## Project Overview

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
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</table>
| • Project Launch  
• Situation Assessment  
• Stakeholder Input | • Using Phase 1 results, create detailed work plan for investigation of problem | • Conduct investigation, prepare recommendations, identify options, and describe trade offs.  
• Stakeholder input  
• Revise as needed | • Prepare implementation Plan  
• Stakeholder input  
• Revise as needed |

- **April**
- **May**
- **Spring – Summer**
- **Fall, end October 2016**
NPDES Permitting Program Review
Situation Assessment, May 6, 2016
Situation Assessment Topics

- Definitions
- Context
- Background Research
- Interview Process
- Demographics
- Findings
- Results & Implications
Situation Assessment

- Internal and external scan of the situation or context in which an issue is occurring
Why an Assessment?

• Engages the full system (there are many parts to the NPDES process and many situational drivers)
• Initial point of contact with the key stakeholders that will likely be needed to eventually resolve the situation
• Identifies priorities and flash points
• Results used to establish the appropriate plan of work
• Situation Assessments are an intervention
Context - Problem

• For well over a decade, the Oregon DEQ and Legislature have actively pursued improvements to its NPDES permitting program
  • Blue Ribbon Committee
  • Internal work teams
  • Independent audit
  • Quality improvement efforts

• Permitting goals still elude the department

• Oregon Legislature has authorized consulting assistance
Context –
Project Goals

1) Issue environmentally relevant permits that regulate discharges so that Oregon’s waters meet state water quality standards
2) Reissue permits before the existing permit expires
3) Reduce the number of administratively extended permits to less than 10 percent
Project Perspective

• Successful NPDES Permit Backlog Improvements require changes by all the stakeholders
• Fault finding not useful to solution creating
• Systems orientation
  • Efficiencies/ Quality Management / Tinkering
• Change management
Seek Cause
Not Blame
Systems produce what they are designed to produce.

The key to improvement is understanding the system(s).
Change Management

1. Shock
Numbness, immobilisation. Mismatch between expectation and reality.

2. Disbelief
Denial/minimisation of the change or event. Carries on as before.

3. Self Doubt
Reality bites - bringing uncertainty, frustration, anger and depression.

4. Acceptance
Letting go of old attitudes and behaviours.

5. Experimentation
Dealing with new reality. Energy as new attitudes and behaviours are tested.

6. Search for Meaning
The new situation becomes real. Questioning: what has happened and why?

7. Integration
Internalisation and incorporation of new attitudes and behaviours into everyday life.
Change Management

Full System Implications
– Applies to Everyone, Not just DEQ
Document Review
Document Review

- Blue Ribbon Committee (BRC) initial report (2004)
- Various BRC meeting minutes
- Compliance Schedule Settlement Agreement between Plaintiffs and Oregon DEQ (2007)
- Senate Bill 45: Water Quality Permit Program Improvements – Fact Sheet (Feb 2010)
- NPDES MOA between State of Oregon and USEPA (Apr 2010)
Document Review

• Summary of Internal Program Review of Water Quality NPDES/WPCF Permitting Program (Jan 2015)
• Service Quality Pledge to Oregon Wastewater Permit Holders
• Statewide Permit Issuance Plan for Federal Fiscal Year 2016 (Oct 2015)
• Outcome-based Management and Strategic Goals (Nov 2015)
• Various DEQ Audits
• Water Quality 2035 Vision and Strategy (Nov. 2015)
Document Review

- Wastewater Permitting Program – Improvements and Measures (Jan 2011)
- Internal Review of Water Quality NPDES/WPCF Permitting (Dec 2014)
- Summary of Active and Backlogged Individual Permits (Jan 2016)
- Survey of State NPDES Programs (Jan 2016)
- USEPA Final Permit Quality Review for Oregon (Mar 2016)
- Various Oregon Water Quality Standards documents
- Various TMDL documents
Document Review

- Various Internal Management Directives (IMDs)
- Charter for Wastewater Permit Managers Team (Nov 2014)
- Charter for Senior Permit Group (Jan 2015)
- Anti-Backsliding and Water Quality Permits (Mar 2015)
Interview Process
Interview Process

- MWH and DEQ worked together to identify key NPDES stakeholders
- 60-90 minute interviews, primarily in person but some via phone
- Project background and interview questions provided in advance
Interview Participants

- **16 Interviews, *39 Participants**
- Environmental / NGO’s
- Regulated Community
- EPA Region 10
- DEQ
  - Regional Managers
  - Permit Managers
  - Senior Permit Writers
  - Legal/Enforcement (including Attorney General’s Office)
  - Permit Coordinators
  - Standards & Assessments

* Primarily in-person, April 2016
Interview Questions

8 Questions

• Background of Interviewees
• Problem Definition
• Assessment of Previous Efforts
• Potential Areas of Focus
• Barriers
• Definition Success
• Chances of Success
• Other
Findings
Stacked, Complex Problem

• No single problem - multi part, complex issues

• Perspective is directly linked to place in system
As Described by Stakeholders

• Backlog is both an issue and a symptom
• Efficiency alone will not resolve the problem
• Each Stakeholder views healthy water quality and a working NPDES process as beneficial and in the interest of the individual stakeholders.
Backlog is a Compounding Problem

• The more it grows, the worse it becomes
• Significant intervention needed to reverse the trend
Success will require changes in nearly all the parts of the system.
Need a Strategic Approach to CWA Implementation

Requires Forward Thinking
Results & Implications

• Structural
• Capabilities
• Resources
• Cultural
• Legal/ Policy
Structural

- Adequacy of the systems in place
  - Tools, records and tracking
  - Input process (permit and monitoring information)
  - Decision making structures/ Integration of Decision Processes
  - Standardized procedures and directives
  - Funding
  - Multi-tasking
  - Performance metrics
Tools, Records and Tracking

• Permit template
• Data from monitoring
  • Monitoring requirements
• Integration of systems
• General tracking
  • NPDES Permits (Performance)
  • Litigation/ Standards
Input Process

• Applicant responsibility / DEQ responsibility
• Required information
• Timeliness
Decision Making Structures

• Decentralization
• Chains of Command
• Bifurcated Responsibilities/Integration of Decision Processes
• External / Internal
Understanding Polarities

Implications of Decentralization
Chain of Command & NPDES
Integration of Decision Processes

- Presenting Issue
- Standard Setting
- TMDL Development
- Permit Creation / Adoption
- Permit Result
  - Revolving Fund & Project Priorities
Standardized Procedures

• Consistency vs. Tailored Solutions
• Refresh / Shelf-life
• Uncertainty
Funding

- Philosophical
- Punitive
- Uncertainty
- Diminishing return
Current Job Design Requires Multitasking
Multitasking Basics

Three Types*

1. Performing two tasks simultaneously. (E.g. talking on the phone while driving or answering email during a webinar.)
2. Switching from one task to another without completing the first task.
3. Performing two or more tasks in rapid succession. (Minds need time to change gears in order to work efficiently.)

*May result in up-to 40% in lost productivity

Source: American Psychological Association
Source: https://www.wrike.com/blog/high-cost-of-multitasking-for-productivity

Implications of Multi-tasking
Performance Metrics and Capacity

- System capacity, inputs, and potential for improvement not necessarily linked.
- Metrics may not match realistic targets.
Capacity Basics

• There is no one best way to measure capacity.
• Output measures are easier to understand. With multiple products, inputs measures work better.

Goals and metrics need to be aggressive but achievable.

<table>
<thead>
<tr>
<th>Measures of Capacity</th>
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<tbody>
<tr>
<td><strong>Business</strong></td>
</tr>
<tr>
<td>Auto manufacturing</td>
</tr>
<tr>
<td>Steel mill</td>
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<tr>
<td>Oil refinery</td>
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<tr>
<td>Farming</td>
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<tr>
<td>Restaurant</td>
</tr>
<tr>
<td>Theater</td>
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<tr>
<td>Retail sales</td>
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Capability

Expertise a critical element of successful execution

• 5 years to high competence
  • Inadequate expertise of NPDES permit writers/ Inadequate training

• Managers are managers vs. experts in CWA policy complexities

• Utilization of tools needs assessment

• Recruitment of essential talent

• Job performance metrics
Expertise Basics

10,000 Hour Rule

• To become an expert in something requires 10,000 hours of practice
• 10,000 hours = 3 hours/day 10 years
• There are no prodigies

Source: Malcom Gladwell - Outliers

Implications of 5 Years to Competence
Recruitment & Retention, Performance (Statewide Issue)

- 2-year, 50% Retirement Window
- Labor Agreements
- Morale
- Succession Planning
Resources

• Available resources (as deployed) inadequate to resolve backlog
• Available resources not always efficiently utilized
• Uncertainties in DEQ funding, funding structure limit resources
• Blue Ribbon Committee Status
Available Resources

- Actual reduction in hours available for permit processing while workload increased in volume and complexity
- Placement of personnel without expertise may result in short-term net loss
- Multitasking precludes fully accurate measurements of productivity
Efficient Use of Existing Resources

- Inconsistent training
- Change fatigue
- Existing tools may or may not be user friendly
Blue Ribbon Committee

- Chartering Questions
- Goal and role clarity
  - Membership
  - Working structure
- Executive sponsorship
- Committee leadership
- Ground rules
Cultural

• The Oregon Way
• Customer service v Regulatory identity
• Reluctance to impose/Resistance to top down leadership
• Customization v Standardization of NPDES process
The Oregon Way

• First and best
• Pioneers
• Unique landscape and citizen needs
• Urban/ Rural demands
Customer Service v. Regulator

• Legislative and Blue Ribbon Committee oversight
• Assistance to small communities
  • Staff concerns for attainability and cost of NPDES requirements
• Balancing needs
Leadership

Not Just a DEQ Issue
Customization versus Standardization

• Another polarity
• Place based drivers
Legal/ Policy

• Permits are increasing in complexity
• Procedural accuracy overarching requirement
• Need more proactive approaches to meet clean water act mandates
• Requirements may not result in desired outcomes
• Shift in EPA role and increasing oversight by EPA delays NPDES permit issuance
Legal / Policy

• Ramifications of WQS, TMDLs on NPDES permits delays issuance - Unattainable standards inhibit NPDES permit issuance

• Water Quality Trading Approaches

• Litigation uncertainty and existing cases restrict NPDES permit issuance / Workload issue

• Tracking
Legal / Policy

• Permits are increasing in complexity.
• Procedural accuracy overarching requirement.
• Requirements may not result in desired outcomes.
Disapproval of standards by EPA creates significant disruption in the NPDES process.
Factors of Success

32 Descriptions of Success
Chances of Success

- Range 0-80%
- Mean 41%
- Median 40%
- Mode 50%