



Planning and Preparing – Effective Environmental Emergency Response

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Overview

Beginnings

Regulatory Context

Program Fundamentals

Successes and Challenges

Lessons Learned

Questions



Beginnings

A comprehensive preparedness program is essential for effective environmental response

- Industry has recognized the **Value of Preparedness** for Environmental Emergencies
 - Social, Reputational
 - Environmental
 - Operational
 - Financial
- Learnings from previous events
 - Enbridge
 - Stantec
- Regulatory Environment
- Using Organizational Structure



Beginnings

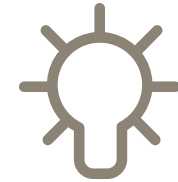
The program is formalized to address **environmental matters** in a response that:



is different from
operational preparedness



has standardized
plans and guidance



establishes defensible
procedures



helps train and
prepare staff



prepares execution
templates ahead of time



maps environmentally
sensitive areas

Regulatory Context

Elements of program are developed to:

- Meet Enbridge Operational Needs throughout Canada
- Meet or exceed federal and provincial regulatory requirements
- Capture industry best practices and standards
- Establish confidence and trust with stakeholders



Program Fundamentals

- Standard Operating Procedures
- Templates for Plans and Reports
- Environmental Sensitivity Mapping
- Program Management
- Training and Exercising
- Resources and Agreements
- Emergency Response Directory



Standard Operating Procedures



Components

- Predetermined steps and methods, requirements, and deliverables
- Suggested timelines for activities
- Standardized actions for uncertain conditions, vetted by subject matter experts

Examples:

- *Drinking Water Well Assessment SOP*
- *Groundwater Impact Tactics SOP*
- *Community Air Monitoring and Sampling Plan*



Value

- No guesswork!
- Allows staff to make informed decisions in early stages of a response

Templates for Plans and Reports



Components

A set of plans and templates that are ready for staff to populate in the event of a release

Plans

Community Air Monitoring

Decontamination

Drinking Water Sampling

Groundwater, Soil, Sediment, Surface Water Sampling

Wildlife Deterrence and Management

Recovered Product Tracking

Waste Management

Resources at Risk Assessment

Initial Cleanup Plan

Remedial Action Plan

Reports

Environmental Site Assessment

Remediation Closure Report

Templates for Plans and Reports

★ Value

- Site specific plans and actions documented and communicated quickly
- Standardized format, standardized deliverables
- Excellent for communicating with other Sections in ICS, Regulators and Stakeholders

Potential to affect soil: *Yes/No
Potential to affect air: *Yes/No
Potential to affect water: *Yes/No
Potential for animals to access site: *Yes/No

Site Land Use: *disturbed/natural landscape
*agriculture/residential/parkland or natural wilderness/commercial/industrial/other
(describe)

Surrounding Land Use: North: *disturbed/natural landscape
*terrestrial/aquatic environment
*agriculture/residential/parkland/natural wilderness/commercial/industrial/
other (describe)
East: *disturbed/natural landscape
*terrestrial/aquatic environment
*agriculture/residential/parkland/natural wilderness/commercial/industrial/
other (describe)
South: *disturbed/natural landscape
*terrestrial/aquatic environment
*agriculture/residential/parkland/natural wilderness/commercial/industrial/
other (describe)
West: *disturbed/natural landscape
*terrestrial/aquatic environment
*agriculture/residential/parkland/natural wilderness/commercial/industrial/
other (describe)

Ground cover: Site: *snow/vegetation - woodlands/vegetation - wetlands/ vegetation - prairie/water -
open/water - frozen/gravel/asphalt/other (describe)
Surrounding Area: *snow/vegetation - woodlands/vegetation - wetlands/ vegetation -
prairie/water - open/water - frozen/gravel/asphalt/other (describe)

General Topography: Site: *flat/gentle slope/steep slope/other (describe)
Surrounding Area: *flat/gentle slope/steep slope/other (describe)

Geology: Site: *describe type and nature of soil/overburden and bedrock/unknown
Surrounding Area: *describe type and nature of soil/overburden and
bedrock/unknown

Environmental Sensitivity Mapping



Components

- A set of maps developed for each of the mainline pipelines in Canada and the US
- Updated on a regular schedule to keep information current and relevant



Value

- information centralized and organized for response
- Prompt identification of environmental priorities
- Used to populate other tools in the program
- Demonstrates to stakeholders knowledge of environmental setting

Environmental Sensitivity Mapping



Program Management



Components

- Description of staff roles and responsibilities EU Position
- On-Call system
- Consultant minimum scopes of work
- Project management tools
 - Data portal
 - Action trackers
 - Staff role assignment tools
 - Handoff planning tools



Value

- Scopes of work and roles and responsibilities ready prior to release
- Real-time management tools on portal save time and money, increase speed of response and reporting

Training and Exercising



Components

- ICS training including EUL for environmental staff
- Specialized subject area training
 - SCAT programs and assessments
 - Wildlife response
 - Air monitoring
- Environmental unit specific exercises
- Participation in regional full scale and tabletop exercises



Value

- Response staff familiar with ICS
- Allows staff to seamlessly assume roles and integrate into response structure
- Response staff have already worked together in exercise environment prior to response

Resources and Agreements



Components

- Primary Resources:
 - Wildlife
 - ESA and Remediation
 - Project management
 - Field Support
 - GIS and Data Management
- Specialized Resources:
 - Community Air Monitoring and Sampling
 - Wildlife rehabilitation
 - SCAT
- Laboratory
 - Dedicated equipment, response procedures, project managers



Value

- Agreements in place before events - insurance, billing, ISNet
- Relationships and expectations established ahead of response

Environmental Response Directory



Enbridge Environment Emergency Response Directory

V3 2015



Environmental Response Directory



Components

- A compilation of relevant materials for **environmental response**
- Lists of contacts, copies of plan templates, reports
- Updated annually to ensure information is up-to-date
- Electronic copy of ERD (including SOPs, templates, etc.) provided on USB to responders
- Best practice



Value

- At your fingertips resource, distinct from operational response plans
- Critical information centralized for initial formation of the EU
- Helps EUL and EU staff do their job
- Program elements available in one spot in the most current form

Successes



- Standardized plans and guidance documents
- Established of standardized procedures
- Training and preparing through EU-specific exercises
- Preparing execution templates ahead of time
- Verification of program value through response experience
- Positive feedback on the program from stakeholders



Challenges



- Creating material to apply across multiple jurisdictions
- Establishing materials to address most eventualities and understand where the exceptions are
- Adapting plans to address changing site conditions
- Real-time data management - it's critical to keep stakeholders informed



Lessons Learned



- Program value is obtained through efficient response
 - Focused protection of Human and Ecological Resources
 - Organized and streamlined activities
 - Pre-vetted materials
- Rapid day one plan deployment
 - SSA/ICS 232
 - Waste Management
 - Community Air Monitoring
 - Wildlife Deterrence
 - Surface Water and Potable Water Monitoring
- Non-monetary benefits including
 - preservation of reputation
 - stakeholder relations,
 - reduction in stress on teams,
 - organization, familiar parameters and structure

