SYSSELMESTEREN
PÅ SVALBARD

Our date: 29.01.2024

Our reference 23/03836-4

Polish Polar Station - Hornsund - Permit for incineration of waste

The Governor of Svalbard has revised the permit for the incineration of waste from the Polish Polar Station in Hornsund on the basis of section 63 of the Svalbard Environment Act. The revised permit replaces the previous permit and is granted on the basis of section 57 first paragraph letter b of the Svalbard Environment Act. The permit applies from today's date and is granted on conditions. The decision can be appealed within 3 weeks.

The Governor of Svalbard refers to the *Permission to incinerate waste and to build a warehouse at the Polish Polar Station in Hornsund* of 10th November 2005 (permit number 2005.0264.T), the Governor's notice of 6th November 2023 regarding the revision of this permit as well as information sent by the Polish Polar station in connection with the revision.

Background

Waste generated at the Polish Polar Station in Hornsund is currently mainly incinerated locally. The incineration of waste is regulated by a permit dated 10th November 2005. The permit is older than 10 years, lacks conditions and is authorized in *Regulations on environmentally hazardous substances, waste and fees for sewage and waste in Svalbard*, which were repealed in 2020. The Governor therefore considers it necessary to revise the permit, cf. Svalbard Environment Act section 63 first and second paragraphs.

On average, around 4.5 tonnes of household-like waste are burned per year in Hornsund. This includes cardboard and paper, wood, food packaging, textiles and food waste. Non-combustible fractions such as glass and metal waste are delivered to waste reception in Longyearbyen.

In the summer of 2023, the Polish Polar Station commissioned a new incinerator (INCINER8 I8-55G). The reason for replacement was that the old incinerator no longer achieved sufficient combustion temperatures. Combustion today takes place at temperatures between 850 and 1200 °C. The oven has a post-combustion chamber with a gas retention time of 2 s. The ash produced in the incineration process is sieved to remove non-combustible residues such as metal as well as

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incompletely burned waste. Combustion residues are packaged and transported to Longyearbyen together with non-combustible waste.

The Governor's assessment
Whoever produces commercial waste must ensure delivery of the waste to a legal waste facility, cf. Regulations relating to pollution and waste in Svalbard section 7-4 first paragraph. If waste is to be treated locally, the Governor must grant permission in accordance with section 57 or 58 of the Svalbard Environment Act, cf. Regulations relating to pollution and waste in Svalbard section 7-7. Combustion of waste in Hornsund therefore requires a permit under the Svalbard Environment Act.

From a circular economy perspective, it is basically desirable that as much waste as possible is recycled or prepared for reuse. Transport of such waste fractions from Hornsund to facilities on the mainland is associated with emissions of greenhouse gases. Furthermore, Hornsund is only served twice a year by ships that can take waste with them. At the same time, waste incineration also releases greenhouse gases and can release substances harmful to health and the environment, including dust, NOx, heavy metals, dioxins and acidifying substances such as HCl, HF and SO_2. In addition, new types of waste are formed, such as ashes and other combustion residues, which must be treated in the right way.

The Polish Polar Station in Hornsund does not have exact figures on the amount of waste per fraction and year that is burned, but the total amount per year is estimated at approx. 4.5 tonnes. It is likely that emissions from local incineration of these quantities of waste will not lead to unacceptable environmental inconvenience as long as the incineration takes place under optimal conditions, including correct input of waste, sufficient gas retention time, optimized oxygen supply, sufficient combustion temperature and correct choice of support fuel. The Governor underlines that the Polish Polar Station must aim to send as much as possible of the waste that can be recycled or prepared for reuse, to waste reception in Longyearbyen or the mainland. But in order to achieve optimal combustion conditions, it may be necessary to mix in waste fractions such as cardboard, paper and plastic. The permit will therefore allow the incineration of such waste fractions as well. However, recyclable fractions must only be burned to optimize operation of the incinerator. Surplus quantities of such waste as well as waste suitable for reuse must be transported to Longyearbyen or the mainland for further handling. We require an annual reassessment of this in the conditions of the permit.

Pursuant to section 10 of the Svalbard Environment Act, the technique that causes the least possible burden on the environment must be used, unless significant economic considerations for ongoing operations dictate that another technique should be used, and this is justifiable after an overall environmental assessment. By technique is meant, among other things, combustion methods, use of tools and mitigating measures. In the permit, the Governor imposes conditions regarding the types of waste that can be incinerated, the combustion temperature and gas retention time, as well as the handling of combustion residues. We consider these conditions to be sufficient to ensure the least possible burden on the environment.

Decision
Pursuant to the Svalbard Environment Act section 63 second paragraph, the Governor of Svalbard has revised the permit for incineration of waste in Hornsund. The revised permit is granted on the basis of the Svalbard Environment Act section 57, first paragraph, letter b. The permit applies from

today's date and is granted on conditions (see appendix). The permit replaces the previous permit of 10th November 2005.

Access to appeal
Pursuant to sections 28 and 29 of the Administration Act, the decision can be appealed within three weeks after this letter has been received. A written complaint is made to the Norwegian Environment Agency, which is the complaint body, but sent to the Governor of Svalbard.

Regards

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Head of Environment Protection
e.f.

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Senior Adviser Environment

This document is approved and expedited electronically without signature

Conditions for the permit for waste incineration at the Polish Polar Station in Hornsund

1. All waste incineration must take place in an incineration plant that meets the requirements set out in this permit.

2. The permit applies to the incineration of **up to 5 tonnes** of household-like residual waste per year. The following waste fractions may be burned:
    a. Household-like residual waste
    b. Food waste
    c. Clean wood
    d. Cardboard and paper
    e. Plastic packaging
    f. Textiles

    Waste that can be recycled or prepared for reuse (letters c-f) must only be burned to optimize operation of the incinerator. Surplus quantities of such waste are delivered to waste facilities in Longyearbyen or the mainland that can handle these fractions.

3. It is prohibited to incinerate the following waste fractions:
    a. Hazardous waste
    b. Electronical waste
    c. Explosive waste
    d. Radioactive waste
    e. Infectious waste
    f. Waste containing polychlorinated biphenyls (PCBs)
    g. Waste containing biphenyl chlorides (PVC)
    h. Refined petroleum products containing halogen compounds.

4. The plant must be operated at minimum 850 °C in the combustion gases for at least 2 seconds. If there is a deviation from this, the incineration process must be stopped immediately, and the deviation must be documented in writing (cf. section 8 and 10).

5. When using support fuel, the product must be assessed in accordance with section 3a of the Product Control Act on substitution.

    Combustion residues, including ash, must be sufficiently burnt out and cooled before further handling. Combustion residues are packaged properly and sent to legal waste collection.

    If combustion residues are classified as hazardous waste according to the European waste list (EAL), or because of the waste's characteristics, combustion residues must be handled in accordance with section 8-3 of the Regulations relating to pollution and waste in Svalbard.

    It must be documented in writing how this waste is classified.

6. When replacing equipment, the new equipment must satisfy the principle of using the best available techniques with the aim of counteracting polluting emissions and other negative

impact on the environment (BAT principle, cf. Svalbard Environment Act section 10).

7. In order to keep the ordinary emissions at the lowest possible level and to avoid accidental emissions, the person responsible for operating the incinerator must ensure preventive maintenance of equipment that may have significance for emissions. Routines for the maintenance of such equipment must be documented (cf. section 8)

8. The Polish Polar Station in Hornsund is obliged to establish internal control for its activities in accordance with chapter 11 of the Regulation relating to pollution and waste in Svalbard.

   The internal control must, among other things, ensure and document that requirements in this permit are complied with, as well as other requirements laid down in the Svalbard Environment Act, the Product Control Act, and relevant regulations to these laws. The internal control must be kept up to date.

9. An environmental risk analysis of the waste incineration must be carried out in accordance with the Regulation relating to pollution and waste in Svalbard section 11-2, second paragraph, letter e.

   The results of the analysis must be assessed against acceptable environmental risk. If the environmental risk analysis indicates it, risk-reducing measures must be implemented. The environmental risk analysis must be documented in writing and kept up to date.

10. A log must be kept every time the incinerator is used. The following must be documented in the log:
    a. Quantity and type of waste incinerated (kg)
    b. Combustion temperature when feeding waste and during the incineration process (°C)
    c. Temperature and gas retention time in the afterburner chamber
    d. Quantity of combustion residues after complete combustion (kg)
    e. Any deviations from optimal operation

    The log must be kept for at least 5 years and presented to the Governor on request.

11. The Polish Polar Station must report annually to the Governor. The deadline for submitting the report is **1st March** each year. The first report is delivered on 1st March 2025.

    The report must contain:
    a. Amount of waste incinerated per fraction in the reporting year (kg).
    b. Total amount of combustion residues generated in the reporting year as well as EAL-code used to classify the waste (kg).
    c. Amount and type of waste sent to legal waste collection in kg (applies to all waste that was not burned locally).
    d. Summary of any deviations recorded in the reporting year.
    e. Assessment of waste management in the reporting year: Are there opportunities for improvement? Can more waste be delivered for material recycling/reuse?

12. The Polish Polar Station is obliged to allow representatives from the Governor of Svalbard to supervise the facility at any time.