PJM Update to ISAC

Mark Sims, Manager

Presented to Independent State Agencies Committee (ISAC)

May 24, 2021

2020 RTEP Window 4

Presented at May 11, 2021 TEAC

2020 RTEP Proposal Window 4 - Statistics

- Timeline
  - Window 4 Opened: March 1, 2021
  - Window 4 Closed: April 2, 2021
- 13 proposals received from 5 entities
  - 5 proposals include cost containment provisions
  - 13 proposal include greenfield construction

2020 RTEP Proposal Window 4 - Proposals

Proposal ID#	Project type	Project Description	Total Construction Cost $M	Zone	kV Level	Analysis	Flowgate
862	Greenfield	Provide a secondary feed to Brewster 69 kV by tapping the existing Cloverdale – E. Wooster 138 kV line, and connecting it to Brewster 69 kV station via a greenfield 138/69 kV substation (Fine Fork Station) and a new 5-mile 69 kV line between the greenfield tap location and the Brewster 69 kV station.	$17.70	ATSI	138/69 kV	FERC 715 TO Criteria	AMPT-O1
185	Greenfield	The Brewster - Iron Man 69kV Transmission Project will include a new 3-position substation interconnecting the West Wilmot - Beartown 69kV transmission line. The proposed project will include a new 69kV transmission line to connect the new substation with a new line position at the Brewster 69kV Substation.	$7.10	ATSI	69 kV	FERC 715 TO Criteria	AMPT-O1
20	Greenfield	Build a 6.5 mile greenfield 69 kV line from Brewster station to the future Alpine station. Expand Alpine station to a 5 breaker ring bus to accommodate the new line from Brewster. Perform station work at Brewster to accommodate the new line.	$10.10	ATSI, AEP	69 kV	FERC 715 TO Criteria	AMPT-O1

2020 RTEP Proposal Window 4 – Proposals

Proposal ID#	Project type	Project Description	Total Construction Cost $M	Zone	kV Level	Analysis	Flowgate
991	Greenfield	Build a greenfield 69 kV station "East Wilmot" to tap the line from Beartown station to the future Alpine station. Build East Wilmot station as a 3 breaker ring bus. Build a 5.3 mile greenfield 69 kV line from Brewster station to East Wilmot station. Perform station work at Brewster to accommodate the new line.	$11.80	ATSI, AEP	69 kV	FERC 715 TO Criteria	AMPT-O1
380	Greenfield	Build a greenfield 138/69 kV station "Pigeon Run" to tap the South Canton – Apple Creek 138 kV line. Build Pigeon Run station as a 4-breaker station with a 90 MVA 138/69 kV transformer. Build a 4.2 mile greenfield 69 kV line from Brewster station to Pigeon Run station. Perform station work at Brewster to accommodate the new line.	$13.90	ATSI, AEP	138/69 kV	FERC 715 TO Criteria	AMPT-O1
74	Greenfield	Build a greenfield 345/69 kV station "Crossroads" to tap the Harmon – Star 345 kV line. Build Crossroads station as a 4-breaker station with a 90 MVA 345/69 kV transformer. Build a 2.8 mile greenfield 69 kV line from Brewster station to Crossroads station. Perform station work at Brewster to accommodate the new line.	$19.80	ATSI	345/69 kV	FERC 715 TO Criteria	AMPT-O1

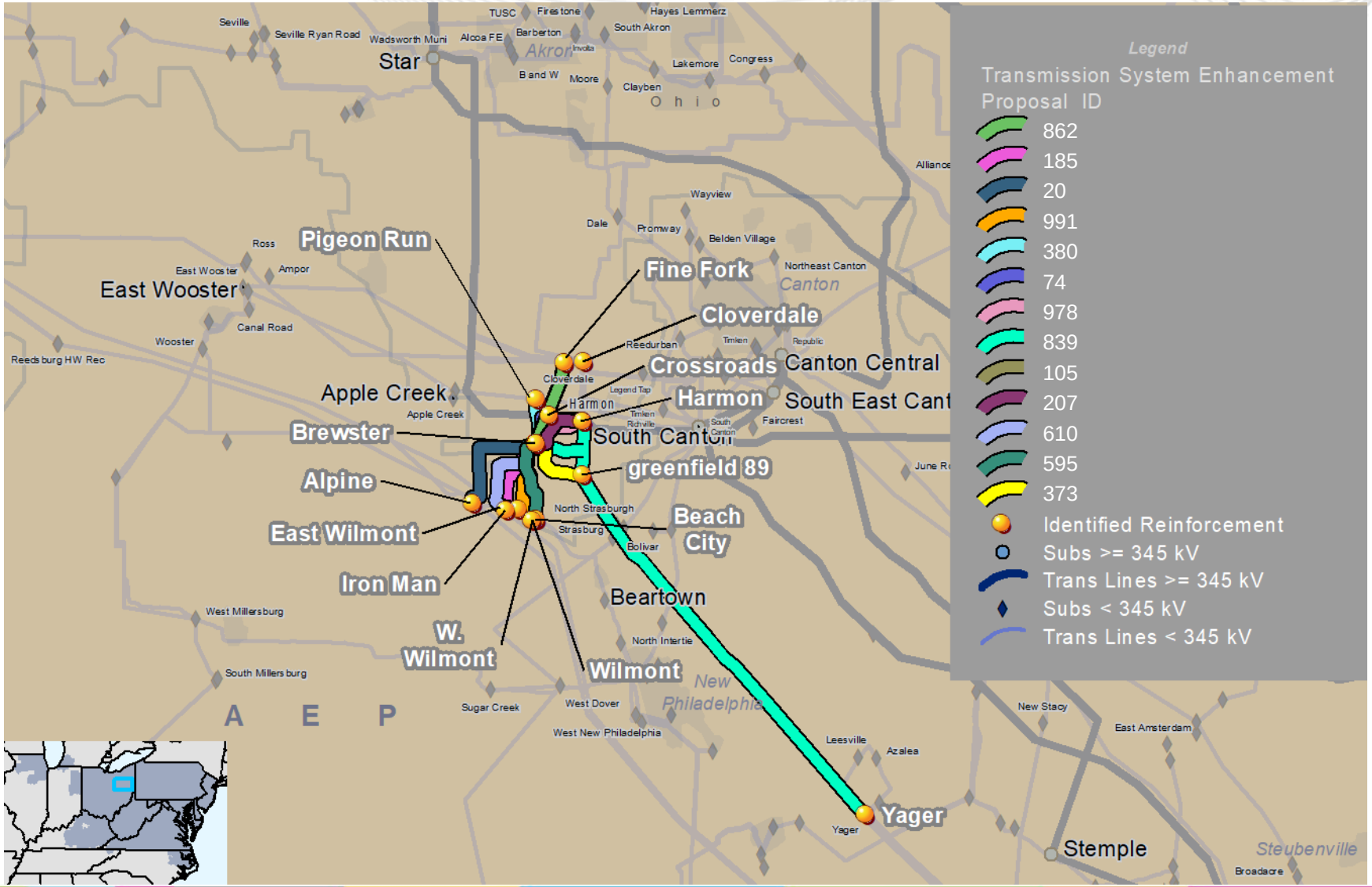
2020 RTEP Proposal Window 4 – Proposals

Proposal ID#	Project type	Project Description	Total Construction Cost $M	Zone	kV Level	Analysis	Flowgate
978	Greenfield	Build a 3.73 mile greenfield 69 kV line from Harmon station to Brewster station in parallel with the existing AMPT line. Install a new 69 kV breaker at Harmon station and perform related station work to accommodate the new line. Modify the 69 kV bus at Harmon station to convert the existing breaker "B26" into a bus-tie breaker. Perform station work at Brewster to accommodate the new line.	$9.50	ATSI	69 kV	FERC 715 TO Criteria	AMPT-O1
839	Greenfield	Bring the existing Harmon – Yager 138 kV line "in & out" of Brewster station. Build two separate but parallel 3.46 mile greenfield 138 kV lines from Brewster to the existing Harmon – Yager 138 kV line, approximately 3 miles east of Brewster, and 1.8 miles along the Harmon – Yager 138 kV line from Harmon. Retire the existing Harmon – Brewster 69 kV line, 69 kV buswork at Brewster, and existing 69/12 kV transformers. Replace with 138 kV buswork and equipment. Install three 138/12 kV transformers.	$20.70	ATSI	138/69 kV	FERC 715 TO Criteria	AMPT-O1
105	Greenfield	Convert the 69 kV yard at Harmon into a six (6) breaker 69 kV ring bus. Build a new 69 kV line from Harmon to Brewster (Brewster-Harmon #2 69kV) in a different ROW and on independent structures than the existing Brewster-Harmon 69 kV line with 556 kcmil ACSR conductor, terminate the line just outside of the Brewster Muni substation at the customer dead end structure.	$16.50	ATSI	69 kV	FERC 715 TO Criteria	AMPT-O1

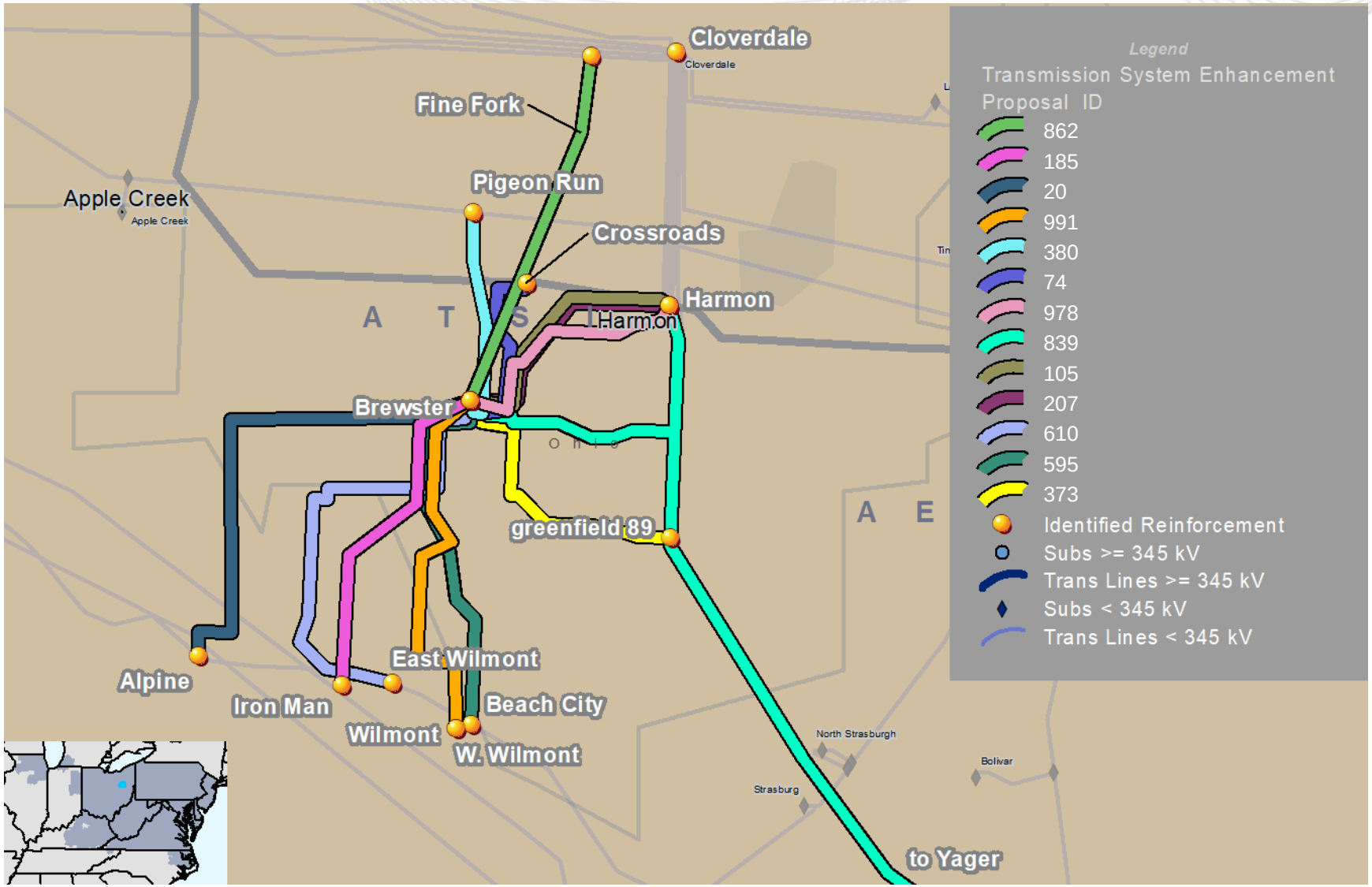
2020 RTEP Proposal Window 4 – Proposals

Proposal ID#	Project type	Project Description	Total Construction Cost $M	Zone	kV Level	Analysis	Flowgate
207	Greenfield	Expand the Harmon 69 kV bus and add one 69 kV circuit breaker to provide a line exit to Brewster for a second 69 kV line. Build a new 69 kV line from Harmon to Brewster (Brewster-Harmon #2 69kV) in a different ROW and on independent structures than the existing Brewster-Harmon 69 kV line with 556 kcmil ACSR conductor, terminate the line just outside of the Brewster Muni substation at the customer dead end structure	$9.20	ATSI	69 kV	FERC 715 TO Criteria	AMPT-O1
610	Greenfield	Build a 5.5 mile-long 69 kV transmission line from the existing Brewster 69 kV substation to a new three breaker ring bus switchyard on the existing West Wilmot to Beartown 69 kV transmission line. The tap point on the West Wilmot to Beartown 69 kV transmission line will be approximately 1.3 miles from West Wilmot 69 kV substation.	$13	ATSI, AEP	69 kV	FERC 715 TO Criteria	AMPT-O1
595	Greenfield	Building a 4.7 mile-long 69 kV transmission line from the existing Brewster 69 kV substation to a new three breaker ring bus switchyard on the existing West Wilmot to Beartown 69 kV transmission line. The tap point on the West Wilmot to Beartown 69 kV transmission line will be approximately 3.7 miles from West Wilmot 69 kV substation.	$12.10	ATSI, AEP	69 kV	FERC 715 TO Criteria	AMPT-O1
373	Greenfield	Build a 4.4 mile-long 69 kV transmission line from the existing Brewster 69 kV substation to a new 138/ 69 kV substation on the existing Cloverdale to Yager 138 kV transmission line. The new 138/ 69 kV substation will involve a three breaker ring, a 138-69 kV step-down transformer and a breaker on the LV side of the step-down transformer. The proposed 138/ 69 kV substation will be approximately 6.2 miles from Cloverdale 138 kV substation.	$15.80	ATSI	138/69 kV	FERC 715 TO Criteria	AMPT-O1

2020 RTEP Proposal Window 4 – Proposals



2020 RTEP Proposal Window 4 – Proposals



Window 4 Next Steps

- PJM evaluating proposals

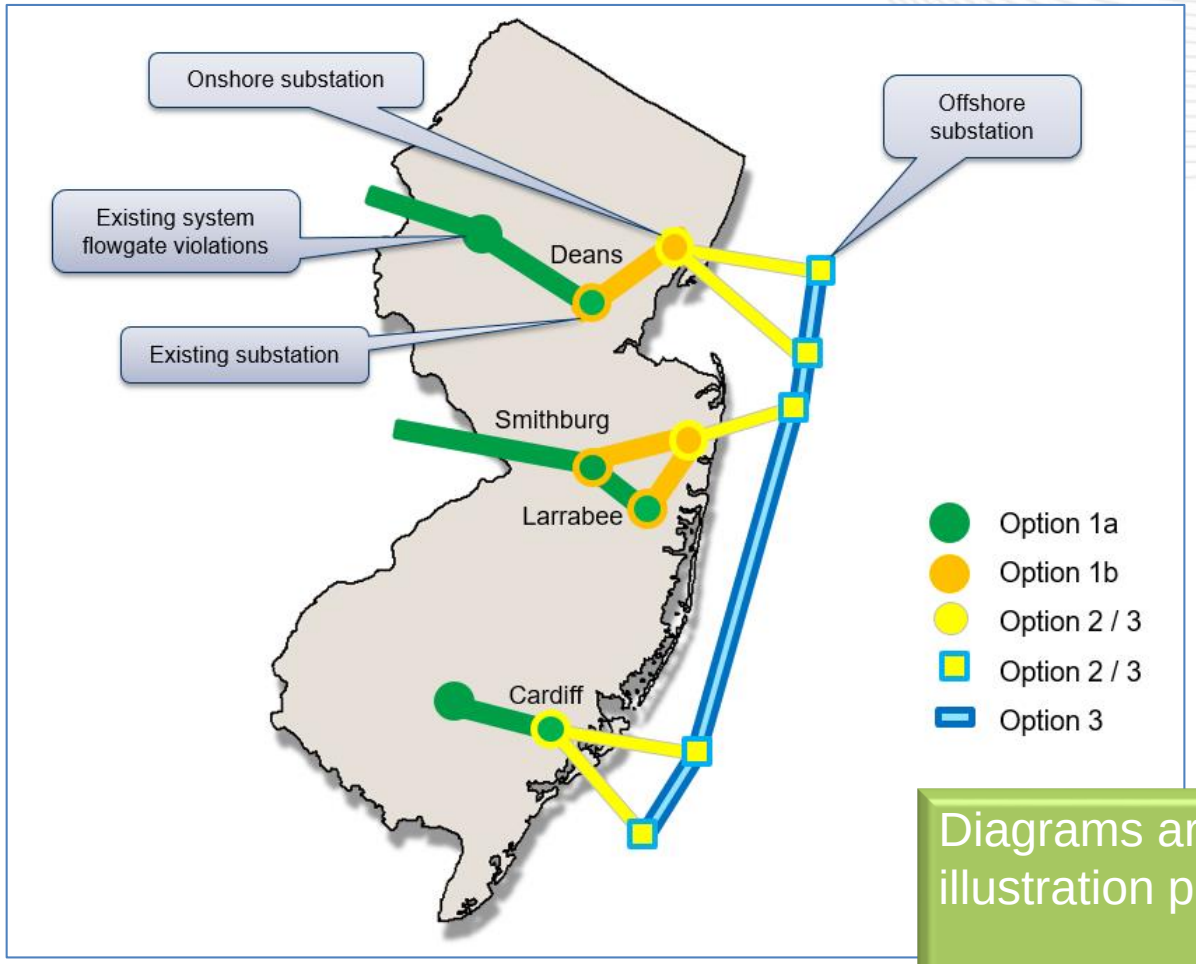
New Jersey State Agreement Approach

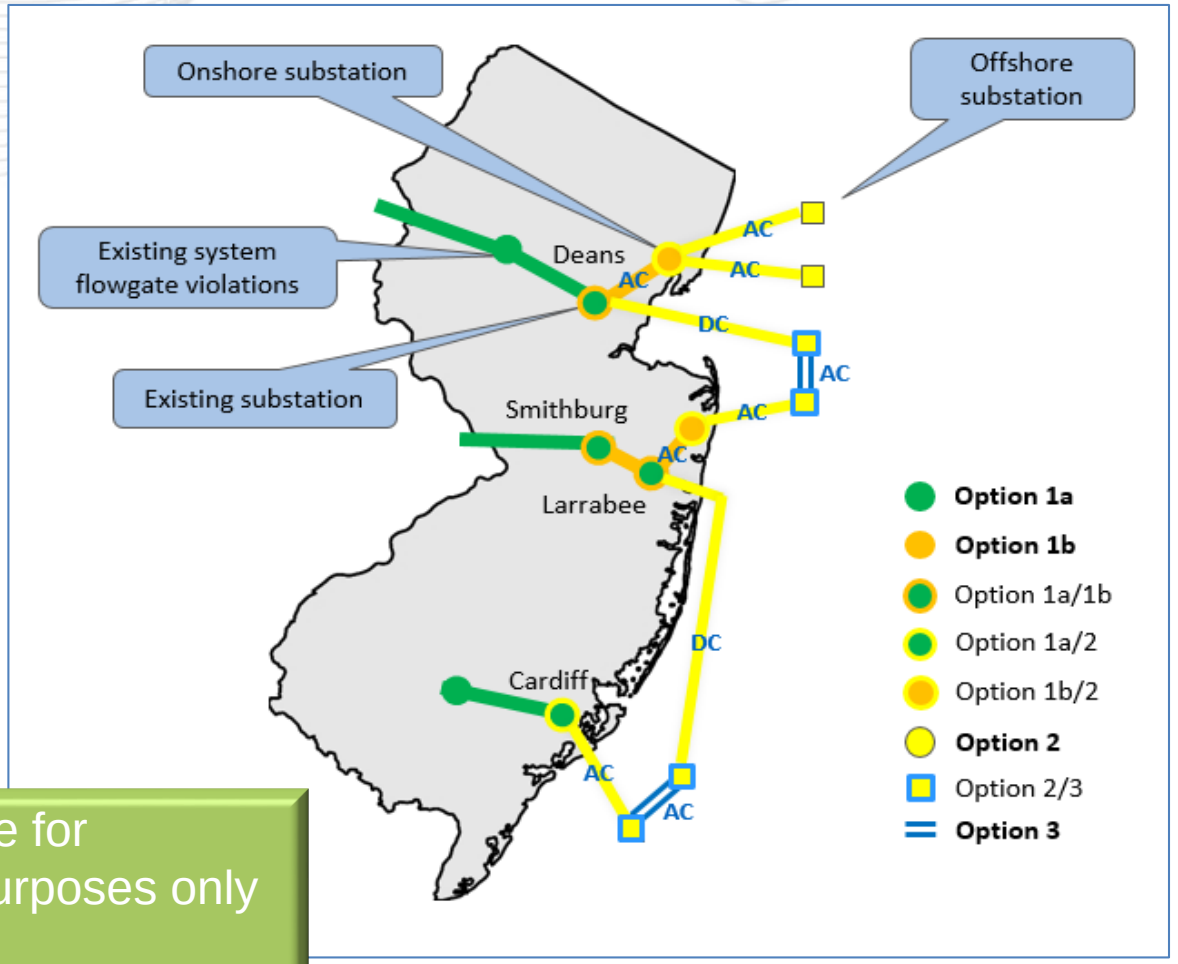
Presented at Special TEAC on May 5, 2021

Project Overview of Options

- Problem Statements:
  - Option 1a - Onshore Upgrades on Existing Facilities
  - Option 1b - Onshore New Transmission Connection Facilities
  - Option 2 - Offshore New Transmission Connection Facilities
  - Option 3 - Offshore Network

Project Overview – Potential Solution Options





Diagrams are for illustration purposes only

Problem Statements

- Four separate problem statements for each of the four options
- Proposals will not impact requirements for first two solicitations
- Proposals can address the default or alternative POIs
  - Alternative POIs will only be considered if sufficient proposals are submitted to address all system needs created by alternative POIs
- PJM/NJBPU will combine full or partial proposals to form complete solution packages
- Proposal submissions should include any linkages with other proposals and impacts of selecting partial solutions

Problem Statements

- Proposal evaluation considerations
  - Largest single contingency, reliability, constructability, cost, risk mitigation, environmental, permitting, experience, flexibility, market value, other metrics
- Deliverables
  - PJM proposal submittal template, BPU proposal supplemental data collection form, technical analysis files, diagrams and schedules, company information

Project Evaluation and Selection

- PJM and NJBPU will evaluate the proposed solutions that address the posted public policy needs.
- Solution packages that will be considered may consist of the following:
  - Combinations of Partial and full proposed solutions
  - Solution packages that achieve less than the full 7500 MWs
  - Solution packages that use alternate POIs

Offshore Transmission Study Group

Contact

SME/Presenter:
Mark Sims,
Mark.Sims@pjm.com

Independent State Agencies Committee

Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com