i2X DER Interconnection Webinar 2
Clearing the Fog: Data Access, Transparency, and Security
June 2, 2025
Key Takeaways

This webinar discussed data access, transparency and security for distributed energy resource (DER) interconnection. Panelists included Adam Podpora, New York Central Hudson; Cody Matthews, Michigan Public Service Commission (MPSC); and David Rearden and Calvin Monson, Illinois Commerce Commission (ICC).

Major themes included mechanisms for increasing data access and transparency, data sharing challenges, and regulatory approaches that enable flexibility and stakeholder engagement, and benefits and limitations of automation. Stakeholder questions addressed flicker screening and spot networks, IEEE 1547-2018 standards, demand management programs, flexible interconnection, group studies, interconnection timeline enforcement, granularity and transparency of hosting capacity maps, and interconnection rules for diverse DER technologies.

I. Data Access and Transparency Mechanisms

- **Standardized interconnection requirements and formalized processes**
    - The New York Public Service Commission (PSC) adopted a Standardized Interconnection Requirements process for distributed energy resources (DERs) 5 megawatts (MW) or less connecting to utility distribution systems. Projects under 50 kilowatts (kW), typically residential systems, follow a streamlined review process. Larger projects (50 kW to 5 MW) require preliminary or more in-depth impact studies, such as the Coordinated Electric System Interconnection Review, which can take up to 60 business days.
    - The MPSC implemented significant updates in 2023 to align its distribution-level interconnection rules with IEEE 1547-2018 standards and FERC's Small Generator Interconnection Process. The updates include a fast track process, pre-application report, and public interconnection list requirements, among other changes. The PSC's framework establishes statewide rules but allows for utility-specific implementation.
    - The ICC reformed interconnection rules following the adoption of the Climate and Equitable Jobs Act in 2021 that created incentives for DERs and electric vehicles and required large utilities to file grid plans for investments and cost recovery, including projects intended to increase DER hosting capacity.
- **Public data sharing initiatives**
    - **Monthly inventory reports:** Utilities in New York are required to publish monthly inventory reports for DG projects. The reporting requirements have matured over time to include administrative, locational, and system type information; application and study timelines; and cost estimates for system upgrades. Michigan introduced new utility reporting requirements for all interconnection projects in 2023. Illinois requires annual reports detailing interconnection applications by DER capacity and metering tiers.

- **Hosting capacity maps:** All three states emphasized the importance and value of sharing grid data through hosting capacity analysis.
    - New York provides solar PV, energy storage, and electrification hosting capacity maps. The solar PV and energy storage maps offer nodal data, allowing developers to get approximate hosting capacity values at specific addresses or nodes, while the electrification (formerly EV) map remains at the feeder level. A statewide initiative compiles all utility hosting capacity data onto a platform called the Integrated Energy Data Resource, which necessitates standardizing identical fields and data points.
    - Michigan's launched hosting capacity maps in 2016, with significant efforts in 2020 and 2022 to standardize data and improve granularity. Current maps are not at a granular level, restricted to 3-phase distribution lines, and reflect capacity up to 2 MW, which is considered to be a go/no go indicator. The PSC does not specify required frequency of updates, which vary by utility. These maps help developers identify areas where DERs can or cannot interconnect. Some stakeholders desire more granular data.
    - ComEd and Ameren Illinois provide online hosting capacity maps down to the feeder level. ComEd's map is updated monthly with near real-time information. Ameren Illinois provides two maps: at the distribution level (less than 15 kV, up to 5 MVA, updated monthly) and at the sub-transmission level (34.5 to 69 kV, up to 10 MVA, updated annually unless there is significant DER growth). A key point of discussion in Illinois is that their maps are not "net of the queue," meaning they do not account for projects already in the interconnection queue, which can misrepresent available hosting capacity.
    - Utilities generally only account for interconnected projects and those actively in queue when performing hosting capacity analysis or interconnection studies However, determining how long a project can sit in the queue without being withdrawn is not a straightforward answer.
- **Pre-application reports (Michigan):** For projects larger than 550 kW (optional for others), a pre-application report requires a $300 customer fee. The report provides details like total capacity, existing/queued generation, peak and minimum load data, and limited conductor ratings, helping applicants make informed decisions before formal requests.
- **Public interconnection lists (Michigan):** Utilities receiving 100 or more completed applications annually must maintain and post a public interconnection list on their website to improve transparency and identify potential system constraints.
- **System data portals:** Central Hudson operates a publicly accessible System Data Portal, refreshing every two years with historical and forecasted hourly load data for approximately 275 distribution circuits.
- **Interconnection Online Application Portals:** These serve as a one-stop shop for developers to submit applications, upload drawings, track project status, and make payments. The portals are integrated with other utility systems like Geographic Information System and customer information systems to automate certain

verification processes and serve as the "central repository for interconnection information."

II. Challenges with Data Sharing

- **Security and confidentiality:** Panelists discussed utilities' concerns about sharing certain system information due to it being proprietary, having market value, potentially revealing grid infrastructure vulnerabilities, or being protected by NERC Critical Energy Infrastructure (CEI), which is subject to more strict handling and disclosure requirements.
- **Communication and collaboration hurdles:** While desired, efficient communication between developers, utilities, regulators, and wholesale market operators for topics like FERC Order 2222 (allowing DER aggregations to participate in markets) remains a challenge.

III. Regulatory and Collaborative Approaches Are Key to Progress

- **Stakeholder Working Groups:** All three states discussed by panelists heavily rely on working groups involving the public service commission, utilities, developers, consumer advocates, and environmental and other non-governmental organizations. These groups are instrumental in defining what data fields are standardized, resolving technical and policy requirements, and developing reporting formats.
- **Building trust:** Stakeholders emphasize that interconnection processes run much smoother when done in partnership, requiring early engagement and trust-building between regulators, utilities, and interested parties, ideally before formal rulemaking phases.
- **Flexibility within rules:** The MPSC and ICC found value in statewide rules for regulated utilities that allow utility-specific implementation, which enables flexibility to adapt to circumstances. MPSC and ICC staff also have flexibility in defining specific annual reporting requirements, working closely with utilities to determine what data is reasonable to share.
- **Jurisdictional limitations:** The MPSC and ICC do not have jurisdiction over co-ops or municipal utilities, limiting insight into their interconnection approaches.

IV. Automation Is Beneficial but Has Limitations

- Utilities utilize tools like Power Clerk to manage administrative aspects of interconnections.
- Automation helps streamline early application review for smaller projects (e.g., inverter-based systems smaller than 25 kW on single-phase service), freeing up utility employees' time.
- However, panelists agreed that full automation is unlikely, especially for larger projects, hosting capacity analyses, or interconnection studies, as these require significant engineering and technical review to ensure accuracy. There also is concern about "over-automating" and losing human oversight over project

approvals. Human intervention is often required to redact customer-specific or sensitive data before public release (e.g., in New York).

V. **Common System Upgrades:** In Central Hudson's experience, the most common system element that must be upgraded to interconnect large DERs is line conductor upgrades. Substation transformer limitations also can be significant and more costly.

In summary, the panelists discussed how the journey toward comprehensive DER interconnection and data transparency is complex and ongoing. It requires balancing public data access, grid security, and economic viability, driven by collaborative regulatory processes and iterative technological advancements.