



MTEP23 Project Information Cooperative Energy and Energy Mississippi

1st South Subregional Planning Meeting

February 3rd, 2023

Purpose and Key Takeaways

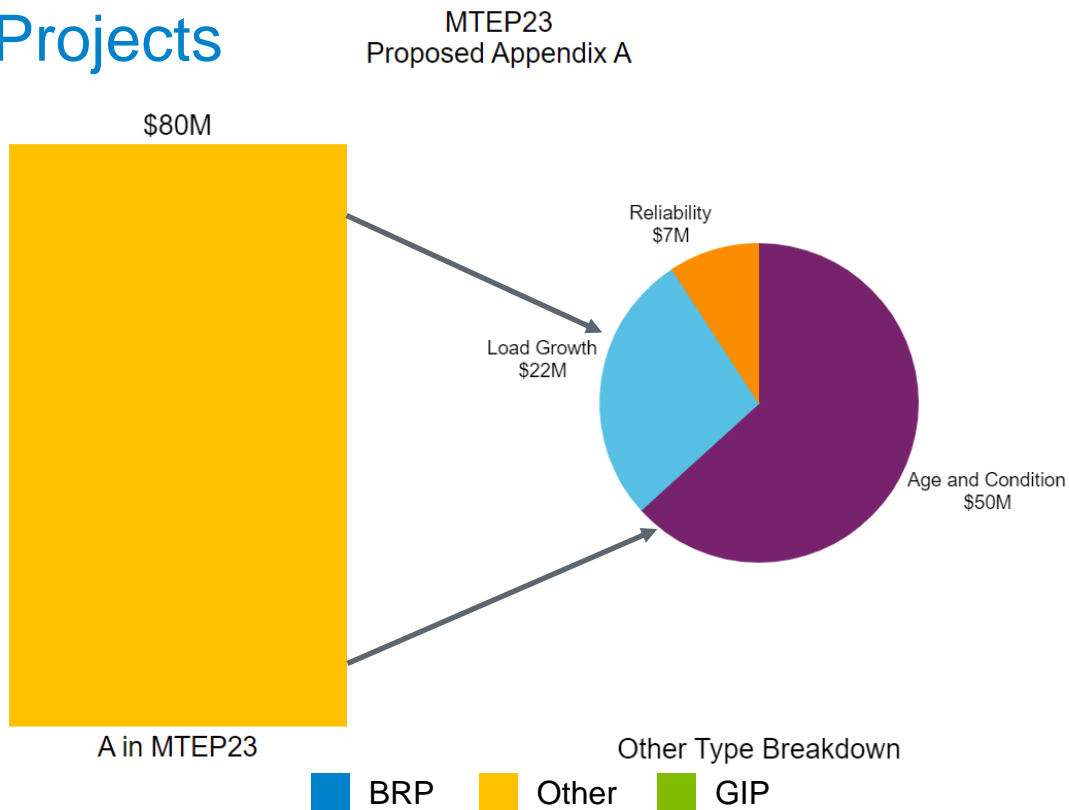


To provide an overview of MTEP23 proposed projects from Cooperative Energy and Entergy Mississippi

- A total of 3 new projects are proposed at an estimated cost of \$80 million for MTEP23 for Entergy Mississippi
- A total of 5 new projects are proposed at an estimated cost of \$45 million for MTEP23 for Cooperative Energy
- For Entergy Mississippi, the total proposed investment for MTEP23 is less than MTEP22, with decreased investments in Other, and GIP projects
- For Cooperative Energy, the total proposed investment for MTEP23 is greater than MTEP22, with increase investments in Other, and BRP projects
- MISO will be performing independent assessment to identify issues and evaluate effectiveness of TO proposed projects; TOs are expected to provide detailed information of proposed projects including estimates for facility-level cost and ISD, and any alternatives considered
- Today's focus is to review the MTEP23 project submissions for an open and transparent stakeholder discussion
- Although not included in the discussion of this presentation, a list of NTA eligibility has been posted with the meeting materials.

Entergy Mississippi

Entergy Mississippi: Proposed Appendix A investment for MTEP23 is \$79.7. Proposed Target A in MTEP23 Projects: 3 Other Projects

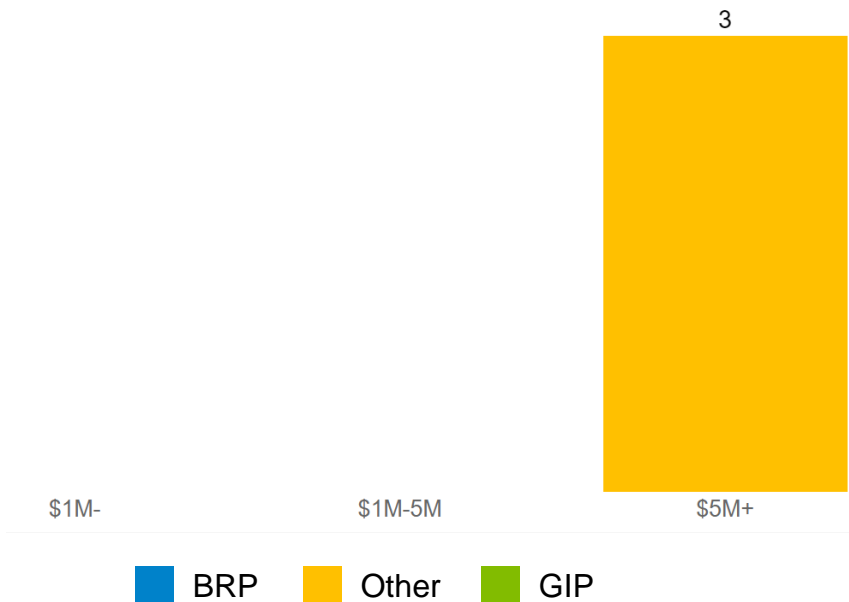


Entergy Mississippi: 3 new projects at an estimated cost of \$80 million proposed in MTEP23

3 projects are targeted for Appendix A in MTEP23

- Of these 3 projects:
 - 3 have an estimated cost greater than \$5M
- Of these 3 projects:
 - 3 Other

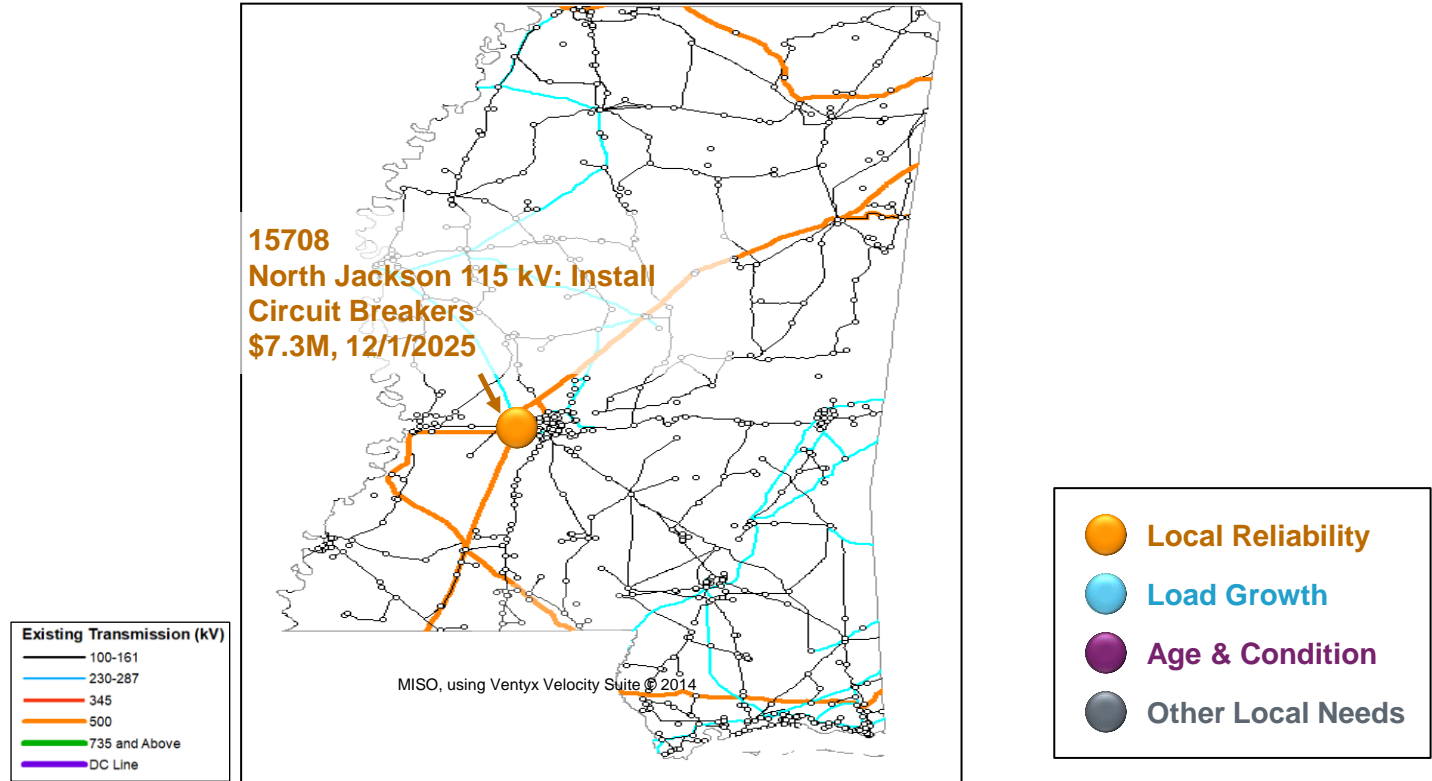
No projects proposed for Appendix B



Entergy Mississippi: MTEP23 Targeted Appendix A Projects Expected In-Service Dates



Entergy Mississippi: 1 Other Projects proposed at an estimated cost of \$7.3M



Entergy Mississippi – 23932 2024 EML Asset Renewal Program – Project Justification

- **Other - Age and Condition Project**
- **Project description**
 - The asset renewal programs replace aged and/or degraded transmission line and transmission substation assets. Entergy continuously reviews asset health to prioritize those replacements and the specifics for the 2024 asset renewal plans have not yet been finalized.
- **System Needs**
 - The AM renewal asset program is to address aging and failing transmission assets across EML's territory.
- **Estimated Cost: \$40.5M**
- **Expected ISD: 12/31/2024**
- **Target Appendix: A in MTEP23**

Entergy Mississippi: Summary of NERC-permissible system adjustments used in MTEP22

NERC Contingency Type	Load Shed (MW)		Generation Redispatch (MW)		Reconfigure Events
	Count	Max	Count	Max	Count
P22 (Bus fault)	-	-	-	-	-
P23 (Breaker fault)	-	-	-	-	-
P24 (Bus-tie fault)	-	-	-	-	-
P3 (G1-N1)	-	-	-	-	-
P4 (Stuck breaker)	-	-	-	-	-
P5 (Non-redundant relay)	-	-	-	-	-
P6 (N-1-1)	-	-	5	1021	-
P7 (Common tower)	-	-	-	-	-

BPM-020 States redispatch, reconfiguration, or load shed as a solution to planning issues shall be summarized at the appropriate SPM if the planned solutions exceed the following values:

- Generation Redispatch > 600 MW increment/decrement
- Transmission Reconfiguration > 1 Transmission line/transformer opened
- Load Shed > 100 MW

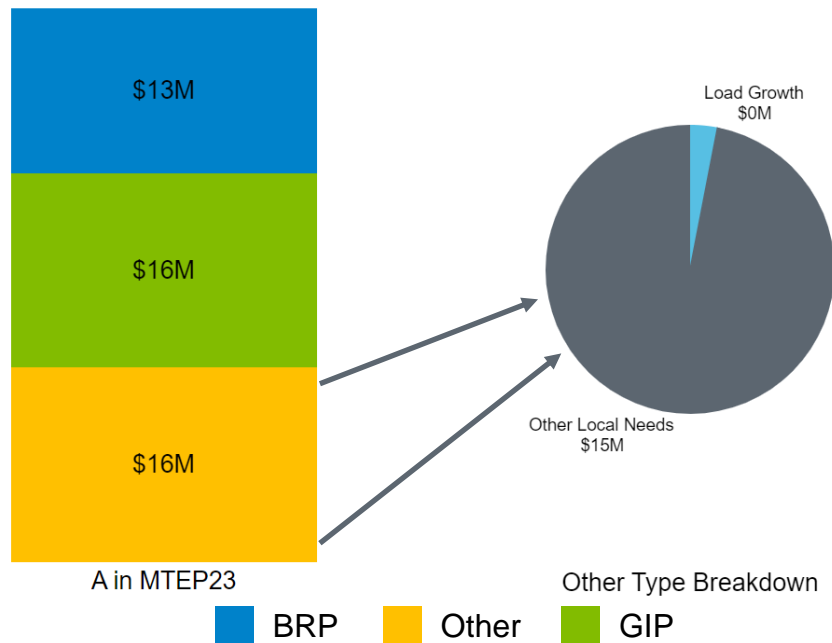
Cooperative Energy

Cooperative Energy: Updates to MTEP Projects

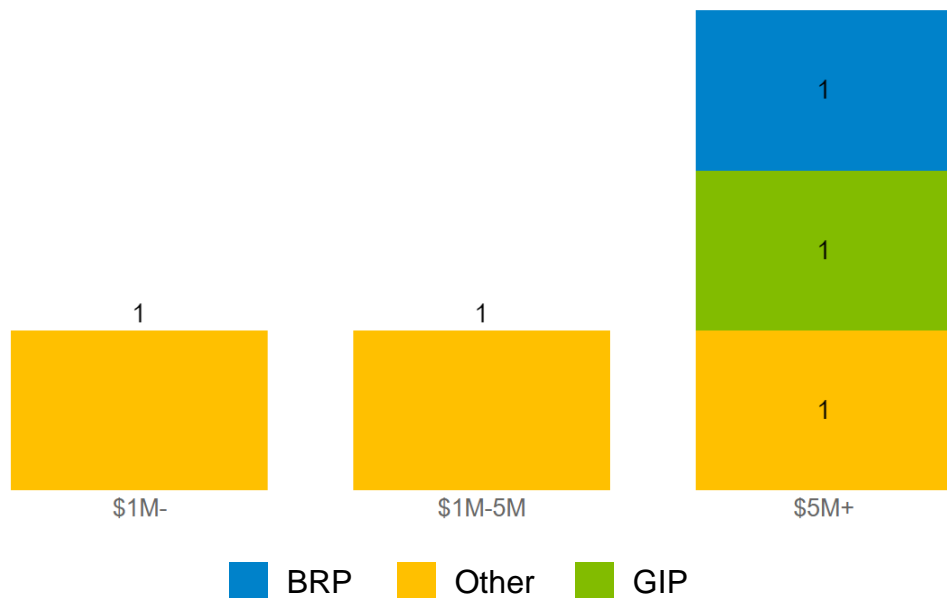
Project ID	Project Name	Project Description	Project Type	Change	Expected ISD
15848	Jayess Loop Project	Rebuild L523 (Norfield SS to Little Creek) and L549 (Jayess SS to Jayess) with sufficient ACSR conductor. Tap L549 (Jayess SS to Jayess) with a 115kV GOAB, tap L523 with a 115kV GOAB and build a new 115kV transmission line from Jayess GOAB to Little Creek GOAB. Build a new 115kV breaker switching station at Jayess and build a new 115kV breaker switching station at Norfield.	Other: Reliability	Approved MTEP 21 – Added Line rebuild from Jayess SS to Jayess, as well as line rating changes for other lines in project, no negative impacts seen in restudy	5/1/2026

Cooperative Energy: Proposed Appendix A investment for MTEP23 is \$45M. Proposed Target A in MTEP23 Projects: 1 BRP, 1 GIP, and 3 Other Projects

MTEP23
Proposed Appendix A



Cooperative Energy: 5 new projects at an estimated cost of \$45 million proposed in MTEP23

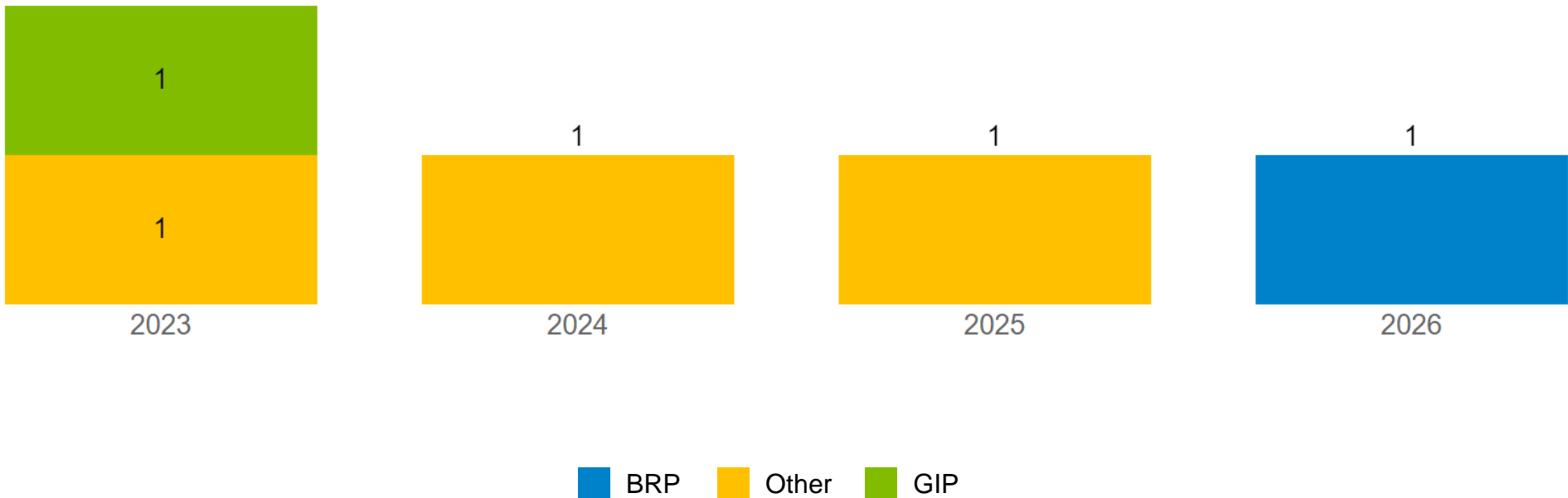


5 projects are targeted for Appendix A in MTEP23

- Of these 5 projects:
 - 3 have an estimated cost greater than \$5M
 - 1 have an estimated cost between \$1M-\$5M
 - 1 has an estimated cost less than \$1M
- Of these 5 projects:
 - 3 Other
 - 1 BRP
 - 1 GIP

No projects proposed for Appendix B

Cooperative Energy: MTEP23 Targeted Appendix A Projects Expected In-Service Dates



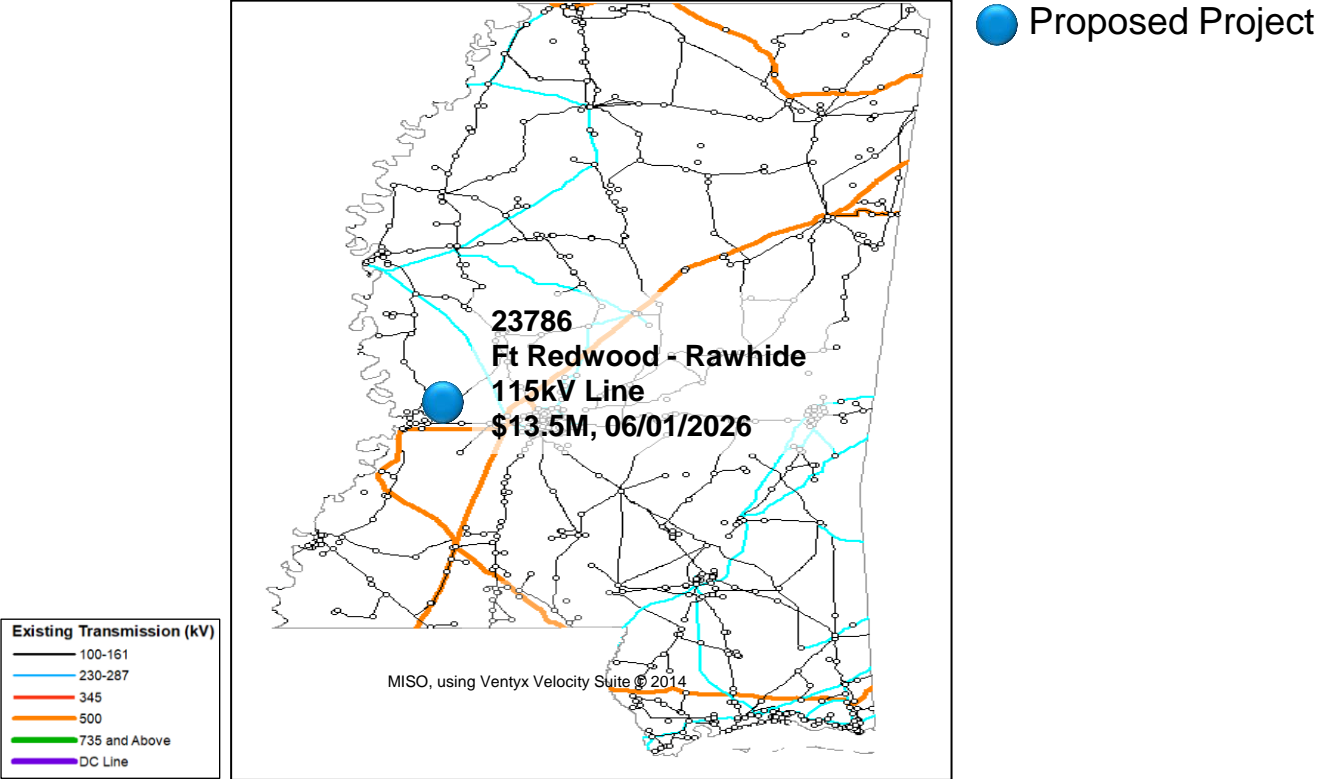
Cooperative Energy: Summary of NERC-permissible system adjustments used in MTEP22

NERC Contingency Type	Load Shed (MW)		Generation Redispatch (MW)		Reconfigure Events
	Count	Max	Count	Max	Count
P22 (Bus fault)	-	-	-	-	-
P23 (Breaker fault)	-	-	-	-	-
P24 (Bus-tie fault)	-	-	-	-	-
P3 (G1-N1)	-	-	-	-	-
P4 (Stuck breaker)	-	-	-	-	-
P5 (Non-redundant relay)	-	-	-	-	-
P6 (N-1-1)	-	-	-	-	-
P7 (Common tower)	-	-	-	-	-

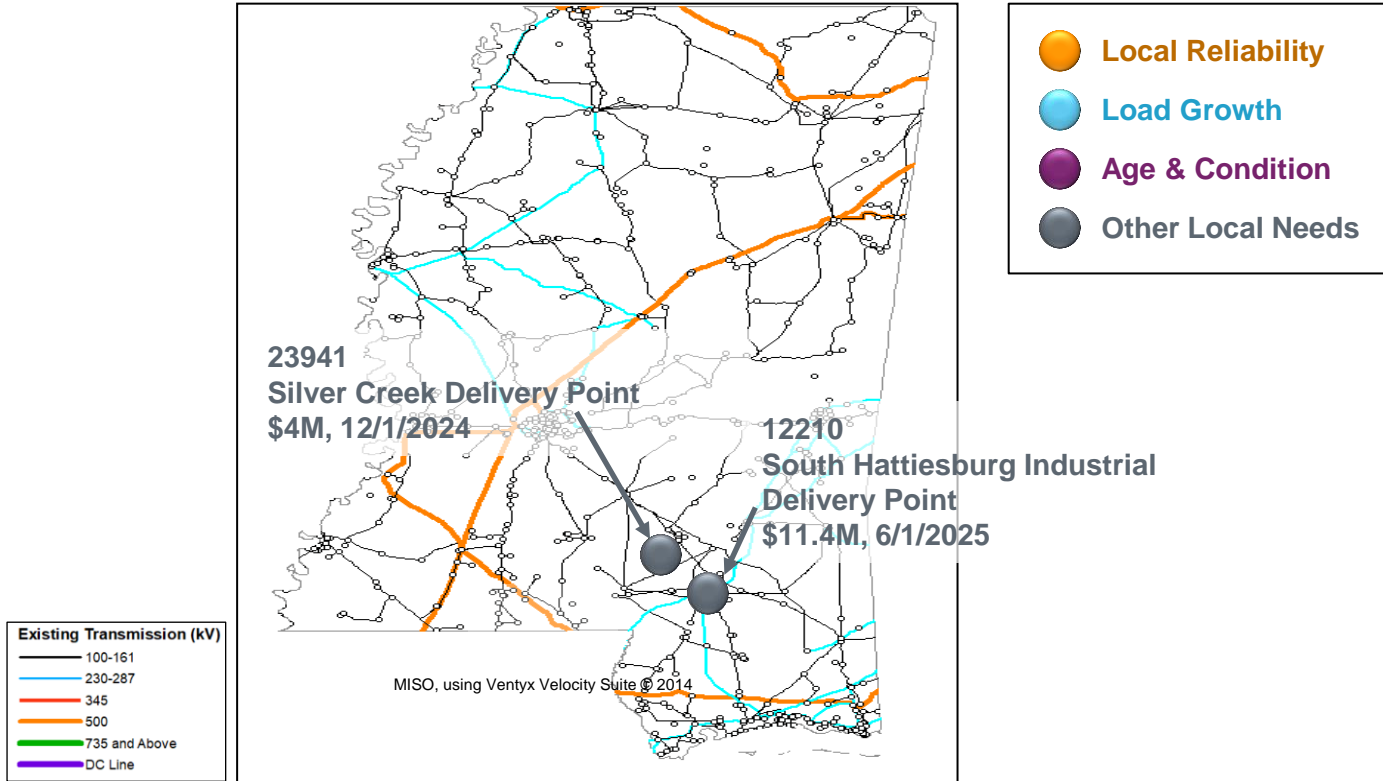
BPM-020 States redispatch, reconfiguration, or load shed as a solution to planning issues shall be summarized at the appropriate SPM if the planned solutions exceed the following values:

- Generation Redispatch > 600 MW increment/decrement
- Transmission Reconfiguration > 1 Transmission line/transformer opened
- Load Shed > 100 MW

Cooperative Energy: 1 BRP proposed by Cooperative Energy to address reliability issues on Bulk Electric System



Cooperative Energy: 2 Other Projects proposed at an estimated cost of \$15.4M





MTEP23 Baseline Reliability Projects (BRP)

Cooperative Energy – 23786 Ft Redwood - Rawhide 115kV Line – Project Justification

- **Baseline Reliability Project**

- **Project description**

- Tap the Entergy MS owned Flowers - Tinsley 115kV line and construct a new Cooperative Energy owned 115kV breaker switching station near Rawhide Road in Warren, MS. Construct a new 115kV line from a new Cooperative Energy owned breaker 115kV switching station near the Ft Redwood substation to the new Cooperative Energy owned switching station near Rawhide Road. Rebuild the existing Cooperative Energy owned Redwood - Ft Redwood 115kV line to support the industrial customer's full load during unplanned on-site generation outages.

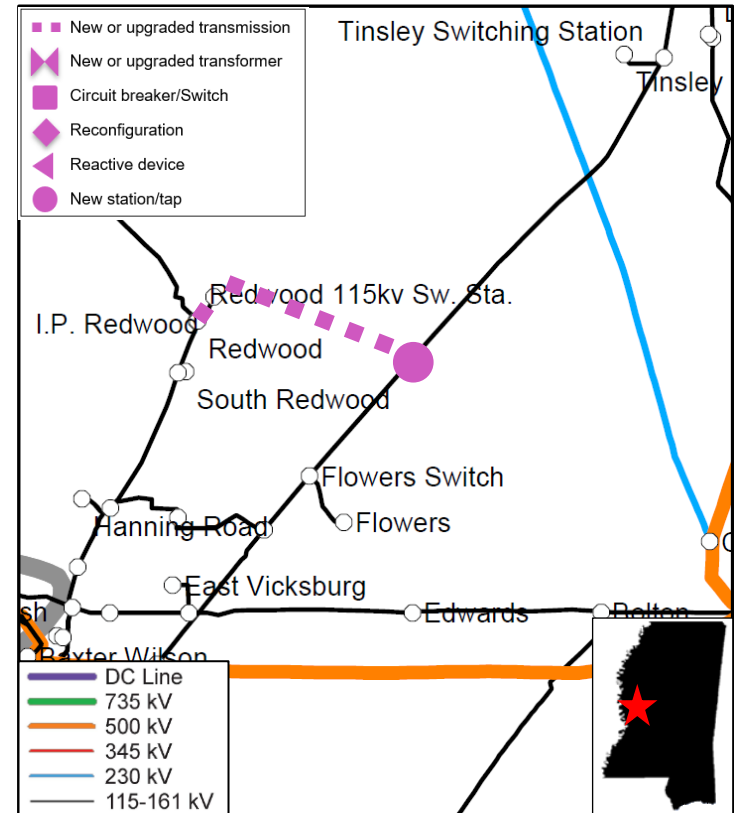
- **System Needs**

- A Cooperative Energy member distribution cooperative serves an industrial customer that has behind the meter on-site generation at it's Ft Redwood substation. When the industrial customer's on-site generation has unplanned outages, multiple thermal overloads and voltage violations occur during P1/P2 events on the surrounding area when supporting the full load.

- **Estimated Cost: \$13M**

- **Expected ISD: 06/01/2026**

- **Target Appendix: A in MTEP23**



Going forward

- MISO
 - Perform independent reliability assessment to identify issues and evaluate effectiveness of TO proposed projects and alternatives
- Stakeholders
 - Provide inputs on the TO proposed projects
 - TOs to provide detailed information of proposed projects including expected cost and ISD for each facility, and any alternatives considered
- The 2nd South SPM meeting will take place on June 7th, 2023, to present MISO preliminary steady state results

Contact information

Eduardo Santibanez

esantibanez@misoenergy.org

317.249.5465

Trevor Armstrong

Senior Manager – Expansion Planning, South Region

TArmstrong@misoenergy.org

501.378.4121

 **MISO**



Appendix

Entergy Mississippi: 1 Other type Project driven by Age and Condition

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
23932	2024 EML Asset Renewal Program	The asset renewal programs replace aged and/or degraded transmission line and transmission substation assets. Entergy continuously reviews asset health to prioritize those replacements and the specifics for the 2024 asset renewal plans have not yet been finalized.	The AM renewal asset program is to address aging and failing transmission assets across EML's territory.	December 31, 2024	\$50.43M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.

Entergy Mississippi: 1 Other type Project driven by Local Reliability

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
15708	North Jackson 115 kV: Install Circuit Breakers	Install Transmission Breakers at North Jackson 115 kV substation.	Installation of transmission breakers on the Jackson Northeast - Rex Brown 115 kV circuit will improve customer performance along this transmission circuit which serves a large amount of customers.	December 1, 2025	\$7.30M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.

Entergy Mississippi: 1 Other type Project driven by Load Growth

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
23348	Grenada Industrial 115 kV: New Station	Entergy is proposing to construct a new 115 kV substation (Grenada Industrial 115 kV Substation) which will serve the industrial customer's 10 MW of new load and future area load growth in Grenada, MS and the industrial park. Entergy will construct a new (4) breaker ring bus substation with (1) – 40 MVA, LTC 11..	Entergy is proposing to construct a new 115 kV substation (Grenada Industrial 115 kV Substation) which will serve the industrial customer's 10 MW of new load and future area load growth in Grenada, MS and the industrial ..	December 1, 2024	\$21.96M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.

Cooperative Energy: 1 BRP project proposed

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
23786	Ft Redwood - Rawhide 115kV Line	Tap the Entergy MS owned Flowers - Tinsley 115kV line and construct a new Cooperative Energy owned 115kV breaker switching station near Rawhide Road in Warren, MS. Construct a new 115kV line from a new Cooperative Energy owned breaker 115kV switching station near the Ft Redwood substation to the new Cooperative Energy owned switching station near Rawhide Road. Rebuild the existing ..	A Cooperative Energy member distribution cooperative serves an industrial customer that has behind the meter on-site generation at it's Ft Redwood substation. When the industrial customer's on-site generation has unplanned ..	June 1, 2026	\$13.49M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.

Cooperative Energy: 1 Generation Interconnection Project

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
23126	J1249 Morrow Repower	A single steam turbine unit will be repowered at Plant Morrow for combined cycle operation utilizing a new natural gas fired combustion turbine (CT). In order to support a single unit repower at Plant Morrow with a max net capacity, Cooperative Energy has identified the need for transmission and substation projects on its system.	Two 200MW coal fired steam turbine units at Cooperative Energy's Plant Morrow was retired in November 2018 due to unit age and economics.	February 8, 2023	\$15.90M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.

Cooperative Energy: 1 Other type Project driven by Load Growth

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
23820	Gloster 13.8kV Delivery Point	A new 13.8kV feeder breaker will be added at the Entergy Mississippi LLC owned Gloster substation in order to serve Cooperative Energy's distribution member's new customer.	A distribution member has requested a new delivery point out of the Entergy Mississippi LLC owned Gloster substation to serve a new customer near Gloster, Ms.	August 1, 2023	\$0.48M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.

Cooperative Energy: 2 Other type Project driven by Other Local Needs

Project ID	Project Name	Project Description	System Need	Expected ISD	Estimated Cost
12210	South Hattiesburg Industrial Delivery Point	In order to serve the South Hattiesburg and Hattiesburg Industrial delivery points economically and reliably, service will be established by constructing a 161kV breaker switching station. A new distribution station will be constructed adjacent to the 161kV switching station and the existing distribution feeders from both delivery points will be routed to the new station.	Cooperative Energy has member distribution cooperative with delivery points that are presently served by another transmission provider that can be economically and reliably served from Cooperative Energy's transmissio..	June 1, 2025	\$11.41M
23941	Silver Creek Delivery Point	In order to serve the Silver Creek delivery point economically and reliably, service will be established by tapping the Cooperative Energy owned Line 571 115kV line. A 115kV GOAB will be installed at the tap point and a new 115kV tap line will be constructed to the delivery point.	Cooperative Energy has a member distribution cooperative delivery point that is presently served by another transmission provider but that can be economically and reliably served from Cooperative Energy's transmission syste..	December 1, 2024	\$4.01M

Please contact MISO Client Relations directly for the necessary CEII NDA and to request access to this Sharefile location.