

Response to issues raised in 20B Conference Report

Soil Processing Facility
890 Taylors Road, Dandenong South
EPA Works Approval WA 67356



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the leader in resource recovery



Introduction

This document provides responses to the issues, concerns and questions raised within the EPA 20B Conference Report for SITA Australia Pty Ltd's (SITA) Application for Works Approval WA67356.

In particular, this document focuses on :

- responses to Recommendations 5 and 8, both providing specific matters for SITA's consideration; and
- the key topics relevant to proposed treatment processes, the facility, risk assessment and utilisation of best practice management.



Recommendation 5

The applicant, SITA, needs to develop some plain English information about the proposal that can be accessed at key community hubs or delivered via a letter box drop to surrounding residents. This information needs to include examples of the waste categories received at the site currently and under this proposal.

SITA Response

Strong community stakeholder relationships are integral to SITA's endeavour to be a responsible corporate citizen and a sustainable business. An important aspect of SITA's business plan is our commitment to provide information to, and seek input from our community stakeholders.

To achieve this, and to respond directly to Recommendation 5, SITA has implemented the following actions since submitting the application :

- appointed a Stakeholder Engagement Manager to provide leadership and direction for the planning and delivery of community engagement relevant to SITA projects;
- developed a freecall 24/7 environmental report hotline with a call back report service;
- developed a 'Community Update' page on the SITA website, www.sita.com.au, offering up to date information in plain English; and
- prepared a strategy and secured a service contractor to print and deliver flyers to 18,000 residences within a five kilometre radius of the facility. These flyers will also be placed in key community hub locations and mailed directly to all community members who have contacted SITA regarding the Taylors Road facility.



Recommendation 8: Compliance and Monitoring

Both EPA and SITA need to consider public access to monitoring data on a frequent basis (eg quarterly).

SITA Response

The EPA Environmental Licence, under which SITA operates all its Victorian facilities, demands regular comprehensive reporting on a wide range of operational processes and activities. These reports include investigations undertaken by third party auditors.

In addition, to continue to meet the requirements of its certified management systems under Australian Standard, AS4801 (safety) and International Standard ISO14001 (environment), SITA's framework of requirements consists of standards and guidelines, policies, procedures and management practices which are regularly audited.

SITA regularly responds to requests for the provision of this information from the Taylors Road Landfill Community Engagement Steering Committee, encouraging members to share the information with the community organisations they represent.

SITA has no objection to developing a formal arrangement in conjunction with EPA to set target dates for the delivery of information provided within a submitted report.



Conference Report

Table 1: Issues, Concerns and Questions discussed at the Conference

The table highlights the issues raised about the proposed treatment process, risk assessment and best practice in the 20B conference report. A summary of SITA's response to each of the issues raised is included.

Key Issue	Item #	Issues, Concerns and Questions	SITA's Response
Treatment Processes	1	Soil testing – if you do miss something and a contaminant that you can't treat gets through, such as mercury, what is the process?	Prior to receipt, all soils will be required to undergo a rigorous regime of sampling and testing, in accordance with EPA's <i>Industrial Waste Resource Guidelines</i> . This includes parameters such as mercury. Soils received will either be stockpiled and/or batched and will be re-tested prior to treatment. Only soils that meet specifications will be able to be treated in the facility. Due to the rigorous sampling and testing prior to receipt and treatment, it is highly unlikely that contaminants will be missed. Computer modelling based on worst case emission scenarios also shows compliance with the requirements of the State Environment Protection Policy (Air Quality Management) (SEPP AQM) with respect to ground level concentrations. The concentrations set by EPA are considered to represent safe levels of exposure.
	2	Can the system collect 100% of all gases?	The system operates under a slight vacuum to prevent the escape of gases to the atmosphere before they are treated. The treatment processes have high removal efficiencies that represent "maximum extent achievable", with removal or destruction efficiencies estimated to range from 99% to 99.999%, depending on the gas requiring treatment.



Conference Report

Table 2: Additional Issues, Concerns and Questions recorded but not discussed at the Conference

Key Issue	Item #	Issues, Concerns and Questions	SITA's Response
Treatment Processes and Facility	1	Is there waste from the process? If so, what type and category?	<p>Any wastes generated at the facility will be recycled, treated at the facility or disposed to the existing landfill, where possible. Otherwise alternative waste disposal sites will be identified, suitably licensed by EPA for acceptance of the waste stream. The volume of solid waste generated (other than treated soil) will not exceed 100 tonnes per year.</p> <p>Dust collected from the cyclone and baghouse will be returned to the pugmill and blended with treated soil prior to reuse or disposal to landfill. Samples of the baghouse stream will be analysed to confirm if any dioxins/furans are present and whether they are within acceptance limits.</p> <p>This is considered a suitable precautionary approach to address any possible concerns regarding dioxins/furans formation at this position in the treatment process.</p> <p>Spent activated carbon will be treated, if required, then disposed to the prescribed waste cell in accordance with licence conditions or an alternative licensed facility.</p> <p>All wastes generated will be assessed prior to and/or after recycling, treatment and disposal.</p>
	2	How do you manage contaminants in soils? How good is the testing to find what you can't treat?	<p>(Refer to response to <i>Conference Report - Table 1: Issues, Concern and Questions Discussed at the Conference</i>, Item 1, page 5.)</p>
	3	If the building is under negative pressure, does the plant also operate under negative pressure?	<p>Yes, the soil stabilisation process will occur within the main building, which operates under negative pressure. In addition, the feeding of soil to the DFTD plant will also occur within the main building. The DFTD plant is connected to the main building via an enclosed feed conveyor. The DFTD system maintains negative pressure via the induced draught fan, which draws air through each of the emission control stages.</p>



Key Issue	Item #	Issues, Concerns and Questions	SITA's Response
Treatment Processes and Facility <i>cont'd</i>	4	What will be the size of the stockpile waiting for treatment?	It is proposed that the total amount of untreated soil stockpiled at the facility would not exceed 10,000 tonnes, stored for a maximum period of six months.
	5	What are the chemicals used to treat the waste during the stabilisation process?	<p>Additives for soil stabilisation would be selected based on contaminants in the soil and verified through treatability trials. This information would then be presented to EPA for treatment approval under a hazard classification.</p> <p>Typical additives for soil stabilisation include:</p> <ul style="list-style-type: none"> • Cement • Lime • Fly ash • Magnesium oxide • Phosphate <p>All additives would be supplied to site on an as needs basis and where temporary storage was required this would be undertaken in accordance with manufacturer's instructions and in accordance with WorkSafe and EPA requirements.</p>
	6	Claims of best practice and maximum extent achievable but baghouse is not the best available.	SITA believes that its application meets best practice and maximum extent achievable requirements. A baghouse is considered best practice as it has a very high removal efficiency for particles (>99%). This technology is recognised internationally as best available for these types of facilities
	7	If waste is prohibited from disposal at landfills, will waste be stored on the surface be as severe as waste buried in the landfill?	No waste delivered to, or produced by the proposed facility will be stored on the surface of the landfill. All wastes will be stored within the bounds of the facility, on concrete hardstand areas.
	8	What is the expected monthly tonnage for processing?	Due to the variable nature of the contaminated soil market, it is difficult to predict monthly volumes that the facility may receive, however, it's expected that the facility may receive up to 60,000 tonnes/year.
9	What happens to the overload?	SITA will only accept soils within the conditions established by an EPA licence and will not accept soils that would result in exceedance of any storage capacity limitations.	



Key Issue	Item #	Issues, Concerns and Questions	SITA's Response
Treatment Processes and Facility <i>cont'd</i>	10	What would happen to the soil in a batch if the treatment of that batch fails?	<p>In the unlikely event of a batch failure, whether through stabilisation or thermal treatment, soil would be retreated until treatment is confirmed.</p> <p>As part of the waste acceptance process, treatability studies will be conducted to minimise the possibility that soil treated by the DFTD process will not meet the acceptance criteria.</p> <p>Soil stabilisation methods would also be selected based on the contaminants in the soil and verified through treatability trials. This information would be presented to EPA for treatment approval under a hazard classification.</p>
	11	<p>Is there any dioxin and PCB after the high temperature incineration?</p> <p>Does the wet scrubber remove dioxin and PCB?</p> <p>If yes, why put back the spent scrubber into the clean treated soils?</p>	<p>The high temperatures produced within the DFTD plant, 1,100°C, is sufficient to destroy dioxins/furans, PCBs, organochlorine pesticides and other organic compounds that may be in the gas stream from the heated soil. Rapid quenching (cooling) of exhaust gases occurs to avoid the subsequent production of dioxins/furans.</p> <p>The wet scrubber is solely for the purpose of removing acid gases (sulphur dioxide, hydrogen chloride and hydrogen fluoride)</p>
	12	Concerned about works and operation on an existing landfill site – is this really best practice?	<p>The Taylors Road Landfill is Victoria's only landfill licensed to receive Category B Prescribed Industrial Waste (PIW). Much of the waste received at the facility undergoes treatment prior to its receipt. The establishment of a soil processing facility at the Taylors Road Landfill site will provide both facilities with many synergies. It will also allow industry and the community to have one central location where soils are processed, reused and/or disposed.</p> <p>Currently the processing of contaminated soils principally occurs off site at the source of contamination, often with little or no separation between the processing area and adjoining residential properties.</p> <p>Many sites across Melbourne that require clean-up are restricted by development timeframes and space. This facility will allow contaminated soils to be processed within a controlled environment in a timely manner that meets EPA requirements.</p>



Key Issue	Item #	Issues, Concerns and Questions	SITA's Response
Treatment Processes and Facility <i>cont'd</i>	13	Is this really environmentally best practice? Are there really no other alternatives?	The treatment of organic and heavy metals contaminated soils using either thermal or stabilisation processes are seen as best practice throughout the world. These technologies are proven and have been in operation throughout the world for many decades. The establishment of the proposed facility would enable soils to be reused or their hazard classification reduced prior to disposal to landfill. This is consistent with application of the waste hierarchy and best practice.



Conference Report

Table Three: Summary of Issues and Comments

Issue	Item #	Comments and Questions	SITA's Response
Treatment processes	1	Will SITA apply for more waste treatment technologies in future?	It is not envisaged that SITA will apply to establish more waste treatment technologies in the near future, however, SITA reserves the right to do so, at which time any application will undergo a public process.
	2	Why are Appendix G and I confidential?	Appendices G and I of the Works Approval Application are sensitive in a commercial sense and SITA does not wish to divulge commercially sensitive information to potential competitors.
	3	Is a mobile treatment plant the most effective treatment option?	The mobile treatment equipment proposed for the facility will have the same environmental controls as those on permanent fixed equipment. The mobile equipment has a lesser capital cost and can more easily be upgraded and replaced when new technologies become available.
	4	Does the plant have the capacity to treat the volumes of soils suggested?	The facilities capacity is not limited to one technology, DFTD, like other proposals. SITA's proposal also includes soil stabilisation. The proposed stabilisation equipment can treat soils at a rate of up to 1,000 tonnes per day.
	5	How the proposed technology is compared with low temperature technologies?	High temperature technologies have the ability to treat "heavy" or complex organic compounds such as Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyls (PCBs) more efficiently than low temperature technologies.
	6	How the proposed technology is compared with Renex (i.e. direct thermal desorption versus indirect thermal desorption)?	<p>Direct Fired Thermal Desorption applies heat directly to the surface of the contaminated material.</p> <p>With Indirect Fired Thermal Desorption, a direct-fired rotary dryer heats an air stream which, by direct contact, heats the surface of the contaminated material. Direct Fired Technologies are generally more efficient at transferring heat to the contaminated material.</p> <p>The proposed facility at the Taylors Road site will also utilise more than one technology (DFTD & Stabilisation).</p>



Issue	Item #	Comments and Questions	SITA's Response
Treatment processes <i>cont'd</i>	7	Greenhouse gas comparison of the proposed technology with other technologies is required.	The proposed technologies for the facility have been deemed by SITA to be the most appropriate and efficient for the treatment of contaminated soils. As such, an assessment of greenhouse gas emissions has only been conducted on the technologies proposed.
	8	How the negative pressure of the soil storage building will be maintained?	Negative pressure within the building will be maintained via an extraction system, which will draw air from within the building and vent it outside through a filtration system.
	9	There is no limit provided on throughput.	There is no limit on the throughput of the facility, however, It is proposed that the processing facility will have a storage limit of 10,000 tonnes of soil for up to 6 months and a processing capacity limited to 60,000 tonnes/year.
	10	Design case is not believable. No Direct Fired Thermal Desorption (DFTD) plant has treated the heavily contaminated soils as proposed by SITA.	DFTD is proven technology, which is known throughout the world for the efficient treatment of heavily contaminated soils.
	11	Questions about design case and demonstrated data (Kurnell data).	The Kurnell data has been used as the basis for the computer modelling of emissions to air. Further demonstration of the technology will be conducted as part of the Proof of Performance testing (PoP) proposed for the DFTD plant.
	12	What are the emissions from scrubber?	There are no emissions to the environment from the wet scrubber as it is not the final stage of air pollution control equipment. Conservative estimates of the atmospheric contaminant concentrations in the exhaust gases at that point are shown in Table 17 of the Application for Works Approval.
	13	With the addition of carbon bed, how will the supplier guarantee be met (as this is addition to the equipment)?	The performance requirements for the carbon bed will be discussed and agreed with the activated carbon supplier.
	14	Where carbon material will be stored?	Replacement carbon will be stored in appropriate storage facilities at the site. Carbon being used to filter exhaust emissions will be stored within the filtration equipment.



Issue	Item #	Comments and Questions	SITA's Response
Treatment processes <i>cont'd</i>	15	How carbon bed will be attached to the scrubber?	The carbon bed will be attached to the scrubber via a sealed duct.
	16	What happens to the activated carbon when it is saturated with pollutants and requires replacement?	Refer to response <i>Conference Report - Table 2: Additional Issues, Concern and Questions Recorded but Not Discussed at the Conference</i> , Item 1, page 6.
	17	No mention of emergency generator in Figure 2.	Figure 2 outlines the Waste Management Hierarchy. However, the use of the emergency generator is clearly defined within section 8.1.1 (page 103), Table 40 (page 107) and section 8.2 (page 110) of the Application for Works Approval supporting document.
	18	Grinding attachment to front end loader is not included in noise assessment.	SITA proposes that soil pre-treatment, where required, is conducted off site, at the source of the contamination. Consequently, there will be very limited grinding required at the proposed facility. Any pre-processing will be conducted within the bounds of the processing building. A noise assessment will be incorporated as part of the PoP test.
	19	Why there is no continuous monitoring for Dioxin and Furans or mercury at the final stage?	Currently there is no instrumentation that can continuously monitor for dioxins/furans. However, the continuous emission monitoring system proposed for the facility will include monitoring for pollutants that act as indicators of the possible presence of dioxins/furans. In addition manual emission testing will be routinely conducted for dioxins/furans. SITA has determined that soils contaminated with mercury be limited to a contaminant concentration of 3 mg/kg, to ensure that any environmental impact is minimal.
	20	Stormwater management results of the northern letdown are not shown in the application.	No flows were recorded from the northern stormwater let-down structure. Consequently no results are available.
	21	What is the maintenance procedure during baghouse change over (dust particles)?	Prior to changeover, the baghouse will be evacuated of all dust and wetted down to ensure potential dust emissions are mitigated.
	22	Ausplume Modelling concerns.	SITA believes the Ausplume modelling is accurate as it uses local meteorological and topographical data and "worst case" emissions.
	23	Air emission testing during Proof of Performance (PoP) test is not sufficient.	SITA believes that the air emissions testing proposed during the PoP test is sufficient.

