

**DECOMMISSIONING PLAN**

**AES NENAGH**

**MATERIALS RECOVERY FACILITY**

**SOLSBOROUGH  
SPRINGFORT COURT  
NENAGH  
COUNTY TIPPERARY**

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**June 2016**

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# 1. INTRODUCTION

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Advanced Environmental Services Ltd. (AES) are one of Ireland's largest waste management and recycling companies. Their domestic waste collection service is availed of by up to 60,000 homes across the Midlands, while they also provide waste management services to approximately 5,000 customers.

The AES Nenagh Waste Transfer Station currently operates under a Waste Permit for Waste handling & Recovery Activities (Reg. No. W0240-01) issued by the Environmental Protection Agency (Agency) in July 2009.

The facility is a non-hazardous waste recovery and transfer operation that is authorised to accept 24,750 tonnes of waste annually. It is located in the townland of Springfort Cross, Nenagh, approximately 1.5km from Nenagh.

The existing facility consists of a weighbridge, a main waste building, a garage building and three portacabins containing office accommodation. All waste related activities are confined to the main waste building which mitigates any potential environmental nuisances. The facility currently operates from 8am until 5pm Monday to Friday.

A costed plan for the decommissioning/closure of the site and a scope statement for implementation are included in this Report. In the unlikely event of the activation of this plan a final validation report including a certificate of completion will be furnished to the Agency no less than 3 months from the date of execution of the closure plan.

## 1.1 Closure Scenarios

The facility has no defined lifetime and the risk of closure is low. The commercial viability of the facility will be kept under review and, if market conditions dictate the need to close the facility, the Agency will be notified and the DMP will be implemented. Following a planned closure AES may, depending, on the future plans for the facility, apply to surrender the Licence.

Contained within this closure plan are details on how AES plan to decommission, render safe, remove or dispose of any soil, subsoil, building, plant and equipment, waste materials, waste substances or other matter contained therein, or thereon, that has the potential for environmental degradation.

The aim of this Report is to assign the correct decommissioning category applicable to the facility, and allocate correct financial provisions so the site can be decommissioned correctly in the event of unforeseen site closure. A site layout plan is available in Appendix A.

In the unlikely event of closure the facility closure plan will be implemented. This plan shall be reviewed annually and proposed amendments notified to the Agency for agreement as part of the annual environmental report (AER).

For the purpose of costing the DMP, it has been assumed, in accordance with the Agency's Guidance, that the plant will close unexpectedly and that the DMP will be implemented by third parties contracted by the Agency.

## **1.2 Restoration and Aftercare Plan**

A Restoration and Aftercare Plan, which will be approved in advance by the Agency, will be implemented.

## **1.3 Site History**

Prior to development as a waste management facility by O'Brien Waste Recycling in 1994, the lands were used for agricultural purposes. At the start up, the facility comprised the Main Processing Building and the Garage. Not all of yard areas were paved and the diesel oil fuel storage tank was located at the western side of the Garage. It is understood that the Vehicle/Bin Wash was installed in the late 1990s, with the wash water and sanitary wastewater collected in an underground storage tank and removed off-site for treatment in a wastewater treatment plant. AES acquired the facility in 2001. In 2004, the Main Processing Building and Garage were extended, the Administration Building was constructed, the weighbridge installed; the diesel oil storage tank relocated to the Fuelling Station and all of the remaining unpaved areas were covered with concrete.

In 2004, AES obtained a Waste Permit from North Tipperary County Council. In 2007, Bord na Mona acquired AES. The Agency granted AES a Waste Licence in July 2009 and in January 2010 the facility achieved accreditation to ISO 14001.

In late 2009/early 2010, the wastewater drainage system was upgraded to connect to a new municipal sewer running outside the southern site boundary. This involved the installation of an oil interceptor in the central yard and the construction of a rising main connecting the existing underground storage tank to the municipal sewer. The surface water drainage system was also upgraded, with the installation of an oil interceptor and manual shut off valve at the outfall point, which is in the north east of the site. There is no record of any historic incidents at the facility that could have impacted on soil or groundwater quality.

## 2. SITE EVALUATION

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### 2.1 Operator Performance

#### 2.1.1 Facility Management

The Licensee holds a NSAI accredited Integrated Management System incorporating Environmental (ISO 14001:2004), Health & Safety (OHSAS 18001:2007) and Quality (ISO9001:2008). These management systems are maintained by the environmental officers and dedicated systems coordinators. They are audited on a bi-annual basis internally and externally on an annual basis.

The key elements of the EMS comprise identifying environmental aspects associated with site activities; the determination of suitable operational controls (engineering and administrative); the identification of pertinent legal requirements; definition and implementation of objectives and targets; ongoing monitoring of performance and compliance; and management review of performance on a periodic basis. Emergency planning and good internal stakeholder structures are also features of the system.

The General Manager has overall responsibility for environmental management at the facility, with designated responsibilities for performance and compliance support assigned to the Environmental Officer.

### 2.2 Environmental Pathways & Sensitivities

#### 2.2.1 Surface Water

Surface water is separated from the process wastewater and sanitary wastewater collection system. The surface water drainage system layout is shown on Figure 1. The ground gradually slopes from the south to the north-east. Rainwater run-off from the paved yards, weighbridge and building roofs is collected and directed through a silt trap and oil interceptor system (capacity 110m<sup>3</sup>) in the northeast corner of the site before being discharged to an open drain that starts at the northeast site boundary. This drain, which is seasonal and is often dry, is a tributary of the Ardgregane Stream, which ultimately discharges into Lough Derg, approximately 5km to the south of the facility.

All surface water and rain water collected on the site is directed to an oil interceptor in the north

#### 2.2.2 Geology & Hydrogeology

AES have established the site geology from a review of information obtained from the Geological Survey of Ireland (GSI) and in-house data. The subsoils comprise a limestone till. There is no site specific information on the depth of the tills, but based on the GSI aquifer vulnerability rating (High to Low), they range from 3 to >10m.

The site is underlain by Waulsortian Limestones that comprise massive unbedded limemudstone. The subsoils are not considered to be significantly water bearing. The underlying bedrock aquifer is classified by the GSI as Locally Important, which is Moderately

Productive in Local Zones (LI). There are no on-site wells and it is understood that the facility and its neighbours obtain water from the mains.

### 2.2.3 Surrounding Land Use

The facility is located approximately 3km to the west of Nenagh town centre, the site has road boundaries to the south and east, the other site boundaries adjoin agricultural land. The existing site is enclosed by a black wall and fencing on the Dark road boundary and by block wall on the Kilcoman road boundary. To the west and north of the site the field boundaries are formed by fences and mature shrubs. The agricultural land surrounding the site is relatively flat with a gradual rise in the land to the north of the site.

There is a garage across the Kilcolman road to the south of the facility and there are two domestic dwellings to the southwest, and one domestic dwelling to the south east of the facility; and a farm directly north of the facility. The Stereame development consisting of commercial premises and apartments are located opposite the facility across the Dark Road.

## 2.3 Site Processes & Activities

### 2.3.1 Waste Types & Volumes

The current licence authorises the acceptance of 24,750 tonnes of waste per annum. The full range of waste streams and associated volumes accepted are;

- Mixed Commercial Waste 6,450 tonnes per annum
- Mixed Commercial Packaging Waste 6,280 tonnes per annum
- Mixed Municipal Waste 5,130 tonnes per annum
- Household Dry Recyclables 5,135 tonnes per annum
- Construction & demolition waste 1,491 tonnes per annum
- Timber
- Metal

### 2.3.2 Waste Processes

The site layout is shown on Figure 2 and Figure 3 is a process flow diagram. All waste processing activities are carried out inside the main waste building.

Waste is delivered to the facility mainly by AES refuse collection vehicles used for kerbside collections, and skip collection vehicles. All vehicles delivering waste to the site must pass over the weighbridge and details are recorded using software linked to the office. All waste is then transported to the main waste building where it is inspected prior to unloading or further handling. Unacceptable waste is rejected and any unacceptable waste inadvertently collected is stored in a waste quarantine area pending removal off site by an appropriate company. If AES personnel are satisfied that the waste complies with the acceptance criteria; the waste will be stored temporarily pending transfer to another facility for recycling/recovery, further processing or disposal. There is no fixed plant or equipment for handling waste on the site. An excavator is used to handle the waste within the main waste building.

The construction & demolition waste stream is subjected to minor sorting within the main waste building. Different recyclable elements of this waste stream such as timber or metal etc may be extracted and stockpiled prior to transfer to appropriate facilities for recycling. Within the main waste building there is a split-level design to facilitate the loading of waste prior to removal off site; waste is loaded into HGVs parked in the lower level. All waste handling, unloading and loading operations are confined to the main waste building.

### 2.3.3 Emissions

#### *Emissions to Air*

The potential emissions to air from the operation of the facility are dust and odour.

#### *Dust*

Dust monitoring has been carried out three times annually since the licence was issued. The results show that the facility is not a significant source of dust and in general the dust deposition limit is not exceeded. There have been exceedances of the dust deposition limits, but off site sources, including traffic from the nearby public road, were probable contributing sources.

#### *Odour*

The occurrence of odour nuisances have not been observed at the facility. This will be maintained by ensuring that biodegradable waste is transferred off site within 48 of arriving on site and that good housekeeping practices are ongoing.

#### *Noise*

Noise emissions are produced from the current activities ongoing at the facility. The primary sources of noise at the Waste Transfer Station are outlined as follows;

- Heavy Goods vehicles (HGVs) delivering waste to and collecting waste from the site.
  - HGVs tipping waste materials in the waste inspection area within the main waste building at the site.
  - 1 excavator for waste/recyclables handling within the main waste building at the site
- There is no waste related activities undertaken outside the main waste building, however there may be occasional movements of plant or skips etc.

Monitoring of noise levels at four site boundary monitoring points on site and at two noise sensitive monitoring locations in the vicinity of the site is carried out annually and confirms that the facility complies with the ELVs set in the Licence.

#### *Process Wastewater*

Process wastewater generated at the facility consists of washwater from the Vehicle/Bin Wash areas and small amounts of liquid present in the incoming wastes. Waste transport vehicles, bins and skips are cleaned in a dedicated wash area, located at the south western side of the Garage. The area consists of an open hardstanding area that slopes towards a large central gully, fitted with a grid. The wash water is gravity fed into a 5,000 litre oil interceptor/silt trap located to the east of the Main Processing Building from where it flows to the original underground storage tank.

Some of the incoming wastes (for example mixed municipal solid wastes) can contain small quantities of liquid. The floor of the Main Processing Building is graded to a fall towards a central gully, which collects any liquids arising inside the building. The gully is connected to the recently installed oil interceptor located outside the building, which in turn connects to the underground storage tank.

The storage tank is fitted with two submersible float activated pumps, one duty and one standby, that pump the wastewater via a rising main, to the Council sewer. The activation switches for the pumps are in a control panel mounted on the external wall of the Main Processing Building.

Condition 6.10 of the Licence requires weekly inspection of the drainage system and regular cleaning desludging. AES personnel maintain records of the inspections and cleaning.

### *Sanitary Wastewater*

The layout of the foul water drainage system is shown on Figure 1. Sanitary wastewater from the administrative buildings is gravity fed to the north, where it connects with the outfall from the central foul water silt trap/oil interceptor in the main yard and flows towards the underground pump station located in the north east of the site. It is then pumped via a rising main to a North Tipperary County Council foul sewer, located at the southern facility entrance.

## **2.4 Buildings, Plant and Equipment**

Plant infrastructure remaining on site will be dependent on the future use. The prefabricated structures used in the southern section of the site can be easily transported off site to another location. Due to their use as administrative buildings they will require minimal decontamination. If necessary AES will organise porta cabin removal and transport off site by a suitable haulier.

It is envisaged that the main shed and workshop buildings will be decontaminated and retained for use by future ventures at the site. Due to the nature of materials stored in the main shed a specialist contractor will conduct the decontamination process.

In the unlikely event of required demolition of the workshop special provision will be put in place for the removal and disposal of a section of asbestos roofing. The roof of the workshop is approximately 50 percent asbestos and its removal to a suitably licensed location will be required before any additional demolition activity can be carried out.

The open yard area of the site will be left empty prior to closure. All materials stored in this area will be removed and the area will be power washed by AES staff.

All remaining infrastructure will be validated as clean and posing no risk of environmental contamination before decommissioning of the site is complete and the waste licence surrendered to the Agency.

Table 1 – Site Infrastructure

Infrastructure	Details
Administration Pre-fabs	3
Main Processing Building	1
Workshop	1
DoubleWeighbridge	1
Diesel Storage Tank	1
Kerosene Tank	1
Engine/lubricating oil Tanks	4
Underground wastewater storage tanks	1
Hardstanding	1
Oil Interceptor	2

Facility operations require the use of a range of fixed and mobile plant which are listed in the following tables.



## Plant and Equipment

Table 2 – Plant & Equipment

Plant & Equipment	Number
Weighbridge	1
Excavator	1
Loader	1
Sweeper	1
Site Equipment (handheld tools)	20
Balers	2

Table 3: Vehicle Register

Vehicle Type*	No of Vehicles
REL SKIP EATER	3
RCV 8 X 4	6
RCV 6 X 4	3
4 X 2	1
SKIP-CHAIN	2
SKIP-HOOK	3
VANS	3
TRAILERS	2
MISC	4
TRACTOR UNIT	1
Total	28

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## 2.5 Inventory of Raw Materials

There is a 53,000 litre diesel storage tank, a 200 litre kerosene storage tank, and 2 No. 1500 litre hydraulic oil/engine oil tanks in the Workshop. Lubricating greases, gear oils, hydraulic oils and cleaning agents are stored in a bunded area within the Workshop and small amounts of paint are kept in the Fabrication Building. The maximum volume of hazardous materials on site at any one time are indicated in Table 5 below.

**Table 5: Materials/Products**

The quantities given in the Table are based on the volumes kept on site at any one time, but in the event of the planned closure, the actual quantities should be considerably smaller, as the shutdown would be preceded by a reduction in the on-site inventory.

Products	Quantity Stored litres
Diesel	53,000
Green Diesel	1,150
Disinfectant & Detergents	100
Engine Oil	1000
Hydraulic Oil	1000
Grease	100
Odour Block	75
Ad Blue	1000
ATF	200

With the exception of the silt traps/oil interceptors and the wastewater tank, there are no underground storage tanks. The diesel for the road vehicles is stored in a 53, 000 litre tank in the refuelling station located in the northern section of the site at the rear of the Main Processing Building. The Diesel Tank is only ever filled up to a maximum of 41,000 litres. The tank is provided with a concrete bund, 110% of the tank's maximum volume. When not in use the dispensing pumps are locked. The bund was subject to integrity testing in December 2009 and passed.

The engine and hydraulic oil are stored in bulk double skinned steel tanks in the Garage, with smaller containers on a bunded pallet also inside Garage. The Ad-blue is stored in an IBC in the Quarantine Area, which is provided with integral spill containment. Detergents and disinfectants used in the Vehicle/Bin Wash are stored on a bund in the Garage. Waste oil is stored in a double skinned steel storage tank in the Garage.

## 2.6 Inventory of Waste

It is assumed that there will be no more than 420 tonnes of waste on-site at the time of the closure. This is based on current operations and covers the maximum amount of waste on site at any one time.

The quantities are based on the maximum wastes on site at any one time, but in the event of the planned closure, the actual quantities should be considerably smaller, as the shutdown would be preceded by a reduction in the on-site inventory.

The waste will comprise a mix of the waste types that are authorised by the licence.

The wastes generated by site activities include sanitary wastewater; process wastewater and small amounts of waste oils/ filters and batteries from emergency on-site plant and vehicle maintenance, and office and canteen waste.

Sanitary wastewater and process water management is described in Section 2.3.3. Waste oils and batteries are removed off-site for disposal/recovery at licensed treatment/recovery facilities. Office and canteen waste are sent to off-site treatment/disposal facilities.

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### 3. CLOSURE TASKS & PROGRAMMES

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#### 3.1 Closure Tasks

##### 3.1.1 Materials Management

A planned shutdown of operations would be carried out after the last batches of waste received at the site had been processed and consigned. It would be preceded by a scaling down of activities, thereby reducing the quantities of materials, particularly fuel and wastes, to be dealt with when implementing the DMP.

Diesel, kerosene, engine and lubricating oils in the on-site storage tanks will be used to fuel plant and equipment deployed in the decommissioning works. When these are completed, it should be possible to return some materials e.g. diesel, engine and hydraulic oils to the suppliers either for resale, or reuse. The remaining materials may have to be disposed of as waste, some of which may be deemed hazardous due to their composition e.g. waste oils.

A vacuum tanker will empty the oil interceptor, the wastewater storage sumps and the on-site WWTP and the contents will be sent for disposal at a suitably licensed facility.

##### 3.1.2 Buildings

It is not proposed to demolish any of the buildings, but they will be cleaned out and left in situ for future use. Given the nature of the waste handled at the facility, specialist decontamination of the Main Processing Buildings will not be required in and the cleaning will primarily involve the use of a road sweeper to clean the floor. Decontamination will not be required in the Workshop.

##### 3.1.3 Plant & Equipment

In the event of a planned closure, the plant and equipment will be either be sent other AES facilities, sold for use, or scrapped at an approved waste recycling/recovery facility. At the time of the preparation of this DMP it is not possible to accurately quantify every item of plant that would be suitable for resale, as this depends on their future condition. Those items of plant that cannot be sold will be scrapped. All the metal items have a scrap value and therefore the removal of the plant and equipment should be cost neutral.

Given the nature of the waste handled at the facility, none of the plant items will require specialist decontamination before being scrapped. The cleaning will be carried out on-site, which will primarily involve power washing inside the Main Recycling Buildings, with the washwater collected in the storage tanks and subsequently removed from the site.

### *3.1.4 Soil & Groundwater Assessment*

In the event that the Agency requires an assessment to be carried out, the scope of the assessment will be agreed in advance with the Agency.

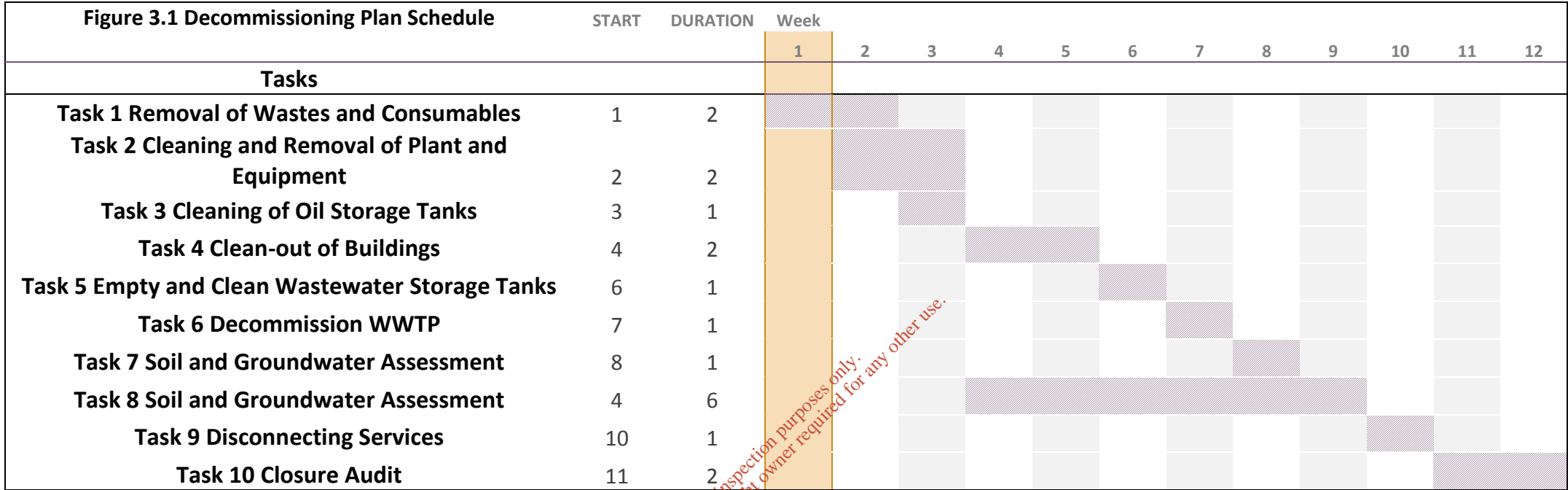
### *3.1.5 Environmental Monitoring*

Monitoring will continue following the closure of the facility and pending the surrender of the Licence. The extent of the monitoring and the frequency may be amended, subject to the Agency's approval, to reflect the fact that the facility is closed.

## **3.2 Closure Programme**

In the event that the entire facility is closed, all the operational areas will be decommissioned. The decommissioning of the operational area will take approximately 12 weeks (Figure 3.1) and will be carried out in a number of tasks, some of which will happen concurrently. The timeframe is based on AES direct experience of the clean-out of the Green Clean Waste Management Ltd (In Liquidation) waste management facility at Blake's Cross (W0222-01).

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## 4. CRITERIA FOR SUCCESSFUL CLOSURE

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Successful decommissioning will only be complete when all buildings, equipment, materials, wastes or any other materials that could result in environmental pollution, are removed from the site and recycled, recovered or disposed in accordance with all regulations in force at the time and there is no soil or groundwater contamination at the site. An assessment of the achievement of the closure criteria will be included in the Validation Report described in Section 5.

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## 5. CLOSURE PLAN VALIDATION

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### 5.1 Closure Audit & Validation Report

Following the completion of the site clean out, AES will appoint an experienced independent environmental auditor, who will be approved by the Agency, to carry out a Closure Audit and produce a Validation Report that demonstrates the successful implementation of the Plan. The Closure Audit will address: -

1. Disposal of raw materials;
2. Disposal of wastes;
3. Decommissioning of plant and equipment;
4. Disposal of obsolete equipment;
5. Results of monitoring and testing during the decommissioning period;
6. Soil & Groundwater
7. The need for on-going monitoring, remedial actions or aftercare management.

The Validation Report will describe all of the activities carried out during the Closure Audit of the Operational Area and will contain records of the destinations of all wastes and materials consigned from the site during decommissioning. The Report will be submitted to the Agency within three months of execution of the Plan.

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## 6. CLOSURE PLAN COSTING

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The costs of a planned closure will be met in full by AES. The costs of implementing the DMP in an unplanned closure scenario, where AES is not in a position to meet the cost are presented in Tables 6.1 and 6.2. The costs are based on the following assumptions:

- The closure will be unforeseen and unexpected with no advance warning that would allow an orderly wind down of activities.
- The entire facility will be decommissioned and cleaned, with all wastes and consumables removed from the site.
- The decommissioning and building and plant cleaning will be carried out by third parties.
- A temporary site manager and operatives will be appointed to manage the operational area decommissioning and clean out.
- It is assumed that there will be c.420 tonnes of waste on-site at the time of the closure. This is based on current operations.
- The diesel storage tank (1 No 53,000 litres) is  $\frac{3}{4}$  full and there are c.10 x 200 litre drums of grease and cleaning agents on-site. Some of these will be consumed during plant clean out and the rest will be returned to the supplier.
- None of the waste on site will have an asset value
- The cleaning of the plant and equipment and off-site removal will be cost neutral given their resale/scrap value. This is a conservative approach given the type of plant and equipment on-site.
- None of the buildings will be demolished and the oil storage tanks will remain in situ and will not be decommissioned.
- Given the environmental sensitivity of the surrounding area a contingency of 10% is made.



DMP Costs



**Table 6.1**  
Waste costs

Waste description	EWC Code	Quantity (tonnes)	Unit rate	Cost	Unit rate	Cost	Total cost	Source of unit rates
			(load and transport)	(load and transport)	(recovery/disposal gate fee)	(recovery/disposal gate fee)		
Paper and cardboard packaging	150101	13	23	299	15	195	494	MRF charge rate
Plastic packaging	150102	5	0	0	0	0	0	No charge *
Wooden packaging	150103	7	0	0	0	0	0	No charge *
Metallic packaging	150107	5	0	0	0	0	0	No charge *
Bricks	170102	8	100	800	10	80	880	MRF charge rate
Wood from C&D sources	170201	15	0	0	10	150	150	MRF charge rate
Glass from C&D sources	170202	20	12.92	258.4	133	2660	2918.4	MRF charge rate
Plastic	170203	3	0	0	0	0	0	No charge *

Waste description	EWC Code	Quantity (tonnes)	Unit rate	Cost	Unit rate	Cost	Total cost	Source of unit rates
			(load and transport)	(load and transport)	(recovery/disposal gate fee)	(recovery/disposal gate fee)		
Mixed C&D Metals	170407	7	0	0	0	0	0	No charge *
Mixed Construction & Demolition wastes (non-hazardous)	170904	8	100	800	10	80	880	MRF charge rate
Glass	200102	30	150	4500	0	0	4500	MRF charge rate
Biodegradable kitchen and canteen waste	200108	30	80	2400	70	2100	4500	MRF charge rate
Municipal Wood	200138	15	0	0	10	150	150	MRF charge rate
Municipal Plastic	200139	5	0	0	0	0	0	No charge *
Municipal Metals	200140	4	0	0	0	0	0	No charge *
Street cleaning residues	200303	25	12.92	323	25	625	948	MRF charge rate

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Waste description	EWC Code	Quantity (tonnes)	Unit rate	Cost	Unit rate	Cost	Total cost	Source of unit rates
			(load and transport)	(load and transport)	(recovery/disposal gate fee)	(recovery/disposal gate fee)		
Biodegradable wastes (from garden and park wastes)	200201	4	80	320	70	280	600	MRF charge rate
Domestic bulky waste	200307D	25	12.92	323	113	2825	3148	Drehid Landfill Rate
Commercial bulky waste	200307C	25	12.92	323	113	2825	3148	Drehid Landfill Rate
Commercial mixed municipal waste	200301C	25	9.5	237.5	125	3125	3362.5	Drehid Landfill Rate
Commercial mixed recyclable waste	200301KC	40	23	920	15	600	1520	MRF charge rate
Commercial mixed recyclable waste	200301KD	25	23	575	15	375	950	MRF charge rate

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Waste description	EWC Code	Quantity (tonnes)	Unit rate	Cost	Unit rate	Cost	Total cost	Source of unit rates
			(load and transport)	(load and transport)	(recovery/disposal gate fee)	(recovery/disposal gate fee)		
Domestic mixed municipal waste	200301D	150	9.5	1425	125	18750	20175	Drehid Landfill Rate
Removal and offsite disposal of wastewater from tanks (not applicable for all sites)	NA	NA	0	0	0	0	0	Foul water connection to sewer
Removal and off-site disposal of residual hazardous waste (e.g.waste oil)	NA	2	100	200	0	0	200	EPA Guidance
Total							48523.9	
Contingency (10%)							4852.39	
<b>Total including contingency</b>							<b>53376.29</b>	

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**Table 6.2:  
Other Costs**

Task	Description	Quantity	Measurement unit	Unit rate	Cost	Source of unit rates
Plant and equipment decontamination	Decommissioning of operational connection to foul sewer	1	Day rate	500	500	Estimate
	Engineering costs for reconfiguring bin wash area to surface water	1	Day rate	1000	1000	Estimate
	Removal and disposal of office equipment	1	Day rate	500	500	AES
	Cleaning of silt trap and oil interceptor and power washing	1	Day rate	1500	1500	Specialist contractor
	Removal of wash water from tank sumps	50	Cubic metres	20	1000	WWTP Rate
	Cleaning oil storage tanks (1 No. White Diesel 40,000 l, 1 No. Green Diesel 800 l)	2	Unit	2000	4000	EPA Guidance
	Disconnect electricity, telecoms and foul sewer	1	Day rate	500	500	Estimate
Management and utility costs	1 No. Site Manager,, 3 No Operatives (5 days/week for 4 weeks)	20	Day rate	760	15200	AES rates
	Cleaning open yard	1	Day rate	400	400	Site has own roadsweeper
	Insurance	1	Item	3000	3000	AES Rate
	Utility Bills (electricity, water, foul water)	1	Monthly	2000	2000	EPA Guidance
Environmental monitoring	Dust deposition and storm water monitoring including labour, analysis & report	2	Monitoring event	550	1100	Anua
Site security		4	Week	500	2000	EPA Guidance
Validation data	Validation report (consultant)	1	NA	3,000	3000	Consultancy Rate
License Surrender		1	Item	6000	6000	EPA Guidance
Total					41700	
Contingency (10%)					4170	
<b>Total including contingency</b>					<b>45870</b>	