Background

The parties have exchanged several proposals over the last few weeks regarding the proposed Planning Scenario 3 originally discussed in Technical Meetings #1 and #2. Because the parties have not been able to achieve consensus on the parameters for Scenario 3, it will be designated a Stakeholder Scenario. ENO will model Scenarios 1 and 2 as proposed in Technical Meeting #2. ENO will implement the stakeholders' requested Scenario 3 related to the buildout of the MISO market as described below.

Demand Side Management

The stakeholders have requested that the amount of MISO market demand side management (DSM) align with the amount of DSM specified in MISO's MTEP Future #3, shown in the following table:

DSM Type	Technical Potential Offered by 2040
Demand Response	5.9 GW
Energy Efficiency	14.5 GW
Distributed Generation	21.8 GW
TOTAL	42.2 GW

ENO will ensure that the total DSM impacts by 2040 in the Stakeholder Scenario will be equivalent to the DSM impacts specified in MISO's MTEP Future #3.

Renewable Energy Cost Inputs

The stakeholders have requested that the renewable technology costs used in the stakeholder scenario for the MISO market buildout align with the LCOE data from the NREL 2020 Annual Technology Baseline (ATB). While LCOEs are not a direct input in the IRP Aurora model, the Aurora model does use inputs that are also used to develop the LCOE metric. These components include installed capital cost, fixed O&M, capacity factor, assumptions for ITC and PTC, and weighted average cost of capital. To obtain a target LCOE specified in NREL ATB, ENO will input the resulting levelized dollars (converted to $/MW-week) from NREL ATB's LCOE model into the Aurora model.

When building out the MISO market, the Aurora model combines the MISO North, Central, and South areas into a single region. For this reason, the resource selection options used for the MISO market expansion need to be representative of the entire MISO area. The table below shows the NREL ATB LCOE component data for representative wind and solar resources that ENO will use when building out the MISO market.

	Wind	Solar
Data Source	ATB NREL 2020 (Class 5) - Advanced	ATB NREL 2020 Default (Kansas City)
Installed Capital Cost (2021$/kW-yr)	1,453	1,302
Fixed O&M (Levelized Nominal, 2021$/kW-yr)	40.99	15.25
Capacity Factor (%)	42.7%	27.7%
WACC (12.2020, %)	5.3%	4.2%
LCOE (Levelized Real in 2018$/MWh, COD 2021)	30.07	30.06
LCOE (Levelized Real in 2021$/MWh, COD 2021)	32.10	32.09

Conclusion

The table on the next page shows the final parameters and inputs to be used in modeling the three Planning Scenarios. Assuming there are no further issues outstanding regarding the Scenarios, the Enterprise Planning Group will commence work on the market buildout and modeling.

	Scenario 1	Scenario 2	Scenario 3
Description	Reference	Decentralized Focus (DSM & renewables)	Stakeholder
Peak / Energy Load Growth	Reference	Low	High
Basis of DR / EE / DER Additions (Adjustment to Load)	Entergy (Medium)	Entergy (High)	MISO (MTEP Future #3)
Natural Gas Prices (Levelized Real, 2021$/MMBtu)	Reference	Low	High
Market Coal Retirements	Reference (60 years)	Accelerated (55 years)	Accelerated (30 Years)
Legacy Gas Fleet Retirements	Reference (60 years)	Accelerated (55 years)	Accelerated (30 Years)
CO2 Tax Assumption (Levelized Real, 2021$/short ton)	Reference	Reference	High
Limit on Total Gas Resources to be Added	No	No	Yes, per MISO Future #3
Renewable Resource Costs	Entergy Technology Assessment	Entergy Technology Assessment	NREL 2020 ATB