

ISO Rules

Part 300 System Reliability and Operations

Division 304 Routine Operations

Section 304.2 Electric Motor Start Requirements



Applicability

- 1 Section 304.2 applies to:
 - (a) the **operator** of an industrial complex that is:
 - ~~(i) in the Empress Area with an electric motor of a size twenty five thousand (25 000) horsepower or larger;~~
 - ~~(ii) (i) the Shell Limestone industrial complex; or~~
 - ~~(iii) the Edson Gas Storage industrial complex;~~
 - (b) the **operator** of the **transmission facility** that operates **bulk transmission line** 854L from the 39S Bickerdike substation to the 397S Benbow substation;
 - (c) the **operator** of the **transmission facility** that operates 348S Marlboro substation; and
 - (d) the **ISO**.

Requirements

ISO Approval Prior to Starting an Electric Motor

- 2(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 specific requirements set out in ~~Appendix 1 subsections 3 and 4, as applicable.~~
- (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 Requirements~~

- ~~**3(1)** Subject to the specific requirements set out in Appendix 1, the **(4)** 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.~~
- ~~**(2)** The **operator** of an industrial complex and the **operator** of the **transmission facility** must become familiar with the additional specific area requirements set out in Appendix 1.~~

Appendices

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

Revision History

Effective	Description
2012-05-31	Initial release
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”

Appendix 1

~~Specific Area Electric Motor Start Approval Requirements~~

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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

~~23(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 hp 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.~~

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;~~

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- ~~(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 hp** 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.~~

Revision History

Date	Description
2019-xx-xx	Removed requirements for Empress Area. Moved content in Appendix 1 to subsections 3 and 4; removed conditions of approval examples; removed Appendix 1 and references to Appendix 1. Administrative amendments.
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