



# ITF Update on LIPA's IV&V of OMS 6.7.X Implementation

December 14, 2022

# STATUS OF PSEG LONG ISLAND OMS REDEPLOYMENT

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## **PSEG Long Island redeployed CGI Outage Management System (OMS) v6.7.8 into production on February 6, 2022**

- OMS v6.7 failed during Tropical Storm Isaias in August 2020
- Re-deployment of OMS v6.7 occurred in February 2022
- Smart meter integration into OMS was deployed in June 2022. Performance (stress) testing on OMS-AMI integration was completed in September 2022
- **PSEG Long Island reports that the system is functioning as expected**

# KEY ELEMENTS OF LIPA'S IV&V OF OMS 6.7X

**The overall objective of LIPA's Independent Verification and Validation (IV&V) is to reduce risk to LIPA and its customers**

- **Functional Testing**

This category of IV&V testing ensures that the systems functional requirements are being satisfied. This consists of regression testing, testing of new functionality, and edge-case testing

- **Document Reviews**

Document reviews ensure that key artifacts such as requirements, design specifications, test plans, test scripts, and test cases are properly constructed and of good quality

- **Code Reviews**

Code reviews involve detailed review of programming code to ensure correctness of implementation. This applies especially to new code implemented

- **Performance (Stress) Testing**

Performance testing ensures that the system behaves robustly during high load as one would expect during severe storms

## IV&V: FUNCTIONAL TESTS

- On September 19, PSEG Long Island resubmitted 92 scripts of the original 129 scripts that failed to run reported to the Board in July
- LIPA has submitted an additional 200 test scripts that failed to run to PSEG Long Island to correct since the July Board meeting

	Test Points	Tests Run	Pass %	*Failed to Run %
July	535	358 (67%)	229 (64%)	129 (36%)
September	642	581 (90%)	279 (48%)	302 (52%)
November	646	616 (95%)	421 (68%)	143 (23%)
<b>December</b>	<b>646</b>	<b>645 (99%)</b>	<b>451 (70%)</b>	<b>141 (22%)</b>

- PSEG Long Island has committed to review all defective scripts and correct them so that they can be executed in a documented, repeatable manner
- LIPA has re-tested the corrected scripts as they have become available. LIPA will be working through each of the failed to run test scripts with PSEG Long Island until all issues are resolved

## IV&V: STRESS TEST

**PSEG Long Island deferred its formal DPS-mandated 24-hour tests to December 12, 2022 because of errors arising during their 12-hour performance tests that required specific bug-fixes (IV&V Team will be analyzing the results after detailed test results are made available.). The IV&V Team was compelled to delay its Phase II IV&V performance test until mid-January to accommodate PSEG Long Island's schedule. The planned design for Phase II performance test will include additional stress scenarios not considered in the PSEG Long Island performance tests. The test will have the following characteristics:**

- Additional outage intensity beyond Isaias to simulate potential higher-intensity storms
- Higher level of customer outage reporting during SCADA-triggered outage events
- Several repeat outages on the same circuits resulting in additional non-duplicate outage reports submitted into OMS
- Increased customer-initiated status calls to cover a majority of the customers out in the previous hour
- The test scenarios will include AMI events in addition to the SCADA inputs to better model real-life storm scenarios.

LIPA IV&V Team is also developing specific recommendations for PSEG Long Island to improve the content of the formal performance test by (a) incorporating additional critical scenarios for testing, (b) rearchitecting the test design to ensure reproducibility, and (c) consolidating the test activities to fewer, more comprehensive test plans





**Discussion**

*Questions?*