

Environment & Resource Management Ltd

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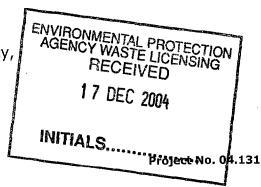
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Dr. Jonathan Derham, Environmental Protection Agency, P.O. Box 3000,

Johnstown Castle Estate,

Co. Wexford.



16 December 2004

Re: Response to Article 14(2)(b)(ii) Notice

Dear Dr. Derham

We are acting under the instruction of our client Neiphin Trading Ltd.

We are writing with regard to the Application for a Review of Waste Licence 47-1 (Application File Reference 47-2).

Please find attached 4 No. copies of our Response to the Article 14(2)(b)(ii) Notice. A CD-ROM copy is also attached.

Please feel free to contact the undersigned if you have any further queries.

Yours sincerely

c.c. Dr. Ted Nealon, Neiphin Trading Ltd.

NEIPHIN TRADING LTD. KERDIFFSTOWN, NAAS, CO. KILDARE.

INTEGRATED WASTE MANAGEMENT FACILITY
INCLUDING
A LANDFILL FOR NON-HAZARDOUS WASTE

APPLICATION FOR A WASTE LICENCE REVIEW (APPLICATION REGISTER NO. 47-2)

RESPONSE TO ARTICLE 14(2)(b)(ii) NOTICE

Prepared By:
Environment & Resource Management Ltd.
No. 3 Tara Court,
Naas,
Co. Kildare.

December 2004

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LIST OF DRAWINGS

Drawing No.	Description	Scale
NTL/1010 Rev A	Final Restoration Levels and Landscaping	1:5,000 A3
NTL/238 Rev A	General Layout of Proposed Composting Infrastructure	1:800 A3
NTL/239 Rev A	General Layout of Proposed Recovery Infrastructure	1:800 A3

Neiphin Trading Ltd. Integrated Waste Management Facility Kerdiffstown, Naas, County Kildare.

Application for a Waste Licence Review (Application Register No. 47-2)

Response to Article 14(2)(b)(ii) Notice dated 13 October 2004

1. INTRODUCTION

This report has been prepared to respond to an Article 14(2)(b)(ii) Notice issued by the EPA on 13 October 2004. The report provides an assessment of the impact of the proposed changes on occupied residential, commercial/industrial or institutional properties (not associated with the applicant) within 300m of the proposed changes to the facility. The assessment also includes details of the specific mitigation measures proposed in relation to impacted properties.

2. DESCRIPTION OF PROPERTIES WITHIN 300M OF PROPOSED CHANGES

The attached Drawing NTL/1010, Rev A depicts the locations of residential, commercial/industrial and institutional properties within 300m of the proposed changes. There are a total of 20 no. residential properties and 1 No. commercial property (not associated with the applicant), within the 300 m zone.

3. POTENTIAL IMPACTS OF PROPOSED CHANGES

Potential impacts of the proposed changes to the facility relate to:

- Dust
- Noise
- Litter
- Odour
- Traffic
- Visual Impact

These potential impacts are discussed in Sections 4.1 to 4.3 in relation to each of the proposed changes and in general in respect to the properties within 300m. Specific mitigation measures, where considered potentially necessary, to reduce and minimise these impacts are described in Section 5.

4.1 Proposed Changes to Waste Types

Dust

It is not anticipated that there will be an increase in dust emissions arising from the proposed changes to the wastes to be accepted at the facility including the addition of dry recyclables from a household origin. The proposed waste types will be handled and recovered inside a building. Therefore, it is not expected that dust emissions arising from the recovery of these waste types will reach the site boundary. Furthermore, the composting process will be carried out inside or adjacent to the Waste Recycling Building as shown on Drawing NTL/238 Rev A and NTL/1002 Rev A (previously submitted).

In addition, it is noted that it is not intended to vary the quantity of waste accepted at the facility, from those agreed in the Waste Licence 47-1, therefore dust levels along the road and at the site entrance, arising from traffic movements, will not increase.

The licensee has applied to have composting infrastructure at the facility with a capacity of up to 65,000 tonnes per annum. Previously, in August 2004 it is understood that the licensee obtained confirmation from the Director of the OEE that a limited composting proposal with a capacity of ca. 25,000 tonnes per annum would be agreeable to the Agency. The locations and details of the limited proposal of 3 No. tunnels presented to the Agency in an SEW report dated September 2004 is shown on Drawing NTL/238 Rev. B and the proposed infrastructure that is the subject of this review including 5 No. additional tunnels is shown on Drawing NTL/238 Rev. A.

As shown, in-vessel composting technology, with a bio-filter is proposed for the facility, with the wastes being prepared within the Waste Recycling Building. This should ensure that there is no increase in dust emissions from the preparation and composting part of the process. However, due to the addition of composting capacity some increase in dust emissions may arise from the curing of the compost. However, the curing area will be located centrally on the site and it is expected that any dust emissions arising will not result in any exceedance of dust levels, as specified in Waste Licence 47-1, at the site boundary.

Noise

There will not be any additional noise emissions as a result of the proposed change to waste types to be accepted at the facility including the addition of any recyclables from a household origin. It is not intended to vary the quantity of waste accepted at the facility, from those agreed in the Waste Licence 47-1, therefore noise levels due to traffic volumes will not increase. Furthermore, the proposed waste types will be handled and recovered inside a building.

However, it is anticipated that some additional noise will be generated as a result of the proposed composting activities at the facility, such as the turning of compost during the curing period. However, the composting infrastructure will be located centrally on the site and it is expected that the noise emissions will not result in noise levels that exceed the limits specified in Waste Licence 47-1, at the site boundary. In this context, it is important to note that noise emissions decrease by 6 dB with every doubling of distance.

Litter

It is not expected that there will be any litter arising as a result of the proposed changes to the waste types as the proposed waste types will be handled and recovered indoors and the preparation of wastes for composting will also be carried out indoors.

Odour

It is not anticipated that odour emissions will arise as a result of the proposed changes to the waste types to be accepted and the proposed additional composting activities at the facility. All wastes will be sorted indoors and the proposed additional waste types will be included in the existing odour mitigation measures at the facility.

The composting process will take place in fully enclosed and sealed tunnels. Odours produced within the tunnels will be captured by the tunnel exhaust fans and passed through a biofilter where naturally occurring bacteria will remove any remaining odours before the air is released to the environment.

Traffic

It is not intended to increase the quantity of waste accepted at the facility, from those agreed in the Waste Licence 47-1, therefore traffic volumes will not increase as a result of the proposed changes to the waste types to be accepted and the proposed composting activities at the facility.

Visual

It is not expected that there will be a visual impact as a result of the proposed changes to the waste types to be accepted and the proposed composting activities at the facility, as these waste types will be handled inside. The additional 5 No. composting tunnels will be located beside the 3 No. tunnels that were the subject of discussions with the Director of the OEE in August 2004 and will be situated centrally in the facility (See Drawing NTL/1002 Rev A previously submitted. The formation level at which the composting infrastructure will be constructed ensures that it is not visible from any of the surrounding residences or commercial properties.

4.2 Proposed Landfill Extension

Dust

It is anticipated that dust emissions may arise during the construction phase of the proposed landfill extension. The construction of the landfill extension will take place over 6 - 8 months and therefore will be short lived.

The dust mitigation measures, as outlined Section 5.1, will be extended to include the landfill extension to ensure that the emission limit value for dust from the facility are not exceeded during construction and during the operation of the facility. Monitoring of dust levels around the facility during the Phase 1 construction in September 2003 revealed low emissions rates at the two monitoring points near the closest residences. (See Section 7.2 and Table 7.1 for further details)

Noise

It is anticipated that noise emissions may arise during the construction phase of the proposed landfill extension. The construction of the landfill extension will take place over 6 – 8 months and therefore any noise emissions will be short lived.

Noise mitigation measures, as outlined Section 5.2, will be extended to include the landfill extension to ensure that the emission limit values for noise from the facility are not exceeded during the construction and during the operation of the facility.

Litter

It is not anticipated that any litter will arise during the construction of the proposed landfill extension. Once operational however, litter may arise during deposition of wastes. This litter will be handled in the same manner as litter is currently handled at the facility i.e. in compliance with Condition 7.4 of the waste licence.

Odour

It is not anticipated that any odour emissions will arise during the construction and operation of the proposed landfill extension. It is also not anticipated that odours will arise during the deposition of wastes due to the nature of the wastes, which will be deposited. In any event gas collection systems will be extended into this area, as required, to collect and control any gases generated and this will also minimise odour emissions.

Traffic

It is not intended to vary the quantity of waste accepted at the facility, from those agreed in the Waste Licence 47-1, therefore traffic volumes will not increase as a result of the proposed landfill extension.

Visual

It is not anticipated that there will be any visual impacts as a result of the proposed landfill extension. As mentioned previously, the activities ongoing and proposed at the facility include landscaping and restoration of the site. Over time this will improve the appearance of the site.

4.3 Proposed Increase of Site Level to 108 mOD

Dust

It is anticipated that dust emissions may arise as a result of this proposed change to the facility.

The dust mitigation measures, as outlined Section 5.1, will be extended to include the site level increase to ensure that the emission limit value for dust from the facility is not exceeded during construction and during the operation of the facility.

Noise

It is anticipated that noise emissions may arise as a result of the increase in site level to 108 mOD.

Noise mitigation measures, as outlined Section 5.2, will be extended to include the site level increase to ensure that the emission limit values for noise from the facility are not exceeded during the construction and during the operation of the facility.

Litter

It is not anticipated that any litter will arise as a result of the increase in site level to 108 mOD.

Odour

It is not anticipated that any odour emissions will arise as a result of the increase in site level to 108 mOD.

Traffic

It is not intended to vary the quantity of waste accepted at the facility, from those agreed in the Waste Licence 47-1, therefore traffic volumes will not increase as a result of the proposed site increase.

Visual

The development will in time have a positive impact, as eventually the site will be restored such that the land is similar to its surroundings. The

proposed increase in height will have a gradient similar to surrounding areas and will blend in with them.

5. EXISTING AND PROPOSED MITIGATION MEASURES

There are a number of mitigation measures currently in place at the facility which will be extended to address the proposed changes to the facility as outlined in the waste licence review application. The mitigation measures that are in place that will be employed to ensure no significant impact on the properties within 300 m are described below.

5.1 Dust Mitigation Measures

The dust mitigation measures currently in use at the facility, which will be extended as required, are as follows:

- All road surfaces used by vehicles are doused/sprayed with water during periods of dry weather.
- All trucks leaving the site pass through the onsite wheel wash.
- Stockpiles of soil and product will be wetted as required
- Bare surfaces will be vegetated wherever possible

5.2 Noise Mitigation Measures

The noise at the perimeter of the development will be consistent with existing noise levels on the current facility and will not exceed the noise emission limit as specified in Waste Licence 47-1 for the existing facility.

Noise mitigation measures include the following:

- Use of standard noise abatement equipment on plant and vehicles.
- Provision of Screening Mounds approximately 1 2 metres high along site boundaries where required.
- Drivers of HGV's and other vehicles will be required to use reverse warning lights with care.
- The site entrance road is covered with a macadam surface.
- Activities at the site will be carried out during working hours as per Waste Licence 47-1.

5.3 Litter Mitigation Measures

- Incoming and outgoing vehicles will be appropriately covered
- Litter checks will be carried out daily along the public road, at the site entrance and around site boundaries.
- A litter fence will be installed and maintained along the perimeter of facility.

 All loose litter discovered in the vicinity of the facility will be removed immediately, subject to the agreement of the landowners.

5.4 Odour Mitigation Measures

The following odour mitigation measures currently in place at the facility will be extended to accommodate the proposed changes.

- Limit working face to that prescribed in Condition 5.4.1b of the Waste Licence (i.e. maximum 2.5m high; 25m wide)
- Ensure wastes are promptly covered with a suitable material as per condition 5.4.3 (i.e. at minimum on a daily basis).
- Ensure leachate is removed from the facility in a timely fashion for proper disposal.
- Emissions from the in-vessel compost tunnels will be passed through a bio-filter prior to release to the atmosphere.
- In the unlikely event that wastes are accepted which have the potential to cause a nuisance off-site, they will be directed to the landfill and covered immediately.
- After tipping wastes in the lined landfill microbial decomposition of biodegradable wastes in the landfill may lead to odours. The odours will be abated by active gas extraction and flaring or other equipment.

5.5 Traffic Mitigation Measures

As it is not anticipated that there will be an increase in traffic volumes as a result of the proposed changes mitigation measures are not required at this time.

5.6 Visual Impact Mitigation Measures

Obscuring the view of the site is the best course of mitigation. This will be best accomplished by plantings. Hedges currently obscure the view into the site considerably. These hedges will be maintained and thin areas replanted as required. In addition, planting of some low maintenance shrubs or trees along the northwest corner of the site will further obscure the view into the site from the Naas Golf Course.

In other areas of the site (i.e. northeastern boundary, southern boundary) berms obscure views into the site. These berms will be maintained and where possible planted with grasses.

A more detailed Landscaping Plan was presented in Section 4.9.5 of the Waste Licence Review Application submitted to the Agency in July 2004.

6. RESIDENCES AFFECTED

As part of this submission we have assessed the residences within 300 metres of the Neiphin Trading Facility to quantify the residences that may be impacted as a result of the proposed changes to the facility characteristics.

There are 20 no. houses in total within 300 metres of the site. Of these, no impacts are likely at 8 No. of the residences and it is estimated that 12 No. may be slightly impacted by the proposed changes. These residences are indicated on Drawing NTL/1010, Rev A. The impacts are not expected to be significant with the mitigation measures described above in place in Section 5.

7. RESPONSE TO OBJECTION LETTERS

7.1 Introduction

Two submissions were lodged with the EPA on 31 August 2004 by the following residents:

- Mr. & Mrs. Liam & Deirdre Foley (dated 31/08/04)
- Mr. & Mrs. Michael & Valerie Foley (dated 31/08/04)

These submissions are addressed in Sections 7.2 and 7.3.

7.2 Liam and Deirdre Foley (dated 31/08/04)

Liam and Deirdre Foley live in the residence marked No. 1 on Drawing NTL/1010, Rev A. They raised the following objections in their letter:

- (a) "...we are subjected to large quantities of fugitive emissions of dust as every vehicle entering and leaving the facility pass our boundary".
- (b) "Our kitchen and family room is 35 metres from a massive dust generation source (Cell A1). Point emissions from this source when the cell is being filled will be intolerable.....
- (c)Residents of the area must listen to the constant intrusive sound of reversing sirens of the machinery at work at the facility."
- (d) "Our home and property are at 96 mOD. If the proposed amendment to the licence is granted, our property will be overlooked by 12m. This is comparable to being allowed build a 40 ft wall around our property."
- (e) It will also cause us problems with drainage and possible flooding".
- (f) "... this is a huge increase in the final contours of the land (26.25 feet) on top of the engineered increases already made by the Licensee".

- (g) "Composting green wastes presents risks of harm to human health by inhalation of airborne micro-organisms and fungal spores."
- (h) "The introduction of Composting to the facility will result in increased nuisance from foul odours for us and introduces another threat to our family living here in healthy conditions".
- (i) "We are concerned that to increase the Waste Recovery and Disposal activities at the facility will increase the levels of methane gas emanating from it. We would suggest that the Gas Management Compound should not be located in the proposed area."
- (j) "..we would like to ask the EPA to amend Condition 5.4.2 to ensure that when the waste deposited at the working face is being compacted and rolled, that the Licensee is not permitted to use a machine with a vibrator attached to it".

Response to (a) and (b)

As previously discussed in Section 4.1, it is not anticipated that there will be an increase in dust emissions as a result of the proposed changes to the site characteristics. It is not proposed to vary the quantities of waste accepted at the facility therefore dust levels along the road and site entrance arising from truck movements will not increase.

Dust is monitored at seven locations around the facility boundary and results are forwarded to the Agency in the Quarterly Monitoring Reports and Annual Environmental Reports Results from dust monitoring at the facility since grant of licence are depicted in Table 7.1.

Table 7.1: Results from Pust Monitoring at the Neiphin Trading Facility (2003 - 2004)

Location	Sept 2003	May/June 2004	Aug/Sept 2004
D1	126.3	80.4	149.3
D2	91.9	201.0	183.7
D3	11.5	40.2	45.9
D4	63.2	252.6	189.5
D5	172.3	118.7	474.7
D6	528.2	83.4	38.9
D7	28.7	164.3	65.7

To date the dust levels recorded have been greater than the emission limit value (ELV) of 350 mg/m²/day specified in the licence on only two occasions. However, both these results can be attributed to exceptionally dry weather conditions and the proximity of the monitoring locations to the Sallins to Johnstown Road. Therefore, as they cannot be attributed to site operations they do not represent an exceedance of the ELV.

Dust monitoring locations D4 and D7 are closest to the Foley's residence. The dust emissions from both of these locations consistently remain well below the ELV. Dust monitoring location D7 is also the closest location to

the newly constructed lined cell (Cell 1B). The emissions at this location remained low throughout the construction phase. It is therefore not anticipated that the filling of the cell will result in dust emissions of any significance.

However, a 1.8 metre high wooden fence has recently been erected between the site access road and the Foley's residence to further reduce any impact of dust emanating from the existing activities at the facility. In addition, the dust mitigation measures as described in Section 5.1 will be maintained at the facility.

Response to (c)

The reversing sirens on site machinery are a safety feature.

To remove or switch off these warning sirens would be in contravention of the Safety, Health and Welfare at Work (Construction) Regulations, 2001 (S.I. No. 481 of 2001).

Response to (d), (e) and (f)

The proposed amendment to the final site levels will result in the site being restored such that the land is similar to surroundings.

The final profile of the site will be a gradual slope as depicted on Drawing NTL/1009, Rev A previously submitted to the Agency in July 2004. It will not represent a '40 foot wall' around the property. Planning permission has already been granted for this landform.

As detailed in the Waste Licence Review Application (July 2004), the licensee wishes to produce a landform that is consistent with the principals of BAT in regard to the promotion of surface water drainage from the surface of the restored landform and a landform that is consistent with the recommendations and guidance provided in the Agency Manual on Landfill Restoration and Aftercare. In particular, in order to ensure the minimum gradients on the side slopes of completed landfills of 1:25 the maximum final height would need to be 108 mOD in some areas since the maximum height of the ground surrounding the facility is 102 mOD.

Drainage from the completed restored surface will be to a perimeter ditch that will drain to a surface water pond prior to discharge into the ground or a local surface watercourse.

We are pleased to note that Mr. and Mrs. Foley have acknowledged the drainage works carried out by the licensee on the Foley's lands for them. The licensee has always strived to be a good neighbour and to provide assistance where possible.

Response to (g) and (h)

The proposed composting process will take place indoors in the Waste Recovery Area previously identified for the Agency in correspondence dated 23 July 2003 (See Drawing NTL/1002).

The putrescible wastes will be composted using in-vessel composting technology. Preparation of the compost will take place indoors followed by in-vessel composting and then outdoor curing (See Drawing NTL/238 Rev B). This composting method will not result in the generation of harmful airborne micro-organisms or fungal spores as they are destroyed by the heat generated in the composting tunnels.

The tunnel exhaust fans utilised as part of this composting process ensures that odours generated during the breakdown of matter are captured and passed through a biofilter. The biofilter uses naturally occurring bacteria to remove any odours before the air is released to the environment. A description of the proposed composting technology and infrastructure is provided in Appendix 1.

Response to (i)

The composting of putrescible waste is the only proposed expansion of the existing licensed Waste Recovery and Disposal activities at the Integrated Waste Management Facility. The composting process will not result in the generation of methane gases.

The location of the Gas Management Compound is not part of this Waste Licence Review process.

Response to (j)

An amendment to Condition 5.4.2 of Waste Licence 47-1 is not part of this Waste Licence Review process.

7.3 Michael and Valerie Foley (dated 31/08/04)

Michael and Valerie Foley live in the residence marked No. 2 on Drawing NTL/1010, Rev A. They raised the following objections in their letter:

- (a) "When the trucks tip a load of C&D waste at the site or if a truck tips waste into an engineered cell, it sends a pawl of dust up into the air. This dust becomes airborne and settles on our home and property."
- (b) "The spores and pollen from the Composting Operation will also aggravate the Asthma conditions in our household".
- (c) "The new Composting procedures will increase the number of times that the Residents of the area will have to endure foul odours."
- (d) "A substantial amount of noise comes from this facility in the form of truck movements to and from the site and heavy machinery

- operating there..... If the activity level increases, so too does the number of machines required to carry out the work and the intensity off the noise levels to be tolerated."
- (e) "We do not wish to be overlooked by a further 8 metres. At this height we would not be afforded the protection of the hedges/trees around the boundary of the site and would have to tolerate the full momentum of the noise and dust coming from the site."

Response to (a)

As discussed previously, it is not anticipated that there will be an increase in dust emissions as a result of the proposed changes to the site characteristics. It is not proposed to vary the quantities of waste accepted at the facility therefore dust levels along the road and site entrance arising from truck movements will not increase. No waste has yet been tipped into the engineered cell.

Michael and Valerie Foley live south of the facility boundary, north west of the facility entrance. Their home is not affected by traffic arriving and departing from the facility. The Johnstown to Sallins road separates their home from the site boundary. Their home is affected by traffic movements on the Johnstown to Sallins Road, particularly by HGV's, which are likely to be responsible for any dust settling on their home and property.

Response to (b) and (c)

As mentioned previously, the proposed composting process will not result in the generation of harmful airborne micro-organisms or fungal spores, as they will be destroyed by the heat generated in the composting tunnels.

Any odours generated as part of the composting process will be generated whilst the material biodegrades in the tunnels. The tunnel exhaust fans will extract the odours generated and pass them through a biofilter where naturally occurring bacteria will remove the odours before the air is released to the environment.

Response to (d)

As discussed previously it is not anticipated that there will be an increase in noise levels at the site boundary as a result of the proposed changes to the facility characteristics.

Response to (e)

As discussed previously, the proposed amendment to the final site levels will result in the site being restored such that the land is similar to its surroundings.

The final profile of the site will be a gradual slope as depicted on Drawing NTL/1010, Rev A. The resident's view of the site will be obscured by

plantings. Hedges currently obscure the view into the site considerably. These hedges will be maintained and thin areas re-planted as required.

In other areas of the site (i.e. northeastern boundary, southern boundary) berms currently obscure views into the site. These berms will be maintained and where possible planted with grasses.

These mitigation measures and the Landscaping Plan for the facility will ensure that the residences are not subjected to the visual impact of the facility restoration process.

8. AMENDMENT TO NON-TECHNICAL SUMMARY

The EPA requested that a revised non-technical summary be included which reflects the information supplied in compliance with the Article 14(2)(b)(ii) Notice in so far as that information impinges on the non-technical summary. The only part of the non-technical summary that is impinged on by the information provided is in section 4.5 of the non-technical summary.

The first paragraph of Section 4.5 of the non-technical summary is amended as follows:

It is not intended to vary the quantity or types of waste accepted at the facility, from those agreed in the Waste Licence Schedule 47-1 save for the acceptance of dry recyclable wastes from a household origin to replace a portion of the Commercial & Industrial wastes.

APPENDIX 1

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1. PROPOSED INFRASTRUCTURE

1.1 Composting Plant

To facilitate the proper management of the process and potential nuisances it is proposed to use an in-vessel composting technology such as the Wright Environmental Management Inc. technology (composting tunnels) as distributed, in Ireland, by Sustainable Recycling Solutions Ireland Ltd. (SRS). The licensee proposes to install 3 No. composting tunnels.

Possible composting infrastructure will include:

- Feedstock Mixer
- In-feed conveyor
- In-vessel composter (3 No.)
- Discharge conveyor
- Biofilter (1 No.)

Figure 1 schematically depicts a composting tupnel.

Figure 1: Schematic of Wright Environmental Management Inc. Composting Tunnel

December 2004

The in-feeds of the composting tunnel will be enclosed within a building. Exhaust air from the tunnels will be treated in a biofilter. Any excess leachate generated will be directed to the leachate collection system in Phase 1 of the lined landfill via piping.

Compostable material is moved in a plug flow fashion through a composting tunnel, in about fourteen days. Material is supported on a tray flooring, which is pushed forward as a continuous unit by an external hydraulic ram.

When the ram is moving an empty tray into the tunnel, all trays within the tunnel are moving forward. As an empty tray is being inserted, compost from a single tray is being unloaded at the tunnel end using a series of horizontal augers. The augers discharge the compost from the unloading tray onto a conveyor and the cleaned tray emerges from the tunnel ready for inspection and re-use.

Surges of waste can be accommodated by advancing more segments of tray flooring than on typical days.

Pathogen reduction requirements are met within the first 7 days of processing. After day 7 the organic waste is moved to the second half of the composting tunnel (for a further 7 days of processing) by specially engineered spinners. The incorporation of a mixing process in the tunnels is a unique aspect of this technology. It assists in the reduction of particle size and remixes the organic waste for further decomposition. Any required water can also be added at this time.

During the composting process supply fans provide additional air (fresh or re-circulated) to the composting process. Tunnel aeration is controlled via the collection of temperature and oxygen data. Exhaust fans remove off-gases and discharge them to a biofilter.

The composting tunnels feature full data-logging capabilities, including continuous temperature monitoring, to ensure that the various composting requirements are being consistently achieved.

Preliminary engineering drawings of the mixer, in-feed conveyor, in-vessel composters, and discharge conveyors are provided in Drawing NTL/238 Rev A.

Possible phasing of infrastructure may be:

2005

- Feedstock mixer
- In-feed conveyor
- In-vessel composter (3 No.)
- Discharge conveyor
- Biofilter

APPENDIX 2

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