



PROSPECT14TM

PJM Stakeholder Workshop

**Presentation: Developer's Perspective to
Improving Workflow and Queue Experience**

Geoffrey S. Underwood, Prospect14

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Who is Prospect14?

EXPERIENCED PJM RENEWABLES DEVELOPER

- Filed more than 150 PJM queue positions since founding in 2017
- Currently more than 2.0GW of projects in PJM queue
- Community solar, small-generator utility scale solar, and large-generator utility scale solar, integrated storage

TEAM + CONTACT INFO



Geoff Underwood, Partner (Presenter)

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- Contracted >500MW of projects in 12 states with Strata Solar, 174 Power Global, Constellation Energy
- Launched renewable energy equities coverage at FBR Capital Markets; 18 years in energy policy and economics, business and venture development in DC
- BA, Univ. of Florida; MBA, Univ. of Maryland.



Carl J. Jackson, Partner

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- Contracted & financed 633MW of projects in 10 states with Cypress Creek, Sol Systems, Safari Energy
- Cofounded, built, sold scholastic products company Graduation Station; Morgan Stanley Smith Barney
- BS, Penn State University



Charlie Silio, Partner

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- VP-Strategy, Corp. Development & Marketing, Agility Fuel Solutions (clean transportation systems company)
- 14 years in private equity investing and investment banking with Element Partners, D. E. Shaw, GTCR, Lazard
- CPA; BSE, Princeton; MSc. London School of Economics; MBA, Univ. of Chicago



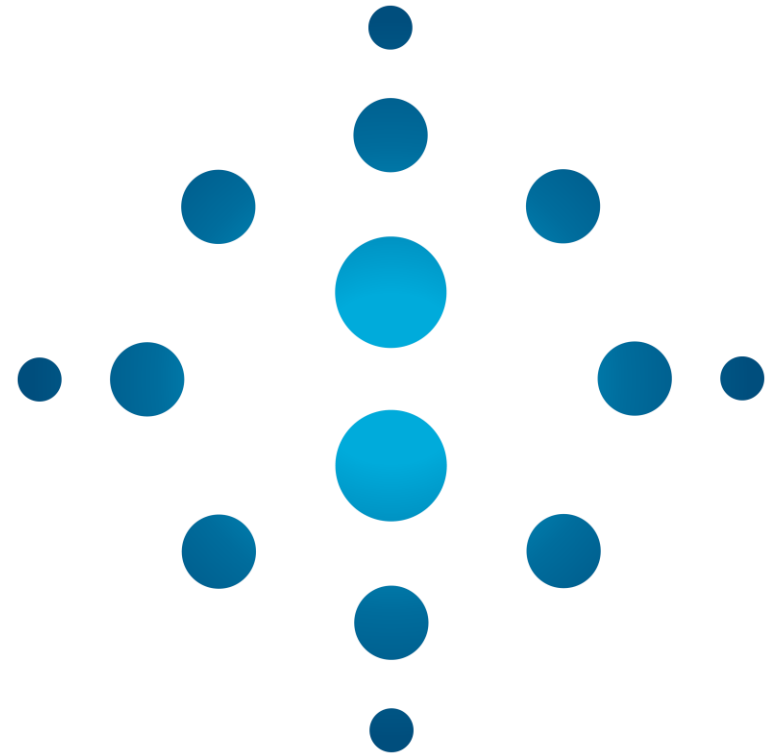
Developer's Point of View – The Big Picture: Reducing PJM Workflow while Increasing Successful Project Outcomes & Interconnections

OVERVIEW

- *PJM is currently experiencing the challenges previously faced by other ISOs' addressing rapid renewable growth – who recognized that insufficient investment in resources to manage application volumes + increasing renewables mandates and applications leads to a recursive cycle of increased work (applications), diminishing outcomes (interconnections), and expanding delays*

Solutions – Data, Data, Data

- Provide developers with the information necessary to file effective applications
- Provide developers with information needed to make practical withdraw decisions
- Implement practical changes to streamline current process to reduce administrative burden on developers, PJM and TO staff



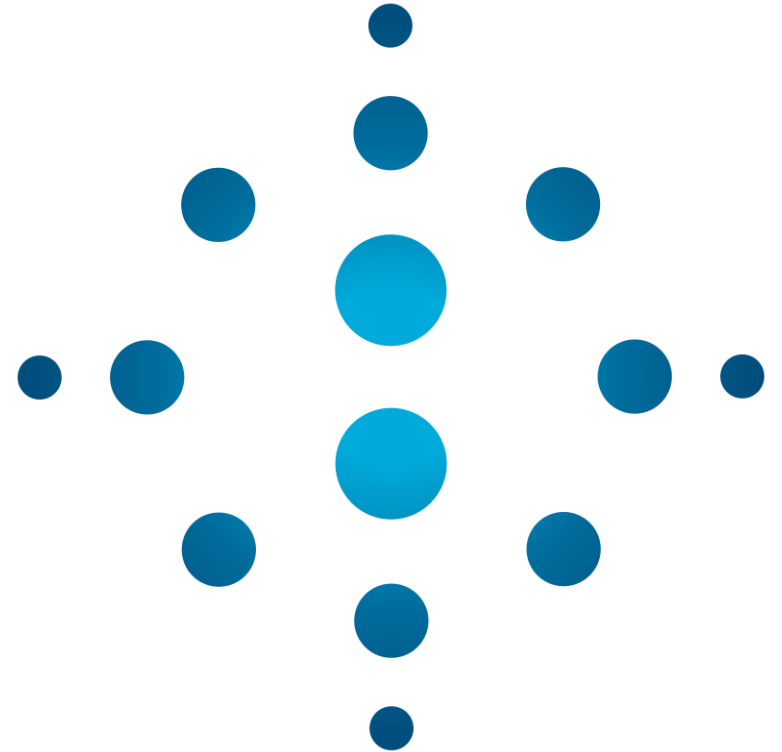
Developer's Point of View: Why Does PJM Receive so many Applications?

OVERVIEW

- *Increasing PJM applications indicate developers are searching for grid locations to construct cost-efficient projects that are increasingly mandated by LCOE, as well as state and commercial mandates that are driving increasing applications into PJM Markets*

Solution - Help us Fail Faster

- Provide congestion, overload, upgrade and application depth information pre-application.
- Make kick-off calls meaningful rather than obligation: ensure knowledgeable TO attendance with project-related information including current area congestion, current project ahead in Queue, current line ratings, which project may be triggering upgrades.
- Provide flowgate access to developers through an NDA process



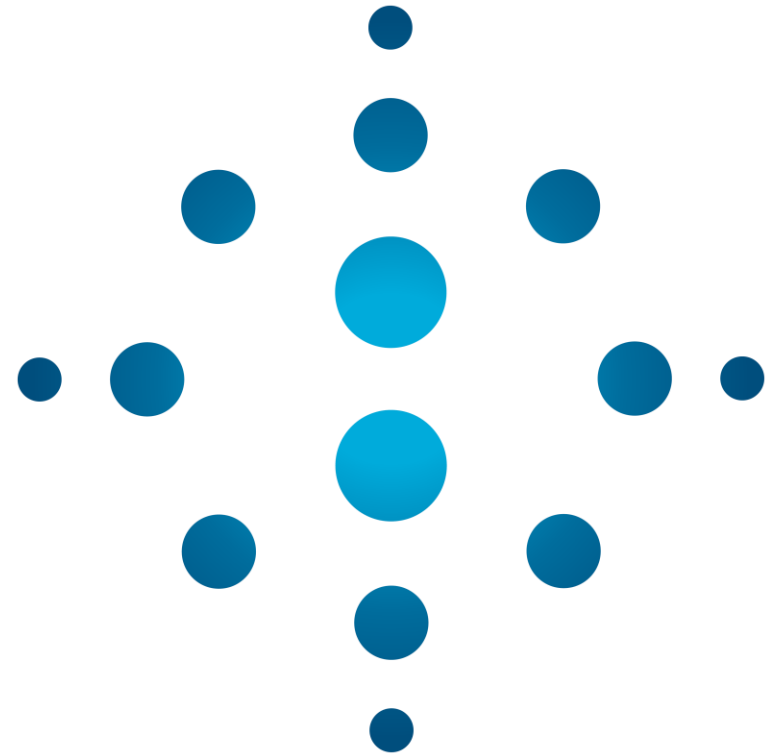
Developer's Point of View: Why are Projects in Queue for So Long?

OVERVIEW

- *PJM provides static information on a dynamic process – low information sharing on related projects leads developers to stay in queue and wait for cost improvement or sharing. As a result early cost information is not trusted by developers as a critical factor, and current rules incentivize developers to keep projects in as long as possible.*

Solution – **Disrupt the Greater Solar-Fool Theroy**

- Provide relevant contextual information to reduce non-viable projects earlier
- Clarify the number of interconnection applications on line or area
- Notify projects of related project withdraws or changes (including reductions or extensions)
- Early feasibility costing information is not meaningful without context to other projects, or ability to assess assignment of potential network upgrades and potential cost allocations
- Provide flowgate access – or regular flowgate change updates to increase visibility on dynamic market
- **Reduce cost requirements (site control) at early stages to avoid incentivizing developers to keep project in to recoup investment**



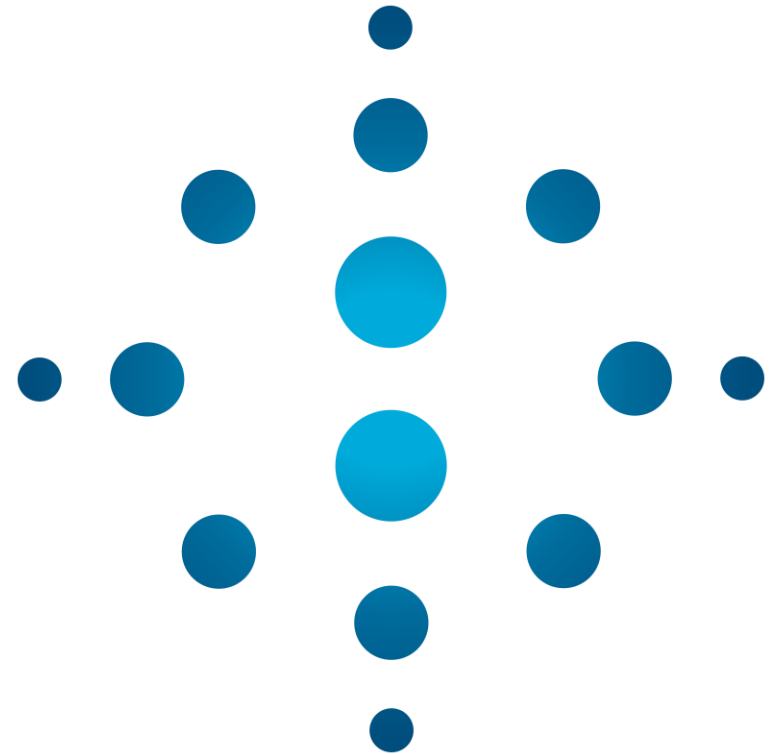
Developer's Point of View: Practical Issues to Reduce Mutual Workload

OVERVIEW

- *Current filing process is opaque – requiring both developer and project managers to perform duplicative work to solve predictable issues and leading to forced-fault deficiencies.*

Solution – Amend Moving-Target Application Rules

- Close the book on rule changes 3-6 months prior to queue window
- Publish rule or enforcement changes from previous queue
- Confirm which rule changes are deficiencies
- Lock down Attachment N form – if data request is not included in Attachment N it cannot be a deficiency
- Publish Attachment N form prior to queue window opening with all data fields that will be required to submit conforming application
- **Site control requirements create a significant drag on efficiency and change each queue without notice or explanation.**



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Thank you