~~(c) both of the Sheerness generating units must be on-line, unless the ISO determines that reliability conditions will allow for starting the electric motor with one (1) of the generating units off-line;~~
- ~~(d) one (1) capacitor bank at the 163S Amoco Empress 240/138 kV transformer must be in service; and~~
- ~~(e) the ISO must not be aware of any other electric motor start already in progress in the Empress Area.~~

~~(3) — The ISO must verbally inform any applicable operator of the transmission facility of the status of an approved electric motor start at the Sand Hills industrial complex.~~

Shell Limestone Electric Motor Start - Prior Notices

~~2(1) — If the ISO receives a request from the operator of an industrial complex that is the Shell Limestone industrial complex to start the eighteen thousand (18 000) horsepower electric motor located at that industrial complex, then the operator must provide the anticipated date and time of the start of the electric motor and make the verbal request to the ISO at least one (1) hour prior to that start.~~

~~(2) — In addition, the operator must provide all affected direct connect market participants, served from the 581S Amoco Ricinus substation and which the ISO indicates, with at least one (1) hour notice by telephone prior to the starting of the electric motor, indicating the expected time of start and that there may be a short dip in their utility voltage due to the electric motor start.~~

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Shell Limestone – Conditions for Approval

~~3~~ — If the ~~operator~~ has completed all notice requirements under subsection 2(2), then the ~~ISO~~ must grant approval to start the Shell Limestone eighteen thousand (18 000) horsepower electric motor, but only if the ~~ISO~~ is confident that the following ~~reliability~~ conditions are met:

- ~~(a)~~ — starting of the electric motor with the variable frequency drive is not possible, and delay in starting the electric motor would lead to significant financial hardship or environmental damage;
- ~~(b)~~ — the ~~transmission system~~ voltages must be equal to or greater than nominal values at the 304S Shell Limestone substation and 378S Shell Caroline substation;
- ~~(c)~~ — the capacitor banks at 263S Strachan substation and 256S Harmattan substation must be available if required;
- ~~(d)~~ — the Bighorn ~~generating unit~~ output must be greater than zero (0) MW; and
- ~~(e)~~ — the ~~bulk transmission lines~~ designated as 848L, 717L/870L/719L and 166L must be in service.

Edson Gas Storage Electric Motor Start – Request for Approval

~~4(1)~~ — If the 348S Marlboro substation located in the Hinton/Edson Area experiences an outage or derate resulting in any of the five thousand (5 000) horsepower electric motor-driven compressors at the Edson Gas Storage industrial complex shutting down, then the ~~operator~~ of that industrial complex must request approval from the ~~ISO~~ before restarting any of the compressor electric motors.

~~(2)~~ — If an outage or derate is in the nature of a permanent fault, then depending on the location of the permanent fault, the ~~operator~~ of the ~~transmission facility~~ must sectionalize the appropriate section of ~~bulk transmission line~~ 854L to allow radial supply to the 348S Marlboro substation from either the 39S Bickerdike substation or the 397S Benbow substation.

Edson Gas Storage – Conditions for Approval

~~5(1)~~ — If the ~~ISO~~ receives a request from the ~~operator~~ of an industrial complex that is the Edson Gas Storage industrial complex to restart any of the five thousand (5 000) horsepower electric motor-driven compressors at that industrial complex after an outage or derate, then the ~~ISO~~ must grant approval to start the electric motor, subject to the ~~reliability~~ condition in 5(2).

~~(2)~~ — If the ~~bulk transmission line~~ designated as 844L is supplied from only the Benbow 397S substation, then the ~~operator~~ of the 348S Marlboro substation must limit the load capacity to a maximum of two (2) electric motor starts with an anticipated voltage flicker level of three point eight eight (3.88) percent.