

Innovative Remediation Trial (SISCO) Proposed For Barangaroo

INFORMATION SHEET

BACKGROUND

The Barangaroo Delivery Authority has appointed Lend Lease to undertake remediation of the historic contamination of the old Miller's Point Gasworks at Barangaroo.

The Barangaroo Delivery Authority has prepared a Voluntary Management Proposal (VMP) approved by the Department of Environment, Climate Change and Water (DECCW), which details the undertaking of investigative and remediation works, including the proposed trials.

The contamination is largely the result of the activities of the former Millers Point Gasworks and the area affected includes part of Barangaroo and a section of Hickson Road.

Lend Lease has lodged the project application with the NSW Department of Planning to commence trials of a remediation technology, new to Australia but proven in the US, to treat soil and groundwater contamination.

This is not the commencement of the remediation works themselves at Barangaroo, it is an application to trial the technology before remediation by approved methods is undertaken on site.

THE TRIALS

The innovative technology known as SISCO (Surfactant-Enhanced In Situ Chemical Oxidation) enables the remediation of certain contamination where it lies (in-situ), beneath the ground, rather than the traditional excavation method.

The 'in situ' technology enables contamination to be treated below ground, without the need for invasive extraction and delivers a range of important environmental and other benefits including:

- Reducing the amount of excavation required
- Treating contamination where it lies underground limiting the amount of contamination required to be brought to the surface
- Reducing the amount of material required to be taken off site and disposed of in landfill
- Limits the amount of disruption to traffic on Hickson Road
- Reducing the impacts on local residents, business and other neighbours

An important part of the testing process will be to ensure that SISCO delivers standards of remediation which meet the strict guidelines set by the Department of Environment, Climate Change and Water.

If approved, it is expected that trials of the SISCO method could commence in early 2011.

For further information visit our website at www.barangaroo.com/remediation

What is the SEPR method?

In Hickson Road, another remediation method for the selected extraction of contaminants called “Surfactant-Enhanced Product Recovery” (SEPR) is also being trialled. SEPR is aimed at removing bulk tar contamination from the former tar tank situated beneath Hickson Road and involves injections and subsequent extractions from the confined tar tank. Extracted liquids will be stored, characterised and disposed of appropriately. On Hickson Road, this will then be followed by the SISCO phase, which will ‘polish’ the soil by injecting specially formulated chemicals into the contamination inside the tar tank structure. This two phase process will (subject to successful trialling) reduce or eliminate contamination.

How does it work?

The SISCO process involves the controlled injection and monitoring of specific chemicals into the contamination zone below ground. The reactions caused by these chemicals when they come into contact with the contamination effectively degrades potentially harmful contaminants into non-toxic by-products.

What chemicals are being used in the SISCO method?

It depends on the type of contamination being treated however chemicals used may include combinations of water, hydrogen peroxide, sodium persulfate, catalysts and food-grade surfactants.

Are these chemicals dangerous?

Not in this scenario and importantly the type and amount of injected chemicals will be specially selected to match the type of contamination and its location.

Notwithstanding the above, stringent monitoring and controls will be in place to manage reaction and movement of chemicals and contaminants in the subsurface.

Has the SISCO method been used elsewhere?

Yes. Importantly the SISCO remediation method has been successfully applied on other former gasworks sites overseas, which is the same type of industrial activity which has contaminated the Barangaroo site.

These projects were conducted in the US at Long Island City, Hartford and New York.

What are the benefits of SISCO?

The ‘in situ’ technology enables contamination to be treated without the need for invasive extraction and delivers a range of important environmental and other benefits including:

- Reducing the amount of excavation required
- Treating contamination where it lies underground without bringing it to the surface
- Reducing the amount of material required to be taken off site and disposed of in landfill
- Limits the amount of disruption to traffic on Hickson Road
- Reducing the impacts on local residents, business and other neighbours



Example of what the SISCO trials will look like on Hickson Road.

Why is a trial being conducted?

In remediation projects of this kind it is important to ensure that the technology used meets local conditions and delivers the best possible result in terms of permanently addressing the contamination issues.

An important part of the testing process will be to ensure that SISCO delivers standards of remediation which meet the strict guidelines set by the Department of Environment, Climate Change and Water.

When will the pilot trials commence?

Pending approval by the Department of Planning, it is hoped that the SISCO trials can commence in early 2011.

How long will the pilot trial take?

It is expected the SISCO trials will take between 4 and 6 months.

What will the trials look like, if approved?

Most of the pilot trial infrastructure will be located on the Barangaroo site and a portion of Hickson Road. The injection system compound will be on the Barangaroo site and will consist of a fully contained area with chemical storage containers and a shed with pumps/controllers and instrumentation. See image below.

Will the trials cause noise?

The pilot trial is not anticipated to result in significant noise impacts although some temporary noise associated with trucks and machinery during drilling, trenching, mobilisation and material delivery may be present.

These activities will be managed in accordance with a detailed Construction Management Plan and approved hours of construction.

Will there be any impacts from odour?

There is not anticipated to be significant odour or air quality emissions are not predicted to occur during the trials. Controls will be put in place to minimise odour generation. Treatment occurs below ground and where any vapours are generated in the subsurface; these are extracted and appropriately treated as part of the system.

There is the potential for some odours to be detected during drilling works or system operation; however these are expected to be of a limited duration and extent.

How can I find out more?

You can find out more about the SISCO Pilot Trial application by going to www.barangaroo.com/remediation.



Example of what the SISCO trials will look like on Hickson Road.

