



Cost Allocation Background

OMS Cost Allocation Principles Committee
October 5, 2020

Conditions Precedent for Regional Transmission Investment

1. Increased consensus regarding the issue(s) for regional transmission solutions to address (i.e. increased policy consensus),
2. A robust business case for the project(s),
3. Clearly defined cost allocation methods that closely align who pays with who benefits, and
4. Cost recovery mechanisms that reduce financial risk

Guiding Principles for Transmission Cost Allocation Review

- Improve alignment of benefits and costs
- Clearly define cost allocation for all projects that are an outcome of the MISO regional transmission planning process (i.e. the MTEP)
- Ensure cost allocation is not an impediment to beneficial transmission investment

MISO Primary Cost Allocation Methodologies

Cost Causer

- Reliability projects are generally cost allocated in MISO using a ‘cost causer’ model
 - Identified reliability needs are typically driven by localized changes (zonal load increases, or other local system conditions)
 - System reliability is explicitly defined by NERC and local planning criteria, which is the local TOs compliance responsibility (e.g. the load at risk is the in the local zone and the local TO is subject to non-compliance penalties)
- Historic methods used a mix of cost causer and beneficiary based for reliability needs (RECB I)
 - BRP had *postage stamp* component for 345 kV+
 - GIPs had 50/50 cost sharing (50% to IC/50% to load)
 - Sub regional cost allocation for GIPs and BRPs based on proximity
- Current BRP and GIP cost allocation was adopted in 2012-2013
 - Eliminated 50/50 GIP method
 - FERC accepted MISO’s order 1000 compliance filing that defined MEPs and MVPs for regional cost allocation and eliminated regional cost sharing from BRPs

Benefit-based calculations and cost allocation

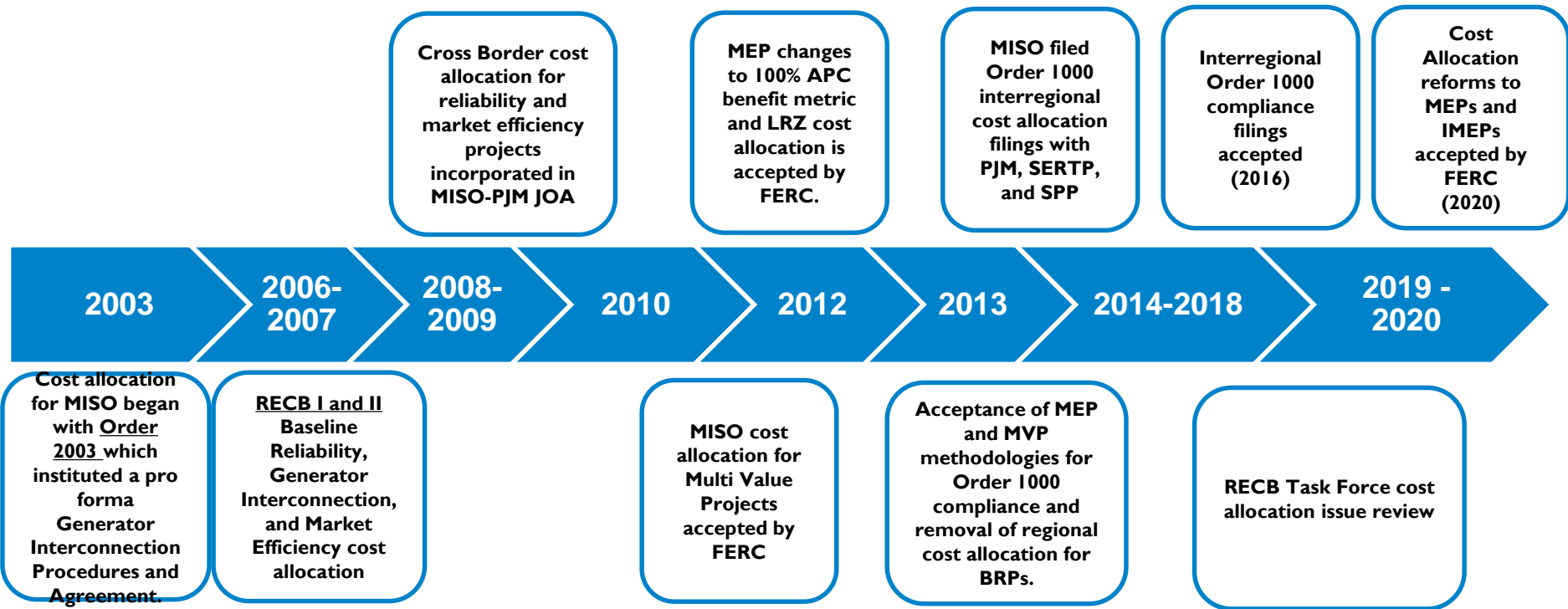
- FERC standard of review: costs incurred must be “roughly commensurate” with benefits received
- MISO employs two primary benefit-based cost allocation methodologies across different project types
 - “Postage Stamp” – benefit to the entire region so costs are distributed on a system-wide basis
 - Identified zonal beneficiaries
 - Use a variety of benefit metrics and planning models to identify which load zones receive benefits

Benefit-based cost allocation project examples in MISO

- Multi-Value Projects (MVPs)
 - Address policy mandates or initiates while providing multiple types of economic and/or reliability value across multiple pricing zones
 - MTEPI I MVP portfolio built a business case through multiple, quantifiable benefit metrics:
 - Increased market efficiency, deferred generation investment, avoided reliability investment and other capital benefits
 - 100% of costs are allocated on a system-wide basis to Transmission Customers that withdraw energy
- Market Efficiency Projects (MEPs)
 - Primarily identifies zonal beneficiaries through calculated Adjusted Production Cost (APC) savings
 - Added benefit metrics in 2020: avoided reliability and *Settlement Agreement* savings
- Generator Interconnection Projects (GIPs)
 - 345 kV network upgrades required for interconnection have broader system benefits due to their voltage class, so 10% of costs are allocated system wide based on load ratio share

Historical MISO Cost Allocation Methodologies

Cost Allocation History



The *Regional Expansion Criteria and Benefits (RECB)* Task Force was established in 2004 to develop criteria for all transmission projects in MTEP and methods for allocation and recovering costs based on measures of benefit.

Original MISO “Cost Causation” proposal

- First proposal in October 2004 was initially *rejected* by stakeholders
 - For reliability needs, the zonal load is a cost causer – therefore each zone should pay for their own load growth driven transmission upgrades, regardless of size of external benefits
 - New interconnection requests drive the need for upgrades, therefore, generators should be directly assigned costs
- OMS Principles envisioned allocation of cost between both cost causers and beneficiaries for reliability

RECB I – GIPs and BRPs

- RECB I filing implemented a combined approach recognizing the broader system benefits of high voltage transmission as well as cost causation
- **Baseline Reliability Projects (BRP)**
 - Only share larger projects – at least \$5 million or 5% of Transmission Owners Net Plant
 - Higher voltage projects get wider cost allocation
 - 345 kV and higher : 20% postage stamp allocation/80% sub-regional allocation
 - 100 kV – 345 kV: 100% sub-regional allocation
- **Generator Interconnection Projects (GIP)**
 - Focuses on Network Upgrades driven by interconnection generators
 - 50% allocated to Interconnection Customer
 - 50% allocated to zones using a sub-regional allocation method
- Sub-regional allocation based on proximity
 - A line outage distribution factor (LODF) calculation was performed to measure the relative impact of the upgrade, weighted based on the length of the impacted line

RECB II – MEPs and benefit-based cost allocation

- Continued work in 2006 (RECB II) to discuss projects driven by anything other than reliability
- Method for Market Efficiency Projects
 - Only share larger projects
 - At least \$5 million in cost
 - 345 kV and higher project only
 - 20% postage stamp allocation
 - 80% sub-regional allocation
 - Sub-regional allocation is an evaluation of beneficiaries based on a congestion-based metric
 - A negotiated 70/30 blend of projected reductions in production cost and LMP based load payments, resulting from the project
 - The “benefit” is divided between 3 sub-regions and then postage stamped within each
 - A benefit to cost threshold of 1.2 to 3 must be met

RECB III Phase I

- July 2009 – MISO and certain MISO TOs filed an interim RECB III Phase I proposal to address certain inequities experienced under the then-effective RECB cost allocation rules (50/50 method for GIP)
- FERC accepted the Phase I proposal which included revisions to the Tariff for GIPs:
 - Eliminated the Line Outage Distribution Factor (LODF) allocation of GI related network upgrades to load in pricing zones*
 - Still recognized that extra-high voltage upgrades (i.e. 345 kV) provide benefits to more than just the interconnecting generator
 - 345 kV and higher: 90% directly assigned to generator/10% postage stamp allocation
 - Less than 345 kV:100% directly assigned to generator

RECB III Phase II - MVPs

- 2010 Filing created Multi-Value Project (MVP) category
- Fair cost allocation mechanism enabling transmission development to support reliability and economic goals, renewable energy integration, and other public policy goals
 - Increased renewable energy project development
 - Development of projects premised on a broader range of benefits than simply reducing market congestion or increasing reliability
- Guiding principles
 - Eliminate/minimize free riders
 - Ensure the right loads pay
 - Reflect changing system usage over time
 - Balance attributes of system use (causers vs. beneficiaries)

Regional allocation adjustments and Order 1000 (2012-2013)

- **MEP cost allocation adjusted**
 - 20% region-wide postage stamp
 - 80% to benefiting LRZs based on APC savings
- **FERC accepted MEP and MVP categories for regional cost allocation**
 - Designed to create efficient and cost-effective solutions to multiple regional transmission issues
 - MVPs that can displace numerous BRPs by solving multiple reliability issues and addressing regional transmission needs more efficiently or cost-effectively.
- **FERC acceptance for removal of BRPs from regional cost allocation**
 - BRPs were designed to address local transmission reliability issues
- **MISO submitted compliance filings in 2013 with PJM, SERTP, and SPP in response to Order 1000**
 - Joint Operating Agreements (JOAs) detail planning process and cost sharing methodology between regions

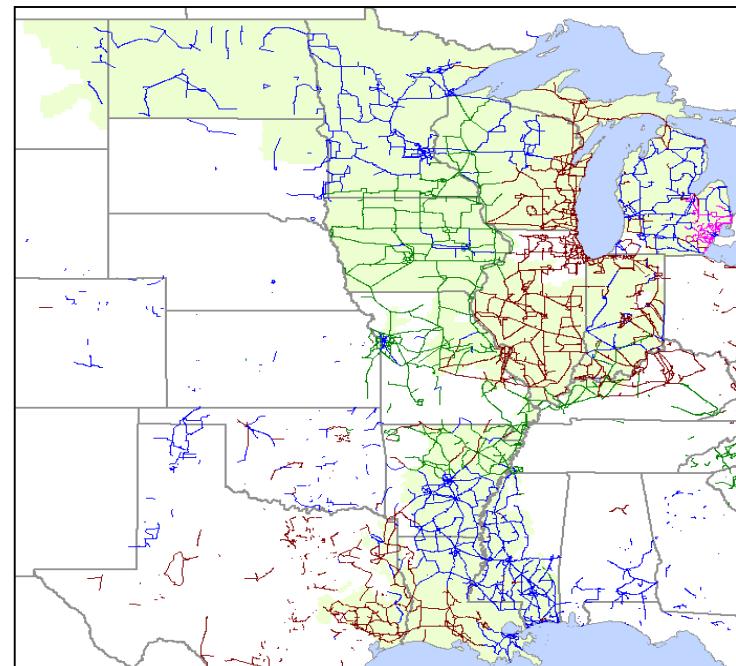
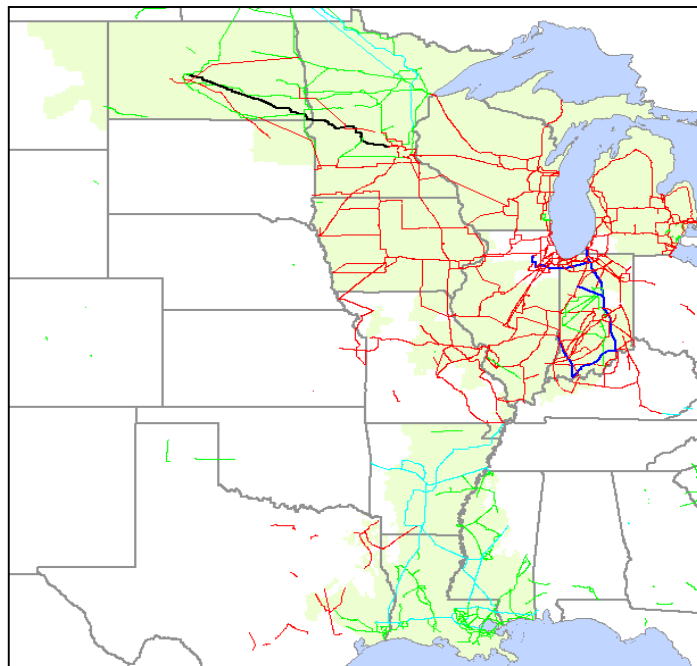
Other recent cost allocation efforts

- MISO South integration included 5-year transition period where North and South regions did share *region-wide* costs
 - Concluded with MTEP18
- Multi-year cost allocation reform effort with RECB and stakeholders to improve MEP criteria (2016-2020)
 - Expansion of MEP benefit metrics
 - Changes to voltage threshold
- NIPSCO Order compliance
 - Adjustments to MEP voltage criteria specifically for interregional MEPs with PJM

Transmission Basics - Considerations for Cost Allocation

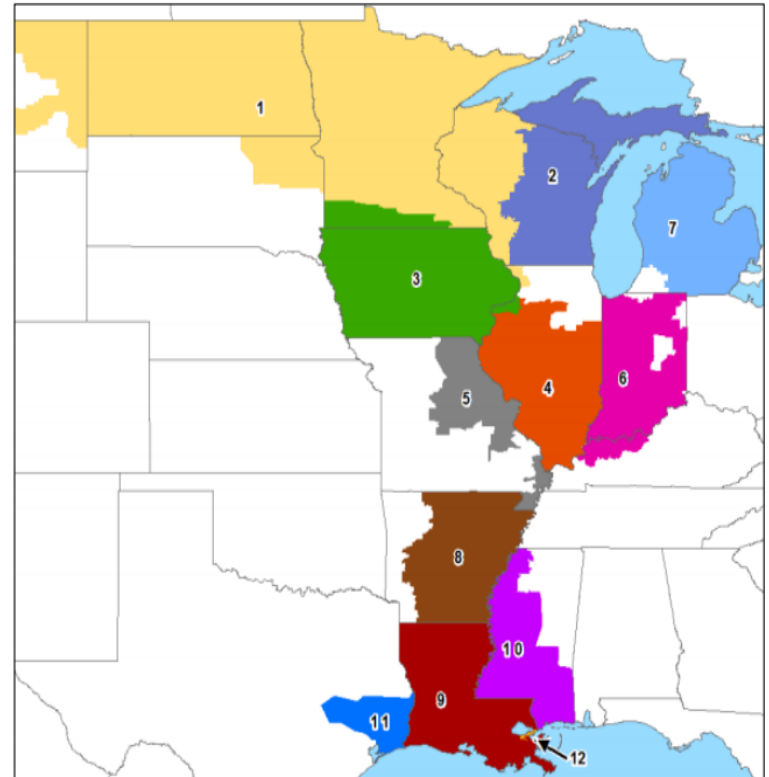
Voltage level

- In previous RECB discussions multiple aspects of voltage levels were considered when looking at cost allocation voltage criteria
 - Existing transmission infrastructure in regions
 - Generally easier and more cost effective to build project at existing infrastructure voltage
 - Ability of different voltage classes to effectively move power
 - Goes towards the discussion of “regional” benefit

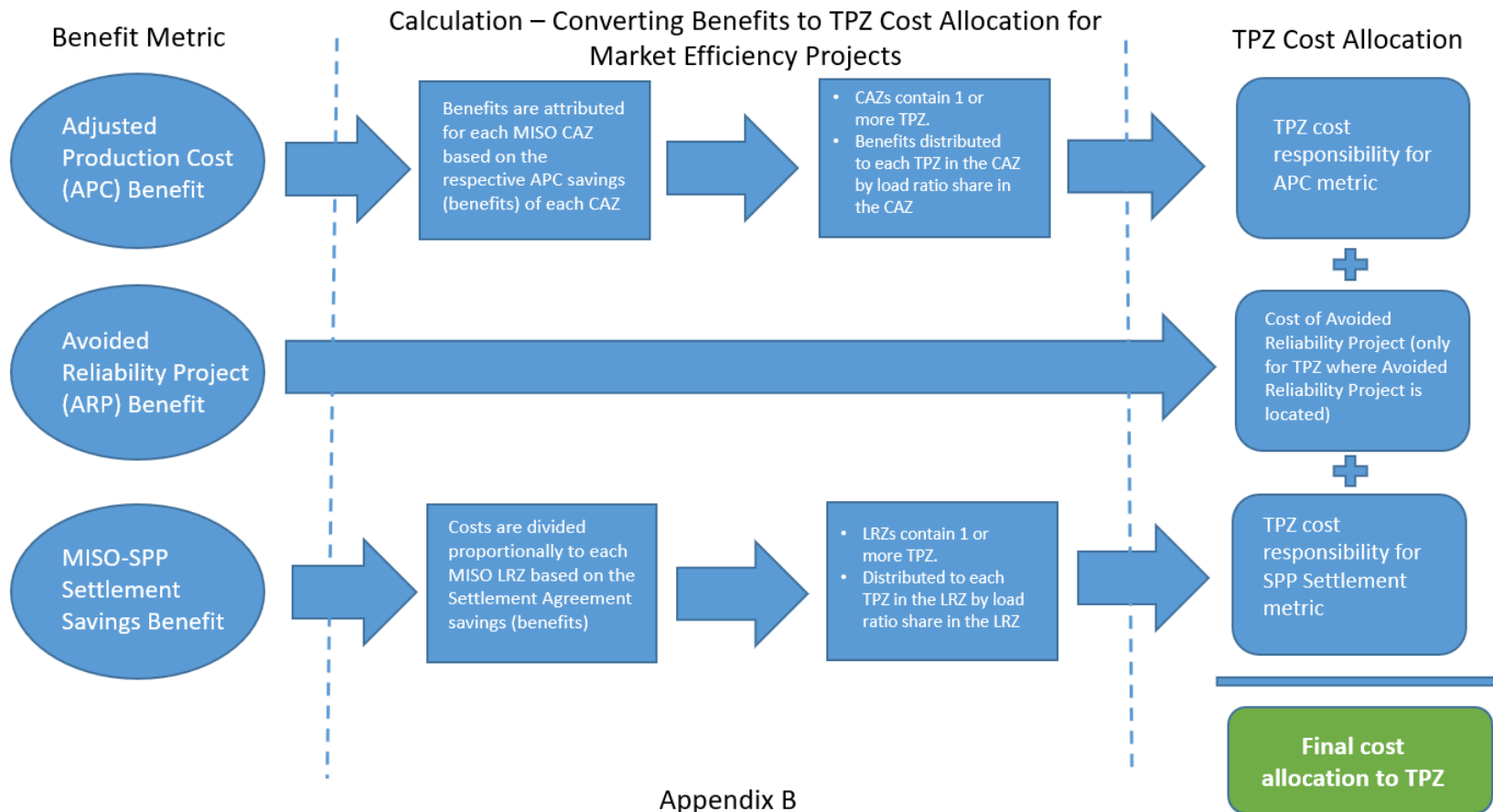


Load and Generation - *Game of Zones*

- MISO considers a variety of zonal constructs for cost allocation
 - Transmission pricing zones
 - Local resource zones
 - Cost allocation zones
- Type of zone used depends on the benefit received
 - Reliability needs and benefits are localized so costs are assigned to local pricing zones
 - Economic benefits can be local or wider spreading
 - Level of precision of the benefit calculation



Zonal Benefit Example – Market Efficiency Projects



Congestion

- Production cost models are used to predict *congestion* – where constraints in the transmission system lead to sub-optimal economic dispatch of generation resources
 - MISO develops future models with a broad range of potential generation portfolios to identify congested areas that would potentially benefit from transmission upgrades
- Congestion is not necessarily a ‘critical’ issue to solve
 - Is not indicating a ‘failure’ point for the grid like a reliability need; it’s indicating a potential opportunity for economic savings
 - The most economical way to address a congestion ‘issue’ may be to do *nothing*

Appendix

MISO Regional Cost Allocation

Project Type	Description	Allocation to Beneficiaries
Multi-Value Project	Above 100 kV and project cost of \$20 million or more, evaluated as part of a portfolio of projects and must meet one of three criteria	100% postage stamp to load
Market Efficiency Project	230 kV and above and project cost of \$5 million or more, reduce market congestion when benefits are 1.25 in excess of costs	100% distributed to zones commensurate with expected benefit, based on the benefit metrics described in Attachment FF-7
Baseline Reliability Project	NERC Reliability Criteria	100% allocated to local Transmission Pricing Zone
Generation Interconnection Project	Interconnection Request	Primarily paid for by requestor; 345 kV and above 10% postage stamp to load.
Transmission Delivery Service Project	Transmission Service Request	Generally paid for by Transmission Customer; Transmission Owner can elect to roll-in into local Transmission Pricing Zone rates
Participant Funded	Projects that are funded by a Market Participant	The Market Participant funds the project.
Other	Project that does not qualify under other project categories.	The costs of these projects are recovered in zonal rates.

MISO-PJM Interregional Cost Allocation

			Cost Allocation Methodology	
Project Type	Description	Project Requirements	RTO Project Share	MISO Cost Allocation
Targeted Market Efficiency Project (TMEP)	Alleviates historical M2M congestion in both RTOs	≤ \$20 million; In Service date by 3 rd Summer Peak after approval	Ratio of each RTO's expected congestion relief, adjusted by M2M settlement payments	MISO portion allocated to TPZs meeting minimum threshold using historical nodal load congestion contribution data
Interregional Market Efficiency Project (IMEP)	Reduces market congestion in both RTOs	Qualifies as MEP or MVP* in MISO and economic transmission enhancement or expansion in PJM	Ratio of each RTO's respective benefit calculations <u>MISO benefit calculation:</u> 345 kV+: Uses all regional MEP benefits <345 kV: Uses APC benefits only	345 kV+: MISO portion allocated the same as a regional MEP <345 kV: MISO portion allocated to benefiting CAZs by their respective APC benefits Note: For MISO-PJM IMEP only, voltage threshold is 100 kV
Interregional Reliability Project (IRP)	Displaces reliability projects in either or both RTOs	Qualifies as BRP or MVP** in MISO and BRP in PJM	Ratio of avoided project costs in each RTO	Costs assigned based on the allocation of the applicable project category in MISO
Cross-Border Baseline Reliability Project (CBBRP)	Needed to efficiently meet reliability criteria	Qualifies as BRP in MISO or PJM	DFAX of RTO generation to respective RTO load	Wholly MISO: project is allocated like a BRP (100% to local TPZ);
Interregional Public Policy Project (IPPP)	Displaces public policy projects in both RTOs	Qualifies as MVP*** in MISO and economic or reliability project in PJM	Ratio of avoided project costs in each RTO	Costs assigned based on the allocation of the applicable project category in MISO

* Meeting Criteria 2 or 3

** Meeting Criterion 3

*** Meeting Criterion 1

MISO-SPP Interregional Cost Allocation

Project Type*	Description and Requirements	Cost Allocation Methodology	
		RTO Project Share**	MISO Cost Allocation
Reliability	Necessary to meet NERC reliability criteria; Displaces reliability projects in both RTOs	Avoided Cost	MISO portion allocated to local TPZ(s)
Economic	Project that alleviates market congestion in both RTOs	Ratio of each RTO's respective APC benefit calculations	230 kV+: MISO portion allocated the same as a regional MEP <230 kV: MISO portion allocated to local TPZ(s)
Public Policy	Displaces public policy projects in both RTOs	Avoided Cost	Costs assigned based on the allocation of the avoided regional project

*Refers to the *primary* project driver

**Refers to benefits identified by the *primary* project driver; All project types may include APC and Avoided Cost benefits

MISO Cost Allocation Zone and Transmission Pricing Zone Map

Cost Allocation Zone	Transmission Pricing Zone(s)
1	DPC, GRE, MDU, MP, NSP, OTP, SMP
2	ATC
3	ITCM, MEC, MPW
4	AMIL, CWLP, SIPC
5	AMMO, CWLD
6	BREC, DEI, HE, IPL, NIPS, VECT
7	METC, ITC
8	EATO
9	CLCE, ELTO, LAFA
10	EMTO, SME
11	ETTO
12	ENTO

