Approach to Regulating Fluid Tailings Management in Alberta

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Objectives

- Provide an overview of fluid tailings management in Alberta and the development of new regulatory requirements to implement the Government of Alberta’s Tailings Management Framework policy

- Provide an opportunity for dialogue, questions and answers
CONTEXT
Context: Oil Sands Mining & Tailings

Tailings are a waste by-product from the oil sands extraction process and consists of water, sand, silt, clay, contaminants and unrecovered hydrocarbons.

Alberta has ~24 oil sands in-pit and external tailings ponds.
Context: Alberta Oil Sands Mining & Tailings

- Shell – Jackpine, Muskeg River
- Suncor – Millennium / Base Mine
- Syncrude – Aurora, Mildred Lake
- CNRL – Horizon
- Imperial – Kearl
- Total – Joslyn (project delayed)
- Suncor – Fort Hills (under construction)
- Teck – Frontier (application)
Context: Need to Manage Fluid Tailings

- Environmental and Financial Liability
- Threat to Responsible Development
- Growing concerns in Alberta, Canada and globally

Photo credit: AER staff
TAILINGS MANAGEMENT FRAMEWORK (TMF) POLICY
TMF Policy: Objective

In March 2015, the Government of Alberta released the *Tailings Management Framework* (*TMF*) policy with the following objective:

> Fluid tailings accumulation is minimized by ensuring that fluid tailings are treated and *reclaimed progressively* during the life of a project and all fluid tailings associated with a project are *ready-to-reclaim within 10 years of the end of mine life (EOML)* of that project.

The objective will be achieved while balancing environmental, social, and economic needs.
**TMF policy: Outcomes & Direction**

- Land use must be returned to Albertans
- Sustainable ecosystem
- Liability is minimized to Albertans
- Environmental effects are managed
- Site specific, flexible and adaptable, transparent
- Balance economic, environmental and social considerations

Photo credit: The Atlantic Council of Canada
**TMF policy: Implementation**

**Tailings Management Framework**

- **Tailings Regulatory Management (TRM)**
  - Develop regulatory requirements (Directive) and processes to support implementing the TMF
  - Lead: Alberta Energy Regulator

- **Integrated Water Management**
  - Provide further direction on water management
  - Lead: Alberta Environment & Parks

- **Reclamation Criteria & Outcomes**
  - Provide further direction on reclamation criteria for different landforms
  - Lead: Alberta Environment & Parks

- **Mine Financial Security Program (MFSP)**
  - Review and modify MFSP for use to manage fluid tailings
  - Lead: Alberta Environment & Parks
April 2015: Announced a new directive to implement TMF and replace D074

July 2016: Issued Directive 085

2017: Issue application decisions

September 2015: Released draft Directive 085 for public feedback

November 2016: Operators submit fluid tailings management applications

2017: Update and issue updated Directive 085
Directive 085: Regulatory Approach

The new directive
- holds industry accountable for the development, monitoring, and management of fluid tailings plans and outcomes
- takes a risk and outcomes-based approach focused on performance monitoring and adaptive management
- focuses on reducing fluid tailings volumes and ensuring reclamation outcomes can be achieved – a self-sustaining locally common boreal forest ecosystem

Photo credit: AER staff
Mature fine tailings, 2012

Photo credit: AER staff
Same area after treatment one year later, 2013
Directive 085: Major Components

Major components of the new directive are:

• New rules under the *Oil Sands Conservation Rules (OSCR)* that reference the Directive and provide authority

• Application requirements to allow AER to make decisions on fluid tailings volume profiles and plans, and set thresholds

• Performance reporting requirements

• Terminology clarification

• Performance evaluation, compliance

Photo credit: AER staff
Directive 085: Example Fluid Tailings Profile

The AER will set thresholds including a profile deviation trigger, total volume trigger, and total volume limit for approved profiles.
Directive 085: Application Requirements

Applications will include fluid tailings volumes profiles and a fluid tailings management plan based on requirements in the following areas:

• Fluid tailings inventory and profiles (new and legacy)
• Fluid tailings treatment technologies
• Ready-to-reclaim performance criteria
• Environmental effects and implications
• Alignment to mine, reclamation and closure plans
Directive 085: RTR Performance Criteria

Ready-to-reclaim (RTR): state achieved when fluid tailings have been processed through an accepted technology, have been placed in their final landscape position, and have achieved necessary performance criteria

- Trajectory to support future stages of reclamation activity
- Self-sustaining, locally common boreal forest ecosystem
Sub-Objectives

1. The deposit's physical properties are on a trajectory to support future stages of activity such as capping

2. Minimize the effect the deposit has on the surrounding environment and ensure that it will not compromise the ability to reclaim to a diverse, locally common, and self-sustaining ecosystem

The intent of the performance criteria is to ensure that fluid tailings are progressing towards the short- and medium-term outcomes in the mine reclamation plan and life-of-mine closure plan
**Directive 085: Performance Reporting**

Operators will provide an annual performance report to verify that they are following fluid tailings management plans, profiles, and conditions of approval

- Basis of the AER performance evaluation, compliance and enforcement processes
- AER will also prepare an annual summary performance report on fluid tailings management in the region
Directive 085: 2017

Performance reporting
• AER annual performance report and metrics

Performance evaluation, compliance, and enforcement
• Proactive management approach
• Compliance assurance activities solely related to TMF policy are detailed in the directive
• Existing management and compliance processes (ICAF, Manual 013) are complemented

Five-year review
• AER review of the operators’ TMP’s to assess whether profiles and thresholds are in line with projections and reflect current technology, new knowledge and continuous improvement efforts
STAKEHOLDER ENGAGEMENT
Directive 085: Stakeholder Engagement

▷ Stakeholders informed us that they believe that a more collaborative, inclusive and technical approach was needed to increase the credibility of fluid tailings management.

▷ The AER responded by establishing a multistakeholder tailings advisory committee (TAC) to conduct a thorough review of Directive 085 (September to November 2015; October to November 2016).
Directive 085: TRM TAC

The TAC used a consensus-based approach to provide recommendations on Directive 085.

Members included:

- Environmental non-government organizations (ENGOs)
- First Nations & Métis
- Municipality of Wood Buffalo
- Industry
- AER

Photo credit: AER staff
There are several positive outcomes from the TAC including:

- **Relationship building** among all stakeholders and the AER
- **Increased understanding** of various positions and the technical aspects of tailings management
- **Increased transparency** and improved **clarity** in the directive through **co-creation and collaboration**

Photo credit: AER staff
Next Steps

› Gather public feedback on updates to *Directive 085*

› Update and issue updated *Directive 085*

› Issue decisions on fluid tailings management plan applications
Thank you