

2020 Enterprise Project Candidates

Product and Project Management

9/9/19

(No Changes from the BPWG 8/28/19 Meeting Materials)

This document represents potential 2020 Enterprise project candidates. Enterprise projects are internal-facing technology and back office support projects that have no market rule changes. These project candidates and their corresponding descriptions reflect information known about each of the project candidates as of the date of this document.

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Introduction

This document represents potential 2020 Enterprise project candidates. Enterprise projects include internal-facing technology and back office support projects that have no market rule changes. The list includes projects that may be noticeable to Market Participants. These project candidates and their corresponding descriptions reflect information known about each of the project candidates as of the date of this document. Projects are classified as four project types.

Project Type	Description
Mandatory	Strategic Initiatives and FERC Orders. These projects will be included in the budget
Continuing	Approved in a prior year and have progressed to either software design or development complete. Additional projects may be classified as Continuing based on stakeholder feedback. These projects will be included in the budget
Future	Consensus from stakeholder discussions of this projects priority relative to other projects has resulted in these projects NOT being prioritized and initiated in the coming budget year. Resources, time constraints, stakeholder feedback, and other project dependencies have been taken in to consideration
Prioritize	Projects to be prioritized and included in the budget based on a feasibility assessment taking into consideration resources, time constraints, stakeholder feedback, priority score, and other project dependencies. Market projects are included in the stakeholder survey

Enterprise projects are NOT included in the stakeholder survey. Enterprise projects that are Prioritize (not Mandatory, Continuing, or Future) are scored by the NYISO during the prioritization phase. These projects are included in the budget based on a feasibility assessment taking into consideration resources, time constraints, stakeholder feedback, priority score, and other project dependencies. The table that follows identifies project type for each of the projects included in this document.

Project Name	Product Area	Project Type
CMS Minimum Participation Criteria Enhancements	Business and Finance Products	Prioritize
Customer Relationship Management (Salesforce CRM) Enhancements	Business and Finance Products	Prioritize
Enterprise Information Management - Data Integration Phase IV	Business and Finance Products	Continuing
FERC Form1 Redesign	Business and Finance Products	Mandatory
Financial Risk Assessment and Scoring Enhancement	Business and Finance Products	Continuing
Oracle Financials Upgrade	Business and Finance Products	Continuing
Rate Schedule 12 Settlement	Business and Finance Products	Continuing
Transactions Modifications and Confirmation Tool	Business and Finance Products	Prioritize
DAM Congestion Settlement Re-Allocation	Energy Market Products	Prioritize
ACC Control Room Renovations	Enterprise Products	Prioritize
Access Management	Enterprise Products	Prioritize
Advanced Test Automation	Enterprise Products	Prioritize
Application Platform Upgrade - 2020	Enterprise Products	Continuing
Database Upgrade and Platform Migration	Enterprise Products	Continuing
IT Infrastructure Automation	Enterprise Products	Continuing
IT Service Management Improvements	Enterprise Products	Prioritize
Network Infrastructure Upgrade	Enterprise Products	Continuing
Automated Default Bid Mitigation	Operations & Reliability Products	Continuing
EMS/BMS Operational Enhancements	Operations & Reliability Products	Prioritize
E-Tagging Refresh and Performance Improvements	Enterprise Products	Prioritize
GFER Upgrade	Enterprise Products	Prioritize
NextEra Transmission Owner Integration	Operations & Reliability Products	Mandatory
Transmission and Generation Scheduling System (TAGSS)	Operations & Reliability Products	Continuing

Business and Finance Products

1 CMS Minimum Participation Criteria Enhancements

All Market Participants are required to meet Minimum Participation Criteria in order to participate in any of the NYISO Markets. These requirements include, but are not limited to, officer certification, capitalization, financial statement reporting, and Market Participant risk policies and procedures.

This project will automate the CMS to track receipt of the officer certification forms and capitalization by all Market Participants.

2 Customer Relationship Management (Salesforce CRM) Enhancements

This project will enhance the Customer Relationship Management tool, which the NYISO implemented in Salesforce in 2017 and uses to manage customer registration and communication. The project will allow for improved use of the Salesforce CRM tool and increase process efficiencies, thus providing improved opportunities for customer service.

The project will allow for the NYISO Stakeholder Services and Member Relations departments to more effectively serve NYISO customers. The project will provide efficiency in processing Market Registration data and customer inquiries, while maintaining high levels of customer service.

3 Enterprise Information Management – Data Integration Phase IV

This project is a continuation of the multi-year strategic initiative focused on bringing together process, design, and technology to satisfy market and operations information needs at the NYISO. This phase of the project will migrate the Customer Settlements Data Mart to a new platform and architecture, positioning the NYISO to upgrade the Oracle database to the latest version and to retire Oracle Warehouse Builder.

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4 FERC Form 1 Redesign

This project will procure and install, or will create, a utility to enter and submit FERC Form 1 data in a new electronic format as being prescribed by FERC and NAESB. This financial data is currently provided to FERC using FERC’s online Form 1 and is supplied quarterly and annually. Currently this is a 2019 project but the NAESB standards have not yet been released. This delay moves the projected deliverable into the 2020 projects timeframe.

5 Financial Risk Assessment and Scoring Enhancement

There are currently a number of manual processes being utilized in the NYISO financial risk assessment process to evaluate each Market Participant’s potential risk exposure. This project, which was started in 2019 with functional requirements, will develop and deploy the additional functionality, including reporting, for the NYISO’s automated financial risk assessment process. It will also provide for automation of the NYISO Credit Scoring Model. These updates are intended to increase efficiencies in identifying and mitigating credit risk.

6 Oracle Financials Upgrade

The NYISO relies on Oracle E-Business Suite (EBS) for its accounting and financial reporting functions. Oracle has announced that support for the version of EBS currently in use at the NYISO will end on 12/31/2021. In order to continue using a supported version of EBS, the NYISO must upgrade to a newer version of the product before that date. This will ensure that security patching, service packs, enhancements, and access to product support remain available.

7 Rate Schedule 12 Settlement

This project will implement settlements for Rate Schedule 12 to allow for the NYISO’s settlements systems to provide for cost recovery, consistent with Attachment S to the OATT, for the portion of a Highway System Deliverability Upgrade (SDU) not funded by contributing Class Year Developers. The NYISO began this project in 2017 by developing the functional requirements and is scheduled to deploy the initial functionality in 2019. This 2020 project would complete the functionality needed for settling under Rate Schedule 12 per the NYISO tariff.

8 Transaction Modifications and Confirmation Tool

This project will develop a tool for the Operations and Customer Settlements departments to assist in the validation of external transaction schedules. Following the implementation of 15-minute and CTS scheduling protocols, existing forms require a redesign to streamline use and increase efficiencies within Operations to allow for continued prioritization of transactions for operational purposes. Additionally, Customer Settlements staff use multiple forms that were originally developed to support the needs of Operations staff. Customer Settlements forms require modifications to provide the means to efficiently administer the necessary economic validation process of transaction adjustments.

Energy Market Products

9 DAM Congestion Settlement Re-Allocation

The NYISO has a robust set of procedures and tools for performing the monthly DAM Congestion settlements specified in Attachment N of the OATT. A portion of this process is supported by outdated software that was developed in 2007 by an outside vendor. Maintaining this externally-developed code is difficult and time-consuming and does not comport with the NYISO's IT application management process and standards. Creating an in-house automated replacement will improve application security and data integrity, ease of use, reliability of results, and improve the NYISO's ability to keep the underlying technologies of the application current.

An automated and improved DAM Congestion Settlement Re-Allocation process would also improve the reliability of its calculations by reducing the need of ad-hoc adjustments.

Enterprise Products

10 ACC Control Room Renovations

The NYISO is proposing a multi-year project to renovate the Alternate Control Room located at the Carman Road facility in Guilderland. The primary business driver for this project is the need to eliminate the functional differences between NYISO's Primary and Alternate Control Rooms.

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The Primary Control Room, located at the Krey Blvd facility in Rensselaer, went on-line in November, 2013. This Control Room has state-of-the-art monitoring tools and situational awareness displays including a Video Display Wall. In addition, the Operations staff is strategically placed on the Control Room floor to most effectively facilitate critical communications. After five years of operating in the new Control Room, NYISO Operations staff depend on the enhanced tools and staff configuration to most efficiently operate the Bulk Electric System.

When Operational Control is moved to the Alternate Control Room, the functional differences between the two Control Rooms can present some challenges to NYISO's Operations Staff. Commissioned in 1969, the Alternate Control Room utilizes technology and systems from that era that are significantly different from today's state-of-the-art systems. This project will eliminate the functional differences between the two Control Rooms. The result will be the same monitoring tools, situational awareness displays, and lines of communication in both Control Rooms.

11 Access Management

This project will continue to improve access management (AM) controls for cyber systems and physical facilities. The AM 2020 project builds upon the completed deliverables from earlier AM project phases. This phase seeks to further extend automated provisioning capabilities and implement infrastructure upgrades for enhanced security and improved system availability.

12 Advanced Test Automation

This project is a multi-year effort for the NYISO to meet the challenge to continuously maintain and improve the quality and efficiency of software systems testing. Production releases at the NYISO introduce increased complexity in development and testing efforts and require manual testing. Test automation is an effective method to gain efficiencies while increasing testing effectiveness. This project seeks to automate test scripts and to provide significant test automation for multiple NYISO applications.

13 Application Platform Upgrade – 2020

This project is a continuation of a multi-year effort to replace aging server infrastructure and migrate to a new application platform standard. This technology lifecycle project is necessary to ensure the ongoing availability of security patches and vendor support for critical systems.

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14 Database Upgrade and Platform Migration

This project is a continuation of a multi-year effort to upgrade the NYISO’s database systems and to begin migration to a new hardware platform to improve the overall performance of critical databases. This technology lifecycle project is necessary to ensure the ongoing availability of security patches and vendor support for critical systems.

15 IT Infrastructure Automation

This project is a continuation of a multi-year effort to support the implementation of tools and processes to automate a number of infrastructure management functions that support critical systems.

16 IT Service Management Improvements

IT Service Management (ITSM) refers to the activities performed to design, plan, deliver, operate, and control the IT services offered to the NYISO business. A properly implemented ITSM solution increases the speed, cost-efficiency, and effectiveness of IT services, reduces and helps prevent IT incidents, enables employees to be more productive, and reduces risk by enforcing compliance regulations. This project aims to replace NYISO’s legacy ITSM tool, which is approaching its end-of-support date, with a modern solution that will provide these benefits and continue to support NYISO’s SOC 1 controls and NERC CIP requirements.

17 Network Infrastructure Upgrade

This project is the final phase of a multi-year project to replace and/or upgrade network infrastructure components. This technology lifecycle project is necessary to maintain system performance and availability, as well as ensure ongoing vendor support for critical systems.

Operations & Reliability Products

18 Automated Default Bid Mitigation

Once a generator has failed both a conduct and impact test for withholding, it may be subject to mitigation. Currently, there is no software to systematically enforce the mitigation. This project seeks to implement automated software changes to ensure that when mitigated, a generator's bids will conform to the Tariff rules for Default Bid Mitigation.

This will reduce the potential of generators exercising market power and help ensure that the protections in the NYISO's tariffs are properly enforced.

19 EMS/BMS Operational Enhancements

The NYISO is completing a multi-year project in 2019 to upgrade both the Energy Management System (EMS) and the Business Management System (BMS). The EMS encompasses the core reliability functions used by the system operators such as load flow and contingency analysis. The BMS encompasses the day ahead and real time energy market functionality. As the NYISO prepares for the 2019 deployment and gains expertise on the new system, it is expected that additional functional enhancements will be identified to implement as post go-live changes in 2020.

This project seeks to implement enhancements to the EMS/BMS systems that were identified during the 2019 EMS/BMS upgrade.

This project ensures that the NYISO has an optimal solution for the critical business functions of system reliability and energy market management.

20 E-Tagging Refresh and Performance Improvements

The NYISO E-Tagging software is a custom application designed to provide Market Participants and other control areas with greater visibility into the NYISO's marketplace data in relation to corresponding E-Tags. The software provides automated integration with the OATI E-Tagging authority for responding to E-Tag requests and updating E-Tags to reflect NYISO schedules.

This project will update the software to improve performance and prepare for expandability to support future scheduling initiatives. This project will improve the NYISO's ability to integrate new functionality and make the system more robust.

21 GFER Upgrade

The NYISO Generator Fuel and Emissions Reporting (GFER) software is a custom application designed for Market Participants to submit fuel and emissions information to the NYISO, which gives the NYISO more visibility into the fuel availability and emissions limitations of the NY generation fleet.

This project will update the software to improve usability, efficiency, and maintainability of the application. This project will improve the NYISO's ability to integrate new functionality and make the system more robust.

22 NextEra Transmission Owner Integration

The NYISO recently approved the Empire State Line proposal by NextEra Energy to build a new 345 kV transmission line and switchyard in Zone A in Western NY, plus upgrades and expansions to existing transmission facilities. The project is planned to be in service by June, 2022. As a result of the expansion, NextEra will become a Transmission Owner/Operator within the NYISO footprint. This project will consist of component research and requirements definition in 2020 to expand systems and protocols to accommodate the NextEra integration to meet the project in-service date.

23 Transmission and Generation Scheduling System (TAGSS)

The NYISO currently uses applications developed by a third party—TOA (Transmission Outage Application) and iTOA (latest version of the TOA software)—for transmission and generation outage scheduling. TOA is used internally to facilitate coordination of NYISO approval of transmission and generator outages requested by TOs (Transmission Owner) and GOs (Generation Owner) and iTOA is the external interface used by GOs and TOs. The dated platform of TOA and iTOA presents a growing technical risk to the NYISO and limits the NYISO's ability to implement new functionality.

The Transmission and Generation Scheduling System (TAGSS), a software application that the NYISO began developing with a third party vendor in 2018, is the replacement for TOA and iTOA based on a modern technology stack. The NYISO is continuing to develop the application in 2019 and expects to select a vendor partner to accelerate development of the application in 2020 with anticipated completion in 2021.