



FERC Order No. 1920

Long-Term Regional Transmission Planning

PJM TEAC Special Session - 1920

Robin Lafayette

PPL Electric Utilities

September 6, 2024



Agenda

1. Coordination between FERC Order No. 1000 and FERC Order No. 1920
2. Scenario Development
3. Benefits Metrics





Coordination: Order 1000 and Order 1920

Coordination: Order 1000 & Order 1920



- Consider consolidating processes to achieve efficiency and minimize coordination issues
- Bring existing Market Efficiency and Near-Term Planning processes into the same single study process with new Long-Term Planning
- Study years 5, 10, 15, and 20 within this single process:
 - Treat years 5 and 10 as Near-Term Planning study years, with year 5 being the primary year of focus and year 10 used to inform interactions with the long-term portfolio
 - Treat years 15 and 20 as Long-Term Planning study years, with year 20 being the primary year of focus and year 15 used to inform interactions with the near-term portfolio
- Assessment of estimated time to develop solutions will help determine whether or not solutions need to be executed immediately, or deferred to a subsequent study cycle to confirm need and begin project execution
- Near-Term analyses continue to be run annually
- Long-Term analyses run at least every five years, but preferably every three years

Coordinated Near- and Long-Term Planning Approach

Proposed Year-of-Need Identification and Solution Development Triggers



Earliest Identified Year of Need	Near-Term or Long-Term?	Solution Development Time	Solution Executed Immediately ?	Confirm Need in Subsequent Study?
5-Year	Near-Term	N/A	Yes	N/A
10-Year	Near-Term	> 5 years	Yes	No
		< 5 years	No	Yes
15-Year	Long-Term	> 10 years	Yes	No
		< 10 years	No	Yes
20-Year	Long-Term	N/A	No	Yes

Coordination: Order 1000 & Order 1920



- Eliminate separate Market Efficiency process and include Market Efficiency assessment in all study years (5, 10, 15, and 20) of this proposed process to inform selection decisions:
 - Production cost, load payments, and congestion will certainly be benefits metrics for solutions proposed in the Long-Term assessment process, but in addition, post congestion drivers for all four study years such that there may be projects that specifically address Market Efficiency
 - ❖ Such projects, if addressing congestion in years 5 or 10, would be classified as classic Market Efficiency projects, while if they address congestion predominantly in years 15 and 20, they would be classified simply as Long-Term projects
- One consolidated planning process would still result in one 4-month solicitation window each year, allowing cost allocation to be managed consistent with existing practices



Scenario Development

Scenario Development



- Scenarios must consider both balanced and unbalanced public policy development
- All scenarios should ensure that renewables buildouts do not compromise reliability
- Proposed solution must address needs in multiple scenarios to warrant selection
- PJM should avoid attempting to define separate, purely “baseline” and “public policy” centric scenarios
- Design scenarios naturally and document the percentage of “public policy load” and “public policy generation” in each for awareness purposes

Order 1920 Categories of Factors

1. **Laws and regulations affecting future resource mix**
2. **Laws and regulations on decarbonization and electrification**
3. **Integrated Resource Plans and expected supply obligations for LSEs**
4. **Trends in technology and fuel costs within and outside of the electricity supply industry, including shifts toward electrification of buildings and transportation**
5. **Retirements**
6. **Generation interconnection requests and withdrawals**
7. **Utility and corporate commitments and other public policy goals**

*May not discount Factors in Categories 1-3 (in blue above)
Can discount Factors in Categories 4-7 provided Long-Term Scenario is plausible*



Benefits Metrics

Benefits Metrics



- Benefits must be transparent and well documented
- A tiered process may be used where proposed solutions must pass a base feasibility test prior to qualifying for full benefits assessment. This test must be well documented so as to minimize potential for disputes
- Any proposed solution that passes the feasibility test receives full portfolio of benefits metrics assessments
- Benefits metrics should be calculated in all milestone years of the long-term assessment (years 5, 10, 15 and 20)
- Benefits metrics performance in earlier milestone years will feed into decision-making about when selected projects should be triggered

Order 1920 Benefits Metrics

- 1. Avoided or deferred reliability transmission facilities and aging transmission infrastructure replacement**
- 2. a) Reduced loss of load probability or b) Reduced planning reserve margin**
- 3. Production Cost Savings**
- 4. Reduced Transmission Energy Losses**
- 5. Reduced Congestion Due to Transmission Outages**
- 6. Mitigation of Extreme Weather Events and Unexpected System Conditions**
- 7. Capacity Cost Benefits from Reduced Peak Energy Losses**

PPL Order 1920 Contacts:

Robin Lafayette

RTLafayette@pplweb.com



Janell Fabiano

JLFabiano@ppl.web.com / 484.866.2572



Appendix: Sample Process Flow

