



Solidification/Stabilization – the Legal and Policy Vacuum

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Uses of S/S

- **Safe disposal of hazardous waste in hazardous waste landfill**
- **Rehabilitation of severely contaminated sites by treating and leaving contaminated material *in situ***
- **Remediation of Brownfield sites to permit development**

Use in Hazardous Waste Disposal

- **S/S is an important pre-treatment for disposal of hazardous wastes**
- **Immobilizing the contaminants permits safe disposal by landfilling**

Use in Hazardous Waste Disposal II

- *Landfill Disposal Regulation (LDR)* requires hazardous wastes to be treated before landfilling
- S/S is a permitted or required process for some listed wastes
- Certificates of approval for hazardous waste disposal sites also have S/S requirements.

In Situ Remediation

- **SOIL IS A RESOURCE**
- **Immobilization of contaminants is another tool for *in situ* management**
- **Avoids land filling at a licensed waste disposal site**

In Situ Remediation II

- **For severely contaminated sites without redevelopment potential**
- **Public interest and environmental protection require cleanup**
- **Happen under MOE order and waste disposal site certificate of approval**

In Situ Remediation III

- **Remediation standards and methodology set on site specific basis**
- **Monitoring and financial assurances required**
- **A good opportunity for S/S**

In Situ Remediation IV

- **Highly regulated**
- **Likely under MOE order that includes requirement for application for waste disposal site certificate of approval**
- **Long term monitoring, contingency plans, funding assurances**

Brownfields Development – O. Reg. 153

- **The goal – a Record of Site Condition**
- **Legally required for change to sensitive land use**
- **Otherwise required for municipal approval process and funding, investment and borrowing**

Risk Assessment Needed

- **Acceptance by MOE**
- **S/S is a risk management measure and not as remediation**
- **Certificate of Property Use and financial assurance requirements**

Will MOE Accept S/S As a Risk Management Measure?

- Look at:
 - O. Reg. 153
 - MOE Policy - *Procedures for the Use of Risk Assessment*

O. Reg. 153 - A Risk Assessment Should

- State the exposure pathways and environmental media that risk management measures are intended to address
- Propose risk management measures on the RA property that are designed to prevent, eliminate or ameliorate any adverse effects on or off the RA property
- Specify the duration of the proposed risk management measures
- Specify the designed lifespan of the measure, if applicable

MOE Policy

- **Risk management measures may include mechanical measures or techniques for reducing exposure, or eliminating or blocking exposure pathways**

MOE Policy II

- **Examples of risk management methods include:**
 - a layer of clean soil above otherwise unacceptably contaminated materials
 - mechanical devices such as basement venting or pump and treat equipment
 - fencing to prevent access to contaminated areas
 - pavement or other barriers on the surface to reduce exposure to contaminants



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