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# HVDC Analysis Stakeholder Outreach

# Background

- **Original purpose of HVDC device**
  - Reliability project (manage voltage and thermal issues)
  - Restore system connectivity
  - Manage loop-flows on the system
  - Provide opportunities to schedule planned outages
- **HVDC set-points established to maintain system reliability**
  - HVDC settings are currently limited by certain elements of the existing transmission system in the northern Lower and eastern Upper Peninsulas
- HVDC has been (predominantly) used to support planned maintenance and construction outages since August 2014
- HVDC and the two 138-kV circuits that cross the Straits of Mackinac are capable of facilitating accretive future commercial opportunities

# Background

- ATC has received questions from stakeholders:
  - Does the HVDC have an impact on MISO's energy markets & auctions
  - When will the HVDC be operated beyond the operating limits that have been established
  - How does the *Intact System* setting impact merit order dispatch of the generation profile in the region
  - Can the HVDC be operated in a manner that provides greater economic benefits
  - What would it take to increase the ability to transport energy and capacity between the Upper and Lower Peninsulas

# Proposed Study Objective

- Identify how operation of the HVDC maintains reliability and impacts MISO's energy market
- Clarify how the HVDC is positioned in the Reliability Planning and Operations Models
- Utilize the results of this analysis to determine if any adjustments to MISO's MTEP models are appropriate
  - 2018 MTEP Model submission date is September 30, 2017

# Stakeholder Engagement

- **Phase I – Objectives and Study Design**
  - Identify commonly shared objectives
  - Review and discuss major modeling assumptions
  - Request feedback/”blind-spots”
- **Phase II – Results and Recommendations**
  - Review study results and proposed recommendations
  - Request feedback/”blind spots”

# Schedule

- **Phase I – Objectives and Study Design**
  - Stakeholder Engagement: July 2017
- **Phase II – Results and Recommendations**
  - Stakeholder Engagement: August 2017
  - Recommendations finalized: September 2017
  - MISO MTEP 2018 Models updated: September 2017