New FERC Rules Governing Transmission Planning and Backstop Permitting (issued May 13, 2024)

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MIT
May 17, 2024
Major FERC Orders on Transmission Issued May 13, 2024

- Order 1920: “Building the Future through Electric Regional Planning and Cost Allocation”
  - ~1800 pages
  - New Transmission Planning and Cost Allocation requirements also enhancing Order 2023 (Interconnection Rules responding to huge interconnection queues)
  - Not to be confused with Order 1000 (2011): “Transmission Planning and Cost Allocation” even though they have similar titles
  - Compliance filings in one year
  - Once filings accepted updated planning and cost allocation proceeds, though initial compliance filings are often rejected
  - 23 states plus DC have “net zero by 2050” laws or goals (and 27 do not)
  - Vote was 2-1 vote; Dissent argues that it is an effort to transfer costs associated with state decarbonization policies to states without such policies. Suggests it is unconstitutional under Supreme Court “major questions” doctrine
Major FERC Orders on Transmission Issued May 13, 2024

• Order 1977: “Applications for Permits to Site Interstate Transmission Facilities”
  • Only 258 pages
  • Backstop FERC permitting for DOE Designated National Interest Transmission Corridors
  • FERC backstop permitting authority first authorized by Energy Policy Act of 2005 creating FPA Section 216
  • Never used after Court of Appeals (4th Circuit and then 9th Circuit) rejected FERC’s interpretation of the statute and DOE designation of (2) National Interest Transmission Corridors
  • Infrastructure Investment and Jobs Act (IIJA) amended FPA Section 216 in an effort to deal with issues raised by the courts previously
  • DOE Issued a preliminary list of National Interest Transmission Corridors on May 8, 2024 with final designation TBA
Current Challenges for Developing Major New Transmission Lines

• ISO planning and cost allocation policies for major new intra- and inter-transmission lines are deficient
  • Too short-term and failure to do scenario planning reflecting uncertainty
  • Benefits considered are too narrow and this affects both planning and cost allocation
  • Interregional planning is de facto non-existent
  • “Local” transmission planning is not transparent and virtually unregulated
  • Slicing transmission projects between reliability, economic efficiency, and public policy projects undermines cost-effective planning
  • Competitive procurement requirements in Order 1000 have not been fully implemented
  • Merchant projects are not integrated into the planning process in any meaningful way

• Interconnection planning, development, and pricing still needs work (see Armstrong et. al.)
  • Order 2023 tried to fix the huge interconnection queue problem but it failed adequately to address all of the problems with existing policies (Armstrong et. al)
  • Failure to integrate interconnection policies with broader transmission planning process
  • Rigid policy for allocating costs of interconnection creates distortions
Current Challenges for Developing Major New Transmission Lines

• Federal, State and Local Siting and Permitting
  • Federal environmental reviews take too long: Consolidating these reviews with a 2-year goal is a step forward
    • DOE has now consolidated these federal reviews with two-year goal (April 25, 2024)
  • State and local permitting is also important and can be very time consuming
  • FERC backstop permitting (2005) has never been used.
  • Backstop permitting authority and responsibilities of DOE and FERC clarified in the Infrastructure Investment and Jobs Act (IIJA)

• Financing and integrating of merchant lines is problematic
  • Merchant lines are not integrated into ISO planning process
  • Merchant lines are treated like generators which must line up in the interconnection queue
  • Merchant lines need “anchor tenants” to get financing
    • DOE Transmission Facilitation Program is a big step forward but there is not enough money
    • The model for developing merchant lines is similar to interstate natural gas pipeline model

• FERC regulation of transmission investments, costs and performance is non-existent
Examples
The Ideology Guiding ISOs Circa 2020

• Long term planning is bad
  • IRP is a dirty phrase
• Respond to what comes at you and base short-term (1-3 years) planning on it ("reactive" is the plan)
• Focus on your own footprint
• Maintaining short-term reliability is goal #1
• Creating and managing short-term energy and AS markets while managing congestion using LMP is goal #2
• Interconnecting new generators when they show up is goal #3
• “The market” will bring forth needed transmission investment as it responds to LMP and the opportunity to be allocated congestion revenue rights
• Long-term contracts for new generation is not the ISO’s business
• Climate change policy and rapid diffusion of wind, solar, storage was not on the agenda
The colored areas are intended to approximate the scope and location of the transmission planning region but are for illustrative purposes only.
ISO Transmission Planning and Permitting

Breakthrough Energy

Major Project Construction: 2-3 years
Inter-ISO Projects

Interregional Planning Coordination Committee
MERCHANT ROUTE

Design Project
Secure anchor tenants through open season
Negotiate terms and conditions contracts
Interconnection agreements and upgrades (HVDC vs. AC)
Permitting and construction
FIGURE 1  Overall regional transmission planning grades

Americans for a Clean Energy Grid, 2023
<table>
<thead>
<tr>
<th></th>
<th>Proactive Generation &amp; Load</th>
<th>Multi-Value</th>
<th>Scenario-Based</th>
<th>Portfolio-Based</th>
<th>Joint Interregional Planning</th>
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The Brattle Group and Grid Strategies, October 2021
The U.S. Department of Energy on April 17 issued its first-ever roadmap for speeding the interconnection of new clean energy generation to the nation’s grid. | DOE
Key Statistics

Long Lines Ahead

The amount of generation and storage capacity in interconnection queues increased to nearly 2,600 gigawatts last year, a 27% increase from 2022, according to a report released by the Lawrence Berkeley National Laboratory. Over 95% of the capacity is for zero-carbon resources like solar, wind, and battery storage.
“Local” Transmission Projects

As of 12:31 p.m. EPT

Supplemental project costs are not PJM Board approved.

PJM  https://www.pjm.com/planning,
“Interregional” Transmission Lines

• Most ISOs have some type of inter-ISO coordination arrangement but they are not very active
• Few if any inter-ISO transmission lines have been forthcoming through coordinated ISO planning
• Most interregional lines under construction are merchant lines which the ISOs generally ignore in their planning
• Large vertically integrated utilities are also building what are effectively interregional lines
### History

<table>
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<th>Event</th>
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<td>2006</td>
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<td>TransWest Express LLC (Anschutz Group)</td>
<td>2008</td>
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<td>Preliminary BLM RoW and WECC rating</td>
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<td>Public Outreach</td>
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<td>BLM publishes EIS</td>
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<td>Agreements with tribes</td>
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<td>Forest Service issues EIS</td>
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<td>BLM grants RoW</td>
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<td>First Country Permit</td>
<td>2018</td>
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<td>Est Completion</td>
<td>2027/28?</td>
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### TransWest Express (Merchant Project)

- **732 Miles**
- **3,000 MW DC/AC/DC**

[https://www.transwestexpress.net/index.shtml](https://www.transwestexpress.net/index.shtml)
Merchant Project (SOO Green)
2,100 MW HVDC
350 miles
Underground
Connects MISO and PJM

Announced: 2020
IUB Approval: 9/2023
Iowa Town Franchises: ?
Illinois Approvals: ?
PJM Agreement: Q3-2025?
Target Completion: end 2029

Regulated Multi-State Project – VI IOU, No ISO

Pacificorp (September 2023)

This map is for general reference only and reflects current plans. It may not reflect the final routes, construction sequence or exact line configuration.
This is a Thematic Map that shows a pre-selected set of data and has basic functionality. To add data from any combination of themes, use the Data Explorer.
Some of New Jersey’s SAA 2.0 Goals

- Minimize environmental, community, permitting and fishing impacts
  - Minimize cables crossing shore
  - Minimize points of interconnection
- Encourage competition
- Lower cost and risk of OSW generation and transmission
- Maximize transmission developer expertise
- Lower OREC prices
SAA 2.0 General Scope

**Option 1:** New or existing onshore upgrades

**Option 2:** New offshore substations over shore crossing to onshore substations

**Option 3:** “Network” or “backbone”, interconnecting multiple offshore facilities

Detailed scoping discussions will occur as competitive window preparations continue.
What Does Order 1920 Do?

• Requires transmission planning regions to develop long-term plans looking forward at least 20 years
  • most ISOs have already begun to do long-term planning for 10+ years
• Requires planning process to develop multiple scenarios reflecting uncertainty
• Expands range of benefits to be considered
• Establishes a negotiation process with the affected states to agree on cost allocation principles
• Integrates reliability, economic efficiency, and public policy projects together into the planning process effectively ending the separate consideration of public policy projects and economic efficiency projects (except as it may affect cost allocation)
• Integrates transmission planning with interconnection policies and recognizes that requiring the “first in line” to pay all costs fails to recognize “externalities” and long-term cost incidence
• Does not repeal Order 1000 termination of right of first refusal (ROFR) and seems to support competition for new transmission facilities (was an incumbent TO priority)
• Recognizes opportunities to update existing lines (“right sizing”) to increase effective capacity and reliability and retains ROFR for such projects
What Does Order 1920 Not Do?

- It doesn’t do much to integrate merchant projects in advanced development into long run transmission plans
- It doesn’t do much to expand interregional planning and transmission development
  - Development of a coordinated transmission plan for Northeast off-shore wind continues to be a serious problem
- The cost allocation issue will continue to be contentious in multi-state ISOs
- It does not provide enough support for competitive procurement programs for new transmission
- It does not fix imperfections in FERC oversight of costs and performance
What Does Order 1977 Do?

- Primarily clarifies how backstop siting authority clarified by IIJA will be implemented
- Establishes one-year period to get state approvals before backstop siting is triggered
- Clarifies application of eminent domain authority and landowners’ rights
- DOE identification of National Interest Transmission Corridors is well along
- Developers still need to come forward to propose projects located within these National Interest Transmission Corridors and fail to get them approved by states before this matters
Preliminary Identification of (10) National Interest Transmission Corridors (May 2024)

https://www.energy.gov/gdo/national-interest-electric-transmission-corridor-designation-process
Are Any ISOs/Multi-state VIs Close to Doing in Right Already?

• New York ISO
• California ISO
• Pacificorp (large VI utility)
  • Integrated Resource Plan
  • Supporting transmission development covering 5 states
NYISO Transmission
230 kV and Above
2015

2021 UPSTATE ENERGY PROFILE
(Zones A-E)

2021 energy production from:
- Zero-Emissions
- Hydro Pumped Storage
- Other Renewables
- Fossil Fuels

Legend:
- 765 kV
- 500 kV
- 345 kV
- 230 kV
- DC Cable

2021 DOWNSTATE ENERGY PROFILE
(Zones F-K)

New York ISO 2015
Figure 19: New Transmission Projects in New York State

**Western New York Public Policy Transmission Need**
NYISO selected NextEra to develop a 20-mile, $181 million project to improve access to renewable energy. The project is expected to enter commercial operation in June 2022.

**New York Power Authority (NYPAC)**
Designated as a priority transmission project by the NYSPSC, NYPAC’s “Smart Path” transmission project will enable delivery of more than 1,000 MW of hydro and wind power from the northern region of NY to central NY. The project is in construction and permitting.

**AC Transmission Public Policy Transmission Need**
NYISO selected LS Power & NYPAC for Segment A (central to eastern NY), and National Grid & NY Transco for Segment B (Albany to Hudson Valley) to improve access to upstate renewable energy. The 150-mile, $1.2 billion projects will improve power flow by roughly 1,000 MW. The project is under construction and expected to be in-service by December 2023.

**Long Island Public Policy Transmission Need**
In 2021, the NYISO declared a transmission need to ensure at least 3,000 MW of offshore wind is deliverable from Long Island to NYC and the rest of the state. The NYISO issued a solicitation for proposals and conducted viability and sufficiency evaluations of the proposals. The NYISO will continue to evaluate the proposals to identify the more efficient or cost-effective project, which will be subject to approval by the NYISO Board of Directors.
1,250 MW HVDC
60% underwater/40% underground

Two five-inch-diameter cables will be placed underwater or underground and run 339 miles from the U.S.-Canadian border, south through Lake Champlain, along and under the Hudson River, and eventually ending at a converter station that will be built in Astoria, Queens.

Announcement 2010
Under construction with anticipated completion 2026

$6 billion estimated cost

Regulated Multi-State Project – VI IOU, No ISO

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