

SECOND AMENDMENT TO THE ASSESSMENT REPORT

For the Environmental Impact Statement
Amendment

For the

**Transpacific Waste Management,
Accommodation of Additional
Waste Types at the Northward
Fill, Inkerman**

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1 INTRODUCTION

This amended Assessment Report (AAR) has been prepared by the Minister for Urban Development & Planning and assesses the environmental, social and economic impacts of a proposal by Transpacific Waste Management (TWM) to receive and dispose of low level contaminated waste, namely soils and waste residues (including that from liquid treatment plants), at its Northward Fill landfill at Inkerman. The landfill is located approximately 85 kilometres north-west of Adelaide, approximately 15 kms south east of Port Wakefield, in the Wakefield Regional Council area. This report is written as a comprehensive document. However, further information on the initial establishment of the landfill site can be obtained from the *Assessment Report for the Construction of the Inkerman Landfill Depot (1997)* and the *Amendment to the Assessment Report for the Environmental Impact Statement (as Amended) for the Inkerman Landfill Depot Northward Fill (1998)*.

1.1 BACKGROUND

Transpacific Waste Management (formerly Waste Management Pacific and before that Path Line Australia Pty Ltd), was granted Development Authorisation for the Northward Fill by the Governor on 21 January 1999. This followed a full EIS process that commenced in 1995.

The Environment Protection Authority (EPA) issued a Waste or Recycling Depot licence (14463) to Waste Management Pacific (now TWM) on 1 September 2001 to enable establishment of the landfill, which was commissioned in 2004.

The Northward Fill landfill currently provides a disposal facility for Adelaide's putrescible and inert waste, with a waste capacity of approximately 12,000,000 m³, and is currently permitted to receive the following waste streams:

- Waste from the Adelaide Metropolitan Area that has gone through a Resource Recovery and Waste Transfer Facility.
- Waste from regional areas that has been through a kerbside recycling service, has been through a mobile garbage bin kerbside recycling system or has been processed through a resource recovery facility/transfer station, prior to being transported for disposal.
- Other wastes that cannot be effectively recycled.
- Shredded tyres deposited in cells with other approved waste.
- Non-friable asbestos, subject to handling and disposal procedures, as provided in the specific Environmental Management Measure (EMM)
- Quarantine waste, subject to approval from AQIS.
- Foundry sands as provided in the specific EMM in the Landfill Environmental Management Plan (LEMP).
- Chromated Copper Arsenate (CCA) treated timber.

On 19 September 2008, TWM made an application to vary the development authorisation to enable the reception and disposal of low level contaminated waste (LLCW).

The Minister determined that the proposed new waste was not envisaged in the earlier EIS, and accordingly an amended EIS should be prepared by TWM in accordance with the relevant provisions of the *Development Act 1993*. The document titled *Transpacific Waste Management, Northward Fill - EIS Amendment to Accommodate Additional Waste Types, 19 September 2008*

(EIS Amendment) was prepared by the proponent and included details of the proposal and anticipated effects.

1.2 ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURES

Section 47 of the *Development Act 1993* enables the Minister to publicly exhibit the EIS Amendment. Following a three public display period for the EIS Amendment, between 11 February and 4 March 2009, all public and government submissions were forwarded to the proponent to respond to matters raised on the EIS Amendment. Copies of all submissions received are included in Appendix A. The proponent's response to submissions is included in Appendix B.

Pursuant to Section 47 of the Act, in preparing this Second AAR, consideration has been given to the original EIS; the Amended EIS; submissions from the public, the EPA and other government agencies; comments from the Wakefield Regional Council; the proponent's response to submissions; additional advice from the EPA; and any other matters considered relevant.

Pursuant to Section 48(7) of the Act the Governor must, when making a decision, have regard to the provisions of the appropriate Development Plan and the relevant regulations, Building Rules (if relevant), and the Planning Strategy. Further, when making a decision on an "activity of environmental significance", as listed in the Act, the Governor must have regard to certain provisions of the *Environment Protection Act 1993*. In particular, the Governor must have regard to the Objects of the Act, the general environmental duty under the Act and any relevant environment protection policies. The Governor must also, pursuant to Section 48 (5)(e) of the Act, have regard to the EIS Amendment and the Second AAR. Further, as indicated in Section 48(7), the Governor may specify conditions which should be attached to a development authorisation that must be complied with in the future and, under some circumstances, may vary or revoke conditions to which the development authorisation is subject or attach new conditions to the development authorisation.

2. PROJECT DESCRIPTION

2.1 PROJECT JUSTIFICATION

The EIS Amendment states that the proposal responds to market demand and provides a commercial opportunity to maximise the waste disposal opportunities of the site. Accommodation of these additional waste types at the Inkerman landfill would provide a highly engineered and environmentally sound disposal option for the needs of state wide authorities. In addition to this, the Transpacific Industries Group operates its own Liquid Treatment Plant and the disposal of this waste at the Inkerman facility offers a safe and orderly disposal option that will improve operating efficiencies of this facility. Operation of the LLCW containment cell within the approved footprint of the existing site would take advantage of the operational controls and environmental management practices already in place.

The proponent is of the view that the proposed LLCW cells have been designed to current standards that apply for the disposal of contaminated soils and waste residues in South Australia (such as at the IWS Northern Balefill at Dublin) .

2.2 THE SITE AND CURRENT LAND USE

The receipt and disposal of LLCW is proposed to occur at the existing approved and licensed TWM Northward Fill, that operates under a Landfill Environmental Management Plan (LEMP). As part of the EIS Amendment, additional management measures relating to the disposal of LLCW have been developed, which would need to be incorporated in the LEMP (to the satisfaction of the EPA), if the proposal is approved by the Governor. Establishment of the LLCW facility in a portion of future waste cells within an existing waste depot does not represent a change in land use, as these materials are waste products.

In terms of services, the site has electricity, mains pressure water, telephone services and a septic tank for sewerage from the amenities. There is a fully serviced staff amenities facility, an administration building at the weighbridge and a fully equipped workshop. A sealed road extends from the secure entry gates, past the gatehouse to the existing wheel wash. The road extends further into the site as a specifically designed and constructed all weather access road.

The adjacent land uses have not changed since the original EIS was produced in 1995 and comprise livestock grazing and cereal cropping, with some intensive animal keeping. The nearest residence is 500m from the south-eastern edge of the landfill disposal area, whilst three other residences are 830m, 1030m and 1500m from the site. A Mineral Lease is located on the northern property boundary and agricultural activities (mainly grazing) occur within 1 kilometre of the other property boundaries, including a piggery to the north.

2.4 THE PROPOSAL

A general description of the proposed facility and method of operation is provided in this section. For a more detailed description refer to the proponent's EIS Amendment document (dated 19 September 2008).

The additional waste stream would primarily comprise soils and waste residues (including residues from liquid treatment plant operations) containing low levels of contamination that meet the relevant EPA LLCW criteria. Other types of wastes or from other sources may be received at the site, provided they comply with the criteria. It is expected that an additional 20,000 tonnes per annum is likely to be received at the site. This amount, in conjunction with current volumes being received at the facility, is within the range contemplated by the original approval (ie. 700,000 T/yr). The disposal of LLCW is proposed for approximately 30-40 years, in accordance with the overall anticipated life of the landfill.

2.4.1 Design Aspects

It is proposed to dispose of LLCW in the western portion of future landfill cells. The LLCW disposal area would have a capacity of approximately 1.2 million m³ of airspace. LLCW cells would be specifically designed and constructed in accordance with the proposed new provisions of the LEMP (EMM 14), within the approved landfill footprint. In order to ensure effective segregation of the LLCW from other waste disposal areas on the site, a bund wall would be constructed of clay soil progressively as waste disposal operations occur. Following completion of filling a LLCW cell, the area would be capped which, when combined with the low permeability lining system underlying the site, would effectively encapsulate disposed waste material.

The proposed barrier system and leachate monitoring system are specifically varied for the LLCW cells to provide a higher level of performance than required for cells receiving other waste types. The LLCW cell has been designed to ensure the lining system maintains a 2 metre separation between the groundwater and the underside of the standard liner profile. The engineering approach adopted for the liner is that used elsewhere in the state for the disposal of LLCW materials and put forward as the benchmark by EPA. The approach consists of a secondary clay liner overlain by a primary composite liner (comprising a HDPE geosynthetic/clay liner) separated by a “geogrid” geo-composite drainage layer. The lining system is overlain by a cushion geotextile protection layer and leachate collection system. This liner profile is substituted for the 1m thick low permeability clay liner approved for cells receiving approved waste types.

In accordance with EPA requirements, the proposed concept design of the profile of the liner and leachate collection system for the LLCW cell would comprise the following:

- A geotextile separation layer, underlain by a leachate drainage layer (300mm thick), underlain by a cushion geotextile protection layer, underlain by a HDPE (ie. plastic) geomembrane and underlain by a compacted clay liner (600mm thick), with a permeability of $< 1 \times 10^{-9}$ m/s.
- A leakage detection layer in the form of a geonet.
- A secondary compacted clay liner (600mm thick), with a permeability of $< 1 \times 10^{-9}$ m/s that has a minimum separation distance to groundwater of at least 2m (ie. based on the highest groundwater elevations previously recorded at the site).

2.4.2 Method of Operation

LLCW would only be received on site by prior arrangement, to ensure that wastes are appropriately classified prior to arrival. Where project specific receipt and handling procedures require changes to standard site acceptance and handling procedures (ie. to meet an approved

projects environmental management plan or to respond to an EPA request), this would be subject to prior approval of project specific handling procedures by the EPA. Should any staging of materials be required on-site in accordance with the above, it would only occur in a level area provided within the LLCW cell footprint specifically for this purpose.

Site procedures require that odorous or dusty materials shall not be left uncovered at the end of any working day.

The disposal of LLCW would be conducted during the same hours of operation as the landfill.

2.5 CONSEQUENCES OF NOT PROCEEDING

The EIS Amendment does not specifically address the implications of not proceeding with the proposed development. If the proposal is not approved, there are existing facilities for the disposal of LLCW. However, the establishment of another facility would provide additional competition in the market, putting downward pressure on disposal costs for contaminated materials and reducing overall costs to industry and the community.

3. CONSISTENCY WITH GOVERNMENT POLICIES

When making a development decision on a major development or project for which a declaration applies, the Governor must have regard to the Planning Strategy, provisions and regulations in the Development Plan and if relevant, Building Rules. In addition where the development involves a prescribed activity under the *Environment Protection Act 1993*, the Governor must have regard to the objects of the Act, the general environmental duty and any relevant environment protection policies.

Since development approval was granted to the TWM Northward Fill in January 1999, there have been changes made to the Planning Strategy and Development Plan. The following sections assess the proposal against relevant provisions of the Planning Strategy and Development Plan at the time of decision.

3.1 PLANNING STRATEGY

In making a decision on the Amended EIS the Governor must have regard to the Planning Strategy for South Australia, which sets out the State Government's vision for development and directions for future growth and development for the community, the private sector and local government. The Planning Strategy is based on the integration of economic, social and environmental factors pertinent to regional South Australia. The Yorke Peninsula Regional Land Use Framework (December 2007), which is a volume of the Planning Strategy for South Australia, applies to the landfill site.

The Framework includes an integrated vision for the region, with the key elements comprising:

- Population and industry growth – with a focus on the Copper Coast and Wakefield Plains.
- Sustainable coastal growth
- Strengthened inland towns
- Conservation and nature based tourism – in particular in western and southern Yorke Peninsula

Objective and Strategies have been developed to support this vision, under the following headings:

- Environmental and Cultural Assets
- Economic Development
- Population and Settlements

This assessment of the proposal has had regard to specific policies in the Strategy that relate to waste management. Previous assessments of the appropriateness and sustainability of establishing a waste depot (landfill) at the site against the key objectives and policies of the Strategy have been made in the original Assessment Report and Amendment to the Assessment Report.

In regard to policies related to economic activity, the community and the environment, the following assessment has been made:

- The proposal involves the reception of additional waste materials at an approved waste depot on land that is now alienated from agricultural use and no additional land will be lost from agricultural use. This means there is no need to establish a new facility at an alternative location and therefore provides for an orderly, efficient and economical option for management of listed wastes.
- The design of the facility is to a high standard and together with the management and monitoring measures proposed will minimise impacts on the environment, including contamination risk to groundwater and surface water.
- There are adequate buffers established at the site and management and monitoring measures ensure there would not be impacts on adjacent residents and land uses.
- The proposal involves the establishment of a facility to receive contaminated soil that has originated from the cleanup of contaminated sites. Without appropriately designed and managed facilities able to service metropolitan Adelaide and regional areas, remediation of site contamination may not occur or result in higher costs to the community. This facility will primarily service the northern metropolitan area but would also be available to the regional community.

Conclusion

The proposal is consistent with the Planning Strategy, in that it would be undertaken in a strategic location at a site that is an existing waste depot where the potential impacts can be managed appropriately using best practices.

3.2 THE DEVELOPMENT PLAN

The relevant Development Plan is the Wakefield Regional Council consolidated version dated 23 April 2009. The EIS Amendment contains a detailed analysis of the proposal against the Outer Metropolitan and Council Wide Objectives and Principles of the previous version of the Development Plan (dated 25 January 2007). Since the time of the preparation of the EIS Amendment, the Development Plan has been updated to be consistent with the Better Development Plan format. The Development Plan now contains General Objectives and Principles of Development Control (rather than Council wide ones), but retains specific Zone policies that are now more consistent with other Council Development Plans. The Zone policies now include a Desired Character section. The existing landfill and proposed cells for the receipt of LLCW is still within the Primary Production Zone.

General (Waste Management Facilities)

Objectives

1. *The orderly and economic development of waste management facilities in appropriate locations.*
2. *Minimisation of human and environmental health impacts from the location and operation of waste management facilities.*
3. *Protection of waste management facilities from incompatible development.*

Principles Of Development Control

1. *Waste management facilities should be located and designed to minimise adverse impacts on both the site and surrounding areas from the generation of surface water and*

- groundwater pollution, traffic, noise, odours, dust, vermin, weeds, litter, gas and visual impact.*
2. *Waste management facilities in the form of land fill and organic processing facilities should not be located in existing or future township, living, residential, centre, office, business, institutional or environmental protection, conservation, landscape, water protection and open space areas.*
 3. *Waste management facilities should not be located where access to the facility requires, or is likely to involve, the use of non-arterial roads in adjacent residential areas.*
 4. *Waste management facilities should be appropriately separated from sensitive land uses and environmentally-sensitive areas. The separation distance between the waste operations area and sensitive uses should be incorporated within the development site as illustrated in the figure below. The waste operations area includes all closed, operating and future cells.*
 5. *Only land uses and activities that are compatible with both a waste management facility and any adjacent land uses may be located within the separation distance.*
 6. *Separation and/or noise attenuation should be used to ensure noise generation associated with the waste management operation does not unreasonably interfere with the amenity of sensitive land uses.*
 7. *Sufficient area should be provided within the waste operations area for the:*
 - (a) *maximum expected volume of material on the site at any one time*
 - (b) *containment of potential groundwater and surface water contaminants*
 - (c) *diversion of clean stormwater away from the waste and potentially-contaminated areas.*
 8. *Landscaping should be provided to screen views of the processing facilities and operational areas.*
 9. *Waste management sites should be accessed by appropriately constructed and maintained roads.*
 10. *Traffic circulation movements within any waste management site should:*
 - (a) *be of a dimension and constructed to support all vehicles transporting waste*
 - (b) *enable all vehicles to enter and exit the site in a forward direction.*
 11. *Suitable access for emergency vehicles should be provided to and within waste management site.*
 12. *Chain wire mesh or pre-coated painted metal fencing to a minimum height of 2 metres should be erected on the perimeter of a waste management facility site to prevent access other than at entry points.*
 13. *Plant, equipment or activities that could cause a potential hazard to the public should be enclosed by a security fence.*
 14. *Litter control measures that minimise the incidence of wind blown litter should be provided.*
 15. *The waste operations area of a landfill or organic waste processing facility should be sited:*
 - (a) *at least 3 kilometres from an airport used by commercial aircraft to minimise the risk of bird strikes to aircraft*
 - (b) *at least 1.5 kilometres from an airport used by piston aircraft*
 - (c) *at least 500 metres from:*
 - (i) *the boundaries of the allotment*
 - (ii) *the nearest dwelling, shop, office, public institution or other building designed primarily for human occupation in the case of an organic waste processing facility for the composting of waste*

- (d) at least 250 metres from a public open space reserve, forest reserve, national park, conservation zone or policy area
 - (e) at least 100 metres from:
 - (i) the nearest surface water (whether permanent or intermittent)
 - (ii) a 1 in 100 year average return interval flood event area.
16. The waste operations area of a landfill should not be located on land:
- (a) that is subject to land slipping
 - (b) with ground slopes greater than 10 per cent, except where the site incorporates a disused quarry.
17. The waste operations area of an organic waste processing facility should not be located on land:
- (a) that is subject to land slipping
 - (b) with ground slopes greater than 6 per cent
 - (c) where the interface of the engineered landfill liner and natural soils would be within any of the following:
 - (i) 15 metres of unconfined aquifers bearing groundwater with less than 3000 mg/L total dissolved salts
 - (ii) 5 metres of groundwater with a water quality of 3000 to 12 000 mg/L total dissolved salts
 - (iii) 2 metres of groundwater with a water quality of greater than 12 000 mg/L total dissolved salts.
18. Where required, a leachate barrier should be provided between the operational areas and underlying soil and groundwater.
19. Landfill activities that have a total storage capacity exceeding 230 000 cubic metres should make sustainable use of landfill gas emissions. For smaller landfill activities, if the sustainable use of the landfill gas emissions is not practical or feasible, flaring should be used to avoid gases being vented directly to the air.

Primary Production Zone

Objectives

1. Economically productive, efficient and environmentally sustainable primary production.
2. Allotments of a size and configuration that promote the efficient use of land for primary production.
3. Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.
4. Development that contributes to the desired character of the zone.

Desired Character

The zone accommodates a wide range of farming practices which contribute to local employment, and the local economy, where sustainable farm management is practised and where an attractive well vegetated landscape exists. This zone covers the majority of the council area, excluding the townships and several special zones. The predominant uses are livestock grazing and cereal cropping which are generally farmed on relatively large land holdings as well as intensive animal keeping. Agricultural production within the region contributes the most significant component to the local economy, and generates additional employment and revenue

through related spin-off activities including processing, manufacturing, transportation and local service towns. The pattern of occupation with homesteads, ancillary buildings, and paddocks enclosing crops and livestock dominate the environment and firmly establish an open, rural appearance. The natural conditions existing throughout the region are well suited to support a highly productive agricultural industry. Rural-based activities should continue to operate and expand within the region, provided sound management techniques can be demonstrated, and the long-term productivity of the land is ensured. (Note: Abridged version).

Principles of Development Control

Land Use

1. The following forms of development are envisaged in the zone:

- *commercial forestry*
 - *dairy farming*
 - *diversification of existing farming activities through small scale tourist accommodation:*
 - *within existing buildings; or*
 - *in the form of farm stay, guesthouse, rural or nature retreat, or bed and breakfast accommodation as an integral part of the farm buildings complex*
 - *farming*
 - *horticulture*
 - *intensive animal keeping.*
- 2. Development listed as non-complying is generally inappropriate and not acceptable unless it can be demonstrated that it does not undermine the objectives and principles of the Development Plan.*
- 3. Industry and warehousing should only be developed if it supports primary production, processing, storage and distribution of local primary produce or products produced on the same site, and should be developed where:*
- (a) it has a direct relationship with primary production*
 - (b) it is unlikely to limit or inhibit the use of adjoining land for primary production*
 - (c) the particular use requires a site in proximity to a particular natural resource or other product or materials sourced from the locality*
 - (d) it will not result in the alienation of land or water resources identified as significant for primary production or ecological reasons*
 - (e) the use would be inappropriate within a township.*

Form and Character

8. Development should not be undertaken unless it is consistent with the desired character for the zone.

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

- *Waste reception, storage, treatment or disposal where it is located within Beaufort Flood Protection Policy Area 2.*

It is considered that the proposal complies with the relevant principles of development control, especially given that the disposal of LLCW would occur within the ambit of an existing, approved (and licensed) use of the site as a waste depot. In particular, reference is made to the high level of design of the lining and leachate collection system for the LLCW disposal cells and the management and monitoring provisions detailed in the LEMP. The visual amenity is not

altered from the original approved waste depot, as closure will produce the same landform. The design of the facility is of a higher standard than the existing landfill, with management and monitoring measures ensuring that there are no impacts on the environment and nearby residents and land uses. The LEMP would address issues relating to the control and management of soil erosion, air emissions, water and land pollution risks.

Conclusion

It is concluded that the proposal complies with the relevant policies of the Development Plan. Section 5 assesses the potential issues in detail.

3.3 BUILDING RULES

This Second AAR does not include specific assessment of the proposal against the provisions of the Building Rules under the *Development Act 1993*. It should be noted that there are no proposed structures that would need Building Rules Consent.

3.4 ENVIRONMENT PROTECTION ACT

The proposed development involves an activity of major environmental significance as prescribed in the *Environment Protection Act 1993* and accordingly was referred to the EPA. When proposals involve activities of major environmental significance the Governor, before making a decision on the proposed development, must have regard to the objects of the Act, the general environmental duty and any relevant environment protection policies.

The objects of the Act are:

- *To promote the principles of ecologically sustainable development;*
- *To ensure that all reasonable and practicable measures are taken to protect, restore and enhance the quality of the environment having regard to the principles of ecologically sustainable development, and to prevent, reduce, minimise and, where practicable, eliminate harm to the environment.*

In addition, proper weight should be given to both long and short term economic, environmental, social and equity considerations in deciding all matters relating to environmental protection, restoration and enhancement. The EPA is required to apply a precautionary approach to the assessment of risk of environmental harm and ensure that all aspects of environmental quality affected by pollution, and waste are considered in decisions relating to the environment.

Changes to the Act relating to site contamination (ie. increased liability and responsibility for cleaning up polluted sites) are likely to lead to increased demand for facilities to dispose of contaminated waste.

The proposal would help meet key objectives of South Australia's Waste Strategy 2005 – 2010 by encouraging sustainable behaviour through the provision of a facility for the improved management of wastes in the State.

The EPA provided comment on the Amended EIS (refer to Section 4.4.1).

3.5 OTHER MATTERS FOR CONSIDERATION

South Australia's Strategic Plan (2007)

The Governor is also required to have regard to any other matters considered relevant. In this context, an assessment has been carried out with reference to the Strategic Plan. The Plan seeks to widen opportunities for all South Australians through the pursuit of six strategic objectives:

1. Growing prosperity
2. Improving well being
3. Attaining sustainability
4. Fostering creativity and innovation
5. Building communities
6. Expanding opportunities

Of relevance to the proposal are the objectives of improving well being by improving the quality of life and well being of the community and individual citizens, and attaining sustainability, with the focus being on the protection of biodiversity, sustainable water and energy supplies and minimising waste.

Past industrial practices have resulted in the contamination of land that has the potential to impact the health and well being of the community and individuals. In addition in order to minimise the State's ecological footprint there is an opportunity to redevelop land that has been degraded by contamination for residential use, subject to appropriate clean-up being undertaken. In many instances there are no economically viable technologies to treat the contaminated soils to a level that would enable the effective use of the site for residential purposes. In these cases it would be necessary to dispose of the contaminated soils in appropriately located and designed facilities.

Establishment of an appropriately designed facility within the existing approved landfill site would mean there is no need to develop a new site with potential impacts on the community or biodiversity. The design and management measures proposed for the disposal of LLCW would provide a high level of environmental protection in terms of potential impacts.

The waste materials proposed to be disposed of are primarily soils containing contaminants that come from sites that are difficult or costly to remediate.

The establishment of the proposed facility within an existing approved waste depot is considered to be appropriate from an environmental perspective and accords with relevant provisions of the Strategic Plan, provided it is managed appropriately. Section 5 considers these issues in detail.

Strategic Infrastructure Plan for South Australia (2005/6 – 2014/15)

The proposal would provide a high-quality facility for the appropriate handling and disposal of hazardous waste that ensures community safety and the environment are protected.

4. CONSULTATION WITH THE PUBLIC, COUNCIL AND GOVERNMENT AGENCIES

The EIS Amendment was placed on public exhibition for 3 weeks from 11 February to 4 March 2009, with a total of 11 submissions received (comprising 3 from the public and 8 from government, including submissions from the Wakefield Regional Council and the Member for Goyder Steven Griffiths MP). Refer to Appendix A for a copy of all submissions received. All submissions were forwarded to the proponent, which subsequently prepared a response to the submissions (Appendix B).

4.1 PUBLIC SUBMISSIONS

The issues raised in the submissions were:

- Risks associated with contaminated waste, especially potential airborne toxins leaving the site during windy conditions and affecting adjoining land uses and the community.
- Dumping needs to be done under some form of covered structure, with waste covered immediately.
- Air emission controls and adequacy of dust/odour monitoring.
- Potential effect of chemicals on integrity of HDPE liner, especially over time.
- Ability of liner and leachate collection system to prevent groundwater contamination (and contamination of the Gulf St Vincent). Has modelling been undertaken?. Adequacy of groundwater monitoring and need for results to be provided to community (or undertaken independently).
- Clarification of buffer requirements.
- Adequacy of existing vegetated buffers to screen operations, especially from Port Wakefield Road.
- Litter control.
- Climate change implications, especially increased coastal flooding and increased wind speeds.
- 'Remoteness' from essential services.
- Need for financial sureties.
- Compliance with current LEMP.
- Current practices not in accordance with approvals/license conditions.
- Ability of proponent and EPA to control operations.
- Need for greater, ongoing community liaison.

4.2 WAKEFIELD REGIONAL COUNCIL

The Wakefield Regional Council made the following comments on the proposal:

- Objection to accepting another waste source due to concerns regarding the long term integrity of the containment cells and close proximity to the Gulf St Vincent.
- Ratepayers concerns with current activities, especially dust and lack of coverage of waste. Apparent lack of monitoring by approving or licensing authorities.

- If approved, LLCW should have a minimum of 300mm cover, quarterly reports (as part of the Annual Report) should be provided to Council and EPA officers should make random monthly inspections to ensure license complied with (and provide reports to Council).

4.3 MEMBER FOR GOYDER

The Member for Goyder, Steven Griffiths MP JP, made the following comments on the proposal:

- Possibility of LLCW soils being transferred off-site during windy conditions and being blown onto surrounding properties.
- Suggested measures to minimise impact, including:
 - restrict unloading hours to between 6am and 12 noon when wind velocity <15 knots or only unload when wind velocity <15 knots
 - use of portable covered shelter during unloading
 - increase daily cover to 300mm
 - sides of each cell to be covered at all times
 - improve dust monitoring strategy

4.4 GOVERNMENT AGENCIES

Relevant government agencies were consulted, with comments received summarized below.

4.4.1 Environment Protection Authority (EPA)

The EPA provided its comments as follows:

- The proposed expansion will take place further away from the nearest residential dwellings than the current activities on the site, so noise from the site at the nearest residence will be less of a concern than currently.
- There is unlikely to be a potential odour impact above that which already exists at the development.
- The leachate management and groundwater protection measures in the revised Landfill Environment Management Plan deal adequately with stormwater management concerns.
- It is recommended that the following conditions be attached to the amendment to the current Development Authorisation:
 1. Prior to the construction of the Low Level Contaminated Waste/Treatment Plant Residues Cell (LLCW/TPRC), the Licensee must submit to the Environment Protection Authority for assessment and approval a revised Landfill Environmental Management Plan (LEMP) incorporating the design, construction, technical specifications, environmental and post-closure management of the LLCW/TPRC.
 2. The Licensee must, no less than three months prior to construction of any LLCW/TPRC at the Premises:
 - (a) provide to the Environment Protection Authority a specification document that provides a detailed design for the relevant cell;
 - (b) not construct any cell unless written approval has been received from the Environment Protection Authority.

3. The Licensee must prior to receiving, storing, treating or disposing of any waste within the LLCW/TPRC, provide to the Environment Protection Authority:
 - (a) an “As Constructed Report” certifying compliance with the approved design for the lining system, including a Construction Quality Report (CQA) for the liner and the Level 1 Supervision Report; and
 - (b) not receive any LLCW/TPR without written approval from the Environment Protection Authority.

4.4.2 Department Of Water, Land And Biodiversity Conservation

- The proposal did not contain sufficient information to establish with certainty whether native vegetation would be impacted upon or not.
- Development should occur in areas that avoid the clearance of native vegetation. Where native vegetation is to be removed, it should be replaced in a suitable location on the site with vegetation indigenous to the local area to ensure that there is not a net loss of native vegetation and biodiversity.
- Development should be located and occur in a manner which:
 - (a) does not increase the potential for, or result in, the spread of pest plants, or the spread of any non-indigenous plants into areas of native vegetation or a conservation zone
 - (b) avoids the degradation of remnant native vegetation by any other means including as a result of spray drift, compaction of soil, modification of surface water flows, pollution to groundwater or surface water or change to groundwater levels
 - (c) incorporates a separation distance and/or buffer area to protect wildlife habitats and other features of nature conservation significance.

4.4.3 Department Of Transport, Energy And Infrastructure

- Port Wakefield Road/Primes Road junction not suitable for road train/B-Double truck turning movements unless upgraded (ie. to the satisfaction of DTEI).

4.5 PROPONENT’S RESPONSE

The proponent responded to the concerns raised in public and Government submissions. Refer to Appendix B.

This has also been considered in the assessment of the proposal in Section 5.

5. ASSESSMENT OF ENVIRONMENTAL, SOCIAL AND ECONOMIC ISSUES

Issues related to whether the site is suitable for waste disposal were addressed in the previous EIS and Assessment Report documents that were considered by the Governor when the landfill was initially approved. Such issues include the potential impact on nearby residents and land uses; groundwater and surface water contamination risk (including the risk to the Gulf St Vincent); air emissions (ie. dust and noise); litter; visual impact; site access and traffic implications (especially for Port Wakefield Road); fire risk; effect on native vegetation and fauna; pest plants and animals; economic implications; and management and monitoring (including post closure remediation).

The following assessment concentrates on additional issues associated with the receipt and disposal of LLCW. Issues related to the general management of the landfill would be addressed by the existing LEMP.

In terms of the potential risk posed by air emissions, the main potential risk would be the generation of air emissions from the dumping of materials that could be odorous, could contain contaminants or could generate dust during windy conditions. The nearest residence is located >1,000m from the proposed LLCW disposal cells, which would be an adequate buffer distance to ensure operations would not pose a health risk. This risk would also be minimised by the daily covering of waste with clean soil, the controlled application of water to control dust and the monitoring of air emissions.

In terms of the potential risk of surface water and groundwater contamination, the waste would be disposed of to designated landfill cells designed with double liners and leachate collection systems to ensure surface water and groundwater is not contaminated.

These risks are considered to be low, due to the small amounts of LLCW to be disposed of and the environmental management measures that would be implemented.

Minor effects from the proposal include:

- The generation of dust during construction, which would be controlled using standard dust suppression measures (primarily wetting down of exposed soils).
- Additional noise sources, which are similar to current operations, for which potential impacts would be contained within the existing site noise buffer zone;
- Additional truck movements, which would not have a significant impact, given the high volumes of traffic currently using Port Wakefield Road (ie. 6 additional trucks per day compared with 8,500 vehicle movements per day on Port Wakefield Road, resulting in an increase of <0.1% over existing traffic volumes). Total truck movements would be below those predicted in the original EIS. Road Train and B-Double trucks would not be used to transport waste. Thus, existing access arrangements would not be affected.
- The receipt of soils contaminated with petroleum hydrocarbons that may contain volatile organic compounds that could pose a fire risk, which would be managed under standard fire safety precautions and control measures for such materials.

The lifespan and the closure and post closure arrangements for the landfill would not be affected.

There are no environmental impacts associated with the proposal that have not been previously investigated and addressed (particularly the potential effects of landfill operations on groundwater and the Gulf St Vincent).

The mitigation of impacts associated the proposal would be addressed by licensing requirements for a Waste or Recycling Depot under the *Environment Protection Act 1993* (and associated Environment Protection Policies), particularly through modifications to the LEMP. The existing licence also would need to be amended to incorporate specific requirements for the disposal of LLCW.

6. MITIGATION, MANAGEMENT AND MONITORING

The existing landfill was originally designed and constructed to meet the principles contained within the EPA Guidelines for Major Landfills, which has since been superseded. Amendments to the licence and engineering specifications have been undertaken so that the facility now meets the requirements of the EPA *Guidelines: Environmental management of landfill facilities (municipal solid waste and commercial and industrial general waste)* 2007.

The management of environmental impacts associated with the existing landfill are addressed in the current Landfill Environmental Management Plan (LEMP). In accordance with EPA licence requirements, the LEMP is reviewed annually and updated as necessary. This allows for the incorporation of adjustments to environmental monitoring and auditing, changes to relevant legislation, policies, guidelines and performance requirements and conditions of licence. This also allows for the adoption of new technologies and methods as they become available in accordance with principles of using BACT (Best Available Control Techniques).

The current LEMP addresses the following issues:

- Operational Details.
- Environmental Management Systems.
- Stormwater and Erosion Management.
- Groundwater and Leachate Management.
- Landfill Gas Management.
- Noise Management.
- Dust and Mud Management.
- Odour Management.
- Litter Management.
- Visual Impacts and Revegetation Management.
- Fire Risk Management.
- Aboriginal Heritage Management.
- Closure and Post Closure.

The disposal of LLCW would need to be managed and monitored in accordance with an amended Landfill Environmental Management Plan (LEMP). The LEMP would need to be amended, to the satisfaction of the EPA, prior to the receipt of LLCW. The LEMP would also need to include a financial assurance strategy to cover the liability for operations and monitoring (as per the current LEMP), due to the increased potential risk resulting from the materials proposed to be received.

6.1 LANDFILL ENVIRONMENTAL MANAGEMENT PLAN

In relation to the proposed disposal of LLCW, a draft new section of the LEMP has been included in the EIS Amendment to cover additional management measures specifically for the operation of the LLCW cell (EMM 14 – Operation of Cells to Receive LLCW). Specifically, this includes the following issues:

- Leachate Management and Groundwater Protection – the barrier system and leachate monitoring system are specifically modified for the LLCW cells to provide a higher level of performance and protection than that required for other waste types.
- Landfill Gas Management - whilst the composition of the gas generated from LLCW may vary from that generated by other waste types, it could be managed by incorporation into the overall landfill gas extraction and treatment system. Should monitoring indicate an issue with gas quality, sampling ports in the LLCW gas infrastructure upstream of interconnections with other portions of the landfill could be utilised, and if required, the LLCW gas infrastructure could be isolated from the existing LFG system and operated independently.
- Litter Management - the LLCW material is not expected to contain appreciable quantities of litter, therefore use of litter control techniques such as the existing litter net system would not be required for the LLCW cells.

The current leachate monitoring program and groundwater monitoring program (ie. for wells located down gradient of LLCW cells) would be varied to include analysis of volatiles as a trigger parameter.

The EPA has advised that, prior to the construction of the LLCW Cells, the proponent must submit a revised LEMP (incorporating the design, construction, technical specifications, environmental and post-closure management measures) for assessment and approval.

7. CONCLUSIONS

The amended assessment of the proposal by TWM to receive and dispose of Low Level Contaminated Waste (LLCW) at the approved Northward Fill landfill at Inkerman has required the consideration of a limited range of social, economic and environmental issues.

Advice from the Environment Protection Authority (EPA) has been incorporated into this Second Amendment to the Assessment Report, both as required by the *Development Act 1993* and as the EPA will be responsible for the determination of licensing requirements (if the proposal is granted development authorisation by the Governor). The Governor will be responsible for deciding whether the current land use can be expanded to accept an additional waste stream. The EPA will be responsible for controlling the activities associated with the expanded operation of the landfill.

The Wakefield Regional Council provided a written submission on the proposal and consideration has been given to the relevant Development Plan, government and public comments.

It is concluded that there is a need for facilities to receive and dispose of LLCW in South Australia. There are strategic benefits in having such a facility located within an existing, licensed waste depot. The issues associated with the proposal have been satisfactorily addressed in the Amended EIS and proponent's response to submissions to enable the Governor to make a decision on the proposed development.

8. RECOMMENDATIONS

This Second Amendment to the Assessment Report concludes that the potential environmental, social and economic impacts associated with the proposed disposal of Low Level Contaminated Waste (LLCW) at the TWM Northward Fill site at Inkerman can be minimised to acceptable levels and are manageable.

If the Governor were to grant development authorisation, the current development approval will need to be amended, with additional conditions based on the following requirements:

1. Transpacific Waste Management shall undertake the development in accordance with the following documents and plans:
 - Transpacific Waste Management, Northward Fill - EIS Amendment to Accommodate Additional Waste Types, 19 September 2008.
2. Prior to the construction of the Low Level Contaminated Waste/Treatment Plant Residues Cell (LLCW/TPRC), the Licensee must submit to the Environment Protection Authority for assessment and approval a revised Landfill Environmental Management Plan (LEMP) incorporating the design, construction, technical specifications, environmental and post-closure management of the LLCW/TPRC.
3. The Licensee must, no less than three months prior to construction of any LLCW/TPRC at the Premises:
 - (a) provide to the Environment Protection Authority a specification document that provides a detailed design for the relevant cell;
 - (b) not construct any cell unless written approval has been received from the Environment Protection Authority.
4. The Licensee must prior to receiving, storing, treating or disposing of any waste within the LLCW/TPRC, provide to the Environment Protection Authority:
 - (a) an “As Constructed Report” certifying compliance with the approved design for the lining system, including a Construction Quality Report (CQA) for the liner and the Level 1 Supervision Report; and
 - (b) not receive any LLCW/TPR without written approval from the Environment Protection Authority.

9. REFERENCES

Minister for Urban Development & Planning, 1997. *Assessment Report for the Construction of the Inkerman Landfill Depot.*

Minister for Urban Development & Planning, 1998. *Amendment to the Assessment Report for the Environmental Impact Statement (as Amended) for the Inkerman Landfill Depot Northward Fill.*

QED Pty Ltd, 2008. *Transpacific Waste Management, Northward Fill – EIS Amendment to Accommodate Additional Waste Types 2008*, prepared for Transpacific Waste Management, 19 September 2008.

10. GLOSSARY

AHD	Australian Height Datum (approximate mean sea level)
AQIS	Australian Quarantine Inspection Service
AS	Australian Standard
DB	Decibels
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMM	Environmental Management Measure
EMS	Environmental Management System
EPA	Environment Protection Authority
HDPE	High density polyethylene
LCCW	Low Level Contaminated Waste
LEMP	Landfill Environmental Management Plan
L/s	Litres per second
m	Metres
mg/L	Milligrams per litre
NATA	National Association of Testing Authorities
TWM	Transpacific Waste Management
TPRC	Treatment Plant Residues Cell

APPENDIX A

PUBLIC AND GOVERNMENT SUBMISSIONS

91



Government of South Australia
Primary Industries and Resources SA

Our reference: 07/0350
Please refer to: PLAN F2008/002124 PO1
Telephone No: 8204 1421

RECEIVED
26 FEB 2009
DEPT. PLANNING &
LOCAL GOVT.

AGRICULTURE
FOOD AND WINE
Level 9
101 Grenfell Street
Adelaide SA 5000
GPO Box 1671
Adelaide SA 5001
DX 667
Tel (08) 8226 0310
Fax (08) 8463 3363
www.pir.sa.gov.au

24 February 2009

Attention: Lee Webb

A/Manager Assessment Branch
Department of Planning and Local Government
GPO Box 1815
Adelaide SA 5001

DEPT. PLANNING & LOCAL GOVT.
Document No. eA12478
File No.

Dear Mr Webb

Northward Fill, Inkerman - EIS Amendment

Thank you for the opportunity to comment on this EIS Amendment.

The proposal will not impact on agriculture and PIRSA Agriculture Food & Wine has no comment.

If you have any queries regarding PIRSA's advice on this Development Application, you can contact me by telephone on 8204 1421 or by e-mail – harris.keith@saugov.sa.gov.au.

Yours sincerely

Keith Harris
MANAGER, DEVELOPMENT PLANNING AND POLICY
PIRSA AGRICULTURE, FOOD & WINE

G2

Webb, Lee (PlanningSA)

From: Gay, Bradley (DPC)
Sent: Wednesday, 25 February 2009 1:16 PM
To: Webb, Lee (PlanningSA)
Subject: Correspondence

Dear Lee

Thank you for the copy of Transpacific Waste Management's EIS Amendment for Northward Fill at Inkerman.

This e-mail is to advise that DPC won't be making any formal submission.

Regards
Brad

Brad Gay
Principal Cabinet Officer
Cabinet Office

Level 14, State Administration Centre
200 Victoria Square, Adelaide SA 5000
Ph: (08) 8226 0152 Fax: (08) 8226 1111

Webb, Lee (DPLG)

From: Ness, David (DTEI)
Sent: Tuesday, 3 March 2009 3:34 PM
To: Webb, Lee (DPLG)
Cc: Jenkins, Robert (DTEI); Llewellyn, Ian (DTEI); Wauchope, Maree (DTEI); Loughron, Reece (DTEI)
Subject: Comments on EIS amendments 1) Northern Landfill, Inkerman; and 2) IWS Northern Balefill, Dublin

Dear Lee

Thanks for opportunity for OMPI to comment on these 2 proposals.

1) Northern landfill, Inkerman: additional waste types

Reference is made to Development Plan considerations (7.3).
PDC 195 notes: "Landfill activities that have a total storage capacity exceeding 230 000 cubic metres should sustainably utilise landfill gas emissions. For smaller landfill activities, if the sustainable utilisation of the gas emissions is not practically feasible then controlled flaring is appropriate....."
I note that the northern landfill has a waste capacity of 12 000 000 cubic metres (well in excess of 230 000).
The proponent should comment on this requirement.

Reference should also be made to the Strategic Infrastructure Plan for SA
http://www.dtei.sa.gov.au/infrastructure/strategic_infrastructure_plan
See page 150-153 Waste Management. It is noted here (page 150-151) that "Technologies for the recovery of energy from waste provide additional potential opportunities..." and "Modern Landfills in SA are required to be lined and to treat leachates and burn (or flare) or capture for energy the landfill gases emitted from the sites".

2) IWS Northern Balefill, Dublin - Proposed development of multi-purpose waste treatment facility

The proposal to provide a suite of waste management services at a single consolidated location within the existing site is consistent with the broad strategies of the Strategic Infrastructure Plan for SA eg "promoting shared and multiple use of assets through co-location..." (page 6) and "exploring options for redevelopment.... of existing assets and design of adaptable multi-purpose facilities for shared use."

Furthermore, the Strategic Infrastructure Plan states (page 6) "It means ...employing advances in technology that offer innovative infrastructure solutions or new supply sources eg in the case of energy....". In this regard, a similar comment to that for Inkerman applies ie utilising landfill emissions to produce energy.

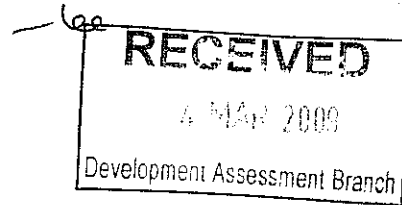
Pleased to discuss further

Kind regards

David

Dr David Ness
Office of Major Projects and Infrastructure
Department for Transport, Energy and Infrastructure
Ph: (08) 8463 6236
Fax: (08) 8463 6229
Mobile: 0401 122 651
Email: david.ness@saugov.sa.gov.au

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EPA 05 16210/1

Karen Ferguson
A/Manager, Assessment Branch
Department of Planning and Local Government
5th Floor
136 North Terrace
ADELAIDE SA 5000

Dear Ms Ferguson

Thank you for the opportunity for the Environment and Conservation Portfolio to comment on the proposed amendment of the Environmental Impact Statement (EIS) for the Transpacific Waste Management Northward Fill development at Inkerman.

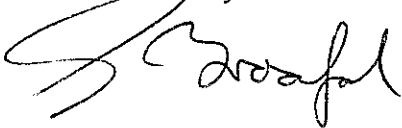
The attachment to this letter contains comments on the proposed EIS amendment from the Department for Environment and Heritage, Department of Water, Land and Biodiversity Conservation, Environment Protection Authority, and Zero Waste SA.

These comments include:

- issues that should be addressed by the proponent in the Response to Submissions
- requests for additional information on particular issues
- an early indication of conditions that the EPA is likely to recommend for inclusion in any provisional planning approval to be issued by the Governor.

For further information on this matter, please contact me on 8204 9821 or geoffrey.bradford@epa.sa.gov.au. Alternatively, contact the officer indicated in the attached comments.

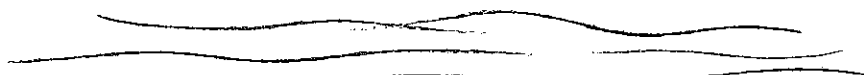
Yours sincerely



Geoff Bradford

**SENIOR PROJECT OFFICER
SCIENCE & SUSTAINABILITY DIVISION
ENVIRONMENT PROTECTION AUTHORITY**

Date: 4 March 2009



Environment Protection Authority

**ATTACHMENT - COMMENTS ON THE PROPOSED EIS AMENDMENT FOR THE
TRANSPACIFIC WASTE MANAGEMENT NORTHWARD FILL DEVELOPMENT AT
INKERMAN**

DEPARTMENT FOR ENVIRONMENT AND HERITAGE

The Department for Environment and Heritage has no comments to make on the EIS amendment proposal.

Further information

John Barker, Senior Conservation Policy Planner, ph: 8463 4824, email:
barker.john@saugov.sa.gov.au

DEPARTMENT OF WATER, LAND AND BIODIVERSITY CONSERVATION

- The proposal did not contain sufficient information to establish with certainty whether native vegetation would be impacted upon or not.

Information Request: The Department requests a scale drawing of the development overlaid on recent aerial photography.

- Development should occur in areas that avoid the clearance of native vegetation. Where native vegetation is to be removed, it should be replaced in a suitable location on the site with vegetation indigenous to the local area to ensure that there is not a net loss of native vegetation and biodiversity. Should clearance of native vegetation be required, the proponent should contact the Native Vegetation Council Secretariat on 08 8124 4744.
- Development should be located and occur in a manner which:
 - (a) does not increase the potential for, or result in, the spread of pest plants, or the spread of any non-indigenous plants into areas of native vegetation or a conservation zone
 - (b) avoids the degradation of remnant native vegetation by any other means including as a result of spray drift, compaction of soil, modification of surface water flows, pollution to groundwater or surface water or change to groundwater levels
 - (c) incorporates a separation distance and/or buffer area to protect wildlife habitats and other features of nature conservation significance.
- The Department is satisfied that the Environment Protection Authority will address any further concerns in relation to the management of stormwater and the potential contamination of groundwater resources.

Further information

Dearnne Popow, Planning Officer, ph: 8463 6861, email:
popow.dearnne@saugov.sa.gov.au

ENVIRONMENT PROTECTION AUTHORITY

General

It should be noted that the applicant and their consultants consulted extensively with the Environment Protection Authority prior to submitting this EIS Amendment.

Noise

Currently, the closest dwelling is approximately 375m to the East of the site and there are currently no problems with noise from the site. Operating hours will be during day light hours.

The proposed expansion will take place further away than the current activities on the site so noise from the site at the nearest residence will be less of a concern than currently.

Further information

Max Browne, Senior Noise Adviser, ph: 8204 2073, email:
max.browne@epa.sa.gov.au

Air Quality

Having reviewed the proposed EIS amendment and undertaken discussions with the EPA's Licence Coordinator for the site, it is believed that there is unlikely to be a potential odour impact above that which already exists at the development.

Further information

Chris Harris, Principal Adviser Air Quality, ph: 8204 2077, email:
chris.harris@epa.sa.gov.au

Stormwater Management

The leachate management and groundwater protection measures in the revised Landfill Environment Management Plan deal adequately with stormwater management concerns.

Further information

Peter Newland, Manager Water and Catchments, ph: 8204 1318, email:
peter.newland@epa.sa.gov.au

ZERO WASTE SA

Zero Waste SA has no comments to make on the EIS amendment proposal.

Further information

Ian Harvey, Manager Strategy and Programs, ph: 08 8204 1954, email:
ian.harvey@zerowaste.sa.gov.au

CONSOLIDATED RECOMMENDATIONS RELATING TO CONDITIONS OF DEVELOPMENT APPROVAL

NOTE: The conditions that follow are preliminary and have been provided as an early indication of the type of conditions that the EPA is likely to recommend in any final approval that may be granted by the Governor for this major project.

Amendment to the current Development Authorisation must be subject to the following conditions:

1. Prior to the construction of the Low Level Contaminated Waste/Treatment Plant Residues Cell (LLCW/TPRC), the Licensee must submit to the Environment Protection Authority for assessment and approval a revised Landfill Environmental Management Plan (LEMP) incorporating the design, construction, technical specifications, environmental and post-closure management of the LLCW/TPRC.
2. The Licensee must, no less than three months prior to construction of any LLCW/TPRC at the Premises:
 - (a) provide to the Environment Protection Authority a specification document that provides a detailed design for the relevant cell;
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3. The Licensee must prior to receiving, storing, treating or disposing of any waste within the LLCW/TPRC, provide to the Environment Protection Authority:
 - (a) an "As Constructed Report" certifying compliance with the approved design for the lining system, including a Construction Quality Report (CQA) for the liner and the Level 1 Supervision Report; and
 - (b) not receive any LLCW/TPR without written approval from the Environment Protection Authority.

Further information

Patrick Nganga (EPA), Senior Adviser Waste Management, ph: 8204 1639, email: patrick.nganga@epa.sa.gov.au

Webb, Lee (DPLG)

From: Bradford, Geoffrey (EPA)
Sent: Wednesday, 4 March 2009 3:44 PM
To: Ferguson, Karen (DPLG)
Cc: Webb, Lee (DPLG)
Subject: EIS Amendments Northward Fill and IWS Northern Balefill
Attachments: EIS Amendment Northern Balefill Portfolio Response 09.03.04.doc; EIS Amendment Northward Fill Portfolio Response 09.03.04.doc

Karen,

Attached are copies of the Environment and Conservation Portfolio responses to the proposed EIS amendments for the following:

- Northward Fill, Inkerman – a proposal to accommodate additional waste types
- IWS Northern Balefill, Dublin – proposed development of a multi-purpose waste treatment facility.

Please note that as arranged with Lee Webb, the EPA may submit an addendum to these comments, which will be submitted by 11 March 2009.

Hard copies will be forwarded to you shortly.

Regards,

Geoff

Geoff Bradford
Senior Project Officer
Environment Assessment Branch
Environment Protection Authority
geoffrey.bradford@epa.sa.gov.au
Ph: (08) 8204 9821
Fax: (08) 8124 4673
GPO Box 2607, Adelaide, S.A. 5001, AUSTRALIA
<http://www.epa.sa.gov.au>

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GS



Government of South Australia

Department for Transport,
Energy and Infrastructure

In reply please quote 2009/00071, 3179658
Enquiries to Miss F Hurley
Telephone (08) 8343 2699

→ Lee
10/3/09 KF

TRANSPORT SERVICES
33-37 Warwick Street
Walkerville, SA 5081

PO Box 1
Walkerville SA 5081

Telephone: 61 8 8343 2222
Facsimile: 61 8 8343 2585

4 March 2009

A/Manager
Assessment Branch
5th Floor
136 North Terrace
ADELAIDE 5000

RECEIVED
- 6 MAR 2009
PLANNING SA
EMAILED 4.3.09

Dear Sir/Madam,

NORTHWARD FILL, INKERMAN

Your letter of: 10 February 2009
Application by: Transpacific Waste Management Pty Ltd
Development: Northward Fill, Inkermann – EIS Amendment for
a proposal to accommodate additional waste
types
Location: Port Wakefield Road, Inkerman

The Transport Services Division for the Department for Transport, Energy & Infrastructure raises the following comments on the above proposal:

- Although the Primes Road/Port Wakefield Road junction is currently shown as Gazetted for Road Trains, analysis by DTEI indicates that the current conditions on Port Wakefield Road can not accommodate full turning path envelopes for all Road Train turning movements at this junction.
- In view of the above, DTEI strongly recommends that the following vehicle movements be banned until intersection modification has been undertaken:
 - Left turn into Primes Road from Port Wakefield Road by both Road Train and B-Double vehicles.
 - Right turn into Port Wakefield Road from Primes Road by both Road Train and B-Double vehicles.
- The required road works should be designed and constructed to the satisfaction of DTEI, with all costs (design, construction and project management) being borne by the applicant. With regards to the design, the applicant is required to seek approval for the concept plan from this

Department's Acting Senior Consultant Traffic Engineer, Metropolitan Region, Ms Catherine Magraith, telephone (08) 8226 8325, before undertaking any detailed design work. Any works undertaken are not to interrupt stormwater run-off from the carriageway, or create any flooding on or adjacent to the roadway.

Yours faithfully,



for **MANAGER, TRAFFIC AND ACCESS STANDARDS**
For **COMMISSIONER OF HIGHWAYS**



Government of South Australia

Department for Transport,
Energy and Infrastructure

*In reply please quote 2009/00071, 3179658
Enquiries to Miss F Hurley
Telephone (08) 8343 2699*

4 March 2009

TRANSPORT SERVICES
33-37 Warwick Street
Walkerville, SA 5081

PO Box 1
Walkerville SA 5081

Telephone: 61 8 8343 2222
Facsimile: 61 8 8343 2585

A/Manager
Assessment Branch
5th Floor
136 North Terrace
ADELAIDE 5000

Dear Sir/Madam,

NORTHWARD FILL, INKERMAN

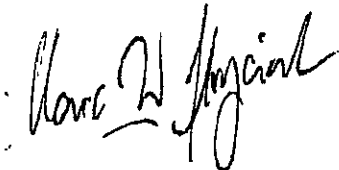
Your letter of: 10 February 2009
Application by: Transpacific Waste Management Pty Ltd
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types
Location: Port Wakefield Road, Inkerman

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Department's Acting Senior Consultant Traffic Engineer, Metropolitan Region, Ms Catherine Magraith, telephone (08) 8226 8325, before undertaking any detailed design work. Any works undertaken are not to interrupt stormwater run-off from the carriageway, or create any flooding on or adjacent to the roadway.

Yours faithfully,



for **MANAGER, TRAFFIC AND ACCESS STANDARDS**
For COMMISSIONER OF HIGHWAYS

F A C S I M I L E M E S S A G E**Government
of South Australia**Department for Transport,
Energy and Infrastructure

ATTENTION	Lee Webb
ORGANISATION	Planning SA
FACSIMILE NO	8303 0782
TOTAL PAGES	4
DATE	4 March 2009
FROM	Fran Hurley
PHONE	(08) 8343 2699
FAX	8343 2725
MOBILE	
EMAIL	frances.hurley@saugov.sa.gov.au

**TRANSPORT SERVICES
DIVISION**
33-37 Warwick Street
Walkerville SA 5081PO Box 1
Walkerville SA 5081Telephone: 08 8343 2222
Facsimile: 08 8343 2585

ABN 92 366 288 135

Subject

Hi Lee,

Please find attached a copy of the Transport Services Responses for the Northern Balefill and Northward Fill EIS documents.

If you have any queries don't hesitate to contact me on 8343 2699.

Regards,
Fran Hurley

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Webb, Lee (DPLG)

From: Callaghan, Frank (Health)
Sent: Wednesday, 4 March 2009 5:25 PM
To: Ferguson, Karen (DPLG)
Cc: Lease, Chris (Health); Webb, Lee (DPLG)
Subject: Northward Fill, Inkerman - EIS Amendment for a Proposal to Accommodate Additional Waste Types

Dear Karen

Thank you for the opportunity to comment on the above proposal. The potential public and environmental health impacts of the application appear to have been appropriately addressed.

If you have any comments or queries, please do not hesitate to contact me.

Regards

*Frank Callaghan
Principal Scientific Officer - Health Impact Assessment
Applied Environmental Health Branch*

*Public Health and Clinical Co-ordination Division
SA Health
Government of South Australia*

*Level 1, 11 Hindmarsh Square
Citi Centre
ADELAIDE SA 5000*

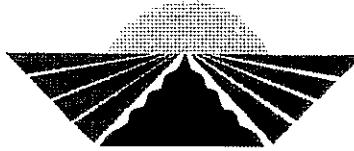
*PO Box 6 Rundle Mall
ADELAIDE SA 5000*

*Tel: (61) 08 8226 7145
Fax: (61) 08 8226 7102
Email: frank.callaghan@health.sa.gov.au*

Website: www.health.sa.gov.au/pehs/

I am not always at my desk and only check my email 2-3 times per day. If your matter requires my urgent attention, please contact me on (08) 8226 7100

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Wakefield Regional Council

ABN: 97 171 984 493

ECMM/sjh
File: 3.85.1.9
ILT 7224

3 March 2009

The Minister for Urban Development and Planning
Attention A/Manager Assessment Branch
GPO Box 1815
ADELAIDE SA 5001

Dear Sir,

RE: Northward Fill (Inkerman)

**EIS Amendment for a proposal to accommodate Additional Waste Types
(Low Level Contaminated Waste - LLCW)**

Council is again objecting to the approval for another type of waste being considered for approval at this site, which originally was granted to take household waste from Adelaide Metropolitan Area once it had gone through a Resource Recovery and Waste Transfer Facility. The reason for Council's concern is related to the locality of the site, in relation to the close proximity to the Gulf and the long term integrity of the containment cells into which the waste is disposed.

Council's ratepayers within the vicinity to the Northward Fill are concerned with the dust from the site, lack of coverage and monitoring of activities, e.g. dust. They also believe there is a lack of monitoring of activities by the approving or licensing authority.

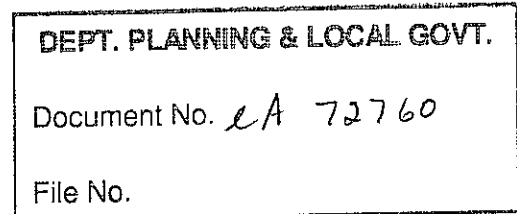
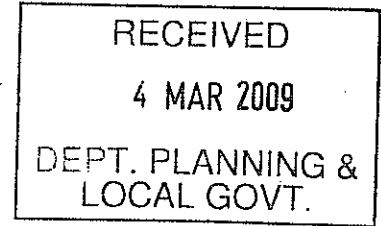
Having regard for the EIS and the current Environmental Protection Authority (EPA) License conditions, should the Minister consider the Amendment for additional LLCW Council respectfully requests consideration for the following:-

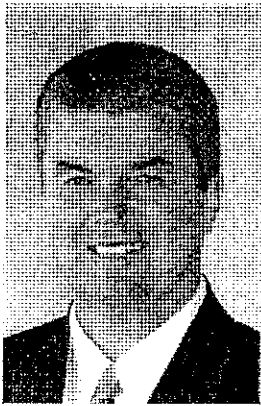
1. Current household waste requires a 150mm cover, which is considered a minimum cover, therefore it would appear appropriate for the LLCW (which is toxic) to have a minimum of 300mm cover.
2. While the licensee has to provide a comprehensive annual report to the EPA, as part of its license conditions, it is requested that they are to provide quarterly reports as part of the Annual Report, copies of which are to be provided to Council
3. EPA officers are required to undertake monthly, spasmodic, inspections to ensure the licensed area complies with conditions of the license, and provide reports to Council accordingly.

I realise that Council is not the approving authority, nor licensee, however, if the above were considered reasonable by the Minister, and accordingly imposed, Council officers would be better equipped to discuss issues with concerned elected members, rate payers and residents.

Yours faithfully,

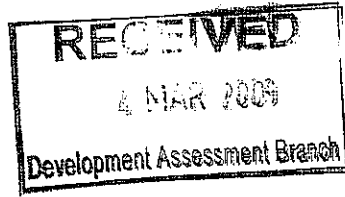

Elca McCarthy
ENVIRONMENTAL SERVICES MANAGER





Steven Griffiths MP JP

Member for Goyder



Shadow Minister for Finance
Shadow Minister for Economic Development
Shadow Minister for Industry & Trade
Shadow Minister for Public Sector Management
Shadow Minister for Federal/State Relations

ELECTORATE OFFICE
51 Robert Street
Maitland SA 5573
Ph: (08) 8832 2455
Fax: (08) 8832 2699

Email: goyder@parliament.sa.gov.au

3 March 2009

Minister for Urban Development and Planning
Attention: A/Manager, Assessment Branch -
'Northward Fill (Inkerman) EIS Amendment'
Department of Planning and Local Government
GPO Box 1815
ADELAIDE SA 5001

DEPT. PLANNING & LOCAL GOVT.
Document No. A 431918
File No.

Dear Sir/Madam

I refer to the application by Transpacific Waste Management Pty Ltd to vary its Major Development Approval to allow low level contaminated wastes to be received the Northward Fill Landfill, Inkerman, and provide comments based on discussions with constituents and my review of the proposal.

My understanding is that the proposal involves the possible annual receipt of an estimated 20,000 tonnes of low level contaminated soil and liquid treatment plant residues. It is fair to say that the contact made by local residents with me is that the proposal raises many areas of concern. In supporting these concerns, I also note that the site was originally approved as a deposit location for household waste from metropolitan Adelaide – a very different situation to that now proposed.

The primary concern I have is the real possibility of low level contaminated wastes soils being transferred off site by the regular windy conditions at Inkerman, particularly the afternoon sea breezes that regularly occur. With these winds comes the real probability that dust from the contaminated soil will be blown from to surrounding properties.

Suggestions made by the public to minimise the risk of the contaminated waste transferring off site are:

- Unloading hours to occur between 6am and 12 noon with the provision that the wind velocity is below 15 knots OR unloading restricted to wind conditions i.e. only when below 15 knots;
- Instead of litter nets, a portable covered shelter such as an eco shelter be used when unloading the low level contaminated waste to prevent dust drifting off site;
- Current household waste requires a 150mm daily dirt cover (which is considered a minimum cover), therefore there is a need for the daily cover to be increased to 300mm for the low level contaminated waste which is toxic to ensure it is not blown off site;
- Ensure the sides of each containment cell is covered, even in between unloading and the filling of each cell;
- Dust monitoring strategies to be revised. Currently the monitoring is carried out over a 24 hour period and the results are then averaged out which does not give reliable readings.

I am also aware that Ms Elca McCarthy, Environmental Services Manager of the Wakefield Regional Council has submitted comments on the proposal following discussions with local residents. I note from Council's submission that if the proposal goes ahead they have requested that quarterly reports by the licensee to the Environmental Protection Authority be provided and forwarded to Council for review.

I support the recommendations as outlined above and I trust you can provide me confirmation of the decision made on the proposal.

Yours sincerely

A handwritten signature in black ink, appearing to be 'S. Griffiths', written over a faint, large oval shape.

Steven Griffiths MP JP
Member for Goyder

SPG:krp
Ref C:\Letters\Urban Development & Planning\Inkerman Landfill - proposal submission.doc

O'Donnell, Jane (PlanningSA)

From: Philbey, Kim [Kim.Philbey@parliament.sa.gov.au]
Sent: Wednesday, 4 March 2009 9:37 AM
To: PLNSA:Public Submissions
Cc: Launer, Skye
Subject: Northward Fill (Inkerman) EIS Amendment
Attachments: Inkerman Landfill - proposal submission.doc

Dear Sir

Please find attached a letter in relation to the Northward Fill, Inkerman - EIS amendment for a proposal to accommodate additional waste types following the proposal being open for public comment.

As the State Member of Parliament, Mr Griffiths MP has been contacted by people opposed to the proposal. The concerns are outlined in the attached document.

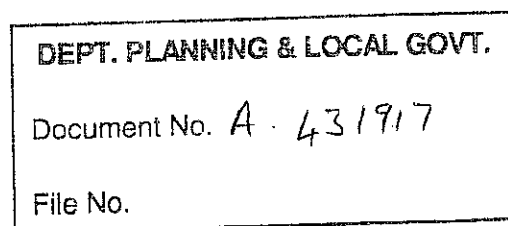
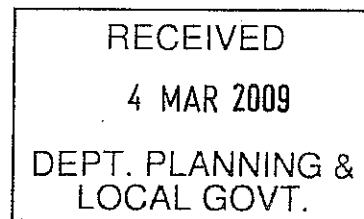
It would be very much appreciated once the outcome of the proposal has been determined if Mr Griffiths could be informed.

Thanking you.

Kim Philbey

Kim Philbey
Personal Assistant - Research/Liaison Officer to
Steven Griffiths
Member for Goyder
Shadow Minister for Finance
Shadow Minister for Economic Development
Shadow Minister for Industry & Trade
Shadow Minister for Public Sector Management
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Submission on

Northward Fill Inkerman
EIS Amendment to Accommodate Additional
Waste Types

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DEPT. PLANNING & LOCAL GOVT.
Document No. *EA 72745*
File No.

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Summary

The [REDACTED] opposes the proposal by Transpacific Waste Management (TWM) to amend its current Development Authorisation and Environment Protection Authority (EPA) Licence to permit the receipt of low level contaminated wastes (LLCW).

Accordingly [REDACTED] has prepared this submission as a mechanism to voice opposition to the amendment and comments made within the document.

The nature of the waste will be LLCW consisting primarily of soils and waste residues including residues from liquid treatment plant operations, containing low levels of contamination. Waste of other types and from other sources may be received at the site.

Siting -The first principal of planning for a secure landfill was never implemented in the case of suitable landfilling for Adelaide's metropolitan waste and was traded for cheap land and time constraints due to Wingfield dump closing. Whilst best practice technology may be implemented when fundamental principals of siting are not, puts any environment at risk and adding further risk to such a fragile environment does not heed well.

Inkerman is situated adjacent to tidal swamp lands considered to be of International importance. The channels fill with sea water up to the highway under certain weather conditions. How much further inland will it come with climate change? Strong sea breezes transverse the area especially in the summer. Wind thermals prevail from warm bare earth picking up dirt etc, carrying it high into the atmosphere and across the landscape, also reported by Department of Meteorology to increase with global warming. The area is one Aeolian sand dunes (wind blown) and shown in studies by Lower North Soil Conservation Board Wind erosion map to be high risk. Low rainfall exacerbates the situation, whilst at the same time allows for the growing naturally very high quality protein grain, making up for what it lacks in quantity. The seismic risk of the site has not been mention in the documentation even though Department of Mines' maps show a fault line running through the area...

The Cell design put forward is based on others in SA. It is not the belief of this community that any similar constructed cells would be of an age to detect deterioration, or constructed at the head of a Gulf which is unique to the world (about 1 of 3) is any proof that the design will stand the test of generational time. Inkerman dump has no room for failure. Should the Dublin IWS dump be the benchmark, it should be realized that it is not of a similar topography or at the top of Gulf and is not subject to the same tidal influence as Inkerman. The Dublin model does not impart community confidence.

The TWM document has caused further concern for this community who, authorities, had assured that should a general waste repository be established, there was no way a secure hazardous waste repository would be allowed, and yet bit by bit

Whilst the dump is run in accordance with the licence, there are from time to time small breaches of conditions. TWM management attends to these problems promptly, once notified, and has kept the lines of communication to the community open. However with the present proposal of LLCW there is no room for error at all. It's imperative that no airborne contaminants leave the site.

The [REDACTED] commends the TWM Inkerman management team for time taken in explaining the amendments. However Inkerman is a farming area, and we have our own livelihoods to consider

██████████ has commented on concerns of the amended documentation and has referenced each section to that of the TWIM document and should be read in conjunction with the proposal.

1 Introduction

1.1 Background

The ██████████ proposal by the then State Government on the establishment of a Secure Hazard Waste Repository of which a number of sites were identified including a site south of Balaklava. The document commissioned by South Australian Waste Management Commission was drawn up by Sinclair Knight, identified Inkerman as a Non Compatible zone.

The ecology of Inkerman is not conducive to sound environmental principals, of choosing a site with minimal environmental risk but one based on economics. South Australia has vast areas of land away from coast and food production areas. It was cheap land. Self praise is no recommendation.

Whilst a hard fought battle was waged to prevent the proposal the inexperienced community was no match for the pitfalls that they unsuspectedly faced. The manner in which the concerns of the community to the siting and changes to the original concept have been given no regard, and has consequently made most feel that any comments put forward a complete waste of time, with a lack of trust and confidence in the system. The general community is made up of generational farmers, who have followed the waste issue since 1992.

1.2 EIS Amendment Purpose and Process

The ██████████ opposed to the proposal of receiving low level contaminated waste at the Inkerman Dump.

1.3 The Proponent

The community knows little of the present company and has not met any of the hierarchy of the organization. However in the short life of the operation of the dump the ownership has been for ever changing, representing an unstable atmosphere for such a critical development.

- Is this company committed to the Inkerman Dump long term?
- Is this company in a sound financial position to construct, operate, and more importantly post care for such a facility as proposed in such a fragile area?
- What added financial sureties for the inclusion of LLCW are offered should, the project fail considering the huge environmental risks at stake?

Best Practice

Best Practice is only as good as the management of the time and in this unstable industrial ownership climate any future development of this project is alarming.

Concerning factors for this dump are:-

- No safe liner has yet been proven, and “no model can predict that perfectly yet.”
(Modeling the Long Term Performance of Waste Containment Systems .Hilary I Inyang, professor of environmental engineering and earth science and director of the Global Institute for Energy and Environmental Systems at the University of North Carolina)
- The close proximity to coastal swamplands and effects of future climate change
- Underlying structure of the natural eco drainage system to these swamplands
- Strong SW winds currently experienced and shown in latest studies by Department Meteorology to increase with climate change
- Unknown effects of Airborne toxins leaving the site
- Surrounding industries require clean green image
- Export hay and grain facilities a short distance upwind
- International economic situation is pushing businesses to the wall and as this particular application, while under different licences, has directors with a common link, therefore the query arises that is it just an internal money making deal?

1.4 The Proposal Overview

No Comment

2. Subject Site and Authorisation

2.1 Description of Site

The site is remote from essential services and those that are available are manned by **volunteers**, something that should be well noted with this proposal.

- Does the community have enough locally trained volunteers and equipment to deal with any emergency arising from these additional wastes?
- Does the company encourage their own employees to volunteer for SA Ambulance and CFS services locally and allow them to walk off the job to attend other emergencies?
- Should there not be enough trained volunteers in the area, what impacts will time delays cause?
Not all volunteers are trained in Hazchem.

In whose opinion is “Climate, soil and landform characteristics of the area, are not favourable for many types of activities in the region.”

The site is in a Primary Industry Zone which is inhibiting for non-agricultural activities. (With some of the great views of the Gulf from the higher landform characteristics in the immediate area of the dump - developers could have a field day. The lovely cool sea breezes on extremely hot days are to die for and the soil produces a natural high quality protein grain)

2.2 Development Authorisation

No Comment

2.3 EPA Licence

No Comment

2.4 Site Selection for Additional Waste

The first principal for landfilling Site selection has been ignored. A safe hydrological and geological position. In this case first principal was cheap land and these additional items LLCW, were not part of the original documentation or site selection considerations.

- Are the impacts & risks associated with the proposed low level contaminated waste and liquid waste on surrounding social, economic, and environment effects understood?
- Does this cell comply with current parliamentary dictated buffer zones?
- Why are the buffer zones not stated in the application?

3 Nature of Amendment and Rationale

3.1 Rationale for proposal –

Transpacific Industries operates its own Liquid Treatment Plant.

- Can EPA control these operations, and transfer to ensure that waste reaching Inkerman has reached the required standard of LLCW, or is there a conflict of interest?
- When are soil tests conducted on the Inkerman dump site to ensure that they meet the mandatory requirements?

3.2 Current Facilities and Operations

TWM currently operates the dump in strict accordance with its EPA approved and endorsed LEMP. EPA requires the LEMP to be reviewed annually. Although submitted by TPI the EPA has not signed off on the last LEMP submitted and the Landfill Community Consultative Committee (LCCC) has now asked the chairman to seek clarification as why this document has not been endorsed. It is noted in the minutes of the 12/2/08 that the LEMP had been submitted some time ago but no feed back had been received to date.

- Why?

3.3 Proposed Additional Waste types

Soil and waste residues including residues from liquid treatment plant operations.

- What are the chemical bench marks for this waste, to be considered as suitable as LLCW and what tolerance rate is acceptable for adjoining crops?

4 LLCW Cell design

4.1 Cell location and Buffers

- As it is not stated with in the document are the buffer zones for the LLCW within legal requirements?
- What are the air emission controls?

4.2 Cell Design Feature

The liner system put forward as the benchmark by EPA and is used elsewhere SA.

Since this community is not aware of any other major dumps apart from Inkerman & Dublin both with only short life spans, hardly enough time to know if they will be effective systems for future generations.

- Is it not true that most reliability models focus on initial stability of construction material strength and resistance to short term stresses rather than long term performance outcomes?
- Is it not true that? –“If data exists the performance trend is often impossible to gauge because it isn’t distributed over time or is so design-specific that extrapolation to another site’s hydrological and geological environment is not possible “. (2004 Hilary I Inyang professor of environmental engineering and earth science and director of the Global Institute for Energy and Environmental Systems at the University of North Carolina, Charlotte).
- Who accepts the responsibility for the liner system, EPA since it was put forward by them?
- Is it true that some organic chemicals i.e. benzene can move through and degrade the clay?
- Is it true that a number of household chemicals will degrade HDPE or cause it to develop stress cracks i.e. margarine, vinegar, alcohol etc.?
- What is the chemical reaction of the proposed waste on these various liner materials and over what time frames?
- Has EPA done modeling for the types of additional chemicals proposed over a period of time and with time stressed materials in similar geological and hydrological environment such as Inkerman?
- If not, how are effective safe guards installed?
- Are they guaranteed to prevent impacts?

5 Environmental Management

5.1 Environmental Management and Best Practice

The LEMP whilst it is a vital part of the operations the commitment to it by authorities to review the document regularly is extremely disappointing. At the last LCCC meeting 4/12/08 it was admitted the landfill was not operating on a current LEMP. EPA had not signed off on the last LEMP submitted.

- So how often are these matters checked by the authorities?
- If the LEMP is not review regularly what confidence can the community have that the actual physical elements of the LEMP are checked by authorities?
- Who is checking?

Landfill Environmental Management Plan

Issues covered in the present LEMP that are not practical for best outcomes for the community.

Dust Monitoring requires a greater effort and more specific records. At present the levels are taken over a 24 hour period averaging out to keep the levels within the acceptable levels. Dust can be leaving the site during operating hours, but with wind drop overnight the levels appear acceptable.

- Needs to be remedied especially if LLCW dust is added.
- How much contaminated dust can leave the site in a couple of hours especially since no air emission control, is in place?

Odour is managed by the whim of the operators and only during operating hours whilst the community is subjected to odours early morning and warm still nights. The odour seems to float in pockets of air and is suspected to be due to lack of coverage of sides of the waste. This becomes a problem because the work area is extended beyond the width capability of the net. Also the long periods of time before eroded side banters are dealt with allowing a conduit for odours & emissions.

- How will emissions to air be monitored?
- Can odour of LLCW be contained?
- Air Toxins Who is monitoring these and how often?

Visual Impact and Revegetation. Due to seasonal hot dry conditions experienced since the commencement of the dump, much of the western perimeter vegetation has struggled and is very weak along the National Highway. Very little vegetation has taken place along the construction line of the dump as originally proposed.

- What alternative measures will be taken to improve the visual impact from the highway?

Under the Draft LEMP Page 7 1.7 Documentation Supporting the LEMP

"The information prepared for submission to the EPA is contained in three volumes as follows:"

- Are these documents current with just the amendments or have new copies been prepared?
- Should new copies already been prepared for EPA has EPA given approval before the Department of Planning has assessed the project?

5.2 Background –Physical Environment

5.2.1. Local Topography and Land use

Tidal swamps/ and channels exist adjacent to National Highway One which abuts the western boundary of the dump

“The Proof Range at Pt Wakefield is located on the coast of northern Gulf St Vincent, between Sandy Point and Port Parham. The site has been considered for inclusion in Ramsar list of Wetlands of International Importance.” (*Department for Environment and Heritage. Marine Parks Features of Yorke Peninsular and North Gulf St Vincent Marine Environments Fact Sheet.*)

The surrounding areas to south, east and north are farmlands with undulating sand dunes interspersed on the south with swamp lands. Intensive animal keeping exist to the northwest along with a scattering of dwellings. Depots for agricultural export produce only a short distance to the north east of Inkerman. It is of extreme importance that these products remain at acceptable export standards.

5.2.2 Geology and Hydrogeology

Templeton & Whitwarta Fault Lines are shown on the Mines Department Maps.

- With geographical fault lines running through the area, why are they omitted from any description of the geology of the area?

A Hydrogeology report has been presented to authorities on numerous occasions expressing the folly of the present proposal and been ignore. Seem little point in offering it again.

5.2.3 Wind

The very windy conditions that prevail at Inkerman especially on the turn of tide and in the afternoons, causes fear that the conditions are not suited to the proposed LLCW.

The later stages as the height increases in the cell will exacerbate the problems of containment. Meteorology studies on climate change reports strengthening of winds?

The present dust monitoring system operates over 24 hours averaging the readings that are taken and does not account for short periods of dust. 2 hours of LLCW dust is 2 hours to long.

- What analysis of wind strength versus soil movement has been assessed?
- What distances can toxins be carried by the wind at peak periods?
- The present dust monitoring system is useless.

5.3 Additional Environmental Management Measures for the LLCW

5.3.1 Leachate management and groundwater protection

- When will the leachate monitoring bores be installed?

General

No Comment

Base Liner and Leachate Collection Systems

Was a full integrated approach using time scale material deterioration models, system reliability frameworks and adaptive monitoring used in adapting the design of this proposal, considering no model has yet been design to predict that yet.

- Was it only laboratory testing, in which new materials where used?
- What time frames?

The present dump has only been operating a short time in relation to life span. It is still reported that no measurable methane has been detected yet?

- Has it had time to prove anything?

LLCW Cell Isolation

- Should the leachate build up on the floor of the cell, what will stop the leachate from seeping through the 1m thick compacted sandy clay isolating layer?
- Will the sand act as a conduit and draw the moisture through the barrier and interact with the adjoining waste before it reaches the floor taking the path of least resistance?
- What modeling was carried out regarding the deterioration rates of this bunding and the impact of contained components both by the additional waste or the reverse, the present waste causing problems back the other way?

Leachate Treatment

- Considering much of the additional waste is LLCW soil, will clogging be a problem?
- Should the pipes become weakened by chemical attack (acids, solvents oxidizing agents or corrosion are they able to with stand the weight of the waste above?

- What remedial methods would be used to prevent build up of leachate should the pipes become blocked?

Groundwater Monitoring

Considering the structure of the coastal swamplands.

- Will the present number of monitoring wells be adequate?

Leachate Monitoring

- When will monitoring bores be installed?

5.3.2 Landfill Gas Management

The LFG system has an unclear future whether it will be combined or a dedicated flaring system or an approved alternative be established.

- What would the alternative be?
- Is methane the only gas to be accrued?

LFG Treatment

- How long after containment would it be expected that gas will be produced?
- What are the potential for problems of flaring gas on 40degree + high wind days?
- Whilst the flare it self may be contain will the added heat create problems with other windblown elements in the vicinity?
- What are the potential air toxins emitted from flaring gas from LLCW?

LLCW Cell Isolation

This paragraph is in conflict with other parts of the document.

- Is the bund 1 m thick or 2 metres thick as in Figure 5

5.3.3. Litter Management

Litter Control Measures

No net will be used.

What is the management plan should this become a problem?

- i.e. from dust or other. *Can hardly have the neighbors cleaning up their own paddocks as in the past.*
- Suggestion: - that an eco shelter type arrangement should be installed to prevent dust etc leaving the area.
- Will the receipt of waste be cancelled once wind speed exceeds 15 to 20 knots?
(Farmers are compelled to stop spraying in windy conditions. Could similar conditions be imposed for the deliveries of LLCW?)

"Site procedures required that odorous or dusty materials shall not be left uncovered at the end of any working day."

- When wheels turn on cover material it tends to bring the layer of dirt to the surface. Will a 150 mm daily cover be enough especially considering the soil that is moved by the operating caterpillar tractor as it turns?

5.3.4. Management of the Receipt of LLCW

To prevent any invert impacts.

- Deliveries for LLCW be limited to a time frame 6a.m. to 12 noon due to the quite strong sea breezes that prevail during the afternoons.

With only 2 meter separation buffer from the main cell and workers in LLCW cell are required to wear respiratory protection equipment if for any reason when leaving a vehicle.

- Deposits demand immediate cover, not only for the workers on site but the community in general.
Operating Hours should be enforced
The landfill to be operated daily between the hours of 0600 and 1930 unless lower waste intakes rates warrant less hours of operation. **LLCW should only be received between the hours of 0600 and 12noon provided morning winds are below 15 knots.**

6. Transportation of Proposed Additional Waste

- Are there sufficient checks and balances between producer, treatment plant and disposal point?

6.1. Expected waste volumes and transport needs

No Comment

6.2 Traffic Implications

Traffic problems only arise when trucks turning across the highway try to race the down traffic and roll over.

Considering the past history of dump trucks losing their loads at the Inkerman turn-off from the Pt Wakefield Road as was the case on the 24/12/08.

- What measures will be implemented to safe guard other road users should a LLCW load end up over the road, when traffic is at its peak?

- What is the emergency plan to minimize risk to unsuspecting public should the LLCW follow a similar fate as that in Dec 08? The risk to the public who would not be aware that they should not leave their vehicles is to horrifying to contemplate.

7. Planning Assessment

7.1. Introduction

Whilst this proposal may meet some of the various planning strategies it continues to chip away at the notion of a Primary Industry Zone with continual potential risk to agricultural pursuits of the area?

- Can we be assured that a few more months down the track some other obnoxious waste will not need to be added to the ever growing list?

7.2 Planning Strategy for Regional SA

With export hay and grain facilities only a short distance up wind and other near by industry relying heavily on a clean green image, the strategy seems unclear.

Economic Activity

- Do the statements indicate that the facility is not ensured future viability without the added facility and yet this proposal is based on the present proposal that was presumed to be viable proposition?
- Are funding arrangements to be increased to cover the added environmental risk should this or any future company collapse?
- Is it merely a tactic to resource the output of a brother company – Liquid waste disposal owned by the same directors?

Environment and Resources

- With the number one principal of landfilling missing is it wise to continue to add further elements of LLCW?

EPA and the proponents may consider that facility will not to have an adverse environmental impact. Unfortunately if there is an impact it is likely to be of a nature not confined to the local area. Should products destined for the export market become inadvertently contaminated what are the consequences?

The location of the dump is environmental fragile, the understanding of bio-diversity of the coastal eco systems which extend beyond the shore line should not be underestimated in the location of this dump.

Infrastructure

7.3 Development Plan Considerations

Objective & Principal Development Control

The Dump has only a limited Compliance in the following areas

Objective 40 Page 26

PDC 176 (b) have a 20 metre wide landscaped buffer planted with trees and shrubs around the perimeter of that part of the site to be used for the disposal of waste or storage of waste.

PDC 187 The waste management site should be landscaped to screen views of the processing facilities and operational areas

Objective 36 Page 28

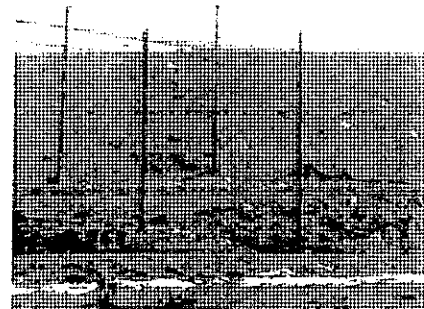
PDC 176 (b) have a 20 metre wide landscaped buffer planted with trees and shrubs around the perimeter of that part of the site to be used for the disposal of waste or storage of waste.



Landscaping since approval in 1999.

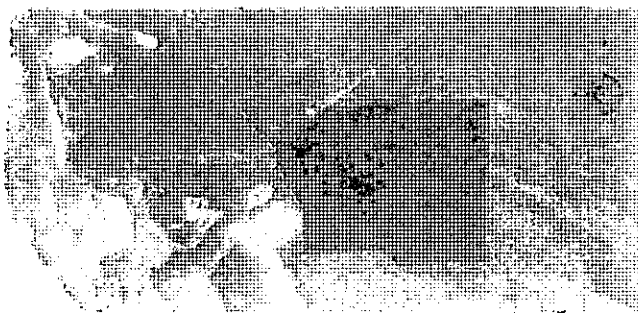
The following principals have been known not to always be carried out even with the Licence 12 (67-834) Dailey Cover of 150mm.

Objective 36 PDC 176 (d) Ensure all exposed waste disposal and waste storage areas are covered on a daily basis with at least 500 millimetres of soil or similar covering.



Waste left exposed over different weekends and as seen from road.

Whilst the proposal is an addition, has the future impact from the LLCW been assessed so as not preclude the natural geomorphological and ecological adjustments to changing climate and sea levels or other conditions? For example landward migration of coastal wetlands which exist adjacent to Highway One and the low lying geographics of the dump site.



Tidal Channels immediately to the west Highway One adjacent to the dump & mapping showing the tidal channels meeting the highway.

7.4 Planning Conclusion

Whilst it is the intention of the present management to comply with the relevant requirements, the dump is only as good as its controlling management's commitment.

Under the LEMP Section page 7

1.7 Documentation Supporting the LEMP

- Are these documents current with just the amendments or have new copies been prepared?

8 Post Closure Management

No Comment

9. Conclusion

In conclusion [REDACTED] does not support this proposal, the risks involved to great to the surrounding environment, the livelihoods of the community and health risks.

Failure to adequately monitor dust and the potential for wind to shift soil which could be contaminated of site is of grave concern. The 150 mm daily cover is very little on windy days and needs to be laid immediately in a proper manner, not like the present situation where the sides are exposed for days.

The wind is of major concern and needs further assessment of control mechanisms

Deliveries need to be limited to meteorology conditions and time constraints and supported by a covered eco shelter or similar to prevent wide spread dust emissions during the unloading stage.

Modern best practice landfills in South Australia have had a limited life to consider them effective in risky environments, especially when it is widely acknowledged that world wide they have only existed about 30 years so no long term data exist. If data do exist, the performance trend is often impossible to gauge because it isn't distributed over time or is so design-specific that extrapolation to another sites hydrological and geological environment isn't possible. Risk upon risk does not equal confidence.

TPW may have the best of intentions but will the next owners have the same commitment and has EPA the time, finances or the power to police the licence effectively.

Variations found in the document.

Variation Figure 5 for Bund states 2metres
Page 17 5.3.2. LLCW Cell isolation states 1 metre
Page145 18.3.4 & 18.4.3 states 1 metre

What is the true figure for the bund?

Northward Fill
LEMP Draft containing only sections revised for LLCW

Introduction
1.1 Background Page 1

Why mention "*which incorporates the previous District Council of Wakefield Plains*"
Do you want to mention the checkered history this period involves? Amalgamations took place approximately 10 years ago. It is irrelevant as the history that goes with it.

1.4 Environmental Management Approach Page 5

Error reference not 16
What?

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(PI)

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Inkerman Community Action Group
c/- RSD Box 1050
AVON SA 5501
PH/Fax (08)88671127

DEPT. PLANNING & LOCAL GOVT.
Document No. *EA 72745*
File No.

Minister for Urban Development and Planning
Attention: A/Manager, Assessment Branch
"Northward Fill (Inkerman) EIS Amendment"
Department of Planning and Local Government
GPO Box 1815
ADELAIDE SA 5001

2 March 2009

Dear Sir,

Re:- EIS Amendment for a Proposal to Accommodate Additional Waste Types
At the Inkerman Northward Fill Landfill

The comments and objection is submitted confidential and on a without prejudice basis.

We thank you for the opportunity to comment on the Amendments to the document and trust that our comments are given thoughtful consideration.

Thank you

J. Stewart
Community Representative
Landfill Community Consultative Committee.



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 03 MAR 2009
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Mrs M & Mr G Cutting
 2 Muriel Drive
 POORAKA SA 5095

Saturday 28 February 2009

DEPT. PLANNING & LOCAL GOVT.
 Document No. *EA 72744*
 File No.

Minister for Urban Development and Planning
 Att: A/Manager Assessment Branch
 Northward Fill (Inkerman) EIS Amendment
 Department of Planning and Local Government
 GPO Box 1815
 ADELAIDE SA 5001

Dear Minister and Assessment Branch Manager

RE: Northward Fill Inkerman - EIS Amendment For A Proposal To Accommodate Waste Type Transpacific Waste Management PTY Ltd Low Level Contaminate Waste

My family and myself was disgusted to find out about this proposal to amend EIS to accommodate Low Level Waste at Inkerman.

You do not have to be smart to see the effect it is going to be on the environment whether it be today or in 50 years. The Inkerman Landfill is already on unsuitable and fragile land. It is common knowledge that the swamps in the area are affected by tidal change, you can see this yourself and with more king tides/ higher water level the more water that is coming and going from these swamps. Daily you can see the water movements of the swamp directly opposite of the landfill near highway one. What is the point of other government agencies trying to establish marine parks in St Vincent Gulf when other departments are letting Landfill companies dump waste and contaminated waste right at it door step, with no guarantee that leach ache wont reach these swamps and the underground water level which will draw it back out into the gulf.

The wind in the area is also a worry. The wind in the afternoons is normally strong and very frequent and comes from the south west specially in the warmer months it picks up dust and lose object easily. This means the wind over the dump will be spreading the contaminates straight towards farming properties, live stock, dwellings many with young families, and large export quality agricultural businesses. How is this wasted going to be secured during work hours and out of work hours and in the years to come? Bird nets do not capture dust!

I feel sorry for the Inkerman community they had to fight for years and lose, when the Inkerman site was first proposed. How does one expect a small community with

no funding and resources to fight a million dollar business? They lost the battle but was told that there would be strict constraints put in place - yet there is still breaches. They were told that it would ever only be low grade house hold rubbish now this! What is next, specially if this is allowed to go ahead? The community has already got the sense it not worth fighting against because they will lose.

I hope the review panel really does review the amendments seriously.

Keeping in mind the;

- Environmental impact to land in the present and long term over the 100 years,
- The weather impacts now and in the future eg wind, king tide, temperatures
- Affects to the underground water
- To St Vincent Gulf - future marine parks , mangroves, marine animals, water quality
- The local farming industries small/ family or large
- Contaminated soils leads to contaminated grain - to maybe even contaminated loaves of bread!
- Contaminated animals
- Health impacts on the local young families and future generations
- Does the local community and emergency service volunteers have the resources to deal with a incident in relation to this? No. Who will provide these resources and training to them and at a cost to whom???
- What happens to the community and this site once this company has finished with this site and moves on or another company takes over, or the dump is closed due to finance etc?

Like the rest of the community I also feel this will go ahead and the Landfill operators will be able to dump what they like.

- I ask you to please to make sure tough restraints and guidelines are put in place,
- The company to keep the practice of having community meeting/ liaison member from the community and it would be nice to see this extended so more community members could sit on the panel and have a say.
- The community is educated about the important of making reports on breaches and support to do so.
- That these breaches are followed up and report on in a quick time frame and the community notified, on what has happen, why and what actions are put in place and what will happen if not followed through with.
- The company to not just use best practise but to have to keep setting higher better best practise, not just doing what has been best done in the past.
- Adopt the recommendation from the Inkerman Community Action Group - submission/report.**
- Before being allowed to dump Low Level Contaminate Waste make sure the company is currently operating at a high standard and best practise and are meeting their original development plan/ EIS. (For example buffer zone screening of trees etc This still requires a lot of work and probably requires more planting and fixing up of areas trees that have not taken)
- Encourage the company to invest in the local community projects and support or even undertake positive environmental projects within the Inkerman/Avon area.

- This to be the last and final of the amendments to the development plans / EIS of the Inkerman landfill site.

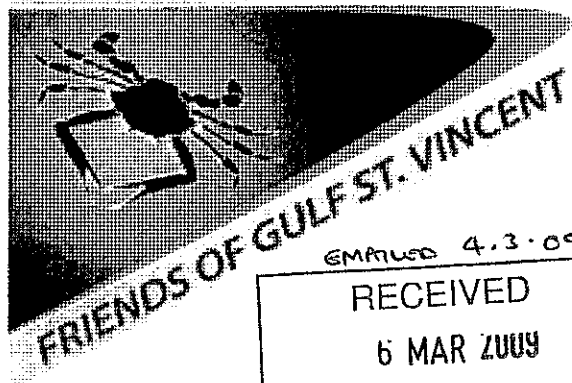
I hope this process is taken seriously and the right decisions are made for the Inkerman Community and for the environment of SA.

Your Sincerely

Melissa and Geoff Cutting

(P3)

→ Lee
10/3/09
KF



Secretary
8 Severn Street
GILBERTON SA 5081
telephone (08) 8269 3928
e-mail ian6rk@internode.on.net

EMailed 4.3.09
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DEPT. PLANNING & LOCAL GOVT.
Document No. eA72916
File No.

Minister for Urban Development and Planning
Attention: A/Manager, Assessment Branch

Northward Fill (Inkerman) EIS Amendment

The 'Friends of Gulf St Vincent' is a wholly voluntary organisation of 96 individual and organisation members. We promote our objectives mainly through educational activities. In 2008, with the Royal Society of South Australia, we furthered our credentials with the 500 page 'Natural History of Gulf St Vincent'.

We try to hold at least two public forums each year at different places around the Gulf. On October 12 2008 we held an all-day forum on issues at Port Wakefield. This forum was reported in our newsletter 'Blue Swimmer', which circulates to several hundred interested people and groups around the State.

That forum included discussion on the proposals to extend the Inkerman dump site. At the time, the details outlined in this EIS were not available to local people, but they expressed disquiet about existing operations on the site. Essentially, they were concerned about reports of regular practices on the site which were not consistent with the initial EIS or licence conditions.

We accept that it is difficult for assessment of further proposals to try to take account of uncorroborated reports of poor practice. However, because of the obvious local concern, we looked to this EIS amendment for information on monitoring of the Inkerman site over the last 10 years, to see what that might tell us about operational practices.

We find the present document, prepared by Tonkin/Golder/QED contains little information on performance to date. Section 5.2.2, which purports to give the results of groundwater monitoring, says that it 'indicates' that there is 'not a distinctive change in groundwater monitoring results since landfill operations commenced.' Which is virtually asking us to take this on trust.

The operators (Transpacific) should be aware of local concerns over their operations, because local people have contacted them. We assume that the consultants had access to monitoring reports submitted to the EPA on behalf of the operators (which, we trust, were independently verified), but we find practically nothing of this in the current document, or in other information that is accessible to the public.

The EIS refers to the 'life' of the site being in the range 30-40 years. Of course, it will remain a repository of contaminated matter for centuries. The risk of contaminating the groundwater, and then the waters of Gulf St Vincent, does depend on the materials used to seal the site. This includes their permeability, which can be tested, and their resilience to physical effects from any other operations on the site while it is in use.

The risk of further contamination is also a function of the geology of the site. Again, the EIS offers only brief summaries of the geology of the area. It does concede that there are aquifers within the sedimentary layers. The calcrete is described as of 'high strength', but there is no guidance on its tendency to channel or dissolve. In this proposal, the subsurface material could be exposed to corrosive wastes, under hydraulic pressure, with potential to enlarge seepage lines through to the marine waters.

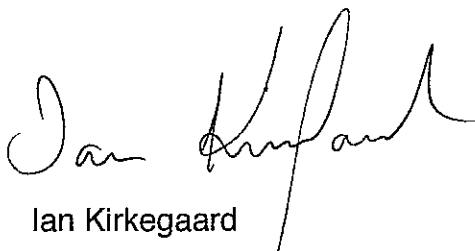
The EIS cites a model of flow of groundwater offered in the 1998 EIS, apparently to make a case that it could take 'millions of years' for groundwater to flow from the site to the sea. That may have been the best estimate, and for groundwater, in 1998, but we wonder why no actual monitoring data from the intervening ten years of operations are offered to justify the 1998 model. Did the monitoring program not include releasing tracers as a check on the model?

The materials recommended to seal the site may be the current best technology. That does not necessarily mean that they are fully adequate to holding these wastes for centuries. Because that cannot be guaranteed, we would have expected further assurance of containment by the substrate. The sparse information on the geology, and on monitoring performance of the larger site since 1999 does not provide this assurance.

The integrity of the materials that are proposed to contain the wastes also depends on the site receiving only approved wastes, and the operator having a quick and effective response to any accidents that might breach the linings, and the capacity actually to patch the linings if they are damaged.

The 'Friends of Gulf St Vincent' ask, if this proposal to accommodate additional waste types is approved, that it be subject to a wholly independent monitoring program to detect contamination of groundwater between the site boundary and the waters of the Gulf. Such a program should include marking the ponds with benign tracers to test the assumptions offered about the integrity of the liners and the geology and geochemistry of the substrate. It follows that the results of that monitoring should be available to the public at the same time as they are available to the EPA.

Such monitoring would place an incentive on the operators to institute true best practice in setting up and maintaining the membranes and liners and having capacity to reseal if they are damaged through accident or deposit of corrosive wastes. It would also put greater onus on the operator to monitor wastes and the sources of wastes delivered to this site, to reduce the risk of non-approved wastes being deposited.



Ian Kirkegaard

Secretary

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March 4 2009

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Secretary
8 Severn Street
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Document No. A 432152
File No.

Minister for Urban Development and Planning
Attention: A/Manager, Assessment Branch

Northward Fill (Inkerman) EIS Amendment

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O'Donnell, Jane (PlanningSA)

From: Ian Kirkegaard [ian6rk@internode.on.net]
Sent: Wednesday, 4 March 2009 3:59 PM
To: PLNSA:Public Submissions
Subject: Northward Fill, Inkerman

Attachments: pdfInkermansubmit.pdf



pdfInkermansubmit.
pdf (125 KB)...

I submit a response to the EIS Amendment, on behalf of the 'Friends of Gulf St Vincent'

I can provide this document in a version of WORD if that is more convenient for you.

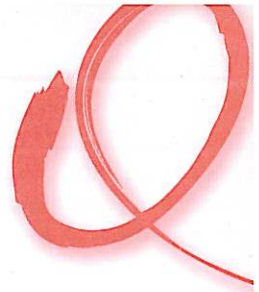
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APPENDIX B

PROPONENT'S RESPONSE TO SUBMISSIONS



Our Ref: 10786

1 April 2009

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Document No. 2A 74395

File No.

Mr Lee Webb
Chief Environmental Officer
Environmental Impact Assessment Unit
Development Assessment Branch
Department of Planning and Local Government
Level 5, 136 North Terrace
Adelaide SA 5000

Dear Lee,

**Northward Fill Landfill (Inkerman)
Variation to Accommodate Low Level Contaminated Waste - Response to
Submissions**

QED Pty Ltd, on behalf of Transpacific Waste Management Pty Ltd, refer to your recent correspondence dated 12 March 2009 pertaining to the summary of representations received pursuant to Section 47 of the *Development Act 1993*, concerning the amendment of an EIS. This correspondence acts as the formal response to the submissions received by the Department of Planning and Local Government.

We confirm that the variation to the Major Development Approval will allow the receipt of low level contaminated wastes at the Northward Fill Landfill (Inkerman) site.

Following the four week public notification period for the aforementioned variation, eleven (11) submissions were received by the Department of Planning and Local Government. These will be addressed below under the group headings of State Government, Local Government and public responses.

State Government

A total of nine (9) State Government Departments/Agencies were consulted during the submission period.

The following five (5) State Government Departments reviewed the proposal, and had no comments to make on the proposed amendment:

- Department for the Premier and Cabinet;
- Department for Primary Industry and Resources South Australia;
- Department of Health;
- Department for Environment and Heritage; and
- Zero Waste SA.

Environment Protection Authority (EPA)

Transpacific Waste Management Pty Ltd consulted extensively with the EPA during the development of this application. Resultantly, the potential concerns of the EPA were addressed in the formation of this application.

The EPA have stated within their response that they have no issue whatsoever with the proposed variation to the Inkerman Landfill to receive Low Level Contaminated Wastes, as it satisfies their stringent noise, air quality and stormwater management controls.

Office of Major Projects and Infrastructure (OMPI)

OMPI requested that Transpacific Waste Management comment on the issue of energy generation/flaring from gas emissions and leachate management. As outlined within the original application, the gas generated from the site will be monitored on a regular basis to ensure gas quality is maintained and that effective gas destruction methods (flaring, power generation etc) can occur. The management of this will be incorporated into the site's existing systems. Similarly, details of the leachate management system were outlined within the application, and are to the satisfaction of the EPA.

Department for Transport, Energy and Infrastructure (DTEI)

DTEI expressed concern about the ability of the intersection of Primes Road and Port Wakefield Road to accommodate a certain turning movement for road trains and B-Double vehicles. The intersection in question is not currently utilised for turning movements of this nature and this application does not propose to change this. As such, the upgrading of this intersection is not relevant to this application.

Department for Water, Land and Biodiversity Conservation (DWLBC)

DWLBC requested that a scale drawing of the development overlaid on a recent aerial photograph be provided. It should be noted that the proposed location of the LLCW cell will be contained within the current approved landfill site, for which a thorough assessment of potential impacts was undertaken. Having been already evaluated and approved, we do not believe there is any further requirement to provide additional aerial photography.

Local Government

The Wakefield Regional Council and Stephen Griffiths MP JP (Member for Goyder) expressed concern over dust transfer from the site. As detailed above, the proposal satisfies the EPA's criteria for air quality. All operations will be undertaken in accordance with EPA guidelines.

The Wakefield Regional Council has requested quarterly reports be produced as part of the annual report to the EPA, and that these also be provided to the Council. It should be noted that Transpacific already partakes in regular meetings with the Local Community Consultative Committee, upon which Council has a representative. These meetings are held on a quarterly basis through construction phases of the facility, half yearly when day to day operations are occurring as well as on an as needs basis should special issues arise. It is our view that this is an appropriate forum to relay important information to Council and the Community, allowing not only information to be distributed, but gives an opportunity for issues to be raised and resolved.

Public

Three submissions were received by the public. These raised a number of environmental concerns, relating to leachate control, management of local ecosystems, wind and dust monitoring, odour and visual impact, groundwater contamination and buffer zones. Other issues include public health impacts, and the affect on livestock. These issues have been discussed with the appropriate State Government referral bodies, and have been addressed to the satisfaction of these agencies. It should be noted that many of the concerns raised within the public submissions were in relation to the operation of the existing facility, as opposed to the proposed amendment, and therefore are not relevant to this assessment.

Conclusion

The proposed variation to the Northward Fill (Inkerman) Major Development Approval will result in the Inkerman landfill being able to safely accommodate a wider range of waste materials. The expansion of the landfill site for this purpose makes economic and environmental sense, and represents a logical and efficient strategy for dealing with Low Level Contaminated Wastes. This proposal has been prepared through extensive consultation with the Environment Protection Authority, and all care has been taken in the planning phase to minimise the impacts on the environment and the locality.

We trust the above discussion addresses the key issues raised by the representations received. If there are other outstanding matters to address, please do not hesitate to contact me on telephone 8227 0188.

Yours sincerely,



Damien Ellis
Senior Urban Planner
QED Pty Ltd