

# Follow-up audit on processing of hazardous and radioactive waste

*Have the Ministry of the Environment and its agencies improved their efforts related to managing the treatment of hazardous and radioactive waste as compared to 2015?*

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## Summary of audit results

### What did we audit?

In 2015, the NAO completed an audit on „Processing of hazardous and radioactive waste“. <sup>1</sup> The follow-up audit examined whether there have been improvements as regards the accuracy of data on hazardous and radioactive waste, the proper treatment of such waste, and the prudent management of the state-owned Vaivara hazardous waste treatment centre (HWTC).

### Why is this important for the taxpayers?

The improper management and accidental release of hazardous and radioactive waste pollutes groundwater, surface water and the soil, and endangers living organisms and human health. Therefore, the Ministry of the Environment must ensure that such waste are treated safely and any related costs are incurred by the waste producer. Currently, major government spending in the sphere of hazardous waste is related to resuming the operation of the state-owned Vaivara HWTC and eliminating and preventing environmental pollution. The Ministry of the Environment and its agencies have spent at least three million euros on this in 2014-2018. Construction of the final storage for radioactive waste will cost at least 90 million euros.

### What did we conclude in 2015?

In its 2015 report on “Processing of hazardous and radioactive waste”, the NAO argued that the Ministry of the Environment had not done enough to reduce the generation of hazardous waste and enhance recycling, the activities of the ministry’s agencies in controlling waste handlers were unsuccessful, and national reports on hazardous waste contained a lot of inaccurate data. The Environmental Agency had failed to effectively manage the Vaivara HWTC which had suspended its operations already in autumn 2012.

### What did we find and conclude as a result of the follow-up audit?

**The NAO finds that the Ministry of the Environment and its agencies have started to implement most recommendations included in the NAO’s previous audit report but problems have not been solved conclusively. It identified a new problem: some types of hazardous waste have started to pile up on business premises. As for radioactive residues, the Ministry has still no clear policy for handling them after 2024.**

Below in italics are the most important conclusions included in the 2015 report followed by NAO’s assessment of the situation in 2018.

- *The Ministry of the Environment has failed to achieve the goal set out in the National Waste Management Plan 2008-2013: reduce the generation of hazardous waste and enhance their recovery.*

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<sup>1</sup> [Processing of hazardous and radioactive waste](#). NAO, 2015. Similarly to the original audit, the follow-up excludes hazardous waste related to oil shale industry.

**The Ministry of the Environment has still not set quantified targets for the reduction and recovery of various types of hazardous waste and fails to monitor advancement towards the current targets. Untreated hazardous waste have started to pile up in the storage facilities of businesses - 8% more were generated in 2017 than in 2013-2016 on the average.** The Ministry of the Environment has not deemed it necessary to set detailed goals and activities for treatment, incl. reduction, of hazardous waste in the National Waste Management Plan 2014-2020 arguing that the government cannot influence their treatment in any way. However, the Ministry should pay more attention to the fact that the amount of hazardous waste that has remained untreated as at year-end (44%) has grown considerably in 2014-2017.

- *National waste reporting does not accurately reflect the generation and management of hazardous waste. Control over hazardous waste handlers exercised by the Environmental Board and the Environmental Inspectorate features notable shortcomings. The Ministry of the Environment has not ensured the development of information systems for hazardous waste.*

**Cooperation between the Environmental Inspectorate and the Environmental Board in inspecting the businesses' waste reports and controlling the companies included in audit sample has improved. As a result, we have a better overview of hazardous waste generation and handling (incl. depositing and storage) in Estonia.** The Inspectorate has opened proceedings in cases of evident violation of environmental requirements and the Board has revised the environmental permits of hazardous waste producers and handlers included in the sample. However, information systems that would expedite and simplify the monitoring of businesses are not available yet - when completed at the beginning of 2021, the Environmental Permits Information System (EPIS) developed by the Ministry of the Environment should contain permits, information on their processing, waste reports, monitoring results, environmental charges, and inspection reports. The system should be supported by an analysis module developed independently during the project. Until applications that support analysis are fully developed, officials cannot, for example, make automated comparisons of the amounts and codes of hazardous waste set out in environmental permits against the data in waste reports.

- *The Ministry of the Environment and the Environmental Board have failed to ensure that all state-owned hazardous waste collection centres are able to accept and duly treat waste.*

**The only state-owned hazardous waste treatment centre in Vaivara has not been consistently operational and its management remains problematic. Even though the Environmental Agency and the Ministry of the Environment have made efforts to mitigate the negative environmental effects and the centre resumed operation at the start of 2016, problems have not been conclusively solved yet.**

Over the three-year period (2012-2015) when the centre lacked an operator it did not accept or treat any waste and polluted the environment, plus the government forfeited rental income. The government has spent at least three million euros in 2014-2018 to assess and undo the centre's negative environmental impact and make arrangements so that the centre could resume operation in line with environmental requirements.

Due to errors in the design and setup of the brand-new leachate purifier some hazardous substances are still released into the aquatic environment. The money collected from businesses that bring waste for depositing is not sufficient to cover the cost of closing the landfill which is to be incurred by the government. The operator who bound by a short-term contract is not required to make long-term investments in the centre, and the budget of the Environmental Agency does not include funds necessary for managing the centre.

- *The Ministry of the Environment has failed to decide whether and how to permanently dispose of radioactive waste that will be or have been generated in Estonia. The Environmental Board has neither considered whether to require a financial security for the treatment of radioactive waste, nor explained why no security is required.*

**The Government of the Republic made a fundamental decision in 2016 to establish a final storage for radioactive waste but the Ministry of the Environment has not commenced with the required environmental studies yet.**

Constructing the final storage and dismantling the reactor sections of the Paldiski nuclear facility will take a lot of time and cost at least 90 million euros, according to estimates. If work is postponed, the technical condition of the former Paldiski nuclear facility could significantly deteriorate and increase the cost by 50 million euros. Therefore, it is essential that environmental studies are launched immediately so that the final storage would be completed by due date - 2040 - and that the reactor sections would be safely processed by 2050.

**The Ministry of the Environment still lacks a clear policy on treating naturally occurring radioactive materials (NORM) generated in Estonia during various production processes. These have piled up on business premises since 2004.**

**The Environmental Board has required a financial security from one company to finance the cost of rendering NORM residues safe whenever necessary meaning that the government now has a reserve which can be deployed if the owner of such residues is unable to recycle them.**

More than 470 tons of waste and residues containing radioactive substances that have been generated but not treated have piled up by 2018 (9% waste, 91% residues). The Ministry and the Agency have teamed up with businesses to find new solutions for final treatment of radioactive materials. However, the solutions under consideration can be implemented over the next five years only. The Ministry still lacks a long-term solution for treating waste and residues generated in Estonia that contain naturally occurring radioactive materials (NORM).

#### **Main recommendations from the NAO to the Minister of the Environment:**

- In order to avoid the pile-up of hazardous waste, identify the most problematic types of waste and set out measurable goals and activities in the envisaged Circular Economy Development Plan for reducing the generation of various types of hazardous waste or reusing them. A financial security should be required from waste handlers to prevent pile-up.
- Analyse and consequently determine the form of ownership that would ensure optimal performance of the Vaivara HWTC so as to allow its more systematic and consistent management and planning of long-term investments. Further, the fee charged for the purposes of the reserve fund for closing the landfill should be increased so that the funds collected would cover all costs related to closure and maintenance of the landfill.
- Consider the possibility of financing the cost of environmental studies related to constructing the final storage of radioactive waste on the account of collected environmental charges. Revise the national action plan for radioactive waste treatment so that it would clearly set out the method for treating NORM waste and residues that is acceptable to the Ministry of the Environment and the Environmental Board in the long run.

**Response from the Minister of the Environment:** The Ministry of the Environment has made efforts to identify the reasons behind the pile-up of hazardous waste. According to the Minister, the reason behind recording increased amounts of waste is that an effective monitoring system has been put in place. The Circular Economy Development Plan is supposed to address the treatment of hazardous waste in a separate section. The Minister supports the proposal to require a financial security for interim storage of waste (incl. hazardous waste).

The Minister agrees with the recommendation to analyse the form of ownership of the Vaivara HWTC and consider increasing the fee collected for the purposes of the reserve fund for closing the landfill.

According to the Minister, the Ministry is actively seeking funding for constructing the final storage for radioactive waste. The renewed action plan for radioactive waste treatment which will address more thoroughly the treatment of NORM waste and residues should be finalised by the end of 2018.