

Queue Interconnection Studies of Projects Potentially Affecting Neighboring Systems

IPSAC WebEx

Phil Chorazy



Summary

- Projects in the respective ISO/RTO interconnection queues may have potential interregional effects on neighboring systems
 - This requires coordination of studies across ISO/RTO borders
- The Joint ISO/RTO Planning Committee continues to
 - Coordinate system data bases and models
 - Identify and evaluate the performance of projects affecting interregional system performance
- The ISO/RTO interconnection queues can be found at:

<http://www.iso-ne.com/system-planning/transmission-planning/interconnection-request-queue>

[http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents and Resources/Interconnection Studies/NYISO Interconnection Queue/NYISO%20Interconnection%20Queue.xls](http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Interconnection_Studies/NYISO_Interconnection_Queue/NYISO%20Interconnection%20Queue.xls)

<http://www.pjm.com/planning/generation-interconnection.aspx>

- Several projects will now be discussed with the IPSAC
 - Slides show the effective date of November 1, 2017 for every ISO/RTO Queue
 - Changes from the May 19, 2017 IPSAC meeting are shown in red

NYISO Transmission and Generation Projects with Potential Interregional Impacts

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NYISO Interconnection Queue Projects with Potential ISONE/PJM Impact

Transmission Project	Queue Number(s)	Zone(s)	Regions Affected	Proposed I/S Date
West Point Partners HVDC	358	F, H	ISO-NE / PJM	2021/01
Poseidon HVDC	363	K	ISO-NE/PJM	2020/03
Grand Isle Intertie Development	386	D	ISO-NE	2018/06
NAT Energy Highway Project	414	F, G	ISO-NE / PJM	2019
Alps HVDC	448	F	ISO-NE	2019/06
Champlain Hudson (CH) Interconnection	458	J	ISO-NE / PJM	2021/Q1
Hudson Transmission Partners NY to PJM	465	J	PJM	2021/01
Empire State Connector HVDC	506	C, J	ISO-NE / PJM	2021/10
PPL Electric Utilities Compass	518	G	PJM	2023/12
NextEra Empire State Line	530	A	PJM	2020/05
NextEra Segment A	537*	E, F	ISO-NE / PJM	2018/11
NextEra Segment B	538*	F, G	ISO-NE / PJM	2018/11
NextEra Segment B Alt	539*	F, G	ISO-NE / PJM	2018/11
AVANGRID Connect NY Edic – PV	540	E, G	ISO-NE / PJM	2020/12
AVANGRID Connect NY Edic – Ramapo	541	E, G	ISO-NE / PJM	2020/12
National Grid Segment A Edic-New Scotland	542*	E, F	ISO-NE / PJM	2021/12
National Grid Segment B Knickerbocker-PV	543*	F, G	ISO-NE / PJM	2021/12
NAT Segment A Base	555*	E, F	ISO-NE / PJM	2020/01

Note: Projects listed with an * after their queue number are part of the AC Transmission Public Policy Transmission Need evaluation. Only one set of projects will be selected for development.

NYISO Interconnection Queue Projects with Potential ISONE/PJM Impact (continued)

Transmission Project	Queue Number(s)	Zone(s)	Regions Affected	Proposed I/S Date
NAT Segment A Double Circuit	556*	E, F	ISO-NE / PJM	2020/06
NAT Segment A Enhanced	557*	E, F	ISO-NE / PJM	2020/01
NAT Segment A 765	558*	E, F	ISO-NE / PJM	2020/01
NAT Segment B Base	559*	E, F	ISO-NE / PJM	2019/09
ITC Segment A	608*	E, F	ISO-NE / PJM	2020/04
ITC Segment B	609*	E, F	ISO-NE / PJM	2021/04
West Point II HVDC	615	F, H	ISO-NE / PJM	2022/01
Champlain Hudson NS Power Express HVDC	631	J	PJM	2021/12
GridAmerica Holdings Alps - Berkshire	632	F	ISO-NE	2021/09
AVANGRID Oakdale - Lafayette	641	C	PJM	N/A
AVANGRID Multiple Areas	643	C, E	PJM	N/A

Note: Projects listed with an * after their queue number are part of the AC Transmission Public Policy Transmission Need evaluation. Only one set of projects will be selected for development.

NYISO Interconnection Queue Projects with Potential ISONE/PJM Impact (Cont.)

Generation Project	Queue Number(s)	Zone(s)	Regions Affected	Proposed I/S Date	MW
Caithness Long Island II	401	K	ISO-NE /PJM	2018/04	599
Erie Power	440	A	PJM	2019/02	79.4
Cricket Valley Energy Center	444	G	ISO-NE	2017/12	1020
Atlantic Wind Bone Run	466	A	PJM	2019/12	132
Renovo Energy Center	496	C	PJM	2019/09	480
Tioga County Power	498	C	PJM	2020/06	550
RES America Developments Ball Hill Wind	505	A	PJM	2018/09	100
North Bergen Liberty Energy Center	515	J	PJM	2019/06	1000
East Coast Power Linden Cogen Uprate	516	J	PJM	2020/05	234.4
Dunkirk Unit 2	523	A	PJM	2018/08	75
Dunkirk Unit 3 & 4	524	A	PJM	2018/08	370
North Park Energy SW Energy	595	A	PJM	2019/10	110.1
Invenergy Alle Cat II Wind	596	A	PJM	2021/10	381.1
North Bergen Liberty Generating Alternative	668	J	PJM	2021/05	1171

ISO New England Transmission and Generation Projects with Potential Interregional Impacts

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Al McBride



ISO New England Interconnection Requests that had, are having, or will need Interregional Coordination

Active Projects

QP	Type	Requested	Alternative Name	Net MW	ST	OpDate	Interconnection Point	SIS
417	G	4/25/2013	Wind	250	ME	12/30/2016	MEPCO 345 kV	Yes
422	G	7/26/2013	Wind CNR	0	ME	12/30/2016	MEPCO line in Haynesville, ME	No
458	G	4/28/2014	Wind	104	ME	12/30/2017	Haynesville substation	No
459	G	4/29/2014	Wind	104	ME	12/30/2017	Haynesville substation	No
460	G	4/29/2014	Wind	104	ME	12/30/2018	Haynesville substation	No
461	G	4/30/2014	Wind	104	ME	12/30/2018	Haynesville substation	No
462	G	4/30/2014	wind	104	ME	12/30/2018	Haynesville substation	No
470	G	6/19/2014	Wind	600.6	ME	12/30/2018	Primary: Orrington Substations 345kV with two alternatives: Keene Rd. Substation 345kV and the Orrington-Albion Rd 345kV line	No

QP is Queue Position

ETU is Elective Transmission Upgrade

G is Generator

SIS: Yes means report available; No means system impact study is not complete and no report is available

ISO New England Interconnection Requests having, had, or needing Interregional Coordination (Cont.)

Active Projects

QP	Type	Requested	Alternative Name	Net MW	ST	OpDate	Interconnection Point	SIS
471	G	6/19/2014	Wind	600.6	ME	12/30/2019	Primary: Orrington Substations 345kV with two alternatives: Keene Rd. Substation 345kV and the Orrington-Albion Rd 345kV line	No
477	G	9/19/2014	Wind	30	VT	12/31/2017	Future GMP Putnam Road 69 kV Substation on Y-25N Line	Yes
486	G	12/19/2014	Wind	250	ME	12/1/2018	Orrington - Pt. Lapreau 345 kV, Alt: BHE Deblois 115 kV substation	No
498	ETU	2/16/2015	150 kV HVDC Tie - Import Only	400	VT	12/1/2019	NYPA 230/115 kV substation to VELCO 345 kV New Haven Substation	Yes
499	ETU	2/16/2015	300 kV HVDC/AC Tie - Import Only	1090	NH	4/30/2019	HQ Des Cantes substation to PSNH Deerfield substation	Yes
500	ETU	2/16/2015	Keene Road ETU		ME	12/31/2016	Emera Keene Road substation	No
501	ETU	2/16/2015	HVDC Tie - Import only	1000	VT	5/31/2019	HQ 735 kV substation to VELCO 345 kV Coolidge substation	Yes
506	ETU	2/16/2015	Internal HVDC - North to South flow	1000	MA	6/30/2019	NMISA to NSTAR 345 kV K Street substation	Yes
507	ETU	2/16/2015	AC Tie - bidirectional flows	75	ME	7/31/2017	NMISA Mullen substation to Emera Keene Road substation	No

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ISO New England Interconnection Requests having, had, or needing Interregional Coordination (Cont.)

Active Projects

QP	Type	Requested	Alternative Name	Net MW	ST	OpDate	Interconnection Point	SIS
508	ETU	2/16/2015	HVDC from NY to WMA - bidirectional	600	MA	8/30/2019	NY Alps substation to WMECO Berkshire substation	Yes
569	ETU	10/16/2015	HVDC from ME to MA (MA import only)	1200	MA	12/31/2021	Emera Orrington 345 kV substation to Eversource Jordan Rd	No
585	ETU	12/14/2015	HVDC Tie from New Brunswick to Mystic	900	MA	12/30/2020	Mystic 345 kV Substation	No
590	ETU	2/1/2016	AC Line from Aroostook County to Chester and Pittsfield, ME	1200	ME	12/31/2019	Emera Keene Rd substation and CMP Section 3023 345 kV Line	No
592	G	1/21/2016	Pumped Storage Upgrade	66	MA	6/2/2020	GRID 230 kV Bear Swamp substation	Yes
611	G	4/25/2016	Combustion Turbine	109	CT	6/1/2019	Eversource Energy 115kV MiddleRiver Substation Danbury, CT	No

ISO New England Interconnection Requests having, had, or needing Interregional Coordination (Cont.)

Active Projects

QP	Type	Requested	Alternative Name	Net MW	ST	OpDate	Interconnection Point	SIS
627	ETU	12/27/16	HVDC Tie - Import only	1200	NH	12/31/2022	National Grid 230 kV Comerford Substation	No
639	ETU	4/19/2017	HVDC Tie	1000	ME	12/31/2020	CMP Larrabee Rd 345 kV Substation	No
640	ETU	4/21/2017	HVDC Tie - Import only	1200	MA	12/31/2022	Coleson Cove 345kV Substation, New Brunswick to 345kV lines from Pilgrim Substation	No
651	ETU	5/11/2017	AC Tie	600	MA	12/31/2021	NY Alps 345kV substation and EversourceBerkshire 345 kV substation	No
661	ETU	7/20/2017	A345 kV AC line from Quebec to ME	450	ME	9/1/2022	CMP/Avangrid 345 kV Larabee Road	No

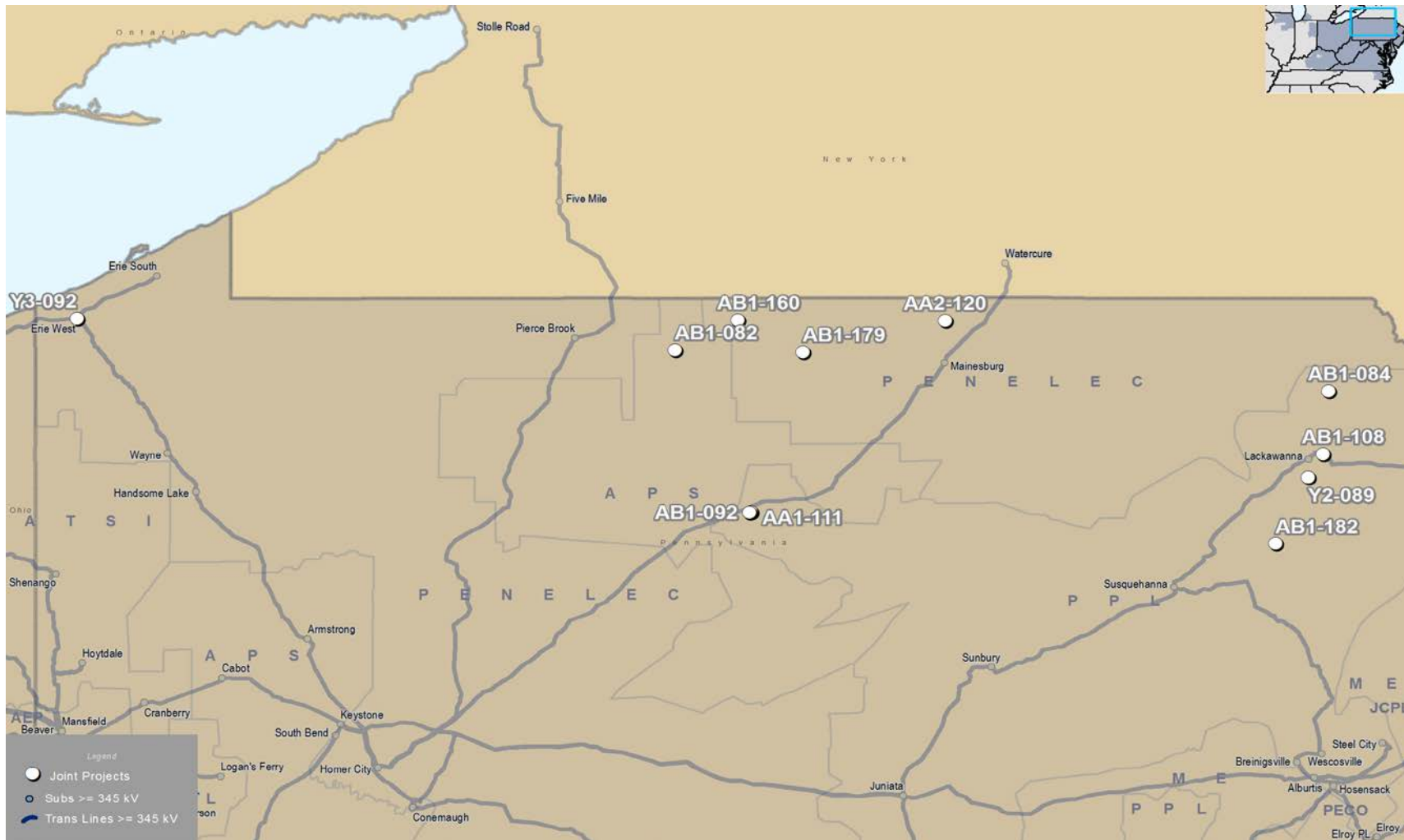
PJM Generation Queue Projects Near the NYISO Border

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Chuck Liebold



PJM Queue Units near PJM-NY Border That Are Jointly Coordinated with NYISO (May 2016 IPSAC)

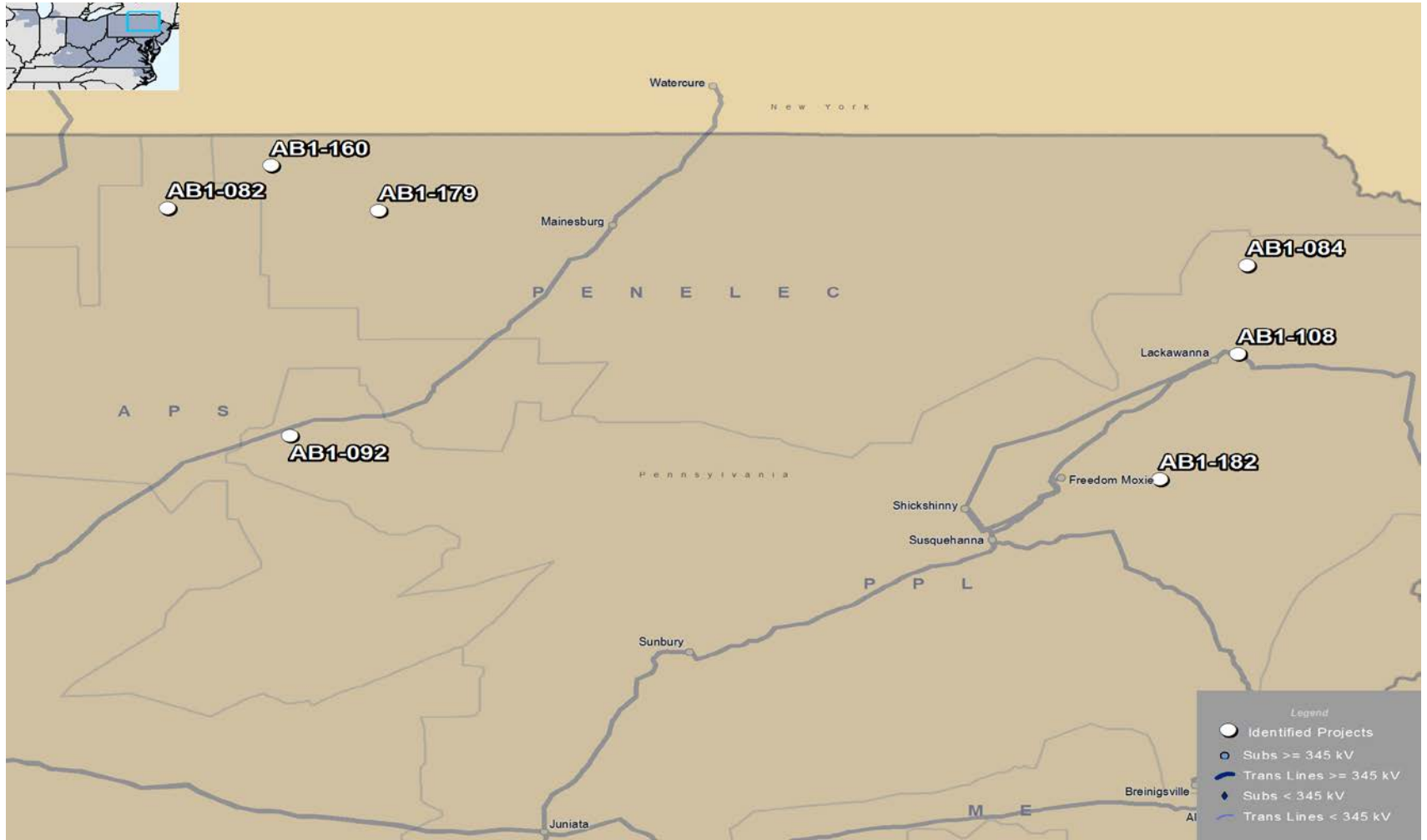


PJM Queue Projects jointly Coordinated with NYISO (May 2016 IPSAC)

Queue ID	Project Description	Transmission Zones	Total Facility Capability (MW)	Capacity Value (MW)	Energy Value (MM)	Project Status	Expected ISD
Y2-089	Increase to X4-048 (PJM project) a combined cycle natural gas facility connected at the Lackawanna 230 kV bus	PPL	1370	370	370	Facility Study in progress	2015 Q2
Y3-092	Merchant transmission project (HVDC) connected at the Erie West 345 kV bus	PENELEC	1000 MW firm injection and withdrawal.			Facility Study in progress	2017 Q4
AA1-111	Natural gas generating facility along the Moshannon-East Towanda 230 kV line	PENELEC	463	463	463	Awaiting customer return of Facilities Study Agreement	2019 Q4
AA2-120	Natural gas generating facility that will interconnect with PENELEC system by either connecting at the Tower Hill 115 kV substation or connecting at the Ward 115 kV substation.	PENELEC	250	250	250	Awaiting customer return of Facilities Study Agreement	2020 Q2

Note on Y2-089: PJM will complete the facilities study which will install the reinforcement to mitigate the impacts to NYISO.

PJM Queue Units near PJM-NY Border That Are Jointly Coordinated with NYISO (Dec 2016 IPSAC)



PJM Queue Projects jointly Coordinated with NYISO (December 2016 IPSAC)

Queue ID	Project Description	Transmission Zones	Total Facility Capability (MW)	Capacity Value (MW)	Energy Value (MW)	Project Status	Expected ISD
AB1-082	Natural gas facility connected as a tap of the Potter-Coneville 46kV line in APS; 19.9 MW total facility capability, 19.9 MW capacity, 19.9 MW energy	APS	19.9	19.9	19.9	System Impact Study	2017 Q4
AB1-084	Natural gas facility connected to the Elk Mountain Tap 69kV substation in PPL; 19.9 MW total facility capability, 19.9MW capacity, 19.9 MW energy	PPL	19.9	19.9	19.9	Facilities Study	2017 Q4
AB1-092	Uprate to the AA1-111 project connected as a tap of the Chapman-Lobo 230kV line in Penelec; 504 MW total facility capability, 17 MW capacity, 41 MW energy	PENELEC	504	17	41	System Impact Study	2019 Q2
AB1-100	480 MW Network Long Term Firm request from the Renovo Energy Center in NYISO into PJM	N/A	480	N/A	N/A	System Impact Study	2020 Q2
AB1-108	Natural gas facility connected as a tap of the Lackwanna-Paup 230kV line in PPL; 485 MW total facility capability, 485 MW capacity, 485 MW energy	PPL	485	485	485	Awaiting customer return of System Impact Study Agreement	2019 Q2
AB1-160	Wind facility uprate to the Z1-069 project tapping the Gold-Sabinsville 115kV line in Penelec ; 90 MW total facility capability, 3.8 MW capacity, 20 MW energy	PENELEC	90	3.8	20	System Impact Study	2017 Q4
AB1-179	Natural gas facility connected at the Sabinsville 34.5kV in Penelec; 19.9 MW total facility capability, 19.9 MW capacity, 19.9 MW energy	PENELEC	19.9	19.9	19.9	System Impact Study	2017 Q4
AB1-182	Storage facility connected at the Bear Creek 69kV in PPL; 20 MW total facility capability, 0 MW capacity, 20 MW energy	PPL	20	0	20	System Impact Study	2016 Q4

Latest Update on PJM Queue Projects near NYISO border (May 2017 IPSAC)

- PJM has sent a list of queue projects from AB2 and AC1 queues located near NYISO border but NYISO indicated that they did not see the need to study those projects.

Latest Update on PJM Queue Projects near NYISO border (Dec 2017 IPSAC)

- For this Dec 2017 IPSAC update, there is no change from the list of coordinated queues presented back in May 2017.

Questions

