

YYOSu 001 Waste management Tornio plants

General principles

In accordance with the environmental policy of the Tornio plants, natural resources are used sparingly and effectively in production and waste is recycled as well as reduced. The constant development of material efficiency and the utilisation of by-products are among the strategic environmental goals of the Tornio plants. Any process waste fractions not viable for reuse are deposited at a landfill. Hazardous waste is delivered for processing to a plant which has the appropriate permits required by the operations.

Obligations imposed by the authorities

The following permit decisions apply to waste management at the Tornio plants and the plant landfill located in the Tornio plant area:

- Environmental permit of the Tornio plants, PSAVI No. 83/12/1: waste categories, waste records, landfill management
- Closing permit of the Sallee waste area, PSY No. 102/07/1
- Construction of deposit areas for waste from Tornio plants, PSY No. 51/03/1: landfill structures, processing of leachates, landfill management
- Approval of alternative base structures in the second stage of the Hietainpää landfill, PSAVI No. 103/2014/1
- Decisions concerning international transfer of waste from Tornio plants, Finnish Environment Institute: transport of dust and scale to metal collection and transport of sewage sludge for processing in Sweden and/or France.
- Environmental and water resources engineering permit of the Kemi mine and concentrating plant, PSAVI No. 125/10/1 and amendments

The permit decisions can be found in the Environmental team database.

Waste fractions

The operations of the Tornio plants generate process-based waste, primarily in the purification of wastewater and combustion gases. If the slag created in the melt shop process cannot be utilised, it can be deposited at a landfill.

The wasterock, tailings and coarse rock piled at the Kemi mine are considered waste according to the decision of the Supreme Administrative Court of Finland on 26 August 2005. Only the wasterock sold as blasted rock and crushed aggregate "within a reasonable amount of time" is not considered to be waste. The wasterock and coarse rock used to support the mine are also considered to be waste. According to the decision, wasterock and coarse rock can be used at the construction sites of the mine area (including filling).

Fractions corresponding to municipal waste (metal, wood, paper/cardboard, landfilled waste, energy fraction, hazardous waste) are sorted at source according to instructions.

Landfills

The Tornio plant area has one waste deposit site. The Hietainpää landfill is classified as a landfill for hazardous waste and located north of the plant area. Process waste fractions not viable for reuse are deposited at the landfill. Low-level waste has also been deposited at the Hietainpää landfill in accordance with the decision of the Finnish Radiation and Nuclear Safety Authority (STUK). The leachates from the Hietainpää landfill are processed at a neutralisation plant or in a reactive filter.

The plant area also contains the closed Sallee landfill that is classified as a landfill for hazardous waste and located in the northern side of the plant area. The landfill has been used for depositing process waste fractions not viable for reuse. The leachates from the Sallee landfill are processed at a neutralisation plant or in a reactive filter. The Sallee landfill was closed in 2011.

The Kemi mine does not have a landfill.

Waste records and other supervision and reporting of waste management

Records are kept on all waste generated. Waste fractions are weighed before their delivery to reuse, temporary storage or depositing. The waste records indicate the quantity and processing method per fraction, as well as the origin of the waste and its delivery destination. For concrete and asphalt waste **and the waste stored at Liuhanlahti**, an agreement has been made to have the storage areas measured once a year.

The quality of the waste is monitored in accordance with the waste management monitoring programme: composition and solubility analyses are conducted on the process waste fractions in accordance with the analysis programme. The leachates and groundwaters in waste areas are monitored **in accordance with the landfill water** monitoring programme. The monitoring programmes can be found in the Environmental team database.

Waste management responsibilities

The general principle is that each department is responsible for the functionality of waste management in their area. This means that the practical operations follow the principles and instructions specified in the environmental system: the knowledge requirement concerning the waste generated in the operations, sorting at source and guidelines for transporting process waste. The key employees of the departments review the reports with the environmental engineer every quarter.

Other responsibilities related to waste management at the Tornio plants:

Tornio landfills and dam areas: Developer engineer of the plant service

- Dam supervisor and the supervisor of the landfill and dam areas, supervisor of construction and contracting work.

Waste and recycling: environmental engineer

Waste reporting, international transfers of waste: environmental engineer

Waste, leachate and groundwater analyses in Tornio: laboratory supervisor of the chemical analytics lab

Waste management permits: environmental manager

Guidelines: YYOTO 001

Sorting of waste, Tornio plants

YYOTO 003 Process waste management, Tornio plants

YYOTO 004 Landfill and dam areas, Tornio plants

YYOTO 005 Hazardous waste guideline, Tornio plants

YYOKe 001 Mine waste disposal

YYOKe 002 Hazardous waste, Kemi mine

YYOke 003 Oily waste, Kemi mine Reference: Environmental team database