

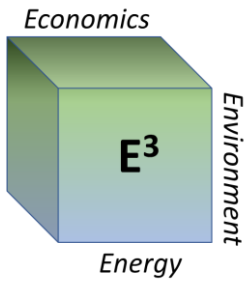
Proposed Interconnection Process Reform and Transition

Paul M. Sotkiewicz, Ph.D.

President and Founder

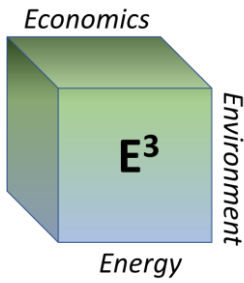
E-Cubed Policy Associates, LLC

September 20, 2021



Proposed Application Process

- Single closing period for kicking off a cycle
- Review all applications as they come in to spread out the work
 - As the application windows continues, increase the cost of submission to avoid last minute submissions to solve this problem
- Single application agreement with milestone payments as the process continues
 - Typical data required + dynamic data up front
 - Shared facilities agreement required if connecting behind another POI
 - Option for electrically equivalent POIs that can be used (user provides evidence)
- Check for permitting as required
- Check to ensure physical footprint of site under control can support amount of generation proposing to interconnect



Additional Changes to the Readiness Deposit and Money at Risk

- Readiness Deposit 1:

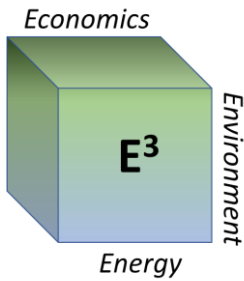
- 1st 4 months, \$4,000/MW;
- 2nd 4 months, \$8,000/MW,
- 3rd 4 months \$12,000/MW
- This provides an incentive to submit early in the window and avoid those just submitting a bunch of applications last minute hoping to find the “right spot”
- 50% at risk if dropping out at any time.
- Money can be used for Readiness payments 2 and 3.

- Readiness Payment #2

- 20% of network upgrade costs, but none at risk until Phase 3

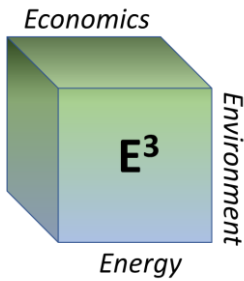
- Readiness Payment #3

- 40% of network upgrade costs, half of which is at risk if not going forward



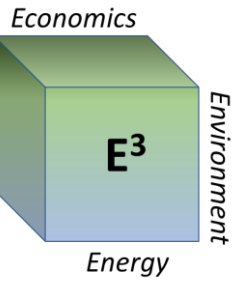
Additional Changes to the Study/Planning Process

- Capacity Interconnection Rights (CIRs):
 - Allow for CIR to be sold from a deactivated unit to a unit in the queue
 - No need for the POI from the queue unit to exactly match up with the retiring units POI
 - IC can either choose to simply retire the CIRs immediately or can convert them to equivalent CIRs at their POI
 - Monetizes the CIRs for retiring units and once sold, ensures those resources will retire and moves more quickly to freeing up transmission
- Use of other “tools” than simply building new transmission assets
 - Dynamic Line ratings
 - Transmission switching/topology optimization
 - Special protection schemes
 - Advanced Power Flow Controls using voltage to control flows and prevent overloads



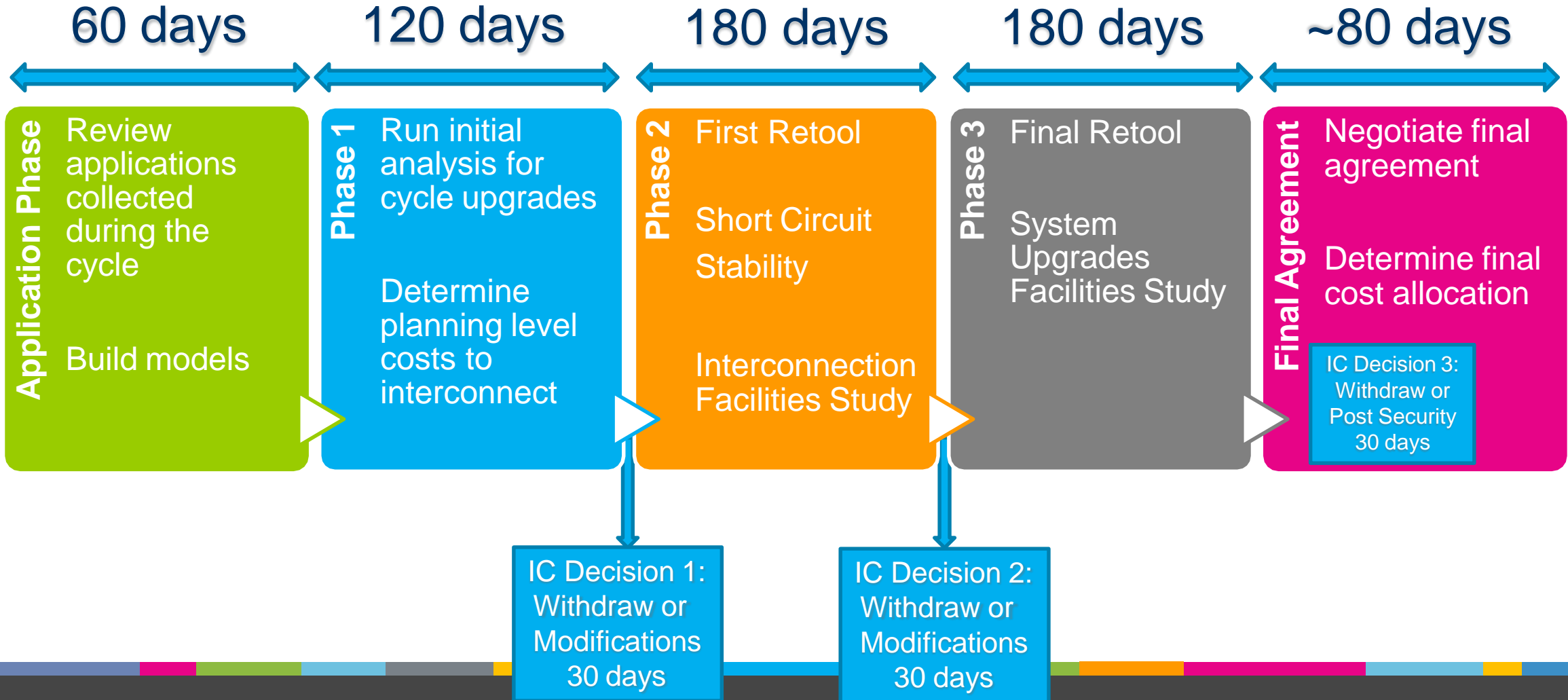
Additional Changes to Site Control

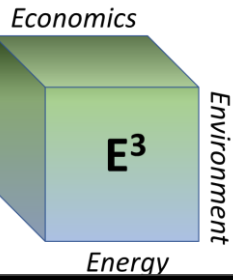
- **Site Control Evidence:**
 - Check to ensure physical footprint of site under control can support amount of generation proposing to interconnect
 - This not only includes the physical size, but the ability to alter the land to place the generation facility...some jurisdictions have environmental justice issues and refuse to clear cut land for facilities.
 - By Phase 2, must have 100% site control for rights-of-way for interconnection switchyard and interconnection facilities
 - How likely is it that another generation owner will be willing to sell ROW to a competitor?
 - What if the ROW crosses public land?
 - Extra steps to ensure those who have no real ability to go to commercial operation do not clog the queue further.
- **Site Control Term:**
 - 3 years from the date of the application submission
 - Ensures control through the interconnection process
 - No need to check again until reaching the ICD 3 point
 - 5 years at the time of ICD 3



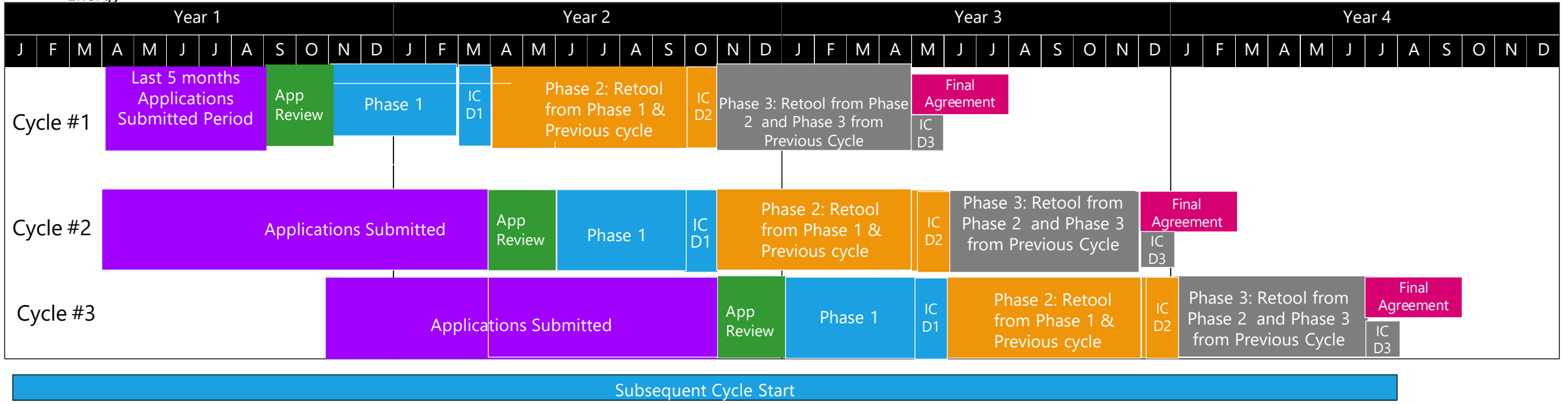
Proposed Framework Overview

Total time per cycle – 680 days...30 Days shorter than PJM



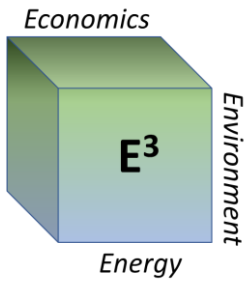


Proposed Timing For Interconnection Cycles-Updated



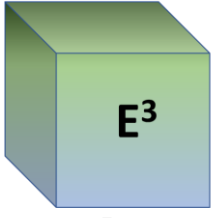
Subsequent Cycle Start

- Application submission window is a full year. Application Review is 2 months.
- Only completed applications received by the Application Deadline will be considered for the upcoming Cycle.
- Applications will be reviewed as they come in and during the Application Review period.
- Once fully implemented, by Cycle 3, the interconnection decisions line up to be used for subsequent cycle model builds. Going into Phase 2 Cycle 2, results from Phase 2, Cycle 1 will be known and built into the model.
- Phase 3 of each cycle is the final retool as the previous cycle will then be complete.

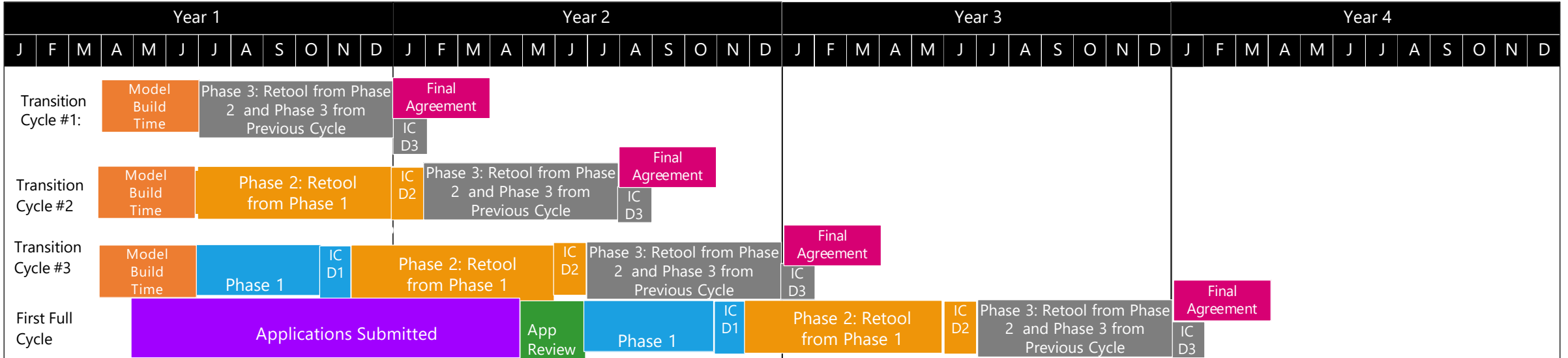


Advantages of Compressed Time Frame Relative to Original PJM Proposal

- Results in a new set of resources that have gone through the entire queue process in each year on a predictable basis. This is 6 month less time in between resources completing the process compared to PJM's proposal.
- Uses the Re-tool features in Phase 3 of each cycle to account for all interconnection decisions from the previous queue and all changes from the current queue.
 - Allow stability and short circuit to Phase 3 given updated power electronics such as inverters, etc.
 - Does not add to the number of retools
- Shorter application window should reduce the number of applications to be reviewed and modeled compared to the PJM proposal.

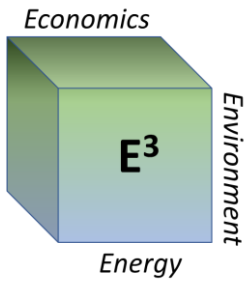


Proposed Transition Mechanism



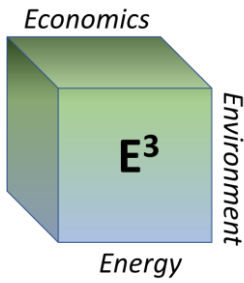
Notes

- Transition Cycle #1 includes all Z1, Z2, AA1, AA2, AB1, AB2, AC1, AC2. (executed ISA, Interim ISA or FSA executed)
- Transition Cycle #2 includes AD1, AD2, AE1, AE2, AF1, AF2 (choice)
- Transition Cycle #3 includes AG1, AG2, AH1
- First Full Cycle begins with what would be AH2 and AI1 queues.



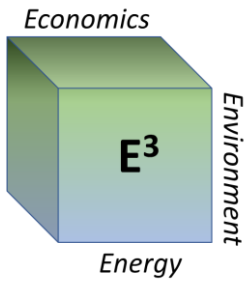
Advantages of Proposed Transition Mechanism

- Clears the current queue in about 2.5 years compared to 5-7 years as cited by Amazon and was not refuted by PJM
- Leverages the fact most queue positions in the first transition cycle have issued SIS Reports
- Forces decisions absent the “first to cause cost burden” to be made given the long time in queue already.
 - If somebody is still in the queue...and does not have an ISA, they are waiting for others to drop
- Leverages the use of the group retool of in subsequent transition cycles to account for decisions to be made.



Advantages of Proposed Transition Mechanism

- Projects that are already moving forward have already decided to do so, though this could change cost allocation for those projects
- No reason for those still active in the queue to opt out of the new option given the incentives to hang around in the queue given the “first to cause” cost burden and risk is gone
- Forces decisions for projects to make quick decisions and move out of the queue to prevent backlogs and clogging the queue
- Leverages the use of the group retool as an opportunity to provide certainty to make decisions



Questions?

Paul M. Sotkiewicz, Ph.D.

drpaulg8r@gmail.com or paul.sotkiewicz@e-cubedpolicy.com

610-955-2411 or 352-244-8800