



Oregon

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January 27, 2022

The Honorable Senator Rachel Armitage, Co-Chair
The Honorable Representative Nancy Nathanson, Co-Chair
Joint Legislative Committee on Information Management and Technology
900 Court Street NE
Oregon State Capitol
Salem, OR 97301-4048

Dear Co-Chairpersons,

Senate Bill 5516 (Chapter 673, Oregon Laws 2021) included a budget note directing DEQ to provide a comprehensive report on the status of the agency's Environmental Data Management System (EDMS) project to the Joint Legislative Committee on Information Management and Technology (JLCIMT) during the 2022 Legislative Session. This document contains the report in accordance with that budget note.

The report includes the following sections:

- Project background
- Project governance, management, and staffing
- Project scope, schedule, and budget
- Current or planned procurements/contracts (at the time of the report)
- Legacy system and data conversion planning/activities
- Risks and challenges
- Independent quality assurance findings

Project background

DEQ manages environmental data with antiquated and inefficient systems, and as a result, staff experience numerous problems completing some of the agency's core business functions, including those related to permitting, public data requests, and federally mandated data exchange.

As demands on DEQ have increased, agency-wide and program-specific IT systems have not kept pace nor been able to leverage technology advances now available. Some of the most urgent issues and needs regarding DEQ's current portfolio of environmental data systems include aging and difficult to maintain systems; siloed systems that inhibit data sharing; lack of integrated, standardized technology across systems; and lack of support for electronic invoicing and payment. These challenges have resulted in a backlog of permits awaiting issuance, modification, or renewal, as well as DEQ non-compliance with federal electronic reporting requirements.

Modernizing DEQ's core environmental data systems has been a steady process of careful analysis and planning. DEQ has been coordinating closely with the Oregon Department of Administrative Services, Enterprise Information Services, Cyber Security Services, and Department of Justice.

DEQ created a high-level business case and achieved Stage Gate 1 for an environmental data management system from Oregon State Chief Information Officer in February of 2017. The 2017 Legislature provided \$750,000 General Fund, and 2018 Legislature provided \$1,083,217 General Fund and \$5,017,357 bonding authority that support DEQ's work on the project work through Stage Gate 3. DEQ achieved Stage Gate 3 on April 25, 2019, and promptly began implementation planning with the EDMS platform vendor selected through a competitive RFP process, EnfoTech & Consulting, Inc. The EDMS project is being implemented using EnfoTech's EN Suite cloud hosted Commercial Off The Shelf (COTS) system.

After signing the contract with EnfoTech, implementation work continued for approximately one year and DEQ began launching agency programs into production in May of 2021. Additional launches are being coordinated in batches, with the final batch expected to launch in the second quarter of 2023. In preparation for its first launches, DEQ branded the EDMS system Your DEQ Online (YDO). The YDO term is replacing references to EDMS in agency communications, including the duration of this document.

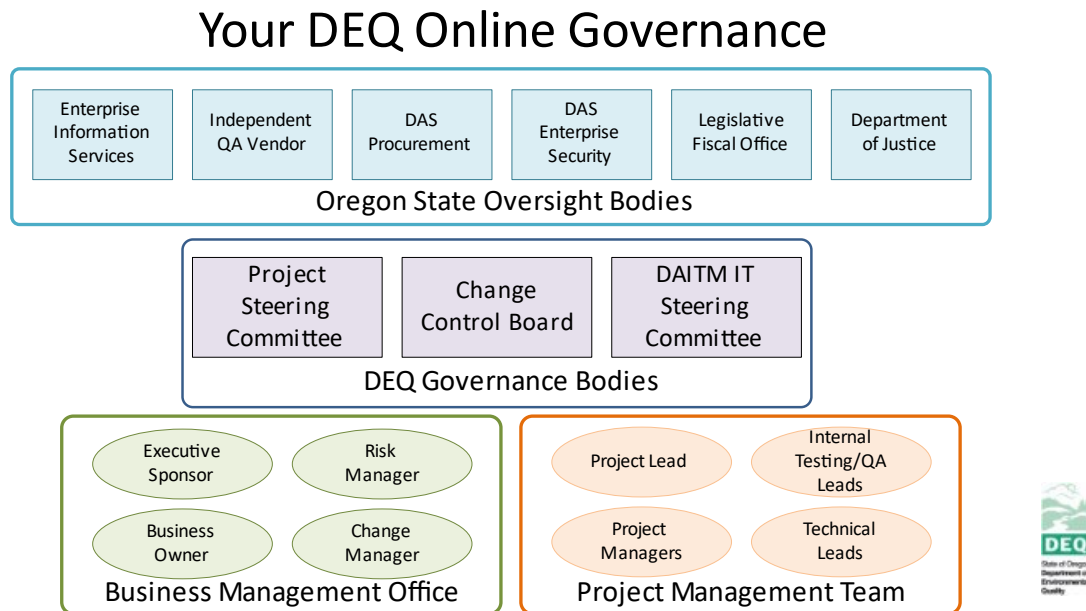
Continued investment in Your DEQ Online will meet DEQ's need for a shared modern technical platform for data management and business process management across the agency. A more up-to-date, integrated system will streamline data sharing and workflows and increase staff productivity. As a result, DEQ will more easily meet regulations, decrease permit backlogs, and provide quicker and more meaningful communication with external stakeholders.

The Your DEQ Online Project:

- Supports Office of the Governor Executive Order 09-10 regarding "Regulatory Streamlining" by creating a single portal whereby electronic reporting to DEQ will be easily facilitated, allowing multiple programs and divisions to receive reports and documentation (official records) through the same process, and using the same infrastructure.
- Supports Office of the Governor Executive Order 06-02 regarding "Sustainability for the 21st Century" by reducing (with the eventual goal of eliminating) paper report and document submittals by regulated entities. Some reports include more than 100 pages of information, and sometimes multiple copies are required.
- Aligns with the governor's priority, "Responsible Environmental Stewardship." Oregon's natural environment is not only beautiful, it is essential to our economy and quality of life.
- This project would also prepare DEQ for implementation of new rules proposed by the governor as part of the Cleaner Air Oregon plan by establishing an efficient framework for environmental permitting and reporting. DEQ could easily enhance YDO to support new requirements, rather than trying to expand environmental regulations while still relying on dated systems and inefficient processes.

Project governance, management, and staffing

The YDO project is overseen by the EIS Stage Gate process and the agency has developed a robust governance model to ensure quality, integrity, and transparency. Figure 1 below outlines the YDO project’s governance model.



External quality assurance oversight services are required by the State of Oregon for all IT projects exceeding \$5 million. The YDO project has contracted the services of a quality assurance contractor, Public Knowledge, Inc., to review project processes and work products, prepare monthly and quarterly reports, and provide updates to DAS Enterprise Information Services (EIS) and Legislative Fiscal Office (LFO).

The YDO Steering Committee is composed of executives, managers and subject matter experts who provide oversight to the YDO project and make project recommendations to the agency’s Leadership Team. The steering committee serves as a decision-making governance body for the YDO project, covering all project phases: initiating, planning, executing, monitoring, and closing. The committee has direct oversight of the YDO project and is responsible for escalating decisions to the Leadership Team when required. The committee also serves as the project’s Change Control Board, which includes reviewing and approving proposed changes to the project’s scope, schedule, and budget.

There are 13 voting members of the YDO Steering Committee that represent the major agency divisions and regions, as well as five non-voting members that include project management support, change management support, risk manager, an Enterprise Information Services representative, and an independent quality assurance representative.

DAITM stands for the DEQ Agency-wide IT Management board, and the group serves as the agency’s IT steering committee. DAITM provides governance over DEQ’s IT projects by (1) reviewing the business case, rationality, and completeness of project proposals; (2) determining prioritization to create the most possible value for DEQ; and (3) monitoring the progress of

current projects and offering guidance to project teams as needed. DAITM receives a live monthly status report on YDO project activity and provides real-time feedback during the report. DAITM also oversees the agency's IT Change Advisory Board (CAB), which reviews and approves proposed changes to IT systems and services that are live in production. Configuration changes to programs already live in YDO as well as go-live proposals for upcoming YDO launches are reviewed and approved by the CAB.

The YDO project is managed by a dedicated project team with 11 full-time staff and one part-time staff member. Roles on the team include a Project Lead, Project Manager, Risk Manager, Change Manager, Business Analyst, and technical staff responsible for operational support. Additional staff have been temporarily assigned from other agency divisions to support project activity, and over 150 subject matter experts from agency programs and divisions have contributed to system design and testing.

The YDO project team is located within DEQ's Information Services division, which is led by the agency's Chief Information Officer. The Chief Information Officer also serves as the project's Business Owner, while the agency's Director serves as the project's Executive Sponsor.

Project scope, schedule, and budget

Scope

The YDO project scope includes functionality to manage regulated service (permit, certification, and license) business processes across the agency. Scope creep, which refers to the expansion of a project's requirements after the project begins, is managed by the YDO Steering Committee, which functions as the project's Change Control Board. In that capacity, the steering committee reviews, evaluates, approves and denies project changes.

Scope implementation is managed and tracked using the YDO Requirements Traceability Matrix (RTM) throughout the project lifecycle. The YDO RTM compares the system functionality delivered by EnfoTech against the requirements in the EnfoTech contract, and the detailed requirements that were created collaboratively between DEQ and EnfoTech and distilled into Functional Requirements Specifications (FRS) and System Configuration Documents (SCD).

At a high level, the scope includes:

- Enterprise regulated service (permit, certification, and license) administration
 - Applications, authoring, issuance, compliance, enforcement, invoices, and payments
- Data management including access to legacy/historic data
 - Centralized entity and facility management data integration
 - Centralized invoicing and accounts receivable data
 - Centralized compliance and enforcement data
- Document management integration including access to select legacy/historic documents
- DEQ staff portal for staff to manage regulated services
 - Receiving regulated service applications and data
 - Authoring and issuing regulated service documents
 - Access to documents and data for regulated services
 - Geospatial support
 - Calculate and process payment from regulated community

- Electronic signatures
- Mobile technology
- Integration with relevant EPA data exchanges
- Workflow to match regulated service processes from application, authoring, issuance, administration, compliance, and enforcement
- Online portal for regulated community to support permitting functions
 - Regulated service application
 - Submit payment for regulated services
 - Check status of regulated service
 - Receive information
- Online public portal
- Access to public permit documentation

Approximately 27 agency programs are included in the YDO project’s scope, and implementation planning has been divided into three groups, referred to as waves. The first wave of agency programs was successfully launched in 2021. The remaining programs are scheduled for implementation in 2022 and 2023. Figure 2 below illustrates the in-scope programs that have and have not yet launched as of January 25, 2022.

CURRENTLY LIVE	2022 – 2023 PLANNED LAUNCH	
<p>Air</p> <ul style="list-style-type: none"> - Asbestos Program - Gasoline Transporter Permits - Greenhouse Gas Reporting for Electricity and Natural Gas Suppliers - Climate Protection Program, pt 1 <p>Land</p> <ul style="list-style-type: none"> - Hazardous Waste <p>Water</p> <ul style="list-style-type: none"> - Industrial & Construction Stormwater - Underground Injection Control - 401 Certification 	<p>Land</p> <ul style="list-style-type: none"> - Environmental Cleanup - Solid Waste Permits - Underground Storage Tanks (UST) - UST & Heating Oil Tank Licensing <p>Water</p> <ul style="list-style-type: none"> - WPCF Onsite Certification - Wastewater Operator Cert - Onsite Sewage Disposal Service - WPCF Onsite Permits - NPDES & WPCF General Permit - NPDES & WPCF Individual Permits 	<p>Air</p> <ul style="list-style-type: none"> - Greenhouse Gas Reporting for Permitted Sources - Air Contaminant Discharge Permits (ACDP) - Title V Permit Program - Area Source Registration - Emissions Inventory Reporting - Climate Protection Program pt 2 <p>Agency-wide Service</p> <ul style="list-style-type: none"> - Complaints
<p>Each program’s move to YDO includes related data migration, invoicing and enforcement functionality.</p>		

● **Figure 2: Agency programs planned for implementation in Your DEQ Online**

Over time, DEQ programs have found and will continue to find additional needs that were not described in the original project requirements. These items are taken to the steering committee

for review. If approved by the committee, change orders are created, incorporated into contract amendments, and implemented.

In addition to DEQ's project scope, in 2021 DEQ, DAS EIS, and the Oregon Department of Geology and Minerals (DOGAMI) began to explore the potential use of YDO for providing online permitting for DOGAMI. This action was in response to the following budget note from DOGAMI's 21-23 Budget Bill

(<https://olis.oregonlegislature.gov/liz/2021R1/Measures/Overview/HB5010>):

The Department of Geology and Mineral Industries and its stakeholders have expressed interest in the development of an online permitting platform to improve efficiencies in the Mined Land Regulation and Reclamation program. Prior to the Department pursuing an independent IT project, the Department is directed to explore options to potentially utilize the Department of Environmental Quality's Environmental Data Management System for the purposes of providing online permitting. The two agencies should provide a report to the Legislative Fiscal Office and Department of Administrative Services Chief Financial Office by October 2021 on the feasibility and potential costs around this proposal.

Beginning in March 2021, DEQ facilitated monthly meetings and provided DOGAMI with information on the capabilities and functions of YDO. Upon review of DOGAMI's requirements, DEQ determined that DOGAMI's electronic permitting needs are similar to the functions provided by YDO and could likely be incorporated through a future contract amendment. To avoid creating scope and schedule risk for DEQ's YDO implementation project, DOGAMI's implementation work would not begin until DEQ's existing scope has been implemented in 2023.

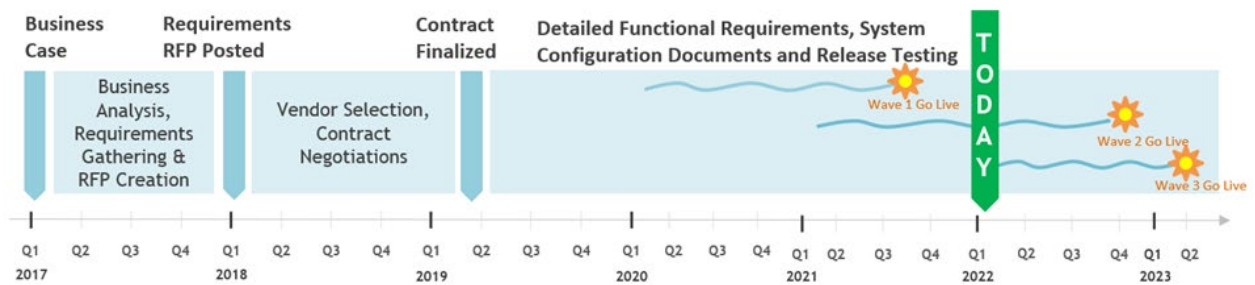
Schedule

The overall YDO project schedule includes EnfoTech's deliverables and internal DEQ milestones. The schedule documents are dynamic and will be used throughout the project life cycle.

The initial schedule baseline, approved when the original EnfoTech contract was executed, had all three waves completed by February 2022. The following schedule updates have been made since that time:

- In September 2020, the schedule was re-baselined based on data-driven changes to add in the appropriate quality assurance milestones and timeframes, update task durations, address data migration plan delays and COVID19 impacts. This put all three waves completed by May 2022.
- In July 2021, the schedule was re-evaluated and voted by the steering committee to be re-baselined again. This was due to Wave 1 resource constraints and consequently the impact to the Wave 2 programs. This change included a scheduled completion for the final wave in November 2022.

Figure 3 below illustrates the most recent Steering Committee schedule vote, in which the final wave will conclude in March 2023. However, this schedule change is currently in the process of being reviewed due to additional feedback from EnfoTech. EnfoTech has requested more time in between deliverables for quality control and to ensure there will not be any further schedule delays. The proposed change is being review by all impacted programs to ensure the timelines meet program needs. If approved, this change will result in the final wave launching in May 2023.



Budget

The YDO budget is calculated using the staffing hour estimates, YDO software costs from the contract with the chosen YDO vendor, EnfoTech (SaaS, hosting, contractor information gathering, solution configuration, and data migration), independent quality assurance contractor service costs, Department of Administrative Services costs, and Department of Justice service costs.

In June 2021, the YDO project budget was re-baselined and included all change orders through that date and estimated future change order cost. In addition, specific assumptions based on current project status with regards to the schedule were taken into consideration.

Total cost of project

As illustrated in Figure 4 below, YDO total cost over a ten-year period starting in 2019 is estimated to be approximately \$18.9 million. This cost includes staff, software licensing, software yearly maintenance and support, SaaS, hosting, cloud services, vendor information gathering, solution configuration, Department of Justice service costs, Department of Administrative Services costs, independent quality assurance costs, and business analysis service costs.

Projected Budget Variance at Completion			Current Budget Variance			
Date	Baseline Budget	Estimate at Completion	Actual Expenditures	Planned Expenditures	Variance Amount	Variance Percent
06/30/21	\$18,934,795	\$18,876,386	\$12,637,521	\$12,235,484	\$402,037	3%

Senate Bill 58, which the Oregon Legislature approved in 2021, created a mechanism for DEQ to recoup ongoing maintenance costs associated with its Your DEQ Online system and for DEQ to pass the credit card fee charges per transaction on to the consumer. The bill allows DEQ to impose an annual surcharge of no more than 4 percent on each fee or invoice generated using the Your DEQ Online system. The agency can reduce the surcharge each biennium to ensure DEQ is only raising the revenue needed to defray this cost.

Current or planned procurements/contracts (at the time of the report)

The original contract between DAS, DEQ and EnfoTech was signed in May 2019. That contract is titled DASPS-1718-18.

Since the date of the original contract’s execution, the following three amendments have been issued:

- In December 2019, Amendment 1 of DASPS-1718-18 between DEQ and EnfoTech was signed as a zero-cost change to implement a three-wave approach, which split the scope into three separate phases.
- In February 2020, Amendment 2 of DASPS-1718-18 between DEQ and EnfoTech was signed to add the Greenhouse Gas Reporting program. The total amount of \$183,810 was incorporated across all the deliverables in the contract.
- In March 2021, Amendment 3 of DASPS-1718-18 between DEQ and EnfoTech was signed to include the new scope of the Climate Protection Program, as well as several change orders totaling \$669,515.

DEQ and EnfoTech are currently working with DAS to create Amendment 4, which will include the schedule re-baseline, as well as any change orders that were approved by the YDO Steering Committee after Amendment 3 was signed.

Legacy system and data conversion planning/activities

In 2021, DAS Enterprise Information Services published the Modernization Playbook v1.0. Within the document, EIS explains that “many of the state’s IT systems have not aged well and have become increasingly complex and difficult to modify to adapt to changing circumstances.” The modernization playbook continues, explaining that “beyond the rigidity and fragility of these systems, potential security vulnerabilities, and associated IT staffing challenges, the long-term total cost of ownership (TCO) of maintaining these antiquated systems may exceed the cost of replacing them.”

These sentiments accurately describe DEQ’s IT environment. At the time that DEQ’s 2018-2021 IRM Strategic Plan was developed, the agency had over 100 custom-built applications, and over 90% of them no longer had defined budgets, lifecycle management plans, or owners. The program languages used by legacy systems included technology that is no longer vendor supported, as well as numerous Microsoft Access databases and Excel spreadsheets which are difficult to support, maintain, and secure. Rather than pursuing parallel tracks to modernize numerous individual systems, DEQ initiated Your DEQ Online as a major modernization effort to replace approximately 100 legacy systems, databases, and spreadsheets with a single, vendor hosted cloud Commercial Off the Shelf (COTS) platform.

Due to the variety of technologies in the legacy systems that YDO will replace and variations in the structure and datasets for agency programs, individual data conversion plans are developed for each agency program. This process entails the collaborative work between DEQ program staff and EnfoTech to create a Data Migration Plan (DMP) document. DMP documents capture the following information:

- Describe the source data and the scope of what will be migrated for the program
- Illustrate the structure and migration results for the program
- Detail where and how migrated data will be accessible in YDO, including screenshots

Agency programs use DMP documents to review and verify program-specific data mapping, identify potential data gaps, and confirm that the desired data has been successfully migrated to YDO. Examples of the data types being imported into YDO include but are not limited to:

- Facility details
- Facility contacts

- Permit, license, and registration information
- Inspection information
- Violation information
- Enforcement information
- Program-specific information

DEQ staff work with EnfoTech to extract the needed data from legacy systems and to import them into a staging table. EnfoTech then imports the data from the staging area in accordance with the program's Data Migration Plan into a test version of the YDO platform. DEQ staff are responsible for reviewing and verifying that the data has been correctly imported during release testing, which takes place prior to a program's launch into production. The verification process by DEQ staff ensures that the migrated data is accurate, complete, and meets the agency's quality expectations.

When a program launches in YDO, that program's data within the legacy system is set to read-only to ensure YDO becomes the source of record for current program data management moving forward. Current data includes items such as permits, licenses, certifications, registrations, and enforcement actions that are active at the time of migration, as well as pending submittals. Some legacy data such as expired permits will not be imported into YDO at this time and will instead be archived within a database at DEQ. This legacy data is not required to meet program or regulated community business needs within the new system and archiving it in the legacy database reduces the scope of data migration work required during YDO's implementation.

While some legacy program data will be archived outside of YDO, the agency will be decommissioning the legacy software applications that were used to manage program data prior to the YDO implementation. Legacy application decommissioning is important since the legacy applications use unsupported technology and would require significant resources to maintain, secure, and support. Eliminating the operational overhead and risks associated with DEQ's legacy applications is a major component of YDO's value proposition.

Individual decommissioning plans are being created for each legacy software application to ensure there are no impacts to agency business processes from the transition to YDO. Although the legacy software applications will be decommissioned, DEQ will continue to have access to archived data through the creation of custom database reports. Custom reports that are needed for program operations such as for historical reporting purposes will be created as a part of the legacy application decommissioning plan. Ad hoc reports can also be created as needed in the future, such as in response to a public records request. Custom and ad hoc reports do not require significant time to create and do not result in the administrative overhead or security risks inherent to legacy applications.

Risks and challenges

The YDO Risk Manager coordinates the work of managing project risks. Project risks are actively identified, analyzed, and managed throughout the life of the project. Risks are identified as early as possible to minimize their impact. The level of risk is tracked, monitored, and reported throughout the project lifecycle on the Risk Register. Risks prioritized as High and Medium are reviewed monthly with the project governance. Risks prioritized as Low are reviewed periodically, but less than monthly considering the risk urgency and frequency.

A Risk Dashboard is maintained by the Risk Manager and reported as a component of the project status reporting process. The most current published Risk Dashboard from DEQ is from December 2021; the high-level findings are provided as Figure 5 below.



High impact risks from QA vendor through Nov. 2021 and DEQ through Dec. 22nd, 2021
[Issue 2021-11-001.01 System does not reflect all requirements.](#)

Likelihood: High **Impact:** High **Status:** Mitigating **Category:** Process

Actions: Wave 2 and Wave 3 program SME Leads along with the Test leads are reviewing the respective FRS and SCD documents to make sure the needed functionality requirements are captured correctly and EnfoTech has a good understanding of the requirements. Wave 3 Air Quality programs have been having frequent informal meetings with EnfoTech to comprehend and refine the requirements. Wherever possible EnfoTech is also facilitating demos on the COTS functionality so there is clarity for the programs. The YDO Business Analysts are also actively updating the Requirements Traceability Matrix on an ongoing basis to verify that the system will reflect all the documented requirements.

[Issue 2021-11-002.01 Configuration release testing is inconsistent and incomplete.](#)

Likelihood: High **Impact:** High **Status:** Mitigating **Category:** Process

Actions: The YDO Steering Committee has approved more stringent criteria for Release 2, Release 3, and User Acceptance Testing (UAT) entrance. This will ensure the final UAT testing is comprehensive and there are no frantic last-minute changes required before going live. Test cases will be created to include functional requirements and end to end testing in UAT. The release testing criteria are being followed by Wave 2 programs and will be used by Wave 3 programs. This will ensure all outstanding issues identified during testing are addressed before moving to the next test release. Also release testing will include migrated data and UAT testing will include a full set of production ready data.

[Issue 2021-05-002.01 Shortage of DEQ staff resources](#)

Likelihood: High **Impact:** High **Status:** Mitigating **Category:** Process

Actions: DEQ requested additional help from agency programs to serve as Test Leads. The new Test Leads will take part in Waves 2 and 3. The schedule is being re-baselined with the subject matter expert's input and all other levels of DEQ. This will help people to plan so that DEQ personnel know what to expect and when. The project schedule has been reworked so that there aren't too many activities occurring at once to avoid staff resource burnout. Three positions were recently filled on the YDO team: YDO Trainer, YDO Operations Support Specialist, and a Helpdesk Specialist. An additional position is currently being recruited that will help with operations support. In addition, the YDO team has asked the YDO Steering Committee for help to back fill recent SME vacancies.

Issue 2021-06-001.03 Data migration is not well planned.

Likelihood: Medium **Impact:** High **Status:** Mitigating **Category:** Process

Actions: The Data Migration Plan is being recreated and updated at this time. Going forward, the plan is for each release to include all data so SMEs can validate the migrated data. This means that data migration will happen simultaneously with releases. DEQ is also working with developers to create a detailed data migration schedule so that data handoff is communicated clearly with all stakeholders. Because the plan incorporates a data migration test run every two weeks, subject matter experts will have more opportunities to validate the migrated data. In addition, DEQ will have a full set of production ready data for each UAT so users can validate that data are accurate and complete.

Risk: 2021-01-001.01: Wave 1 reports are not complete.

Likelihood: High **Impact:** High **Status:** Mitigating **Category:** Process

Actions: The Reporting Project Manager has developed a list of prioritized reports needed for Wave 1 programs. DEQ is contracting with a vendor to receive additional help to create reports. The Reporting Project Manager provides regular updates for the EDMS Steering Committee. A weekly visual status report is being supplied to all stakeholders weekly. Reports needed for Go Live is now part of the Go Live Checklist criteria. The programs are working with the Reporting Project Manager to define the reports needed for go live for each program. In addition, changing the process and including reporting specifications in the System Requirements Documents for Wave 3 are two items that have been added to the Lessons Learned document, version 5. EnfoTech has agreed to complete Wave 3 reports at no cost as long as the requirements are in the System Configuration Documents. Wave 3 programs are approaching the System Configuration Document process with awareness of the need to include any needed reports.

Risk: 2020-03-001.05: The project does not follow best practices for schedule management.

Likelihood: Medium **Impact:** High **Status:** Mitigating **Category:** Process

Actions: The EDMS project schedule is a Microsoft project file shared between DEQ and EnfoTech. The schedule has been reworked to include automated tasks that will adjust the expected start and finish dates based on work completed. In addition, the tasks have effort-driven work estimates and assigned resources. In addition, the schedule has been updated to include calculations such as planned percent complete and a baseline finish for each task. This is how we determine which tasks and work streams are falling behind schedule. Also, now the schedule performance and schedule variance can be measured accurately. The time estimates for the tasks were calculated using real data of time logged per resource as they worked on the previous tasks of the same nature. Currently, the project schedule is being updated to reflect the programs that are ready to go into UAT. In addition, the subject matter expert names and percentage complete

on the tasks are being added. As this is occurring, the tasks are being analyzed and updated for accuracy based on past data collected. Currently, the schedule is being re-baselined to consider actual task times recorded and subject matter expert feedback.

The independent quality assurance vendor, Public Knowledge, also prepares a monthly and quarterly project risk update for submission to EIS and DEQ, which is described in the next section.

Independent quality assurance findings

In addition to working with EnfoTech, DEQ works with the contracted third party QA vendor, Public Knowledge, to ensure project and system quality. Public Knowledge performs interviews with various DEQ staff on a monthly basis, reviews project management artifacts, attends project meetings and performs a monthly risk assessment. Each month, Public Knowledge publishes a project risk report to DEQ, EIS and LFO. DEQ reviews the monthly risk reports and creates strategies and actions to mitigate the reported risks. Over the YDO project’s duration, some of the initial risks have been closed or changed due to these mitigation efforts.

The tables below illustrate risks and issues that have been identified and/or updated by Public Knowledge as of November 2021. Table 1 illustrates the open high and medium-rated risks and issues. Table 2 illustrates high and medium-rated risks and issues that were closed within the past six months. A full copy of the Public Knowledge report is available upon request.

Table 1. Open Risks and Issues

Title	6/21	7/21	8/21	9/21	10/21	11/21
Issue 2021-11-001 YDO System does not reflect all requirements.						HH
Issue 2021-11-002 Configuration Release Testing is inconsistent and incomplete.						HH
Issue 2021-01-001 Reports are not complete.	HH	HH	HH	HH	HH	HH
Issue 2021-05-002 Shortage of DEQ staff resources.	HH	MM	MM	HH	HH	HH
Risk 2021-08-002 Data migration is not well planned.			MH	MH	MH	MH
Risk 2021-06-001 The project approves scope changes during UAT.	MH	MH	MH	MH	MH	MM
Risk 2020-03-001 The project does not follow best practices for schedule management.	HH	MH	MH	MH	MH	MH

Table 2. Recently Closed Risks and Issues

Title	6/21	7/21	8/21	9/21	10/21	11/21
Risk 2021-08-001 UAT is not a comprehensive test.						R
Risk 2020-04-001 The project lacks a detailed training plan for Wave 1.	MM	MM	MM	R		
Risk 2021-02-001 Go-live planning is behind schedule for Wave 1.	MH	MH	MH	R		
Issue 2020-12-001 DEQ's information coordinators are overallocated.	HH	HH	R			
Risk 2018-12-001 Data migration issues are likely to impact the schedule.	MH	R				
Issue 2021-05-001 The project does not follow best practices for budget management.	R					
Risk 2020-06-002 Unresolved decisions could impact Wave 1 go-live dates.	R					

If you have questions or concerns about any of the findings in this report, please let me know.

Sincerely,



Richard Whitman
 Director