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| O.O. |  | | MISO No. |  | File No. | 240803 |
| **Name of Outage:** | | 500 kV Line 601 Forbes-Chisago  500 kV Forbes Caps 30k and 31K | | | | |
| **Effective Dates:** | | 2017-05-19 1600 to 2017-05-25 2359 CDT  (2017-05-19 1600 to 2017-05-26 2359 EST) | | | | |
| **Standing Guide Reference:** | | Study as per Lisa Ruchkall | | | | |

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| **Description of Work:** | | Install New 500 kV Shunt Reactor at Chisago  500 kV Forbes Caps 30k and 31K Mtc | | | | | | | | | |
| **TRANSFER LIMITS:** | | | | | | | | | | | |
| **MH-USA South (MH Export)** | | | | | | | | | | | |
|  | |  | |  | **SOL:** | **1200** |  | **Schedule Limit** | | **1150** |
| **Location** | |  | | **RM** |  | **CRSG** | **OM** |  |  | **Schedule Limit** |
| **TTC** | | **Transfer (SOL)** | **Firm** | **Non-Firm** |
| **USA** | | **1200** | | **0** | **1200** | **0** | **300** | **900** | **250** | **1150** |
|  | | | | | | | | | | |
|
| **MH-USA North (MH Import)** | | | | | | | | | | |
| **IROL** | | **225** | |  | **SOL:** | **180** |  | **Schedule Limit** | | **130** |
| **Location** | |  | | **RM** |  | **CRSG** | **OM** |  |  | **Schedule Limit** |
| **TTC** | | **Transfer (SOL)** | **Firm** | **Non-Firm** |
| **USA** | | **180** | | **0** | **180** | **0** | **180** | **0** | **130** | **130** |
|  | | | | | | | | | | |
| **TLR Triggers** | | **South TLR 1** | | **South TLR 3** | **North TLR 1** | **North TLR 3** |  | | | |
| **1164** | | **1176** | **174** | **176** |

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| **MISO Webtool Postings** | |  | | --- | |  | | **MISO Webtool Postings** | | **TTC** | **TRM** | **Coeff** | | **MHEX\_S (Export)** | | **1200** | **300** | **0.167** | | **MHEX\_N (Import)** | | **180** | **180** | **0.278** | |

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| **Special Notes to MISO North RC** | A) During this prior outage condition generation curtailment of the St. Joseph and St. Leon wind farms concurrent with TLR on MHEX\_N may be required when Manitoba to USA flows are north to prevent post contingent overloads on G37C following a trip of B10T or M602F.  B) The SOL for MHEX\_S is 775 MW and MHEX\_ N is 485 MW if the MISO RTCA and MISO Flowgate Monitoring Tool is unavailable prior to or during this outage. |

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| **Special Instructions to MHEB Operator:** | **A)** **TOI Extentions** - This TOI may be extended until 23:59 by performing the following steps:   1. Verify system conditions to confirm there are no additional tie line facilities outages, or new internal MH outages. 2. Review RTCA to confirm there are no new contingencies. 3. Contact MISO to confirm there are no new outages, if there are no new outages provide notice to MISO that MH is extending the TOI. 4. Extend the outage in COLA. 5. Update TLAP outage table. 6. Provide notice to affected balancing authorities |

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| **Special Instructions to MHEB Operator (cont):** | **B)** **When called upon by MISO for the supply of CRSG:**  If Real Time Contingency Analysis (RTCA) indicates a post contingent overload condition on Y51L for the contingent loss of D14S - redispatch MH generation to maintain CRSG delivery as per:   * Start Brandon Gas Generation and run up to 60 MW.   Brandon generation must be re-dispatched from HVDC generation at Dorsey   * After 60 MW re-dispatch is complete, should RTCA continues to indicate a post contingent overload condition on Y51L due to the contingent loss of D14S,   Continue to re-dispatch generation from Brandon gas in 10 MW increments until post contingent overload on Y51L has been mitigated.   * The mitigation must be completed within 30 minutes. |
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| **Prepared By:** | R Wood | **Date:** | 2017 05 13 |
| **Revised By:** | R Wood |  | 2017 05 13 |
| **Revised By:** | B Freeman |  | 2017 05 19 |

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|  |

Copies to:

SOSS, System Control Centre MISO

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GSSS, System Control Centre