

Revegetation of Active Tailings Dams for Oil Sands Mines

FACTS AT YOUR FINGERTIPS

INTRODUCTION

The information provided in this fact sheet is to be used by oil sands mine operators as a guide to understanding Alberta Environment's expectation regarding dam safety and progressive reclamation (including revegetation) of active oil sands tailings dams.

BACKGROUND

International dam safety practice commonly restricts tree and woody shrub establishment on the downstream slopes of dams. This is to preclude deep rooting from potentially aggravating seepage and causing piping issues, interfering with buried infrastructure and monitoring equipment, and in order to facilitate visual inspections and instrumentation monitoring, both of which require unrestricted access and clear sight lines.

The practice of restricting trees and woody shrubs on the downstream slopes of active tailings dams at oil sands mines in Alberta has not been applied in a strict manner to date, in recognition of the robustness of these structures. In fact, trees and woody shrubs have been planted, or have naturally become established, on some active oil sands tailings dams and have been in place for many years.

Alberta Environment (AENV) regulates dam safety under the *Water Act* and reclamation under the *Environmental Protection and Enhancement Act* (EPEA). AENV requested the Oil Sands Research and Information Network (OSRIN) convene a third-party Task Force to provide independent opinion and recommendations on the subject. A document entitled *Report and Recommendations of the Task Force on Tree and Shrub Planting on Active Oil Sands Tailings Dams* was issued in February 2011 and can be located online at <http://www.osrin.ualberta.ca/>. This document provided AENV a basis for a balanced approach to ensure the protection of dam safety while allowing progressive reclamation (including revegetation) on active oil sands tailings dams.

REGULATORY PROCESS

- Provision for tree and woody shrub establishment on the downstream slopes of active oil sands tailings dams shall be considered part of the responsibility of the Engineer-of-Record assigned to the structure by the approval holder. Plans outlining the location of acceptable tree and shrub planting zones and tree and shrub exclusions zones must be submitted to the appropriate Alberta Environment Director for review and approval under the *Water Act*. It will be customary for the Engineer-of-Record to consult with corporate reclamation specialists for input into the designated zones, as well as to determine the appropriate tree and woody shrub species for planting.
- Following review and approval by AENV, the plans and protocol outlining tree and woody shrub establishment shall be incorporated into the site Operations Maintenance & Surveillance (OMS) manual for implementation. In addition, the company protocol for dealing with trees and woody shrubs which voluntarily establish themselves in the defined tree and shrub exclusion zones shall be included in the OMS manual.
- The Engineer-of-Record, through Annual Performance Reports submitted to the regulators, may modify the location and extent of the acceptable tree and shrub planting zones and tree and shrub exclusions zones, subject to review and approval by AENV.
- Through updated Mine Reclamation Plans and Life of Mine Closure Plans (including Revegetation Plans) submitted as per EPEA approvals, the location and extent of the acceptable tree and shrub planting zones and tree and shrub exclusions zones on active oil sands tailings dams will be identified. Annual reclamation planning and reporting will be reflective of the plans approved under the *Water Act* for revegetation of these structures.

This fact sheet provides Alberta Environment's expectation regarding the protection of dam safety while allowing progressive reclamation (including the planting of trees and shrubs in acceptable tree and shrub planting zones) on active tailings dams for oil sands mines

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NOTE

It is understood that dam safety concerns override all other issues, and as necessary, activities would proceed expediently as required to address any dam safety concerns. However, the approval holder shall be aware of any requirements under any other applicable legislation, such as the federal *Migratory Birds Convention Act* (Government of Canada, 1994) and the *Migratory Birds Regulations* (Government of Canada, 2010).

FOR MORE INFORMATION

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