



OMS Testing Update

May 10, 2023

STATUS OF PSEG LONG ISLAND OMS REDEPLOYMENT

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
- 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

STATUS OF PSEG LONG ISLAND OMS IV&V: FUNCTIONAL AND STRESS TESTS

	Test Points	Tests Run	Pass %	*Failed to Run %	Removed
OMS Functional Tests	645	644 (99%)	527 (82%)	11 (2%)	107 (16%)

- 8 out of the 11 failed-to-run functional tests are awaiting re-enablement of the test phone number for making interactive voice response system calls. The remaining 3 are with CGI.
- **CGI has been unable to find the root cause of the failure of the January 12, 2023, performance smoke test conducted by LIPA.**
- LIPA re-ran the January 12th 5-hour performance test on April 27, 2023, in order to reproduce the failures and help find the root cause of the prior failure. We were not able to observe the failure symptoms during this test as we did during the January 12th test.
- While the team could not reproduce the symptoms, the root cause for the January 12th test failure is still unknown. However, given that the problem has NOT been reproducible and given finite resources and time, the team has decided to concluded that it is not cost-effective to pursue this test. The IV&V Team will, however, carefully monitor the results of the upcoming DPS tests for potential anomalies.

PHASE II IV&V OF OMS

Status of Phase II IV&V

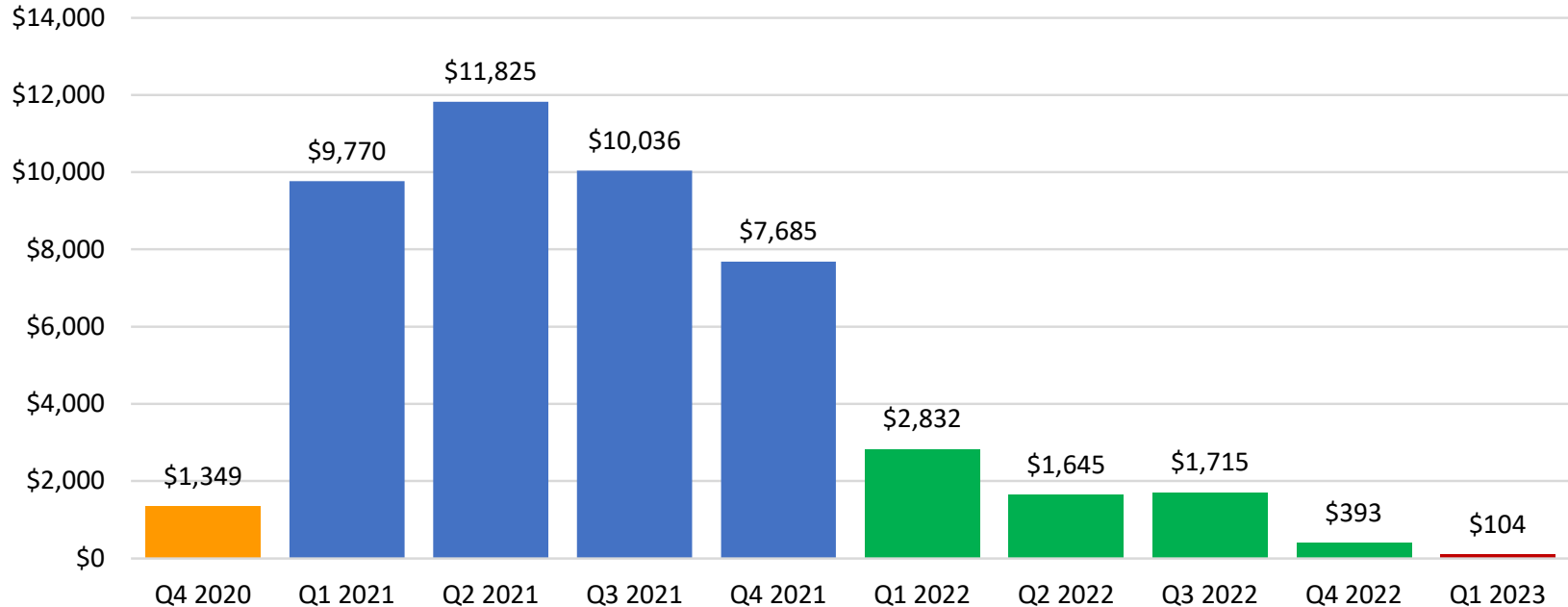
1. LIPA has now concluded the Phase II IV&V of the Outage Management System. A Final Report for Phase II IV&V will be presented to the Board at its June meeting.

Summary of General Findings

1. PSEG Long Island has had great difficulty in managing the remediation processes for the OMS and customer communications systems. The unfortunate outcome of this deficiency is the length of time (> 2 years) and the amount of expenditure (\$47 million) that remediation has consumed.
2. Deficiencies in IT management controls, such as planning, vendor management, cost management, project management, and quality control resulted in scope changes, protracted implementation schedules, and cost overruns.
3. We finally have a working version of OMS 6.7 This started as an upgrade project when the original system failed followed by the long and expensive remediation. This is an enormous amount of money that demonstrates the need for better project management and tighter controls when managing vendors and consultants.
4. LIPA's final report in June will document these findings and provide specific recommendations.

OMS REMEDIATION EXPENSE – MARCH 2023

TOTAL = \$47,354



(\$ in thousands)

	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	TOTAL
TOTAL	\$1,349	\$9,770	\$11,825	\$10,036	\$7,685	\$2,832	\$1,645	\$1,715	\$393	\$104	\$47,354



Discussion

Questions?