



DIRECTOR SHIRE SERVICES SUPPLEMENTARY REPORT

14 February 2005

DSS23 SUPP.	KEMPSEY WASTE RECEIVAL & DISPOSAL FACILITY FILE: LA6219 MGR
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SUMMARY:

Reporting on an environmental and operational audit of Kempsey Shire Council landfill and transfer stations.



DESCRIPTION:

Kempsey Shire Council engaged the services of Environmental Resources Management (ERM) to review current operations associated with waste handling, storage, transfer, transport and disposal at Council operated waste transfer stations and the KWR&DF landfill site.

Kempsey Shire Council (KSC) currently operates a solid waste (class 1) disposal facility at its Crescent Head Road landfill site. To operate such a disposal facility Council requires a licence under the Environment Operations Act 1997 and its subsequent regulations. This facility operates under EPA licence number 6269 with operating responsibilities clearly defined within this document and within the KSC Landfill Environmental Management Plan (LEMP) of March 2000. In addition to this site, KSC operates three waste transfer stations at South West Rocks, Stuarts Point and Bellbrook. These sites provide collection, temporary storage, recycling and transfer services for domestic wastes.

The following issues were highlighted by ERM in the audit as having potential risks associated with on-site infrastructure, waste storage and site management practices. The report also assessed potential safety risks to staff and the general public reflected in current operations.

KWR&DF

Waste to Solid Landfill

The current available landfill space will be filled within six (6) weeks and no further space has been readied for the receipt of waste into solid landfill. Under EPA licence conditions any operator of a solid waste licence is required to properly prepare an area prior to placing any waste. These base preparations differ from site to site and, at KWR&DF, this process involves an EPA approved procedure requiring specialist materials and design in order to conform. Such preparations are designed to minimise leachate and other contaminants leaving the site and possibly polluting adjacent areas and waterways.

The EPA approved procedure requires the following base preparation activities prior to the placement of any waste:

Rip the proposed area to a depth of 0.5m and re-compact. Place geotextile clay liner (Bentofix X1000, as specified by EPA) over compacted area. Install leachate drains at 50m maximum intervals and connect to main leachate collection drain. Place a 20mm aggregate layer (minimum 300mm thick) over the clay liner and place geotextile (Bidum A44 or equivalent) over the aggregate. It should be noted that the Bentofix X1000 liner as specified in condition O5.1 of the current licence must be used in the cell preparation. This product is only available from one supplier – Geofabrics Australasia Pty Ltd.

This construction procedure is non-negotiable and is required under current licence conditions O5, O6 and O7.

In order to provide sufficient volume for a calendar year of waste receipt an area of approximately 4,500m² is required, giving approximately 36,000m³ of trapezoidal space. Cover material makes up approximately 16,000m³ per annum thus leaving 20,000m³ for waste to landfill. Current compaction ratios of average 800kg/m³ will thus allow approximately 16,000 tons of waste material to be placed in this available space. Current volume indicators show that KWR&DF receives approximately 1,600 tons of waste per month. Hence the 4,500m² area will result in a 10 month cell life before a further cell has to be prepared. This cell life could be extended if a higher percentage of recycling can be achieved through thorough load inspections and sorting.

The current cost for such a construction runs at about \$33 per square meter. To prepare a cell of 4,500m² it will cost about \$150,000. Should this construction be delayed for any reason then Council will have to find alternative means of waste disposal such as trucking waste to neighbouring waste disposal facilities.

As this work is considered urgent, staff have commenced the preliminary survey and design works and ordered the materials required for construction. Construction works will need to proceed as soon as the required resources are available.

During September and October 2005 the landfill experienced wet weather over a prolonged period which made tipping at the then tip face difficult. It was decided that the cell should be extended to enable continued safe access. The cost of extending the cell at this time was \$74,129 and costs have been met from increased revenue and Working Funds, as shown in the Quarterly Financial report.

It should be noted that to meet current and future demand, sufficient provision should be made in future annual budgets for opening new cells each year.

KWR&DF Licence non-compliance and OH&S issues

A number of concerns regarding general housekeeping of the KWR&DF landfill site have been raised. Of particular concern are non-compliance issues, which under the current licence conditions, may attract a severe penalty if left un-addressed.

1. Maintenance of the storm water and Leachate systems.

Due to the lack of maintenance of the storm water drains a section of the drain has washed away allowing storm water to enter the leachate collection pond. This has resulted in a rise of the leachate pond level of 1.5m above the prescribed level, allowing leachate to flow back up the drains and into the waste cells. Of further concern is the leachate pond's lack of capacity, due to the storm water inflow, and its potential to overflow in a small rain event.

Suggested remedial action:

Regular slashing of the drain to ensure vegetation is kept at about 150mm inside the drain; regular collection of windblown rubbish (to eliminate drain blockage which result in breaches;) and cleaning of sediment from drain.

Estimated cost of remedial action:

Slash drain twice per annum - \$2,500 – to be met from operating funds.

Clean sediment and collect wind blown rubbish – refer to the Site Staffing item below.

2. **Mud and waste being removed from site by vehicles.**

The EPA stipulates (condition O17.1) that all practical efforts should be made to minimise the tracking of waste and mud off site. During rain events the landfill site becomes muddy quickly, resulting in waste and mud sticking to wheels and chassis of vehicles. This material is then carried out of the site.

Suggested remedial action:

Install a truck wash down bay that will clean and recycle mud and waste from vehicles.

Estimated cost of remedial action:

Automatic wheel and truck wash down system - \$90,000
A vote of \$200,000 from Loan Funds has been provided this year and planning has commenced.

3. **Daily cover not completed.**

Licence condition O18.1 stipulates that a 150mm cover of fill be placed over the top of landfill waste on a daily basis. The reason for this condition is to minimise windblown waste, vermin scavenging, odours and, most importantly, fire risk. Non-compliance with this condition can be apportioned to the small number of staff available to complete daily tasks.

Suggested remedial action:

Adjust tip opening times or increase staff numbers to a satisfactory level where all tasks can be completed daily.

Estimated cost of remedial action:

Refer to the Site Staffing item below.

4. **Vermin control**

There are currently no controls in place to minimise vermin.

Suggested remedial action:

Daily cover be placed as per item 3, storage of recyclables to kept to a minimum and regularly collected; and, trapping and baiting programmes to be considered if pests become unmanageable.

Estimated cost of remedial action:

Minimal and should be funded from general site maintenance.

5. Fire fighting capabilities

A recent fire at the site exposed the lack of fire fighting capabilities under condition O21.1. Landfill fires are complex fires and require special training of staff to adequately fight them. Similarly, dedicated fire fighting equipment should be on site and regularly checked to ensure readiness.

Remedial action taken:

Suitable equipment obtained, staff trained in landfill fire fighting and regular fire drills, to refresh staff, will be undertaken regularly.

Estimated cost of remedial action:

Equipment (suitable coveralls, boots, gloves, breathing apparatus, pipes, fittings, etc) - \$10,000 – drawn from operating funds.

6. Collection and storage of domestic chemicals.

KSC is currently allowing domestic quantities of chemicals to be collected which is then stored for a period and then properly disposed of. This is not a breach of the licence but an OH&S issue and requires special storage cabinets. These cabinets will contain any spills from damaged chemical containers, control fumes and provide a secure area for the safe storage.

Suggested remedial action:

Purchase two designated chemical storage cabinets – one for corrosives and another for poisons. Train staff in liquid chemical storage, handling and spill management.

Estimated cost of remedial action:

Training - \$2,000 per staff member
Cabinets - \$2,800 – to be drawn from operating revenue.

7. Storm water retention pond.

The storm water retention pond will require cleaning as it is heavily silted and its retention capacity reduced. This reduced capacity may result in higher than allowable suspended solids making its way into the adjacent stream during times of high flow.

Suggested remedial action:

Pump out pond during drier period and remove dewatered silt with excavator. Stabilise the pond banks with jute mesh and grass.

Estimated cost of remedial action:

Pump out and remove silt - \$15,000	} list for 06/07 budget
Stabilise banks - \$5,000	

8. Site Staffing

This is possibly the most important issue that requires immediate attention. The current operation has two staff members on shift during week days and only one staff member on weekends. The staff are required to perform the following tasks on a daily basis.

Open site and ready for business, man the office which includes serving customers, operate the weighbridge, handling cash, issue receipts, answer phone enquiries, inspect loads, direct customers and monitor general public movements. Other tasks include the manning of the tipping face to ensure waste is placed in the correct location, emptying the drop off pit, load mulch when sold, manage stockpiles, win and place daily cover, compact waste, irrigation activities to reduce leachate levels, house keeping, sampling and operate equipment.

Currently the site is accessed by domestic bin trucks, commercial waste operators and the public, resulting in a large number of people and vehicle movements. At the same time, heavy earthmoving equipment is operating on the site loading, transporting and compacting waste. Monitoring these movements is difficult with current staff levels and the result is a potential for serious damage and/or injury to staff, contractors or members of the public.

The EPA operating guidelines require that 'the level and nature of staffing at each landfill site must be adequate for environmentally responsible and safe management of a landfill'. Similarly the OH&S Act requires employers and employees to exercise a duty of care and provide sufficient resources so that work activities can be undertaken in a safe manner.

Suggested remedial action:

As a minimum, have two staff members work on the weekend and three to four during the week, when larger quantities of waste are received. The extra staff can assist with the current neglected house keeping duties, assist with

gate keeping, load inspections and waste audits (which are currently not taking place), assist with daily cover operations and provide relief when required.

Estimated cost of remedial action:

\$50,000 per person per annum. Recommended 2 full time and 1 part time, total cost \$125,000 per annum.

Transfer stations 1 additional staff member \$50,000.

These costs will be reviewed with operating times and costs listed for the 06 / 07 budget.

SOUTH WEST ROCKS TRANSFER STATION

1. Asbestos

Staff are currently not trained in the identification and proper handling of asbestos which could result in inappropriate disposal.

Suggested remedial action:

Train staff.

Estimated cost of remedial action:

\$5,000 per person.

2. Hard standing area too small and uneven

Current operations are undertaken from an uneven gravel surface which is too small for proper site movements and stockpiles.

Suggested remedial action:

Provide larger and level hard standing area

Estimated cost of remedial action:

\$12,000 – list for 06 / 07 budget.

3. Housekeeping

Weeds and grass are allowed to grow uncontrolled.

Waste oil and batteries are stored in the open without bunding. During rain events mixing of acids and oils with rain water is occurring and runoff of this mix is uncontrolled.

Suggested remedial action:

Spray weeds and slash regularly.
Provide an undercover bunded area for waste oil and battery storage.

Estimated cost of remedial action:

\$3,000 per annum for slashing.
\$2,500 for undercover area – to be covered by operating funds.

STUARTS POINT TRANSFER STATION

1. Asbestos

Staff are currently not trained in the identification and proper handling of asbestos which could result in inappropriate disposal.

Suggested remedial action:

Train staff.

Estimated cost of remedial action:

\$5,000 per person.

2. Housekeeping

Weeds and grass are allowed to grow uncontrolled.

Waste oil and batteries are stored in the open without bunding. During rain events mixing of acids and oils with rain water is occurring and runoff of this mix is uncontrolled.

Suggested remedial action:

Spray weeds and slash regularly.
Provide an undercover bunded area for waste oil and battery storage.

Estimated cost of remedial action:

\$3,000 per annum for slashing.
\$2,500 for undercover area. } List for 06/07 budget

3. Operating time

The limited opening time results in large quantities of waste being dumped at the gate and at locations around the transfer station.

Suggested remedial action:

Provide a more regular service, with relief staff from KWR&DF.

Estimated cost of remedial action:

Refer to Site Staffing item above.

4. Urgent Asbestos issue

During September 2005, a serious OH&S issue relating to asbestos was identified at this transfer station. The risk to staff, and the public, arose from the use of asbestos waste on the internal road of the transfer station to fill potholes and soft spots. During vehicle movements, the asbestos would break up and fibres become airborne. It was determined that this was serious OH&S issue and needed to be addressed immediately. An on site meeting, attended by the KSC's Fleet and Safety Manager, Human Resources Manager, Waste Co-ordinator and USU representatives, determined that immediate corrective action was required and it was decided to gravel and seal the internal roads to prevent and further risks associated with the asbestos waste.

Remedial action taken:

The area was gravelled and sealed to cap the asbestos contaminated road.

Estimated cost of remedial action:

The cost to gravel the road with a minimum 150mm of gravel and bitumen seal came to \$26,989. Council only had a budget of \$10,000 for transfer station upgrades and the balance will need to be funded from capital works.

Council's concurrence with this expenditure is sought.

BELLBROOK TRANSFER STATION

1. Asbestos

Staff are currently not trained in the identification and proper handling of asbestos, which could result in inappropriate disposal.

Suggested remedial action:

Train staff.

Estimated cost of remedial action:

\$5,000 per person – to be covered by operating funds.

2. Housekeeping

During rain events mixing of acids and oils with rain water is occurring and runoff of this mix is uncontrolled.

Suggested remedial action:

Provide an undercover bunded area for waste oil and battery storage.

Estimated cost of remedial action:

\$2,500 for undercover area – to be covered by operating funds.

REPORT IMPLICATIONS:

▪ ***Environmental***

KSC has an obligation and a responsibility under its licence to ensure the competent handling, processing, storage and disposal of waste at its Crescent Head Road landfill site. Clear operating guidelines and procedures are set out in the KSC LEMP for this landfill operation in order to minimise environmental concerns associated with waste disposal.

▪ ***Social***

KSC currently provides a kerb side waste collection service and disposes of this waste. The KWR&DF is the only licensed waste landfill site in the Shire and, in the event of 'no capacity to receive waste, kerbside waste collection might be delayed or severely impacted on.

KSC also has a responsibility to operate a safe and efficient waste facility for its ratepayers and the general public.

▪ ***Economic (Financial)***

Construction of the cell could be funded from the capital works budget allocated to construct a truck wash down bay. Funds of \$200,000 were made available in 05 / 06 budget for a truck wash down bay. Other items listed as urgent could be funded from working funds for 2005 / 06 and budgeted for in future financial years.

It is proposed that these funds, utilizing loans, be utilized for the completion of a new cell immediately, at an estimated cost of \$150,000.

The remaining funds, combined with the vote currently listed for 06 / 07, could be utilised to fund the required truck wash in early 06 / 07.

▪ *Policy or Statutory*

KSC is obliged under the Environment Act 1997, KSC LEMP, EPA Licence 6269 and OH&S Act NSW 2000 to operate the landfill in a proper and responsible manner.

▪ *Director's Review*

Shire Services is currently preparing for the construction of the cell due to the urgency. Arrangements to carry out the maintenance of the storm water drains are underway.

RECOMMENDATION:

- 1 That the cell construction be funded from the capital funds allocated in the 05 / 06 budget for the truck wash down bay.
- 2 That the listed urgent items be funded from working funds for 2005 / 06, as allowed in the quarterly Budget review.

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K J Finnie
DIRECTOR SHIRE SERVICES