

NYS-SIR Differences & Updates for PSEGLI: Cost Sharing, SLD for Solar & ESS Apps, Etc.

*Discussion topic by Industry for 20 Sept 2021
PSEGLI Interconnection Working Group meeting*

Background

1. PSEGLI maintains a "sister document", similar to the NYS [Standard Interconnection Requirements](#) (aka "NYS-SIR"), titled [Smart Grid Small Generator Interconnection Procedures](#) (aka "Smart Grid SGIP" or "SG-SGIP").
2. The last update of the NYS-SIR was in March 2021 which added "interim cost sharing" provisions. Prior to that the last update was in 2019.
3. A final updated July 2021 version of the NYS-SIR has been approved by industry & the JU, following about 8 months of review between parties.
4. The last update of the PSEGLI SG-SGIP was June 1, 2020.
5. We expect the July 2021 version of the NYS-SIR to be approved by DPS with minor, if any, changes in the coming weeks.

NYS-SIR Changes, Topic Tracking, PSEGLI Relevant Topics

1. Please know that ITWG & IPWG groups maintain an online, shared, publicly available, collaborative spreadsheet for tracking SIR related initiatives and changes [here](#) for reference.
2. This has been very helpful in tracking historic and potential future changes to the SIR.
3. Note the final column to the right is to track whether a particular change has been reviewed for inclusion in the PSEGLI SG-SGIP.
4. Presently there are three DPS IPWG & ITWG topics flagged for PSEGLI discussion. This is the genesis for this presentation and discussion.

Topic Title	Group Lead	Round	Prop By	Location(s)	Last Discuss	Discussion Notes History & Conclusions/Outcomes	Discussion Status	Current Revision Next Steps	Master Draft SIR Updated?	Potential Actions for Next Revision? (if applicable)	Has this change been evaluated against the PSEGLI SG-SGIP?
Cost Sharing 2.0 Integration	IPWG	Jul 2021	Ind	App E	Sep 2021	CS 2.0 which accommodates both Utility and Market driven upgrades. Make CS more effective by allowing the triggering project to pay only its share of the upgrade or max upgrades mobilizing cost for market driven upgrades.	OPEN	Integration into SIR	In Process		Under Discussion
Maximum Contingency	IPWG	Jul 2021	Ind		Oct 2020	Agreed to change to 15%; JU implemented on CESIRs from 12/01/2020 and going forward	CLOSED	Update SIR	COMPLETED	None	Under Discussion
Use of SLD in lieu of 3LD	ITWG	Jul 2021	Ind	App. F	Jan 2021	23 Feb 2021, Industry agrees to: - JU only accept for solar applications - JU still required 3LD later in process - JU not accept SLD for ESS applications	CLOSED	Done	COMPLETED	- Ind to provide samples of what is used in other territories - Observe implementation until next SIR rev initiative - Pursue again as applicable	Under Discussion

Relevant Imminent Changes to NYS-SIR (July 2021 ver)

A. Cost Sharing

Background

Cost sharing is a provision which enables a single developer not to have to bear the complete burden of system infrastructure upgrades for new projects. As of March 2021, the NYS-SIR was updated to include Appendix E, which is the "interim cost sharing order".

Request

We humbly request a status update from PSEGLI regarding implementation of "interim cost sharing" or the recently passed "Cost Sharing 2.0" order.

B. Maximum 'Contingency Costs' Inclusion

Summary of change

JU and Industry have agreed that the maximum contingency that can be included in upgrade calculations is 15%, which was previously 25%.

Relevant section in NYS-SIR

Excerpt from: Section 1.C. - STEP 6 - Utility Completes the CESIR

Utility cost estimates provided in the CESIR shall be detailed and broken down by specific equipment requirements, material needs, labor, overhead, and any other categories or efforts incorporated in the estimate. Contingencies associated with the cost estimates shall not exceed +/- 15%.

Relevant section in SG-SGIP

Excerpt from: Section 1.C. - STEP 6 - PSEG Long Island Completes the CESIR

PSEG Long Island cost estimates provided in the CESIR shall be detailed and broken down by specific equipment requirements, material needs, labor, overhead, and any other categories or efforts incorporated in the estimate. Contingencies associated with the cost estimates shall not exceed +/- 25%.

Upgrade Cost Breakdown Sample Tables for JU & PSEGLI

JU member CESIR cost breakdown

Line fuses on [redacted] replaced with a recloser		
Labor	1	
Materials	1	
Overheads	1	
Install 3-328amp line regulators at [redacted]		
Labor	1	
Materials	1	
Overheads	1	
Add switching capabilities to capacitor bank [redacted]		
Labor	1	
Materials	1	
Overheads	1	
Install new primary meter service		
Labor	1	
Materials	1	
Overheads	1	
Engineering support	1	
Project Administration	1	
Subtotal		
25% Contingency		
Taxes		
Total		

Activity	Material Cost	Labor Cost	Overhead Cost	Contingency Cost	Sub Total
Upgrade Two Network Protector Relays and set to Adaptive trip mode ([redacted], [redacted])	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
New Service	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
			Total Cost	[redacted]	

PSEGLI CESIR cost breakdown

Material and Labor	\$ [redacted]
Engineering:	\$ [redacted]
Project Management:	\$ [redacted]
A&G 16% (Administration and General)	\$ [redacted]
Estimated PSEG LI Subtotal:	\$ [redacted]

Request

- As noted in the SG-SGIP, the contingency component of the cost estimate shall not exceed 25%. Please share whether this 25% adder is already included in the CESIR cost estimates already provided by PSEGLI.
- If yes, then we request reformatting of the CESIR cost table to make clear how the contingency costs are being calculated, commensurate with other utilities as above.
- Please consider revision of SG-SGIP contingency costs from 25% to 15%.
- Industry humbly requests a detailed breakdown of Labor, material, overhead and other categories, for each upgrade activity (ex fuses, regulator, cap bank, meter service, etc), similar to those screenshots from other JU members above.

C. SLD in lieu of 3LD for Application for Solar & BESS Systems

Summary of change

JU and Industry have converged on language in the NYS-SIR which allowed for single line diagrams (SLD's) to be submitted in lieu of "three line diagrams" (3LD's) at the application phase. Presently, however, 3LD will still be required as part of the construction phase.

Request

Industry requests that PSEGLI adopt the same requirements as accepted by the rest of NYS.

Position Summary

Single line diagrams should be allowed for balanced three phase installations at the initial application submission as they provide an overall representation of the three phase power system that is being proposed.

1. The intent of the one-line is to provide a simplified notation to represent a three phase power system which clearly provides the details required for an interconnection review.
2. The intent of the CESIR analysis should be to understand if the system as proposed can be interconnected to the utility system at the proposed location.
3. Additional information on the specific wiring of the system and other details available only on the three line should be evaluated by the utility once the project has been approved and the developer agrees that it will be constructed.
4. Detailed schematics are not created until engaging with a switchgear manufacturer and "shop drawings" are developed. Any drawings provided prior to this stage are premature in the construction process and often simply a best estimate.
5. A detailed review of the three line diagram at this stage of the process creates a burden on the developer and utility to provide a detailed review of projects that may not be constructed.
6. Regarding Battery Energy Storage Systems, we believe that the system configuration is often even more subject to change, for a variety of reasons. Development of full 3LD is unnecessarily burdensome.
7. Interconnections will become more complicated due to higher penetration and energy storage. The industry requests that the utilities consider total costs incurred by both parties.
8. Furthermore, it is believed that all utilities begin their substation design with one-lines and Industry feels that practice is also sufficient for DER interconnections.

Relevant Section in NYS-SIR

Excerpt from: APPENDIX F - APPLICATION PACKAGE CHECKLIST

*For solar PV and BESS applications – a single-line drawing that meets the requirements of this Appendix.
For all other types of applications – a three-line diagram that meets the requirements of this Appendix.*

Single line and three-line diagrams must include the following:

1. *Number, individual ratings, connection configurations, and type of all major electrical components such as generating units, step-up transformers, auxiliary transformers, grounding transformers, neutral reactors, switches/disconnects of the proposed interconnection, including the required protection devices (instrument transformer configuration and polarity if applicable) and circuit breakers.*

2. *Proposed inverter protection settings (and relay equipment settings if applicable)*
3. *Proposed generator step-up transformer MVA ratings, impedances, tap settings, neutral connections, winding configurations and voltage ratings.*
4. *For those systems proposed to be interconnected at a system voltage of 1000 volts or greater, the drawings shall be sealed by a NYS licensed Professional Engineer.*
5. *Control system designs, phase sequencing, differential relay settings, ground connections, and metering transformer connections.*

Relevant section in SG-SGIP

Excerpt from: Appendix F -Application Checklist

System Diagram - A three line diagram for designs proposed on three phase systems, including detailed information on the wiring configuration at the PCC and an exact representation of existing utility service. One line diagrams shall be acceptable for single phase installations.

Additional Differences Between NYS-SIR & PSEGL SG-SGIP

There are **other differences** between the two documents. In future meetings, as identified and deemed important, industry may request review and/or potential reconciliation.

Request for PSEGLI to Present Future Proposed Changes to IWG

1. As outlined in this paper, while the SG-SGIP is similar to the NYS-SIR, it is different in many areas.
2. Although PSEGLI generally follows the NYS-SIR revisions, moving forward, in addition to the current process followed by PSEGLI, we humbly request that PSEGLI present a summary of proposed SG-SGIP changes for review in the IWG forum.
3. Please know that we are not looking to mimic the process upstate in any way, and renegotiate anything.
4. Our goal is to simply participate in the early stage discussion about what should or should not be added to the PSEGLI SG-SGIP version, and acknowledge differences, together, via this forum.