DRINKING WATER & POLLUTION CONTROL PROJECT AUDITS

Event Date – February 2014

The role of the auditor was to conduct a thorough evaluation of all financials on all completed drinking water and pollution control projects funded with State Revolving Fund (SRF) monies. Prior to Lean ~1,100 out of 2,160 accounts remained open.

A new approach was needed to tailor the level of audit to the level of account risk, and to streamline the closeout process to eliminate the backlog of open accounts and reallocate unspent project funds.

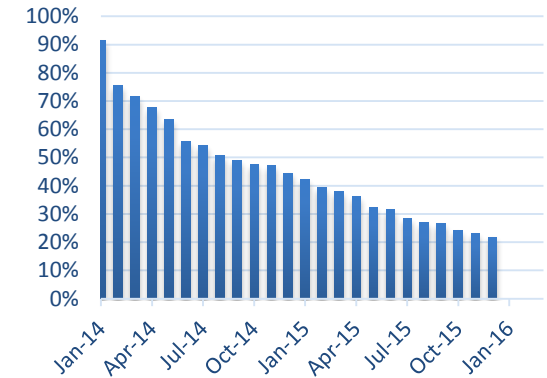**GOALS AND KEY PERFORMANCE INDICATORS (KPIs)**

- Eliminate the backlog by March 2016.
- Return unspent funds to the State Revolving Fund (SRF).

STATUS

KPI Total as of DEC 2015	
Funds Returned	$1,712,208
Accounts Closed	857

- Streamlining the closeout process has cut the closeout time by 4 months.
- At the end of calendar year 2015, the total number of projects closed is 857 and there are 240 accounts left to close by the March deadline.
- An added bonus of SRF closeouts has been the recovery and return of $1,712,208 SRF Funds.

% Open Accounts Jan 2014 - March 2016

Goal - decrease open accounts to 0% by March 2016

PETROLEUM CLEANUP FUND

Event Date – February 2014

The lead-time to issue reimbursement checks to our customers (tank owners and their consultants) was too long. Redundancy in the review and appeal process duplicated efforts and increased the length of time it took to receive a reimbursement from the State.

An innovative approach was needed to both free-up staff time involved in reimbursement activity and money owed to the public and consulting community.
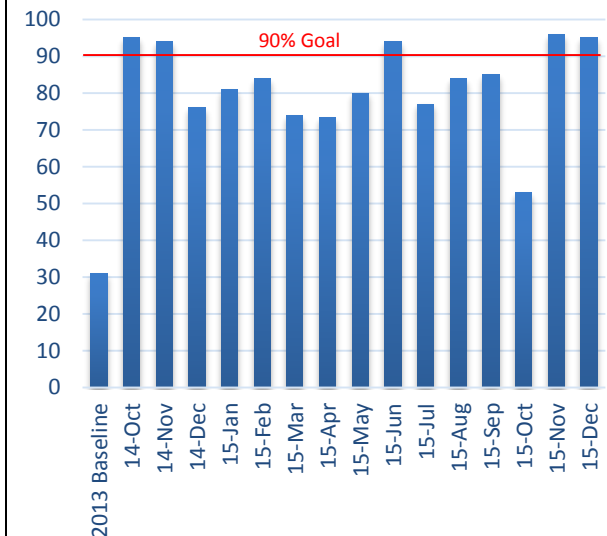
GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

- 90% reimbursement w/in 30 days of claim receipt date.

STATUS

- For November and December, 96% and 95% of claims were paid respectively within 30 days of receipt. Additionally, ANR internal processing time average was 23 days and 16 days respectively.
- Internal design and testing of our "Great State" online claim submission process continued in November and December. In January, we plan to finalize the design and complete internal testing before initiating external stakeholder testing.
- During internal testing, we have encountered unanticipated software limitations that are requiring work arounds and/or process changes.
- Another challenge is a pending staff retirement that will shift additional job duties to our PCF administrative support person. We are still working through job duty changes and any corresponding adjustments to our online process to ensure compatibility between process design and support staff capacity.

% Invoices Paid within 30 Days of Receipt

90% Goal

WETLANDS PERMITTING

Event Date – February 2014

Wetlands staff did not have effective or efficient tools for general project management and standard tasks, eating away at time for important wetland protection work.

Innovative technology and standardized methods were needed to streamline tasks and to organize project data, allowing a shift in staff time to higher value wetland protection efforts such as outreach and technical assistance.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

- Shift staff time to proactive wetland protection:
  "Good State" - >25% staff time vs. baseline of 19%; and
  "Great State" - >50% of time.
- 100% appropriate documentation for all permits and site visits are entered into database versus the 2013 baseline of 60%.
- Increase time spent on proactive site visits:
  "Good State" <50% of site visits,
  "Great State" <80% of site visits.

STATUS

- New application to be launched this quarter and webinar materials are completed for outreach.
- We will soon have the capability to use our letter templates to create a dashboard connected to our database.
- 64% of field visit time is spent on proactive tasks (bioassessment, compliance inspection, pre-application review).

Breakdown of Wetlands Staff Time

- Bioassessment
- Compliance Inspection
- General
- Investigation
- Permit Application Review
- Revisit
- Pre-Application Review

GRANTS AND CONTRACTS
Event Date – May 2014

Efficient and effective processing of grants and contracts has been a challenge, given the individual requirements, types and signoffs needed. DEC previously had over 60 staff managing approximately 225 active grants and contracts at any given time. The former process involved 67 steps and required 72 hours of hands-on time, 394 days of desk time per grant/contact. The inefficient process strained the capacity of both our fiscal staff and our technical staff who could be doing higher priority work.

Our new process has reduced the number of staff managing the administrative work of an agreement down to 5 and reduced the steps down to 38 steps.
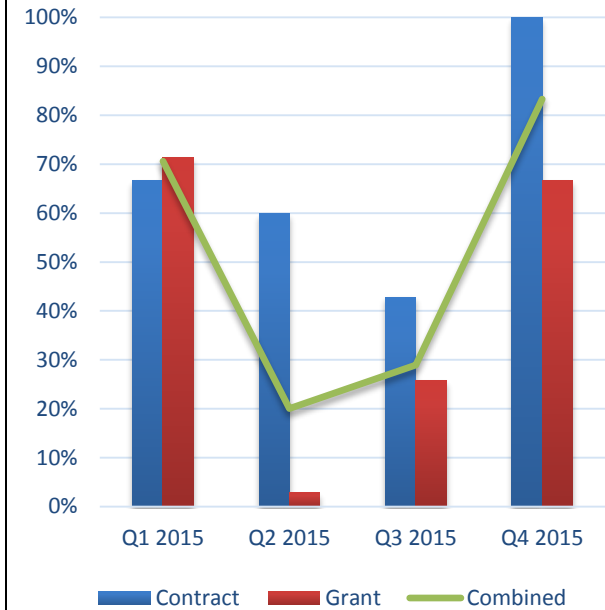
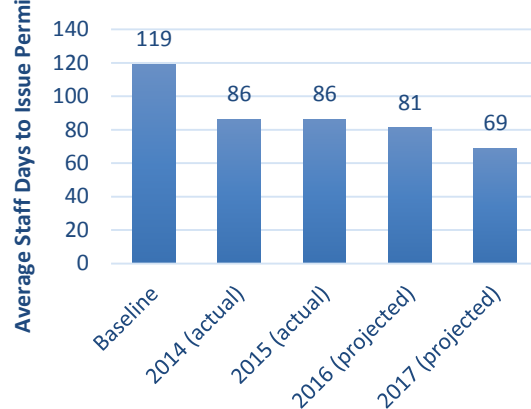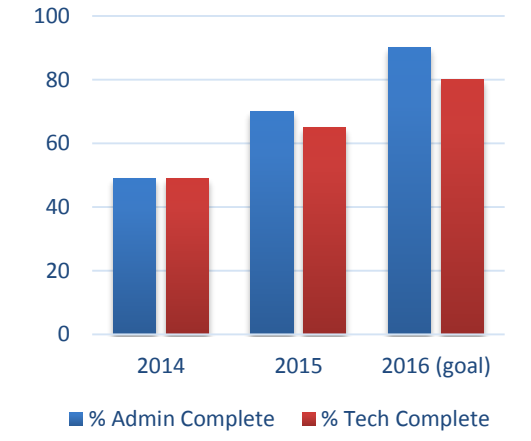## GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

- Average number of days from invoice date to date of payment is less than 30 days (currently 29).
- Request for Proposal (RFP) posted on the Electronic Bulletin Board (EBB) within 10 days of assignment to a Grant Management Specialist (GMS) (currently 20 days).
- Vendor notification within 10 days of bid closing (currently 29 days).
- Executed contract within 30 days of vendor award notification and 45 for grants (currently 60 day average).
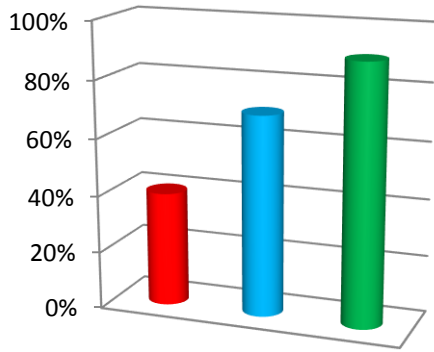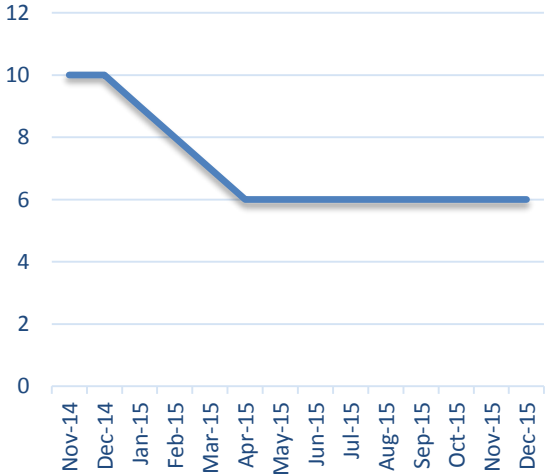
STATUS

- The average number of days from invoice date to date of payment has been consistently below our 30-day target.
- KPIs for grant and contract execution are consistently off our initial targets. An A3 event was conducted in late November 2015 to look at potential solutions to this.
- Several strategies from the A3 event will be implemented over the next several months and we will reassess progress at that point.
- Our KPI graph has been updated to better show the grants and contracts cycle and the challenges of the larger grant programs. The graph now shows the percentage of grants and contracts that were awarded during a given quarter and were completed within the specific KPI targets.
- Work has been started on improvements to the Document Management System. The enhancements will provide Grant Management Specialists a single entry point for all data related to the grants and contract process - an improvement over the multiple systems in use now.

Percentage of Agreements Executed On-time
(30 days for contracts and 45 days for grants)

SOURCE PROTECTION PERMITS **Event Date – May 2014** Drinking water source permitting involves a series of tests and technical determinations, including duplicative processes and notices that delay permitting. Standardized processes were developed to reduce re-work and increase the number of complete applications. Source protection plan approval was shifted to be done in parallel with construction permitting, allowing the applicant to move more quickly through the source permitting process.	**GOALS AND KEY PERFORMANCE INDICATORS (KPIs)** • Increase administratively and technically complete applications by 10%. • Reduce hydrogeologist processing time by 42%. **STATUS** • Baseline data being gathered on the current number of administratively and technically complete applications. • Permit template generator completed which will lead to timelier, consistent and accurate source permits. • Parallel review of source water plans and construction permits implemented. 13 projects are using the new process. • The effort to reduce formal public notices required from two to one requires a legislative fix. Legislation pending. • Permit application was updated, simplified, and posted on website. Stakeholder feedback requested. • New FTP site is live and actively being used by consultants.	**Source Permitting Processing Time** Average Staff Days to Issue Permits Baseline: 119 2014 (actual): 86 2015 (actual): 86 2016 (projected): 81 2017 (projected): 69
STORMWATER GENERAL PERMIT **Event Date – May 2014** This project seeks to improve efficiencies in the processing of stormwater permit applications under General Permit 3-9015. Lean is used to identify strategies to increase the percentage of complete applications, automate billing functions, and reduce redundant data entry. Recovered staff resources resulting from the Lean process are dedicated to continuing investments in process improvement.	**GOALS AND KEY PERFORMANCE INDICATORS (KPIs)** • 90% of applications received administratively complete. • 80% of applications received technically complete (no revisions required). **STATUS** • Phase I of the database portion of this project was completed 11/01/15. The revised database corrects multiple deficiencies that existed in the old database, reduces data entry time, and allows for automation of actions including the generation of permit authorizations. • The revised database will serve as the platform for additional automation efforts. • We plan to revisit our KPI's over the course of the next few months in an effort to better track the impacts of this project on our process.	**Applications Received Complete** % Admin Complete / % Tech Complete 2014 / 2015 / 2016 (goal)

DEC INCIDENT TRACKING

Event Date – July 2014

The goal of this event was to better understand how the current Department-wide incident tracking system was performing and being used by DEC staff and then to make improvements to increase usage.

Benefits include: quicker, coordinated complaint responses; increased assurance that complaints have been addressed; the creation of a record; and the ability to see trends or compliance issues across the Department.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)
- 70% of staff utilize incident tracking database (good state).
- 90% of staff utilize incident tracking database (great state).

STATUS
- Finished work on dashboard of open complaints.
- Finished work on the rebuild of program code and investigator access lists – now doing maintenance type updates.
- Significant progress on the dashboard concept of case status.
- Significant progress on improving grand list search functions.

Tracking Database Usage

Present State – Good State – Great State

AIR QUALITY & CLIMATE DIVISION FACILITY INFORMATION SHARING

Event Date – October 2014

Three sections of the Air Quality & Climate Division (AQCD) manage facility data for 200+ facilities independently of one another, yet rely on each other's information to perform their own duties. The consolidation of the various locales of facility information into one shared database will allow AQCD staff to collect and analyze data more efficiently, resulting in increased work product and public service. The Lean process has given the AQCD the time, resources and a framework to complete such a large-scale consolidation.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)
- Decrease the number of data locations for permits, registration and compliance data by 50%.
- Increase amount of cross-referencing of information by sections, and decrease amount of time taken to complete cross references.
- Increase number of permits available online by over 600%.

STATUS
- The infrastructure needed to support a website interface was added to the AirFacility database.
- Mapping of air pollution data to the AirFacility system has begun and some data is being drawn in for testing purposes.
- Pages for facility searching and editing are established.
- Look up tables to support dropdown controls for editing Permit records were built and populated.
- Navigation hyperlinks added to top of all pages for ease of navigation between tables and pages.

AQCD Facility Information Locales

RECEIPTS PROCESSING

Event Date – October 2014

In 2014, we received over $11 million in receipts. Receipts are handled inconsistently by several staff through mostly manual and paper processes, which on average were 21 days from receipt to deposit. We will reduce receivable processing time from 21 days to 3. We will accept different types of online payments and encourage vendors to submit their payments using alternate forms of electronic payments, including ACH/Wire payments.
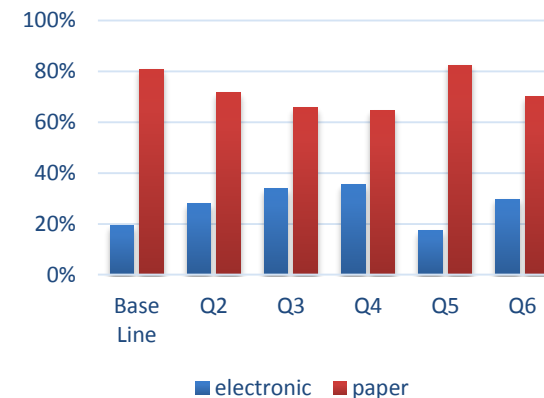
GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

- Shift from receiving paper checks to electronic payments; electronic receipt pre-event baseline 15%, "good" state goal 50% and "great" state goal 95%.
- Develop standard operating procedures across the department by creating a department policy and individual division procedures. (Accomplished)
- Reduce time from receipt to deposit from 21 days to 3 days.
- Minimize data entry (duplication) from input of information.

STATUS

- We continue to work with programs to encourage entities to pay via ACH by including a brochure in with our billings for those programs that we send bills out.

Percentage of Receipts Received Electronically vs. Paper

Good State Goal – 50% electronic payment
Great State Goal – 95% electronic payment

PUBLIC NOTICE

Event Date – October 2014

We currently have public notice processes for 85 different permits. Nearly all have unique federal or state-required processes that result in inconsistent notice and comment periods for even permits that address the same project. This can cause an applicant and the public to be confused as to how to effectively participate in the process.

The inconsistent requirements increase DEC costs and create administrative inefficiency: staff is required to provide multiple/different notice types; and may be required to attend multiple public informational meetings for a project.
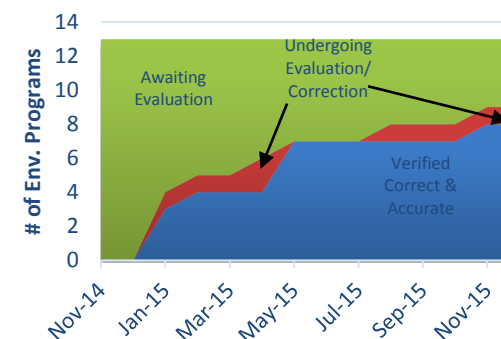
GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

- Reduce the number of different public notice processes from 85 to 5 (94%), requiring a new subchapter to V.S.A. Title 10.
- Consolidate the number of webpages for notices from 5 to 1. An improved Environmental Notice Bulletin (ENB) will be the one-stop web location for public notices, and will include a subscription service.
- Enroll 250 interested parties in the online subscription service within 6 months of launch.
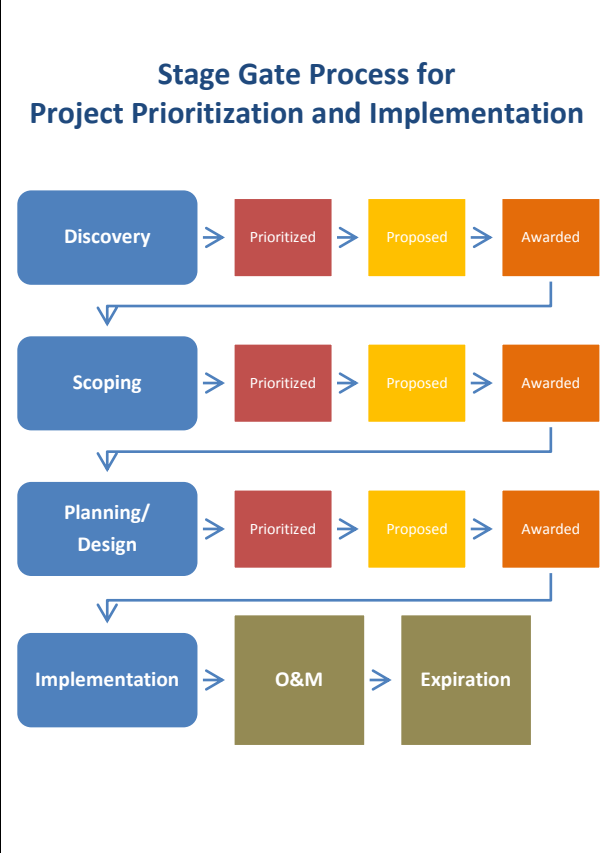
STATUS

- Both the Senate and House have taken testimony on S.123 in January 2016. Stakeholder outreach is ongoing.
- We are working with 13 programs to re-stablish the data flow of current Environmental Notice Bulletin (ENB) – see chart at right - and have created a project plan to determine functionality of a new public notice portal.
- We are working with EPA to ensure notices for federally delegated permit programs meet minimum fed standards.
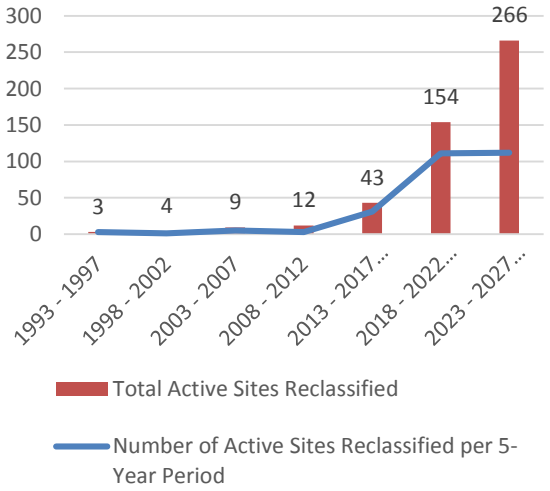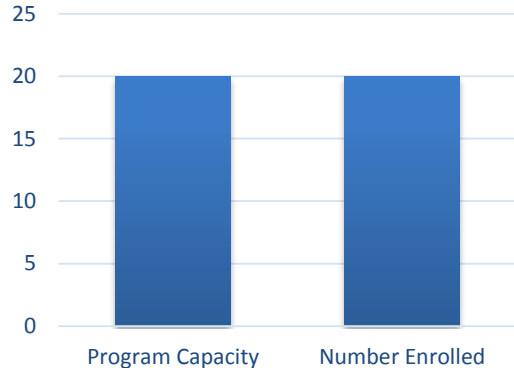
ENB Program Status

Goal - 100% green chart, i.e., all 13 ENB programs are evaluated and corrected to ensure accuracy of Environmental Notice Bulletin.

CONSTRUCTION PROCUREMENT

Event Date – March 2015

The scope of this project covers the roughly 2.5 years of construction procurement process: putting contracts out to bid, award, execution of the contracts which includes billing and paying, change orders, and site visits through the end of the 1-year warranty period when loan repayment begins. The process starts with "60% design review" where our Facilities Engineering Construction Section coordinates with Clean Water and Drinking Water staff to ensure that the design/specs are biddable and constructible and meets design standards.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)

- Efficiency measures reduce overtime by 15% by December 2015.
- DEC process time reduced by 15% by December 2016.
- 10% increase of on-time projects by December 2016.
- 10% increase of on-budget projects by December 2016.

STATUS

- Currently field testing the first generation of checklists which will be available on the new DEC/FED website. Training to follow in March of 2016 for Engineers/Clients.
- A meeting was held with USDA Rural Development, FED representatives, and a number of engineering consultants to discuss the use of Engineers Joint Construction Documents Committee (EJCDC) contract documents to streamline discrepancies between both funding programs. As a follow-up to this meeting, a survey was conducted of New England states regarding the use of EJCDC documents. Results of that survey will be reviewed by the above mentioned subcommittee. An additional survey will be sent regarding the impact of using EJCDC documents on the consulting community later this month.

Future State Projections

Legend:
- % Projects On Budget
- % Projects On Time
- Staff Overtime Hours

IDENTIFICATION & PRIORITIZATION OF WATER POLLUTION RESTORATION PROJECTS
Event Date – March 2015
Finding and funding priority surface water remediation projects is critical to sediment and nutrient pollution reduction efforts. This project reimagined approaches by which remediation projects are identified, prioritized, and funded by the Watershed Management Division (WSMD). The project capitalizes upon recent process improvements in the tactical planning and ecosystem restoration programs. The result is a significantly increased likelihood that the most important projects are identified and funded 100% of the time, with the greatest level of efficiency.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)
- Replace redundant business processes with one streamlined process. 50% (good) to 100% (great) of tactical basin plan pollution control projects follow new process by January 2016.
- 50% of incoming projects by June 2016, 75% of incoming projects by 2017, and 100% of incoming projects by 2019 provide pollution reduction estimates.
- Implementation tables for tactical basin plans are updated continuously. 50% of plans by April 2016 and 100% of plans by October 2016 updated.

STATUS
- Stage-gate criteria are completed in draft form and will be shared with Regional Planning Commissions for comment.
- The Implementation Table database system is under construction, and tactical plan tables are being populated.
- A Clean Water Initiative Brown Bag seminar was delivered to statewide participants explaining the revisions to basin planning and restoration funding.
- MAPP and ERP has conducted stakeholder outreach on the modifications to the prioritization process and funding criteria with RPCs and Watersheds United Vermont.
- Water quality modeling is underway in the Missisquoi and Lamoille basins.

Stage Gate Process for Project Prioritization and Implementation

Vermont Department of Environmental Conservation
Business Transformation Initiative Quarterly Report (October – December 2015)

DEC LEAN
CONTINUOUS IMPROVEMENT

VTRANS-ANR TITLE 19

Event Date – March 2015

Title 19 requires VTrans to consult with ANR on instream projects like culvert replacements, road embankments, and other instream work. Currently, Title 19 projects follow two VTrans pathways: a Maintenance and Operations Bureau (MOB Districts) pathway and a Project Delivery Bureau (PDB) pathway.

This Lean project seeks to standardize and clarify both pathways given the site context, leverage technology for improved efficiencies, improve tracking of Title 19 projects at the District level, and reduce re-do loops. This project will also develop low-risk criteria for specific project types in an effort to reduce review time by ANR staff.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)
- 100% of Title 19 projects have full documentation by March 30, 2016.
- 80% of Title 19 projects come through PDB without loop backs by March 30, 2016.
- 25% reduction in Title 19 consultation times by March 30, 2017 (pending programmatic agreement).

STATUS
- A field audit was conducted in November to categorize projects into specific risk levels and to ascertain what would be needed to move towards a tiered review approach.
- Based on the field visit, the team is re-evaluating the project implementation plan.

Current State

Project identified as Title 19

100% consultation with ANR required

Future State

Project identified as Title 19

High Risk (100% consultation with ANR Required)

Low Risk (minimal consultation with ANR required)

GROUNDWATER RECLASSIFICATION

Event Date – July 2015

This Lean event was conducted with the goal of improving the process to reclassify contaminated groundwater to class IV. The current reclassification process lacks clarity, takes too long to complete (12 sites in 20 years averaging roughly 15 months each) and often leads to improper submittal of information and materials. Roles and responsibilities of involved parties are not well defined, re-do loops are common, and the process lacks transparency. Finally, there is a concern that once a reclassification does occur, there is inconsistent portrayal, distribution and use of the mapped data.

GOALS AND KEY PERFORMANCE INDICATORS (KPIs)
- Improve timeliness of reclassifications.
- Increase transparency.
- Complete 31 reclassifications by the end of 2017, bringing the total active site reclassifications since 1993 to 43 (up from 12).

STATUS
- The new Class IV reclassification procedures were revised in November/December and included in the draft Groundwater Rule as an appendix. The Rule is under review by management before heading to ICAR.
- IT completed the database/mapping enhancements that now include a reclassification data layer.
- We continue to be in a holding pattern for finalizing the checklist, fact sheet and standard letter until the Groundwater Rule revisions are accepted or denied.

Active Site Reclassifications

Period	Total Active Sites Reclassified
1993 - 1997	3
1998 - 2002	4
2003 - 2007	9
2008 - 2012	12
2013 - 2017	43
2018 - 2022	154
2023 - 2027	266

Legend:
■ Total Active Sites Reclassified
— Number of Active Sites Reclassified per 5-Year Period

ECO AMERICORPS	GOALS AND KEY PERFORMANCE INDICATORS (KPIs)	
Event Date – July 2015 In June 2015 DEC Received funding to implement a statewide AmeriCorps program The program is placing 20 AmeriCorps members focused on water quality focused positions with a variety of non-profit and governmental entities through the state. As a brand new program with a unique federal grant management system, this Lean event focused on internal and external coordination, member training and administration, including grant reporting and compliance.	• 80% of member applications received complete (100% great). • 100% of host site positions filled. • 90% of members enrolled by 09/30/2015 (100% great). **STATUS** • After 90 days, no members have left service, which is rare for a first year AmeriCorps program. • A Lean follow-up event was held to refine implementation plan for the 2016-2017 Service Year • Grant application to Corporation for National and Community Service was submitted in January 2016 to increase program capacity from 20 to 24 full time members for the 2016-2017 Service Year.	**Full Time AmeriCorps Members Enrolled for 2015-2016 Service Year**
LICENSING AND CERTIFICATION (L&C) **Event Date – July 2015** There is an opportunity to think of licensing and certification at a department level. While there are no fewer than six L&C programs, many share a number of key attributes: renewal processes; continuing education tracking; fee processing requirements; and some share the same customers. This Lean event looked to explore how creating a shared database solution and potentially a shared process can benefit our staff, IT, the public, and provide a ready built tool for other DEC programs to proactively engage their professional communities with new training and outreach opportunities.	**GOALS AND KEY PERFORMANCE INDICATORS (KPIs)** • % of programs with consolidated data management system. • Number of programs moved to delegation. **STATUS** • We finalized the revenue/expense & labor estimates. • We met with Program and Division management staff to make recommendations for moving forward. • We finalized drafts of 2-page summaries of each Program. • We scheduled a meeting with the Commissioner's office for early January to discuss next steps.	**Potential Delegation of Licensing and Certification Programs** Wastewater and water supply designers Wastewater treatment facility operators Water system operators Well drillers

In addition to the above, DEC conducted three Kaizen events in December (listed below). These will be reported on in the next quarterly report.

Act 250 Application Processing

The Act 250 permit process is 45 years old, and happens across 9 districts throughout the state. The process and tools currently in use are dated and are applied inconsistently across the districts. Further, budgets are shrinking and staff are retiring, which means the same work will need to be done moving forward with fewer resources and less institutional knowledge. This project sought to standardize the Act 250 application process and identify efficiencies for the applicant and staff.

Land Acquisition

Acquisition of land by ANR for recreational and conservation purposes is guided by a 1999 Land Conservation Plan and done through fee simple purchase of property, purchase of interests (conservation easements), and acceptance of donations. In general, the acquisition process has many steps and can be cumbersome, is often both time-sensitive while taking a significant amount of time, lacks transparency, and often requires significant legal and survey resources. Additionally, the acquisition process is not keeping up with the LARC process leading to a significant backlog of projects. There is a backlog of several dozen approved acquisitions totaling approximately $12 million. Furthermore, other ANR teams or committees often duplicate LARC's review of proposed acquisition projects. As such, an opportunity existed to streamline the process and the role of LARC, reduce unnecessary redundancy, explore opportunities for resources sharing, and improve the timeliness of acquisitions.

Financial Monitoring and Compliance

Both the Administration and Innovation Division's Financial Operations group and the Facilities Engineering Division's Financial Management section have responsibilities for the monitoring, compliance and auditing of State and Federally funded grants, contracts, and loans. There are numerous requirements associated with these funding sources and unfortunately, there is uncertainty in regards to where they do and do not apply, where they are being applied multiple times, where they are not being applied and should be, and where they are not required and are being applied. Because of this uncertainty, the Department has been subject to a number of audit findings over the course of the past few years, which has had financial consequences for the Department. Given that the Financial Operations group has been expanding their role in monitoring of state and federal grants for the Department, and recent retirements have occurred in the Facilities Engineering Division, this appeared to be a good opportunity to examine overlap in the two programs.