

Allied Feeds Project DTD Plant Operations Recommence

Soil treatment operations with the Allied Feeds project directly heated thermal desorption (DTD) plant were suspended in early July 2007 when emission stack test results for the contaminant dioxin marginally exceeded the environmental licence criteria.

In order to recommission the DTD plant, a series of new tests were required. The testing schedule was outlined in a recommissioning plan and the plan was approved by the Department of Environment and Climate Change (DECC) and the Department of Planning.

A complete mechanical and electrical check was performed on the DTD plant in preparation for its recommissioning.

Thiess Services commenced processing clean soil through the plant on 23rd October as part of the recommissioning plan. Additionally, a clean soil stack test was performed to help investigate the potential cause(s) of the dioxin emission exceedance. Results from the clean soil test indicated that residual dioxin inside the DTD plant's emission control system may have negatively affected stack emission test results during standard operations. As recommissioning progressed, extensive mechanical decontamination and refurbishment measures were undertaken on the plant prior to and following additional tests in November using contaminated soil.

As the source of the DTD plant dioxin contamination could not be definitively identified, Thiess Services will continue to investigate and monitor all potential sources of contamination and refurbish plant components when necessary. The plant's operating parameters will also be reviewed on an ongoing basis.

Official dioxin stack emission test results attained in January 2008 whilst processing contaminated soil were as follows:

Run	#1	#2
Dioxin ¹ (ng/m ³) concentration at 11% O ₂	0.045	0.09
DECC Limit (ng/m ³)	0.1	0.1
Status	Pass	Pass

¹ Dioxins and Furans reported at WH005 – TEQ, dry, 273K, 101.3 kPa and 11% O₂.

Recommencement of full scale thermal treatment operations has now been approved by the DECC and the Department of Planning. Considering the background contamination level of the DTD plant, a conservative approach to the recommencement of operations has been adopted so that stack emissions should be in compliance with DECC licence limits.

The Rhodes Community Consultative Committee (RCCC)

The RCCC is comprised of approximately 20 residents from communities surrounding the Rhodes Peninsula including Rhodes, Concord West, Homebush Bay, Liberty Grove, Meadowbank, West Ryde and Melrose Park. An additional 20 members represent developers and remediators working in the area; State Government Departments such as the Department of Planning, the Department of Health, and the Department of Environment & Conservation; and Local Government Councils such as the City of Canada Bay Council and Ryde Council.

At monthly meetings the committee is presented with updates and data on the remediation and development projects by the proponents involved. The RCCC has an independent Chairperson, **Mr John Kent**. John's contact details are 0419 497 033 or jk@wwsydney.com

You are most welcome to join the committee or attend a meeting as a visitor.

For information about the next meeting, please call the Thiess Services Community Contact Line on **1800 009 414**.

Project Activities - the next 3 months

Lednez & Homebush Bay project

- Finalise DTD treatment plant commissioning trials and license full scale operations;
- Start depleting stored soil requiring thermal treatment;
- Commence and continue thermal treatment;
- Continue Stage 3 excavations;

- Progress Stage 3 backfilling operations;
- Progressively validate Stage 3 area;
- Construct sections of seawall in Stage 3 area;
- Install sewer in Stage 3 area;
- Continue environmental monitoring;
- Commence bay works excavation and reinstatement (southern stage).

Allied Feeds project

- Continue excavation of contaminated soil requiring thermal treatment;

- Process soil in the pre-treatment building;
- Continue commercial scale thermal treatment operations;
- Test/validate excavated surfaces and treated materials;
- Progressively backfill validated areas in the western portion of the site;
- Install sheet piles for seawall construction;
- Demolish and reconstruct the seawall;
- Continue water treatment plant operations;
- Continue environmental monitoring including stack compliance tests.

Community Contact Details

We value your feedback. If you have any questions or concerns, please let us know.

Ph: 24 hour toll free line: 1800 009 414 **E-mail:** rhodesremediation@thiess-services.com.au

Web: www.rhodesremediation.com.au **Post:** 40 Walker Street, or PO Box 3064, Rhodes NSW 2138

Thank you for your cooperation and patience during these environmental remediation works.

Rhodes
REMEDIA
PROJECTS
Homebush Bay and the former
Lednez and Allied Feeds sites

Thiess
services

24 hour toll free line
1800 009 414
www.rhodesremediation.com.au

NEWSLETTER

March 2008, Issue 10

To the Community Member
Rhodes Remediation Projects
Community News

Treatment Plant Built For Lednez Project

Construction of the directly heated thermal desorption (DTD) plant that will treat contaminated soil and bay sediment on the former Lednez/Union Carbide site is now complete. The treatment plant has been configured according to the 'best available techniques' described in the Stockholm Convention*.

DTD is a technology that is well established in the USA for the treatment of soil contaminated with organochlorine compounds (OCCs). In DTD the soil is heated until the contaminants turn into vapour (or gas). The contaminant vapour

is then destroyed by combustion, all within the one plant.

Over 70 hazardous waste treatment projects have been successfully

undertaken in the USA using the DTD process. With this proven technological process, Thiess Services' DTD plant will address the potential air quality risks

Continued page 2



Above: The new Lednez project DTD treatment plant looking north.

*Stockholm Convention

Australia is a signatory to the Stockholm Convention on Persistent Organic Pollutants (POPs). Article 5 requires that Parties to the Convention take measures to minimise or eliminate certain POPs including dioxins.

Guidelines on the 'best available techniques' (BAT) to do this have been prepared under the Convention for various technologies. The BAT guidelines identify parameters such as time and temperature as critical in any thermal oxidiser that is used to treat hazardous waste. They also identify rapid cooling, dust

removal and acid gas removal from the thermal oxidiser off gas stream as critical for minimising dioxin reformation when treating organochlorine compounds. They state that a dioxin emission level of 0.1 to 0.01ng/Nm³ of off gas should be achievable if this is done.

THE CLEAN UP CONTINUES

Thiess Services has been contracted to remediate two neighbouring sites at Walker Street, Rhodes. The sites are known as the former Lednez/Union Carbide site and the former Allied Feeds site. Both sites require remediation (a clean-up of the soil) as a result of past chemical manufacturing works on the former Lednez/Union Carbide site. Remediation works commenced in 2005.

For more details on the history of these sites, to view environmental information or to download copies of the newsletters, visit www.rhodesremediation.com.au

Strict environmental controls and standards are being implemented on both sites to ensure the health and safety of workers and the community. All work is being undertaken in close consultation with Local Government and community members, as well as with State Government agencies including the Department of Environment and Climate Change, NSW Waterways, the Department of Planning and NSW Health.

Homebush Bay Clean-Up

- A recent trial excavation of contaminated bay sediment was successful.
- Full scale bay excavation works are currently scheduled to commence later this month.
- The excavation barge will start near Mary Street, Rhodes, and work north to the bridge over the Parramatta River.
- Contaminated sediment that requires treatment will be processed in the Lednez DTD plant and reinstated on the land site
- Clean fill will replace the contaminated sediment removed from the bay.

Treatment Plant Built For Lednez Project

Continued from page 1

associated with the treatment of OCCs in soil so that a safe environmental outcome can be delivered to the community.

How Does DTD Work?

The DTD process relies on heating soil to volatilise the OCCs, which are then destroyed in a thermal oxidiser. The treated soil is subsequently suitable for use as backfill on site. During the DTD process:

- The contaminated soil is directly heated by combustion gas in a rotating drum or rotary dryer.
- Every batch of treated soil is tested to ensure that all the contaminants have been removed to the standard set by the Department of Environment & Climate Change (DECC).
- All gases are processed through a thermal oxidiser to destroy the OCCs and ensure that discharges to the atmosphere are safe.
- A rapid cooling system lowers the temperature of gas leaving the thermal oxidiser through the dioxin reformation window, to minimise the potential for dioxin to reform.
- A baghouse removes dust from the gas stream exiting the rapid cooling system.
- An acid gas scrubber removes hydrochloric acid created by the combustion of the OCCs, so that it is not emitted to the atmosphere.
- Gas discharge quality is monitored to

ensure compliance with emission criteria set by the DECC.

Air Pollution System / Emission Controls

The DTD plant is designed to meet all of the regulatory requirements associated with contaminant destruction and air emissions.

Stack emission limits for dioxins are set at a level of 0.1ng/Nm³ (normal or standard cubic metre) which is well below a level of concern for human health. The DTD stack height (30 metres) has been designed to ensure compliance with ambient air standards for exhaust gases at the nearest residence.

Pre-Treatment Building

The atmosphere controlled pre-treatment building is used to prepare soil prior to its treatment in the DTD. The building is fitted with an air emission control system which includes dust filters and activated carbon beds to remove contaminants from the exhaust air stream.

DTD Built-In Safety Features

The DTD plant has many built-in safety features as well as prescriptive operational procedures and shut down mechanisms in the unlikely event of an accident or mechanical failure. If pressures, temperatures or flows move towards predetermined limits, an early warning alarm will be activated, alerting the operator to the situation. If corrective action is not effective, and a preset absolute upper or lower limit is exceeded, the plant feed soil is automatically stopped. The operator is not able to recommence feeding soil to the plant until the conditions which caused the non-compliance have been corrected.

The DTD plant is owned by and will be operated by Thiess Services. Personnel have been trained in safe operating procedures by the plant's manufacturer.

Soil Clean-Up Criteria

The DTD plant is designed to treat soil containing a range of contaminants to meet the approved soil re-use criteria for the Lednez project site

Community Impacts

The DTD plant has several large vertical components including the thermal oxidiser, cooler and acid gas scrubber stack that will be visible from beyond site boundaries. It also produces a noticeable steam plume from the acid gas scrubber.

The DTD plant generates noise that does not contain dominant tones and

specific noise control features have been incorporated into its design. DTD plants have been used in close proximity to residential areas in the USA. Support equipment such as the feed soil loader, which uses a safety alarm when reversing, may require modification to keep noise impacts within acceptable levels.

The DTD plant operates 24 hours a day, seven days a week to maintain operations at peak efficiency and avoid lengthy daily heating up and cooling down periods. Planned maintenance is undertaken one day each fortnight.

Plant Start-Up

Under the current schedule, all of the DTD plant's components will be checked for safety in March and performance

tests using clean soil will commence in April. Tests using contaminated soil will follow. A proposal to use contaminated soil from the adjacent Allied Feeds site for the tests is being considered because highly contaminated soil can be accessed more easily on this site. Testing and full scale treatment operations will run for approximately twelve months on the Lednez project.

A information session about the new DTD plant will be held on a date to be announced.

To register your interest in attending this session please call 1800 009 414 or e-mail rhodesremediation@thiess-services.com.au

