



**Australian Government**

**Department of the Environment, Water, Heritage and the Arts**



**National Pollutant Inventory**

# **Transfers Information Booklet**

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# What are transfers?

Transfers are the movement of NPI substances on or off-site.

It is mandatory for facilities to report a transfer if NPI substances are transferred in waste streams<sup>1</sup> to:

- a destination for containment including:
  - landfill
  - tailings storage facility
  - underground injection, or
  - other long term purpose-built waste storage structure
- a destination for destruction
- an off-site sewerage system, or
- an off-site treatment facility which leads solely to one or more of the above.

For convenience these destinations are considered to be 'final destinations', although this may not be the case in all situations.

Facilities may also wish to report a transfer to a *voluntary reporting transfer destination* if the NPI substances contained in waste streams are transferred to a destination for:

- reuse
- recycling
- reprocessing
- purification
- partial purification
- immobilisation
- remediation, or
- energy recovery.

Reporting a transfer to a voluntary reporting transfer destination is an opportune way for industry to inform the public on the types of cleaner production or pollution control techniques they are using to minimise their environmental impact.

Examples provided in this booklet include:

- landfill operations
- sewage treatment operations
- cement operations
- paper and pulp operations
- plastics and chemical operations
- mining operations
- wine manufacturing
- intensive agriculture
- power stations, and
- petroleum explorations, production and refining.

Please note, if your facility is not represented in this booklet, you **still may** have a requirement to report transfers. This booklet is to be used as a guide only and does not provide assistance on all facility waste streams. Please contact your local jurisdiction for advice (full list of contact details on page 40).

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<sup>1</sup> Waste stream is the flow or movement of wastes from the point of generation to final disposal.

## Is irrigation of effluent or spreading of solids considered to be a transfer, or is it an emission to land?

It is recognised that the reuse of nutrients and/or water contained in effluent or waste is generally a “beneficial reuse”.

However, individual substances in effluent or solids will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent or solids, provides a demonstrable benefit to the receiving land.

When effluent or solids are applied which contain substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.

For example:

Total Nitrogen and Total Phosphorus are NPI substances which are generally considered to provide benefit to land, although this will not be the case if applied in excessive concentrations. Application of these substances will generally be considered to be a transfer to a *voluntary reporting transfer destination*.

Zinc, selenium, copper, chromium (III), nickel and manganese are NPI substances which may be considered to provide benefit to land if applied in concentrations which correct specific deficiencies in the soil. Depending on the concentration, application of these substances may be considered as a transfer to a *voluntary reporting transfer destination* or an *emission to land*.

Mercury, lead, cadmium and arsenic are NPI substances which are generally considered as detrimental to land if applied in any concentrations. Application of these substances is considered to be an *emission to land*.

## Is chemical analysis required?

Chemical analysis of the waste material for NPI substances may be required. The analysis should only be for those substances for which a Category 1, 1b or 3 thresholds has been exceeded. Other estimation techniques can also be used where sampling and/or analysis is not feasible. The frequency of sampling will depend on how variable the waste stream is and therefore how difficult it is to determine an “average” concentration for the reporting year.

## How do I report my transfers?

An online reporting system is available to help NPI reporters lodge their reports more easily. The NPI online reporting system includes calculation tools for industry using emission estimation techniques based on average industry emissions. (See the *NPI Guide* for further information on how to use the online reporting system.)

Alternatively a paper reporting form can be downloaded from the NPI website at [www.npi.gov.au](http://www.npi.gov.au) or requested from your jurisdiction.

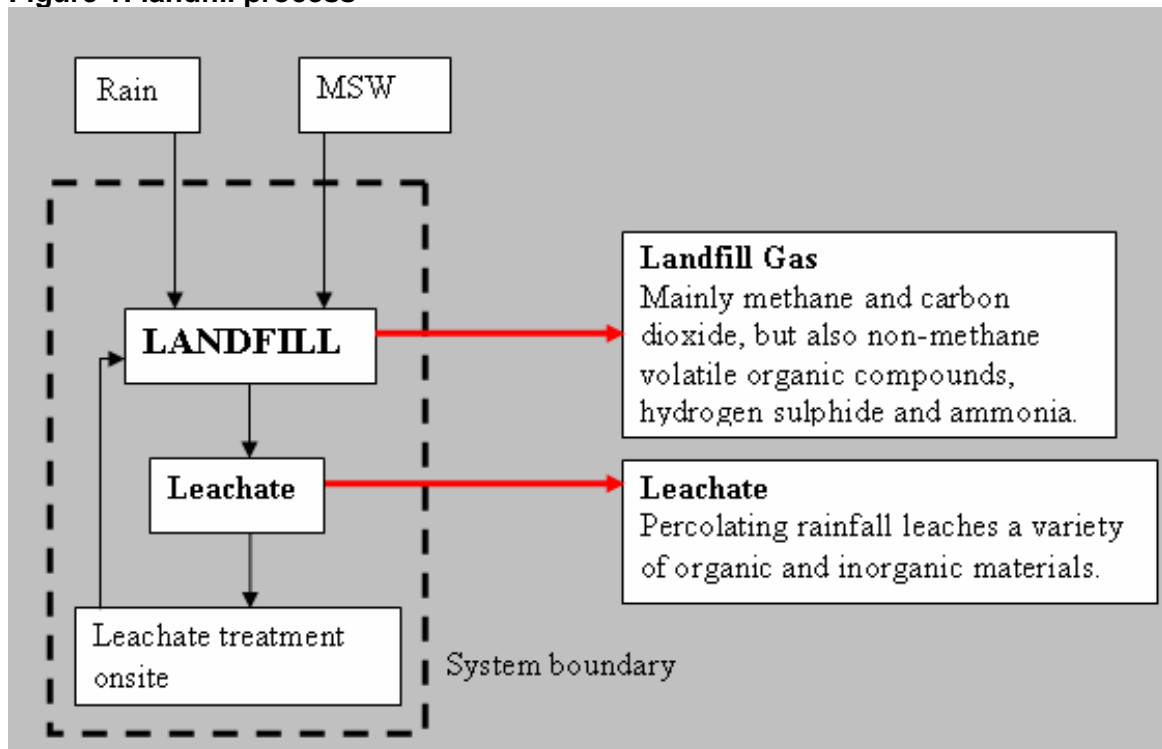
## Further information

Further information on the reporting of transfers to mandatory or voluntary reporting transfer destinations can be found in the following documents available on the NPI website:

- NPI Guide
- NPI Emission Estimation Technique manuals
- NPI NEPM
- Summary of Submissions Report in relation to the variation of the NPI NEPM
- Draft Variation to the NPI NEPM - Impact Statement
- Cost analysis of reporting National Pollutant Inventory transfers: Case studies using the amended NEPM NPI variation – May 2007, and
- Transfers page on NPI website.

# 1. Reporting transfers for landfill operations

Figure 1: landfill process



Source: NPI emission estimation technique manual for MSW landfills, Version 2. p. 7

The following examples are applicable to landfill operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required (see the *NPI Guide* for how to report emissions).

| Landfills  |  |
|--|--|
| Waste stream containing NPI substances   | Reporting requirements   |
| Landfill gas is collected and sent to a utility company for electricity or heat generation (on-site or off-site)   | <b>Reporting is voluntary</b><br>NPI substances in the gas can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .  |
| Liquid contaminated hydrocarbons from treated landfill gas disposed of to a landfill or a facility for disposal by incineration  | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the liquid hydrocarbons which go to a landfill (or other <i>mandatory reporting transfer destination</i> ) must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .  |
| Waste is transferred to incinerators for disposal  | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to incinerators for disposal must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .  |
| <b>Leachate is collected and discharged to wastewater treatment plant on-site. It is then sent to local farming areas for use in irrigation</b><br><br>It is recognised that the reuse of water and nutrients contained in the leachate is generally a “beneficial reuse”.<br><br>However, individual substances in the leachate will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the leachate, provides a demonstrable benefit to the receiving land.<br><br>When leachate is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such. | <b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b><br><br>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .<br><br><b>Reporting as an emission to land is mandatory for all other substances</b><br><br>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the discharged leachate must be reported as an <i>emission to land</i> .<br><br>(*excluding those substances for which emission to land is not a valid destination e.g. PM <sub>10</sub> ) |
|  |  |

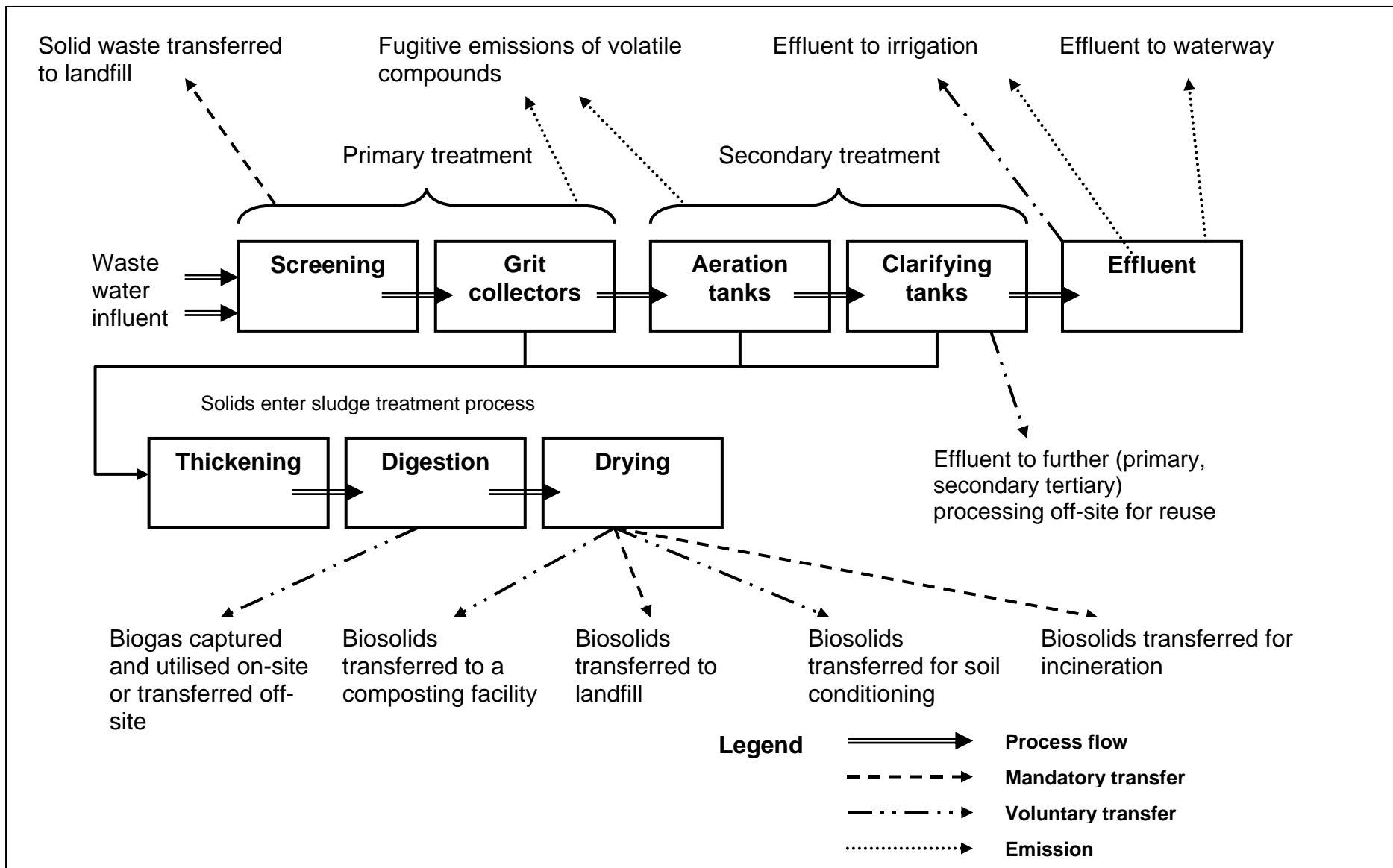
| Landfills  |   |
|--|---|
| Waste stream containing NPI substances   | Reporting requirements  |
| Leachate is collected and discharged to a sewage treatment plant (such as a corporate STP like Sydney Water) | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the discharged leachate must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .  |
| Leachate is collected, treated on-site and discharged to surface waters                                      | <b>Reporting is mandatory</b><br>For each NPI substance*, which exceeds the Category 1, 1b, 2a, 2b, or 3 thresholds for the facility as a whole, the amount of this substance in the discharged leachate must be reported as an emission to water.<br>(*excluding those substances for which emission to water is not a valid destination e.g. PM <sub>10</sub> ) |

| Transfer stations   |  |
|---|--|
| Waste stream containing NPI substances  | Reporting requirements   |
| Industrial, metal or demolition waste is sold as scrap to companies                 | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .  |
| Glass, aluminium, plastic, paper and cardboard waste is sold to companies for reuse | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .  |
| Household (putrescible) waste is transferred to landfill for disposal               | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |



## 2. Reporting transfers for sewage treatment operations

Figure 2: sewage treatment process



The following examples are applicable to sewage treatment operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

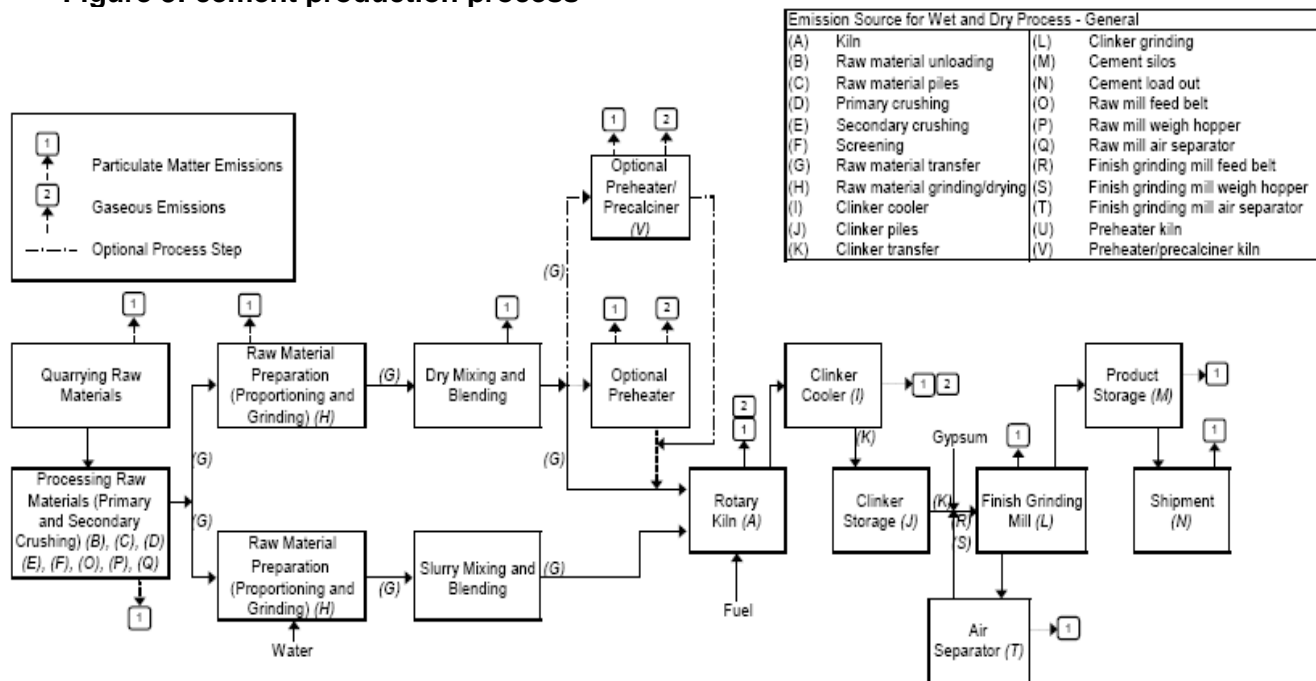
| Waste stream containing NPI substances  | Reporting requirements   |
|---|--|
| <b>Solid waste transferred to landfill (including solid waste collected from the screening process)</b> | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the solid waste must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .                     |
| <b>Biosolids transferred to a composting facility</b>   | <b>Reporting is voluntary</b><br>NPI substances in the biosolids can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .  |
| <b>Biosolids transferred to landfill</b>  | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the biosolids going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .     |
| <b>Biosolids transferred for incineration</b>   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the biosolids going to incineration must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |

| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <p><b>Biosolids transferred for land placement/soil conditioning</b></p> <p>It is recognised that the reuse of nutrients contained in biosolids is generally a “beneficial reuse”.</p> <p>However, individual substances in the biosolids will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the biosolids, provides a demonstrable benefit to the receiving land.</p> <p>When biosolids are applied which contain substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p>  | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the land where it is being applied</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the biosolids must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>)</p> |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>)</p>                  |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>  |

| Waste stream containing NPI substances  | Reporting requirements   |
|---|--|
| <p><b>Biogas transferred for energy recovery</b></p>  | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the biogas can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |
| <p><b>Transfer of biosolids off-site to another sewage treatment plant facility for processing</b></p> <p>Note: Another sewage treatment plant is an “off-site sewerage system” and as such is a <i>mandatory reporting transfer destination</i>.</p> | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the biosolids going to the other sewage treatment plant must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p> |

### 3. Reporting transfers for cement operations

Figure 3: cement production process



Source: NPI emission estimation technique manual for cement manufacturing, Version 2.1, p 3

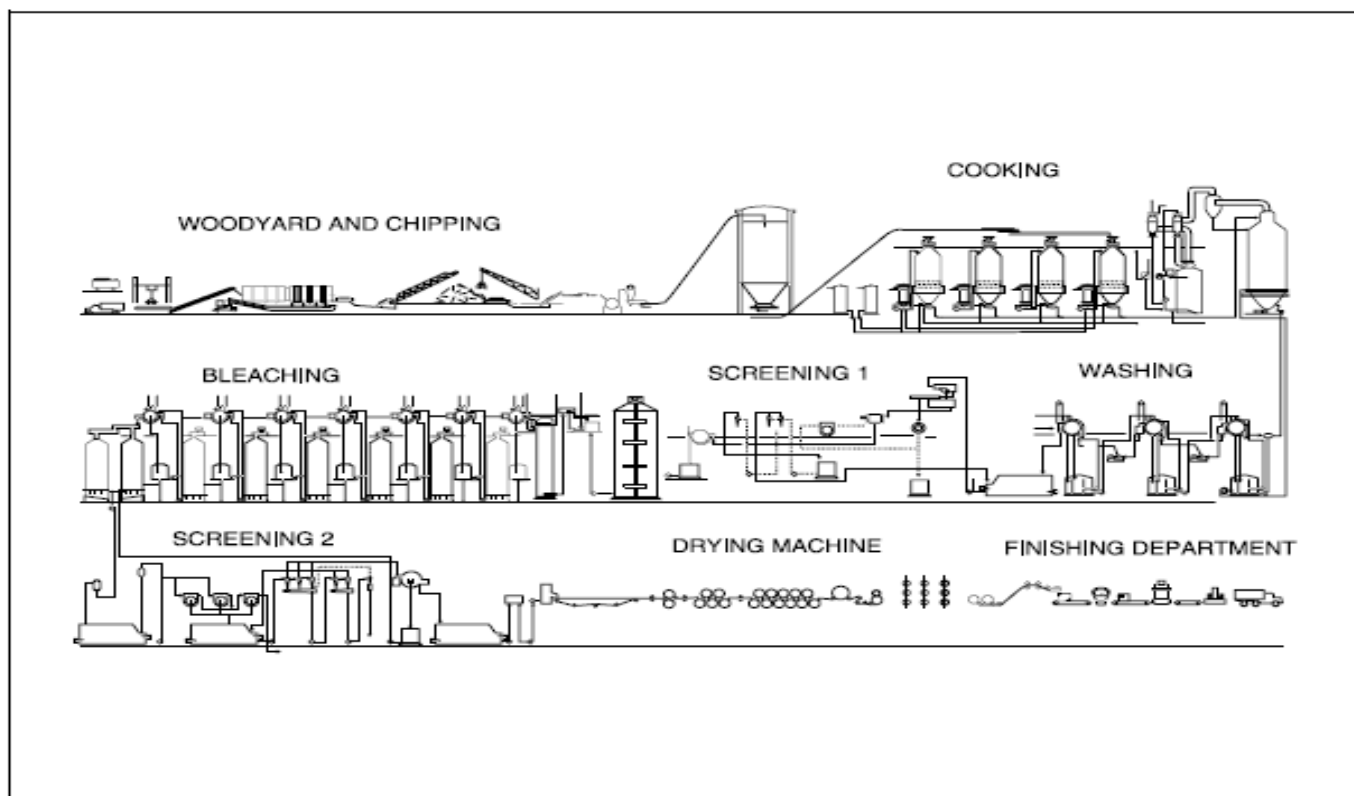
The following examples are applicable to cement operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

| Waste stream containing NPI substances   | Reporting requirements   |
|--|--|
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>)</p> |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |
| <p><b>Slurries or solid waste are stored in on-site landfill or waste storage facility</b></p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill or waste storage facility must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |
| <p><b>Solid waste is transferred to off-site landfill</b></p>  | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |
| <p><b>Accepting alternative fuels from off-site for powering kilns. e.g. used tyres, construction wood waste, etc.</b></p>   | <p><b>Transfer reporting is not required by the accepting facility</b></p> <p>However, the emissions from the kiln stacks must still be reported.</p>  |

## 4. Reporting transfers for paper and pulp operations

Figure 4: paper production



Source: Smook, 1992.

The following examples are applicable to paper and pulp operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

| Waste stream containing NPI substances   | Reporting requirements   |
|--|--|
| <p><b>Water treatment sludge applied to land for beneficial purposes</b></p> <p>It is recognised that the reuse of nutrients contained in sludge is generally a “beneficial reuse”.</p> <p>However, individual substances in sludge will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the sludge, provides a demonstrable benefit to the receiving land.</p> <p>When sludge is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p>  | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the land where it is applied</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in sludge must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>)</p> |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>)</p>         |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |



| Waste stream containing NPI substances  | Reporting requirements   |
|---|--|
| <b>Waste wood chips or bark are incinerated for energy production</b>                               | <b>Reporting of transfers not required</b><br>This practice is part of the production process and any emissions are reportable.  |
| <b>Waste black liquor is moved to an incinerator to recycle chemicals and for energy production</b> | <b>Reporting of transfers not required</b><br>This practice is part of the production process and any emissions are reportable.  |
| <b>Screening rejects are re-pulped</b>  | <b>Reporting of transfers not required</b><br>This practice is part of the production process and any emissions are reportable.  |
| <b>Solid waste is transferred to landfill</b>   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |

## 5. Reporting transfers for plastics and chemical operations

The following examples are applicable to plastics and chemicals operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

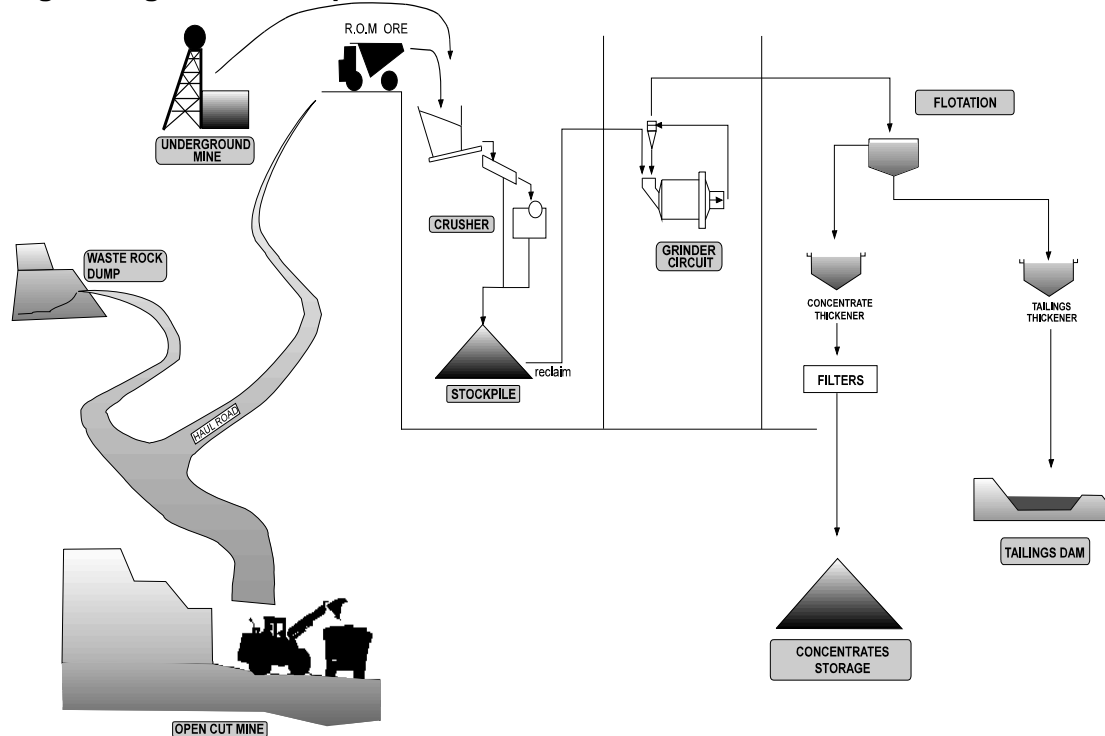
| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <b>Inert solid waste transferred to landfill</b><br>This includes solid waste collected from the different stages of the production process.   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .                              |
| <b>Hazardous waste transferred to hazardous waste disposal facility</b><br>This includes waste that is sent for specialised disposal. Note this also includes wastes that need to be transported outside Australia for specialised disposal. | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in waste going to the hazardous waste disposal facility must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |
| <b>Hazardous waste transferred for reprocessing at hazardous waste treatment facility</b><br>This includes waste that is sent to a reprocessing/purification facility where the waste is treated.  | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .   |
| <b>Wastewater discharged to sewage treatment plant</b><br>This includes liquid wastes discharged to the sewer.   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the wastewater going to the sewage treatment plant must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .   |

| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <p><b>Wastewater collected, treated and used on-site (i.e. applied to land)</b></p> <p>This includes liquid wastes that may or may not receive treatment before beneficial reuse on-site.</p> <p>It is recognised that the reuse of water and nutrients contained in the wastewater is generally a “beneficial reuse”.</p> <p>However, individual substances in the wastewater will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the wastewater, provides a demonstrable benefit to the receiving land.</p> <p>When wastewater is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the wastewater must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p>   | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p>   |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>  |

| Waste stream containing NPI substances | Reporting requirements  |
|--|---|
| Gas for energy recovery                | <b>Reporting of transfers not required</b><br>This practice is part of the production process and any emissions are reportable. |

## 6. Reporting transfers for a mining operation

Figure 5: general mine process



Source: NPI emission estimation technique manual for mining, Version 2.3, p. 4

The following examples are applicable to mining operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

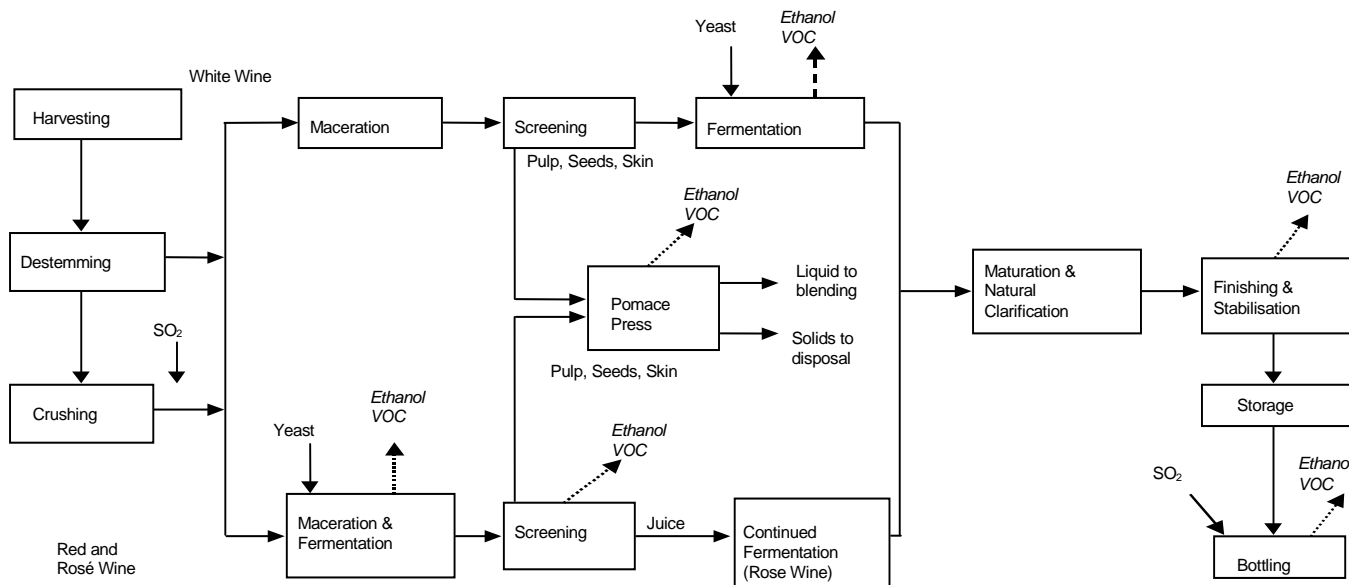
Note: Mandatory reporting of transfers refers to the net volume or mass of an NPI substance deposited for final containment at the end of the year, not the gross volume of a substance cycled through a containment and reprocessing facility (such as a tailings storage facility).

| Waste stream containing NPI substances  | Reporting requirements  |
|---|---|
| <b>Waste rock and overburden transported from mine face to dumps and stockpiles</b>   | <b>Reporting of transfers not required</b><br>Movement of NPI substances in waste rock or overburden is not regarded as a transfer (refer to the NPI NEPM).   |
| <b>Reshaping of the landform containing previous overburden or waste rock for rehabilitation or landscape management purposes</b>   | <b>Reporting of transfers not required</b><br>Movement of NPI substances in waste rock, overburden or clean soil is not regarded as a transfer (refer to the NPI NEPM).   |
| <b>Tailings containing NPI substances used to backfill an underground mine</b><br>The tailings may contain metals and/or cyanide compounds or other NPI substances.   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the tailings sent to be used for backfilling an underground mine must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |
| <b>Tailings containing NPI substances stored in an on-site tailings storage facility</b><br>The tailings may contain contaminant metals and cyanide compounds and/or other NPI substances.<br>Note that the NPI substance amount can be reduced by the amount of that substance recycled or reused through processing via return water. The net deposition across a year is the value to be reported. | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the tailings going to an on-site tailings storage facility must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .       |
| <b>Waste oil from the workshop collected by an outside contractor and transported to an off-site waste oil recycling facility</b>   | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .   |
| <b>Waste oil stored on-site for greater than 12 months due to oil recyclers being over-capacity</b>   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste oil being stored on-site must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .                               |

| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <p><b>Process water remains on-site and is treated for reuse within the process</b></p>  | <p><b>Reporting of transfers not required</b></p> <p>On-site recycling of this nature does not trigger transfer reporting of NPI substances contained in the process water. Such recycling can be regarded as an internal process step.</p>   |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>  |
| <p><b>Materials transferred to an on-site incinerator for disposal</b></p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the materials going to the on-site incinerator must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |
| <p><b>Spent 200L drums or used bulker bags deposited in an on-site landfill</b></p> <p>An estimate of remainders in the drums/bulker bags should be made, together with the number of drums/bags in the 12 month period.</p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the 200L drums or used bulker bags going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |

## 7. Reporting transfers for wine manufacturing

Figure 6: production of still table wine



Source: NPI emission estimation technique manual for wine and spirits manufacturing, Version 1.3, p 4

The following examples are applicable to wine operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.



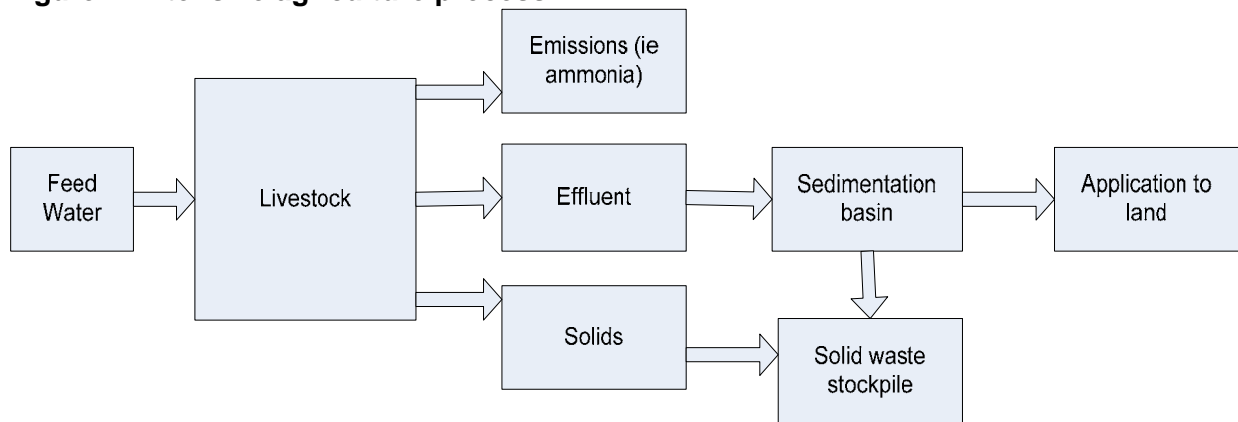
| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <b>Marc, lees, earth materials and other materials further processed within the reporting facility</b>   | <b>Reporting of transfers not required</b><br>This practice is part of the production process and only emissions are reportable.  |
| <b>Marc, lees, earth materials and other materials sent for further processing at an off-site facility</b>   | <b>Reporting is voluntary</b><br>NPI substances in the marc, lees, earth materials and other materials can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .   |
| <b>Marc, lees, earth materials and other materials transferred to landfill</b>   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the marc, lees, earth materials and other materials going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .  |
| <b>Marc sent for composting on-site and then reused as a soil conditioner or fertilizer</b><br><br>It is recognised that the reuse of nutrients contained in the marc is generally a “beneficial reuse”.<br><br>However, individual substances in the marc will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the marc, provides a demonstrable benefit to the receiving land.<br><br>When marc is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such. | <b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the land where it is applied</b><br><br>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .<br><br><b>Reporting as an emission to land is mandatory for all other substances</b><br><br>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the composted marc must be reported as an <i>emission to land</i> . (*excluding those substances for which emission to land is not a valid destination e.g. PM <sub>10</sub> ). |

| Waste stream containing NPI substances   | Reporting requirements   |
|--|--|
| <p><b>Solids from juice clarification and earth materials discharged to wastewater on-site and reused on-site (i.e. irrigation)</b></p> <p>It is recognised that the reuse of water and nutrients contained in the wastewater is generally a “beneficial reuse”.</p> <p>However, individual substances in the wastewater will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the wastewater, provides a demonstrable benefit to the receiving land.</p> <p>When wastewater is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the solids must be reported as an <i>emission to land</i>. (*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Solids from juice clarification and earth materials discharged to wastewater (i.e. a sewerage system) off-site</b></p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the solids and earth materials discharged to the sewerage system must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>  |
| <p><b>Solids from juice clarification going to landfill</b></p>  | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the solids going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>  |

| Waste stream containing NPI substances   | Reporting requirements   |
|--|--|
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>. (*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Effluent discharged to wastewater (i.e. a sewerage system) off-site</b></p>  | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the solids and earth materials discharged to the sewerage system must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>  |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |

## 8. Reporting transfers for intensive agriculture

Figure 7: intensive agriculture process



The following examples are applicable to intensive agriculture operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

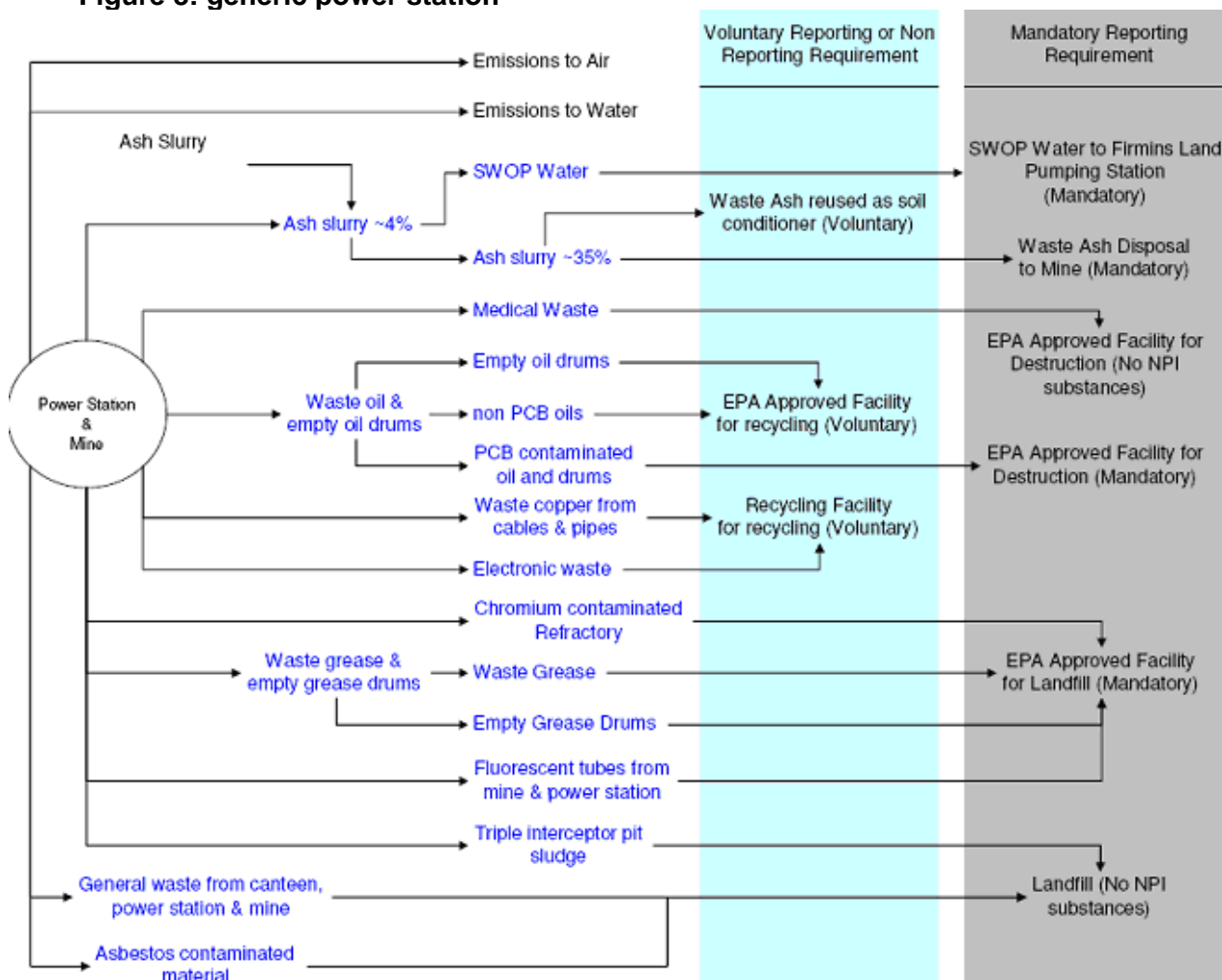
| Waste stream containing NPI substances  | Reporting requirements   |
|---|--|
| <b>Liquid waste discharged to a liquid storage facility on-site, no further use</b> | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste discharged to a liquid storage facility on-site must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |
| <b>Liquid waste discharged to sewer system going off-site</b>                       | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste discharged to the sewerage system must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .               |
| <b>Liquid waste discharged to dam on-site, no further use</b>                       | <b>Report as an emission to water</b>  |

| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <p><b>Liquid waste discharged to dam on-site, and used for irrigation on-site</b></p> <p>It is recognised that the reuse of water and nutrients contained in the liquid waste is generally a “beneficial reuse”.</p> <p>However, individual substances in the liquid waste will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the liquid waste, provides a demonstrable benefit to the receiving land.</p> <p>When liquid waste is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the land to which it is applied</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the solid waste must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Solid waste spread on farm for fertilizer</b></p> <p>It is recognised that the reuse of nutrients contained in the solid waste is generally a “beneficial reuse”.</p> <p>However, individual substances in the solid waste will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the solid waste, provides a demonstrable benefit to the receiving land.</p> <p>When solid waste is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p>   | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the land to which it is applied</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the solid waste must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Solid waste transferred from farm for sale as fertilizer elsewhere</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |

| Waste stream containing NPI substances                           | Reporting requirements  |
|--|---|
| <b>Solid waste stockpiled on farm for greater than 12 months</b> | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste stockpiled on farm for more than 12 months must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |
| <b>Solid waste transferred to landfill</b>                       | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .                          |

## 9. Reporting transfers for power stations

Figure 8: generic power station



NPI Transfers case study report for transfer reporting for brown coal fired power stations, 2008

The following examples are applicable to power station operations, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <p><b>Wastewater discharged to an off-site sewerage system</b></p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the wastewater discharged to the sewerage system must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>  |
| <p><b>Waste grease and oil from machinery collected and stored in drums on-site for greater than 12 months.</b></p>  | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste grease and oil stored in drums on-site for more than 12 months must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |



| Waste stream containing NPI substances  | Reporting requirements   |
|---|--|
| <b>Boiler waste transferred off-site to landfill</b>  | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .   |
| <b>Solid material and/or sludge from inceptor pits collected and disposed of to final destination (e.g. landfill)</b>   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill (or another <i>mandatory reporting transfer destination</i> ) must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .   |
| <b>Waste ash disposed of in a mine (e.g. as backfill)</b>   | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste ash disposed of in the mine must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .   |
| <b>Waste ash used as a soil conditioner on-site</b><br><p>It is recognised that the reuse of ash as a soil conditioner is considered to be a “beneficial reuse” in some circumstances.</p> <p>However, individual substances in the ash will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the ash, provides a demonstrable benefit to the receiving land.</p> <p>When ash is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the land to which the ash is applied</b><br><p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <b>Reporting as an emission to land is mandatory for all other substances</b><br><p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the waste ash must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |

| Waste stream containing NPI substances   | Reporting requirements  |
|--|---|
| <b>Oil and empty drums containing non PCB oil residues transferred off-site for recycling</b>                          | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .   |
| <b>Oil and empty drums containing PCB oil residues transferred to disposal facility (e.g. for thermal destruction)</b> | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the drums going to the disposal facility must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |
| <b>Waste copper and other electronic waste transferred to be recycled</b>  | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .   |
| <b>Chromium contaminated refractory transferred to landfill</b>  | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the refractory going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .         |

## 10. Reporting for petroleum exploration, production and refining

The following examples are applicable to facilities involved in petroleum exploration, production and refining, but will not cover all circumstances likely to be encountered. NPI personnel in your jurisdiction should be consulted if further guidance on reporting is required.

Reporting transfers of an NPI substance is dependent on tripping the Category 1, Category 1b and/or Category 3 thresholds of that substance. Reporting emissions of the substance will also be required.

| Exploration and production   |   |
|--|---|
| Waste stream containing NPI substances   | Reporting requirements  |
| <p><b>Wastewater discharged to sewer (i.e. off-site sewerage system)</b></p> <p>Includes saline wastewater discharged to a designated sewer for transfer to a treatment facility</p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the wastewater discharged to the sewerage system must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |

| Exploration and production  |  |
|---|--|
| Waste stream containing NPI substances  | Reporting requirements   |
| Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)  | <b>Reporting is voluntary</b><br>NPI substances in the effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .   |
| Re-injection of Produced Formation Water (PFW) and gas  | <b>Reporting is not required</b><br>If the material is not <u>modified</u> , the NPI substances in the material reinjected should not be reported. This is essentially considered as a “closed-loop” part of the production process.   |
| Wastes disposed of to an off-site landfill  | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i> .                     |
| Wastes disposed of to an off-site recycling facility  | <b>Reporting is voluntary</b><br>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i> .  |
| <b>Waste discharged to surface impoundments, such as balancing ponds</b><br>This is a transfer to a tailings dam or similar, which is a <i>mandatory reporting transfer destination</i> . | <b>Reporting is mandatory</b><br>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste discharged to the surface impoundment must be reported as a transfer to a <i>mandatory reporting transfer destination</i> . |
| Uncontained solid waste in spills and leaks or lost drilling fluid  | <b>Reporting is mandatory as an emission to land or water</b>  |
| Drill cuttings sent as waste rock for disposal  | <b>Reporting of transfers not required</b><br>Movement of NPI substances in waste rock, overburden or clean soil is not regarded as a transfer (refer to the NPI NEPM).  |

| Refining   |   |
|--|---|
| Waste stream containing NPI substances   | Reporting requirements  |
| <p><b>Effluent irrigated for agricultural use or municipal use on parks, gardens, sports grounds and golf courses</b></p> <p>It is recognised that the reuse of water and nutrients contained in the effluent is generally a “beneficial reuse”.</p> <p>However, individual substances in the effluent will only be considered as “reuse” when evidence exists to demonstrate that the substance, in the concentration range that is present in the effluent, provides a demonstrable benefit to the receiving land.</p> <p>When effluent is applied which contains substances in concentrations in excess of those which benefit the land, it is an emission to land for these substances and must be reported as such.</p> | <p><b>Reporting is voluntary for substances which have demonstrated benefit (e.g. Total Nitrogen, Total Phosphorus and other substances when applied in acceptable concentrations) to the irrigated area</b></p> <p>These substances can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p> <p><b>Reporting as an emission to land is mandatory for all other substances</b></p> <p>For each NPI substance*, which exceeds the Category 1, 1b, 2a, or 2b thresholds for the facility as a whole, the amount of this substance in the effluent must be reported as an <i>emission to land</i>.</p> <p>(*excluding those substances for which emission to land is not a valid destination e.g. PM<sub>10</sub>).</p> |
| <p><b>Primary, secondary or tertiary treated effluent transferred for reuse other than irrigation (various destinations)</b></p>   | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the effluent can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>  |
| <p><b>Substances in wastewater from stormwater or other runoff stored on-site</b></p> <p>If wastewater is stored for more than one reporting year in a containment facility (i.e. a <i>mandatory reporting transfer destination</i>) reporting of the NPI substances within the wastewater is mandatory</p> <p>Evaporation/volatilisation of NPI substances from the wastewater storage is an emission to air.</p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the wastewater discharged to on-site storage must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>   |
| <p><b>Wastes disposed of to an off-site landfill</b></p>   | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the waste going to landfill must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>  |

| Refining   |   |
|--|---|
| Waste stream containing NPI substances                                       | Reporting requirements  |
| Wastes disposed of to an off-site recycling facility                         | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |
| Spilled material routed to secure containment facility                       | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the material going to the secure containment facility must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p> <p>Material going to containment, reporting is mandatory</p> |
| Empty oil drums containing oil residues sent off-site for recycling          | <p><b>Reporting is voluntary</b></p> <p>NPI substances in the waste can be reported as a transfer to a <i>voluntary reporting transfer destination</i>.</p>   |
| Empty oil drums containing oil residues to final destination (e.g. landfill) | <p><b>Reporting is mandatory</b></p> <p>For each NPI substance, which exceeds the Category 1, 1b or 3 thresholds for the facility as a whole, the amount of this substance in the drums going to landfill (or other <i>mandatory reporting transfer destination</i>) must be reported as a transfer to a <i>mandatory reporting transfer destination</i>.</p>                             |

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