NEW YORK STATE | Department of Public Service

KATHY HOCHUL
Governor

RORY M. CHRISTIAN
Chief Executive Officer

January 10, 2025

Hon. Michelle Phillips
Secretary to the Commission
New York State Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

Re: Case 20-E-0197 – Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act.

Dear Secretary Phillips:

Additional slides for the January 13, 2025 meeting of the Energy Policy Planning Advisory Council (EPPAC) are attached. The agenda for the meeting was included in the letter from Department of Public Service staff filed on December 20, 2024 in this proceeding and is included below for easy reference. Questions concerning the EPPAC should be directed to EPPAC@dps.ny.gov.

Agenda

1. Welcome and Overview (DPS)
2. Update on Schedule and Stages 2 and 3 (JU)
3. Presentation of Sensitivities 6 and 7 Results (NYISO)
4. Closing and Next Steps (DPS)

Sincerely,

Jalila Aissi
Assistant Counsel

JOINT UTILITIES
OF NEW YORK

CGPP: Current Work on Stages 2 & 3

January 13, 2025 (EPPAC Meeting)

Agenda

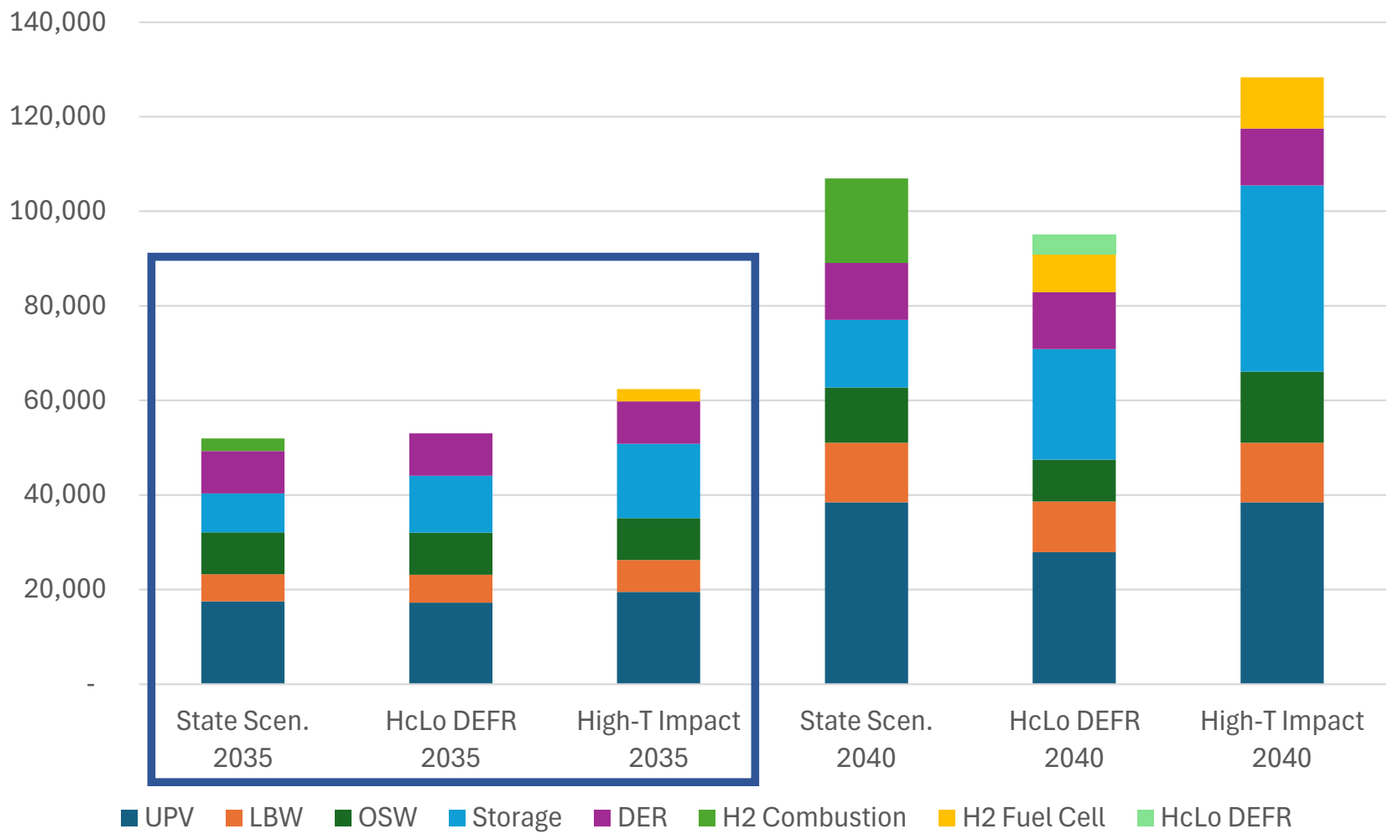
1. CGPP Stage 1: Generation Buildout Scenarios using capacity expansion modeling
    a) Scenarios
    b) Sensitivities (now complete)
2. CGPP Stage 2: Network Model Development
    a) Power flow - base cases complete for three Scenarios
    b) Status of Aux file development (evaluating contingencies, short circuit analysis)
3. CGPP Stage 3: Local Assessments
4. Q&A

Stage 1: Generation Buildout Scenario Evaluation

- Scenarios
  - State Scenario
  - High-Transmission Impact Scenario
  - DEFR: Addition of a high-capital, low-operating cost (“Hc/Lo”) DEFR option
- Sensitivities
  1. Bulk interface relaxation (“copper sheet,” no LCR)
  2. Bulk interface relaxation (“copper sheet,” retain LCR)
  3. Alternate DEFR (HcLo Option, H_2 Fuel Cell, no H_2 combustion)
  4. Concentrated RE Zones
  5. Alternate DEFR (Sens. 3 w/ ≤ 500 MW in Zones F and G, zonal capital cost multipliers)
  6. Higher DER (BTM-PV), greater load flexibility
  7. No J&K DEFR
  8. Exploring impact of electrolysis
  9. 2039 case (to inform sequence of investments)
  10. State Scenario, but with no CPNY

Context: Scale & Resource Needs

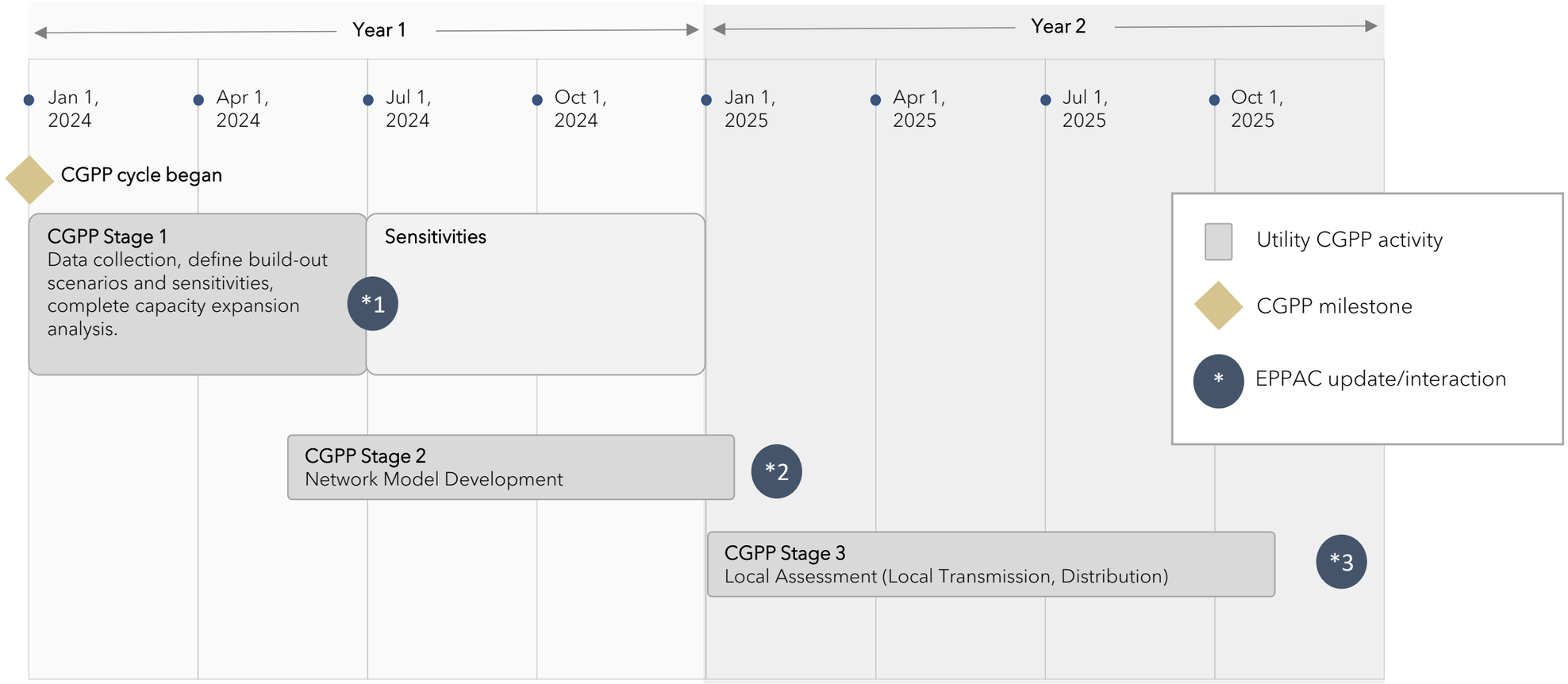
- The JU are *primarily* focused on “CLCPA Phase 3” in the CGPP Cycle 1 (*i.e.*, investments to support 2030 and 2035 buildouts).



	State Scen. 2035	HcLo DEFR 2035	High-T Impact 2035	State Scen. 2040	HcLo DEFR 2040	High-T Impact 2040
UPV	17,535	17,248	19,484	38,475	27,909	38,475
LBW	5,707	5,907	6,764	12,598	10,725	12,598
OSW	8,864	8,864	8,864	11,673	8,864	15,021
Storage	8,223	12,048	15,690	14,274	23,342	39,364
DER	8,973	8,973	8,973	12,019	12,019	12,019
H2 Combustion	2,676	-	-	17,893	-	-
H2 Fuel Cell	-	-	2,629	-	7,999	10,863
HcLo DEFR	-	-	-	-	4,276	-

- Concentration of construction, e.g.,
  - 23 GW of UPV capacity additions in Zones E & F
  - Placement of approx. 6.5-16 GW of ESS in Zone J
- Model results, collectively, imply the need for substantial incremental transmission capacity
  - E.g., to bring RE to Zone J to charge batteries

Stages 2 & 3: Current Timeline Expectations



- The Joint Utilities expect that the overlap of Stages 3 & 4 will be maintained

Work in CGPP Stage 2 (near completion)

- The Joint Utilities engaged a technical transmission modeling consultant to support CGPP Stage 2
- Scope of work includes 3 categories:
  1. Development of modeling base cases for three CGPP Scenarios
  2. Translation of the zonal capacity expansion build-out → nodal model (i.e. into the cases)
  3. Creation of power flow modeling auxiliary files

1. Development of Models

- Adjust seed cases to 2030, 2035, 2040+ load-levels
- Balance intra and inter-area transfers
- Balance load / generation

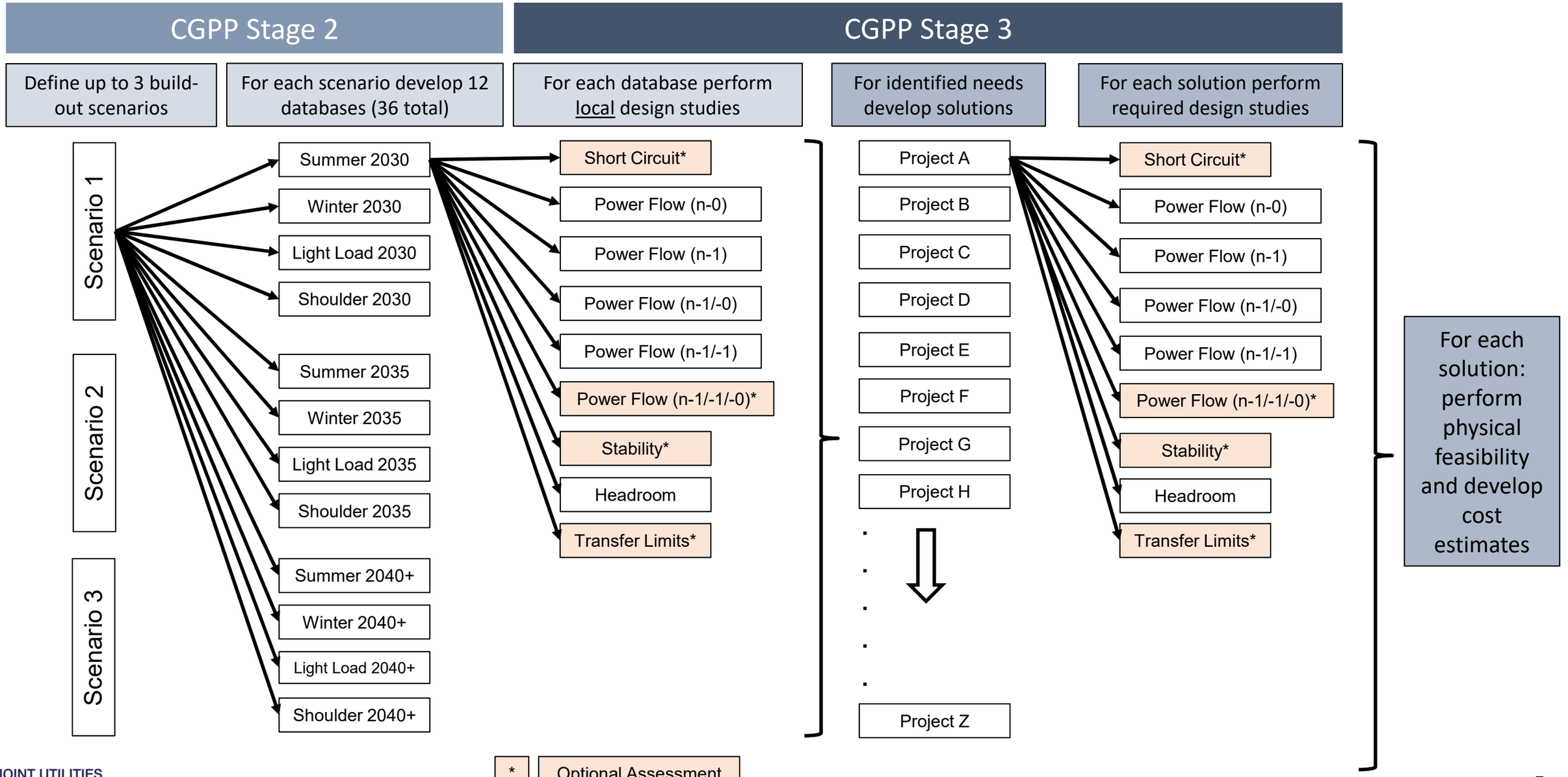
2. Zonal to Nodal

- Determine generation profile within each zone (wind/solar/storage etc.)
- Place zonal-level generation at specific substation / line location
- Build out distribution level DER (solar and energy storage)

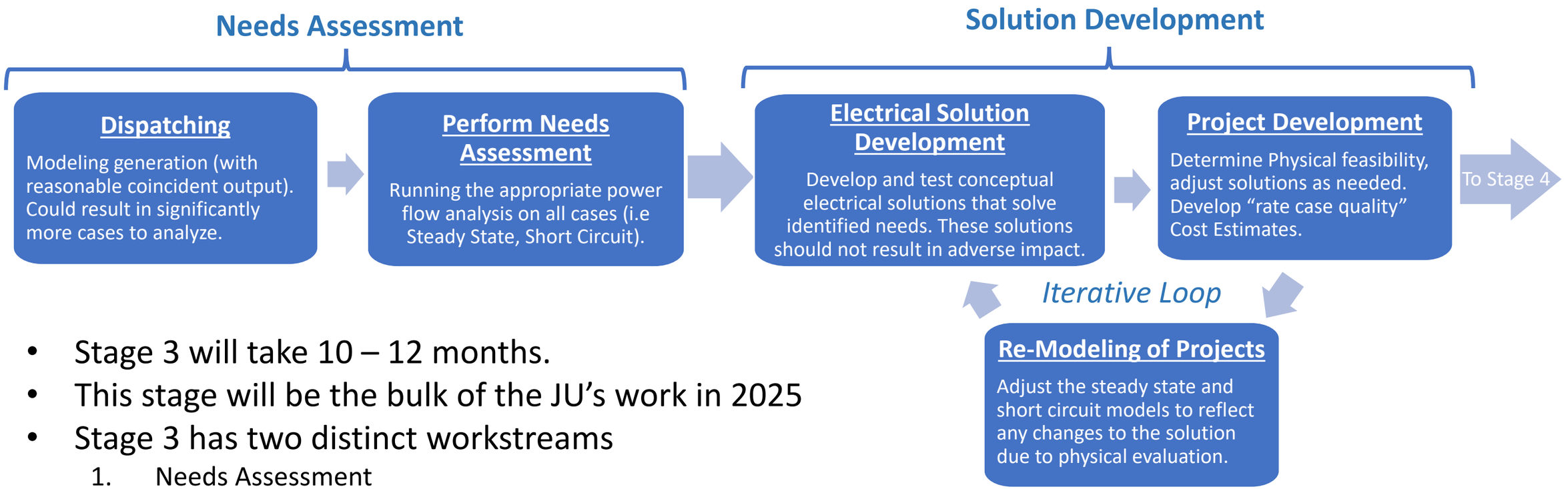
3. Auxiliary File Development

- New Contingencies (stability/steady state)
- Updated monitor and subsystem files

Stages 2 & 3: Network Model Development, Evaluation, Solution Devel.



CGPP Stage 3: Local Assessments



- Stage 3 will take 10 – 12 months.
- This stage will be the bulk of the JU's work in 2025
- Stage 3 has two distinct workstreams
  1. Needs Assessment
  2. Solution Development
- Solution development will likely take the longest as a rate case quality solution will require analysis iteration to ensure the solution works both electrically and physically.

CGPP Stage 3: Solution Considerations

The solutions developed in this cycle will focus on upgrading infrastructure to help with the future interconnection of generation in the areas found in the 2030 & 2035 capacity expansion[1].

<u>Three Solution Categories</u>

1. Building New Infrastructure
   - New Transmission Lines parallel to existing
   - New Transmission Line corridors and substations
2. Upgrading/Unlocking Existing Infrastructure
   - Rebuilding existing lines and substations
   - Increasing existing system voltages
   - Using GETs to increase line ratings or move power away from bottlenecks
3. Creating new Interconnection Points (POIs)
   - Building new substations to create more efficient landing points for renewable generation. This could include bringing multiple existing lines together into common location.
   - Proposing moving capacity expansion generation to a less constrained location
   - Example: 16 GW of Energy Storage need in NYC may require about 54 POIs (300 MW per POI)
     - A single substation might handle about 6 POIs driving a need for 9 new substations to address 16 GW

Note 1: Projects may be "multi-benefit" meaning they could also help resolve local reliability/asset condition needs

Q&A