

NDEP News

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November 2017. It encouraged environmental cooperation in the North and several recommendations were made also regarding NDEP.

On behalf of **the European Union**, Petteri Vuorimäki, Senior Expert, European External Action Service, remarked that the Northern Dimension has proven its great value by carrying on its work despite challenges. Mr Vuorimäki also referred to the recent Northern Dimension Parliamentary Forum which appreciated the achievements of NDEP and highlighted the role of the partnership in the Arctic region. The European Union thanked all the donor governments for their long standing support, the IFIs for the excellent work and the EBRD for managing the fund throughout the years.

The Assembly examined the financial status of the Fund and the project progress in both the nuclear and non-nuclear windows.

The Assembly was extremely pleased to learn of the continued progress in the removal of spent nuclear fuel (SNF) at Andreeva Bay and the first shipment of SNF to Mayak accomplished in June 2017. It proved that the new infrastructure is working well and stands ready for the subsequent removal of SNF over the coming years. The Assembly also noted the changes in the condition of the overhead crane in relation to Building No 5 in Andreeva Bay and agreed to allocate an additional grant of EUR 675,000 to resolve the technical issues. Good progress was reported in the preparation works for the removal of SNF from the Lepse ship, which is expected in 2018.

Anatoly Zakharchev, Head of Project Office at ROSATOM, stated that substantial progress had been made in the elimination of the nuclear legacy from the north-west of Russia and expressed gratitude for all of the support that the Russian Federation had received in this context.

NDEP Assembly of Contributors



The annual NDEP Assembly of Contributors took place in London on 23 November 2017. The contributors taking part in the meeting included the European Union, Finland, Germany, Netherlands, Norway, Russia, Sweden and the UK. Belarus participated both as a donor and observer. The IFIs present in the meeting were the EBRD, EIB, KfW, NIB and NEFCO. The European Union chaired the meeting as the largest contributor to the Fund.

The Head of the **Russian Delegation**, Igor Kapyrin, Deputy Director of the Department for European Cooperation at the Ministry of Foreign Affairs, highlighted that 2017 was a Year of Environment in Russia. Russia appreciated the work of NDEP in this context. Russia noted that the Fifth Northern Dimension Parliamentary Forum took place in Brussels on 22



(from left) the Russian, Belarusian, EU and Norwegian delegations at the NDEP Assembly



Regarding the environmental window of the Fund, the Assembly welcomed the completion of two major wastewater treatment investments. A new wastewater treatment plant was inaugurated in Kaliningrad in June 2017. An international consultant, Sweco, will continue monitoring its operation and conduct staff training until the end of 2019. Also the reconstruction works at the Northern wastewater treatment plant in St Petersburg were completed and an inauguration ceremony took place in October 2017. Both plants are operating in compliance with HELCOM standards. The plant in Kaliningrad has the capacity to treat 150,000 cubic meters of wastewater per day, while the Northern plant in St Petersburg can handle 1,200,000 cubic meters of wastewater per day.

NEFCO informed of their ongoing assignments dealing with hazardous waste deposits in Krasny Bor, located 44 km from St Petersburg. The studies were initiated by HELCOM and financed by Finland, Sweden and Germany. Krasny Bor poses an environmental risk to the Baltic Sea if the lagoons storing the hazardous waste should leak to the ground waters following heavy rainfalls. NEFCO also informed of their initiatives to reduce black carbon emissions by investing into small-scale projects to replace coal and heavy oil usage in north-west Russia. The Assembly encouraged NEFCO to develop these proposals for potential co-financing by NDEP.

The next Assembly of Contributors will take place on 23 November 2018 at the EBRD in London.

Inauguration of Petrozavodsk wastewater treatment plant

The official inauguration of a new wastewater treatment plant in Petrozavodsk took place on 19 December 2017. This was the third major NDEP co-financed investment completed in 2017 in addition to the Kaliningrad plant opened in June and the Northern wastewater treatment plant inaugurated in St Petersburg in October same year.



Petrozavodsk wastewater treatment plant in December 2017

The NDEP grant of EUR 5 million for the reconstruction and modernisation of the wastewater treatment facilities in Petrozavodsk was approved in 2010. The NDEP grant was part of a large investment package close to EUR 35 million, which included Russian federal and local budget funds of EUR 16.7 million, NIB and NEFCO loans of EUR 11 million and additional bilateral grants from Finland and Sweden.

This was a comprehensive overhaul of both drinking water and wastewater treatment facilities. Petrozavodsk is the capital city of the Russian Karelia located at the shores of Lake Onega. Its outdated systems from late 1970s delivered poor quality of drinking water and resulted in significant effluent loads to Baltic Sea via Lake Onega. In fact the city used to be listed as one of environmental hot spots by the Barents Euro-Arctic Council.

The inauguration was a major milestone for Petrozavodsk and all the financiers. *“We are very content to see that all the stages of the reconstruction have been successfully implemented at the wastewater treatment plant, and that the discharges of phosphorus will decrease dramatically,”* said NEFCO’s Executive Vice President Kari Homanen.



(from left) Pavel Kurzaev, General Director of RKS; Irina Miroshnik, Mayor of Petrozavodsk; Elisvan Shandalovich, Head of Legislative Assembly of Republic of Karelia; Artur Parfenchikov, Head of Republic of Karelia; Alexander Safronov, Chief Managing Director of JSC “PKS-Vodokanal”; (photo courtesy of PKS)

Following the extensive investments, the plant is now capable of treating 145,000 cubic meters of sewage water per day, which is a similar capacity to the new wastewater treatment plant in Kaliningrad. The reduction of phosphorous to the Lake Onega is estimated at 75 tonnes per annum. After completion the plant will comply with HELCOM recommendations for the removal of phosphorous and nitrogen from municipal wastewater.

The main contractor is expected to hand over the operation of the plant to the client in April 2018.



(from left) Matti Iikkanen, Senior Vice President, Pöyry, Kari Homanen, Vice President NEFCO, Yana Selkova, Pöyry, Vitaly Artyushenko, Chief Investment Adviser, NEFCO, Sebastian Pāvāls, Director, NIB (photo courtesy of PKS)

Watch the video: <https://yadi.sk/i/tYSyGuO-3Qbj5D>

Vodokanal St Petersburg completes reconstruction of the Northern Wastewater Treatment Plant (NWTP)

The inauguration of the Northern Wastewater Treatment plant on 10 October 2017 marked the completion of the overall St Petersburg Neva programme, which was a huge financial undertaking on behalf of Russia, the international lenders and donors. The total investment costs were approximately EUR 562.6 million.



(from left) Evgeni Tselikov, General Director of SUE Vodokanal St Petersburg, Georgyi Poltavchenko, Governor of St Petersburg, Markus Ederer, EU Ambassador to Russia

The NDEP supported the Neva programme with a EUR 24 million grant. Additional bilateral grants of over EUR 20 million came from the Swedish International Development Agency (Sida), Finnish Ministry of Environment, EBRD Shareholder Special Fund and from John Nurminen Foundation. The loan package from the NIB, EBRD and EIB amounted to EUR 60 million. The largest share of funds, approximately EUR 458 million, came from Russia from the federal, city and company's own budget allocations.



St Petersburg Northern Wastewater Treatment plant in October 2017 (photo courtesy of the NIB)

The overall investment included a completion of the Northern Tunnel Collector, connection of direct discharge sewers to the sewer network, construction of the URS 422 pumping station and partial reconstruction of the existing northern and central wastewater treatment plants.

Thanks to the Neva Program, the city of St Petersburg is now treating 98.5% of its effluent in compliance with HELCOM standards. This means that the phosphorous content in the discharged wastewater does not exceed 0.5 mg/l and nitrogen is below 10 mg/l.

The upgraded NWTP has the capacity to process 1.2 million of cubic meters of wastewater per day. As a result of the Neva Programme, the reduction of phosphorous load to the Baltic Sea is 861 tonnes per

year and nitrogen 1,063 tonnes per year. It should be noted that the reconstruction of the NWTP started in 2012 and the plant continued operation while the works were being carried out.



NDEP Steering Group meeting on 10 October 2017

The NDEP Steering Group also met in St Petersburg on the same day to review the progress of projects in Russia and Belarus. The meeting was chaired by the EBRD and hosted by SUE Vodokanal St Petersburg. The participants included representatives from the European Union, Russia, Finland, Germany, Norway, Sweden, EBRD, EIB, KfW, NIB and NEFCO.

Interview with Jane Smith-Briggs, Head of NDEP Nuclear Window at the EBRD



What are the remaining areas of activity for the NDEP nuclear window?

The main area remaining is the removal of spent nuclear fuel (SNF) from the Lepse SNF storage tanks. We hope to sign a contract with Atomflot for the removal of 621 cells containing spent nuclear fuel assemblies (SFAs) soon. The SNF removal work is scheduled to commence later in the year following final commissioning of the facilities, training and the receipt of regulatory permissions. It is expected to take 12 months for the completion of the work.

How significant was the first shipment of spent nuclear fuel from Andreeva Bay accomplished in 2017?

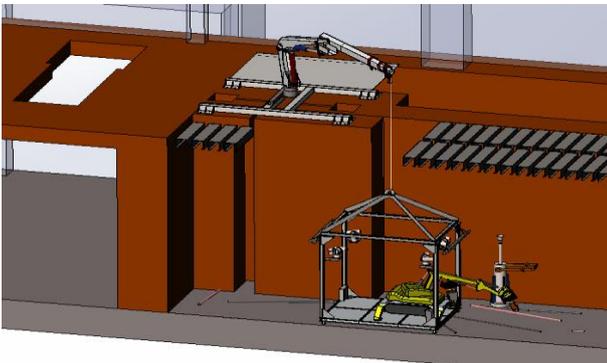
It was a watershed moment for all the contributors to the project over the last 15 years. Following optioneering studies, development of technical and detailed designs, seeking and receiving all the regulatory permissions, the preparation for building the new infrastructure on the site, the completion of that infrastructure and its utilisation to recover and remove SNF from the site was truly momentous.



SNF Transport and Handling at Andreeva Bay

What are the technical challenges connected with Building No 5 in Andreeva Bay and how are they going to be resolved?

Six SFAs and some nuclear fuel debris remain at the bottom of a small pond in Building 5. There is no shielding and the dose rates in the building and particularly near the pond are extremely high. The removal of this nuclear material will ensure nuclear safety and make it much safer to decommission the building. The SFAs will be removed using a remotely controlled manipulator in the pond to pick up the SFAs and place them into a Type 3 canister located in the pond. These canisters are then removed using a remotely controlled crane arm and placed into a shielded cask in the transport corridor of the building. The cask provides protection from the radiation from the nuclear material and it can be safely transported to the DSU Enclosure where the SNF will be transferred using the facilities there and removed from the site.



Designs for a remotely controlled equipment to remove SNF from Building No 5 in Andreeva Bay

What is now left of Lepse and why a special shelter needs to be constructed at Nerpa Shipyard?

Lepse has been dismantled to form two large storage packages (LSPs). The aft LSP contains radioactive wastes from previous operations. It has been transferred to Saida Bay for long-term storage. The fore LSP contains the SNF storage tanks. To remove the SNF from these tanks safely, with no impact on the environment, the fore LSP will be placed inside a 'shelter'. The Shelter is a large metal framed structure which provides containment, radiation monitoring, ventilation systems and the tools and systems with which to cut off the cells containing the SNF and transfer these to a canister. One canister can accommodate three cells. The cutting technology and transfer of the cells is performed using remotely controlled systems and special shielding arrangements are also present for the personnel. The canister is removed from the Shelter within a shielded transfer flask to a special vehicle outside the Shelter. The transport vehicle takes the

canister to the quay where it is transferred to Serebryanka, a SNF transport vessel, which will remove the SNF from Nerpa and transfer it to the accumulation pad at Atomflot shipyard for onward transport to Mayak.



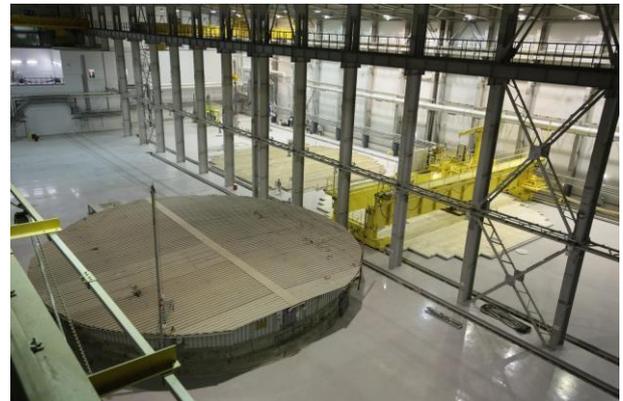
SNF from Lepse in storage (LSP) facility awaiting removal

What is the input of Russia into the work carried out within the framework of NDEP?

The Russian Federation is responsible for the safety and security of the sites of operation and the application of the relevant Russian legislation for handling spent nuclear fuel. They provide access to the sites for the contractors and international visitors, personal radiation monitoring and safe working conditions. The Russian Federation is also the Recipient of the Grant Implementing Agreements and it is their duty to implement the specified works in accordance with legislation and the budget available, they procure and manage the contractors and consultants implementing the work and hand over the facilities to the end users. The Russian Federation also funds the sea and rail transport of the SNF to Mayak for reprocessing and/or disposal.

What are the objectives for 2018?

In 2018 we hope to commission the completed Shelter with all its specialist systems and equipment and to start removing the SNF from the Lepse SNF tanks. We should also have completed the manufacture of the remotely controlled equipment for the retrieval of the SFAs from the pond in Building 5. This will have been trialled in a mock-up facility and the relevant personnel trained for its application. The design requirements to make Tank 3a accessible by the retrieval equipment in the DSU Enclosure should also have been developed. This will enable the SNF in this tank (30% of the total) to be removed.



Preparation of Tank 3a

Watch video:

https://www.youtube.com/watch?v=s91OV_e8j8Y

NDEP Environmental Projects in brief (in million EUR)

Project	Lead IFI	Total cost	NDEP grant	Progress
1. St. Petersburg Southwest Wastewater Treatment Plant	NIB	193.6	5.8	Completed - in operation
2. St. Petersburg Flood Protection Barrier	EBRD	2000	1	Completed - in operation
3. St. Petersburg Northern Incinerator	EBRD	90.4	6.35	Completed - in operation
4. Leningrad Oblast Municipal Programme	NIB	23.2	4	Completed - in operation
5. Komi Syktyvkar Municipal Services	EBRD	31.8	6	Completed - in operation
6. Kaliningrad District Heating Rehabilitation	EBRD	21.8	7.3	Completed
7. Archangelsk Municipal Water Services Project	EBRD	25.5	8.2	Completed
8. Novgorod Water and Wastewater Rehabilitation	NIB	23	3	Completed – in operation
9. St. Petersburg Neva Programme	NIB	563	24	Completed – in operation
10. Kaliningrad Water and Environmental Services	EBRD	110	10	Completed – in operation
11. Vologda Municipal Water Services	EBRD	20	5.18	Completed - in operation
12. Kaliningrad Project Implementation Unit	EBRD	3.8	3	Completed
13. Sosnovyi Bor Municipal Water Services	NEFCO	3.3	0.5	Completed - in operation
14. PIU for Poultry Farms in Leningrad Oblast	NEFCO	3.5	2	Completed
15. Petrozavodsk Water and Wastewater Rehabilitation	NEFCO	32	5	To be commissioned
16. Ten Suburban WWTP in St Petersburg	NEFCO	16	3.75	Completed - in operation
17. Petrozavodsk Solid Waste Management	NEFCO	8.5	1.5	Approved by Assembly
18. Pskov Water/Wastewater Infrastructure Rehabilitation	EBRD	27.4	6.5	Completed – in operation
19. Vologda District Heating	EBRD	17.8	2	Under implementation
20. Gatchina Wastewater Treatment Plant	NEFCO	2.5	0.88	Under implementation
21. Vyborg Wastewater Treatment Plant	NEFCO	6.5	1.25	Approved by Assembly
22. Kaliningrad District Heating Phase 2	EBRD	22	5	Approved by Assembly
23. Solid Waste Management in St Petersburg	KfW	18.4	3.7	Approved by Assembly
24. Gatchina District Heating	NEFCO	4	0.5	Approved by Assembly
25. Vitebsk Wastewater Treatment Rehabilitation	EBRD	21.2	2	Under implementation
26. Grodno Water/Wastewater Treatment Rehabilitation	NIB	25.1	2	Under implementation
27. Brest Water and Wastewater Treatment Rehabilitation	NIB	18.4	2	Under implementation
28. Lida Water and Wastewater Treatment Rehabilitation	EBRD	10.2	3	Approved by Assembly
29. Polotsk Water and Wastewater Treatment	EBRD	14.6	4.21	Approved by Assembly
30. Baranovichi Street Lighting	NEFCO	1.5	0.3	Approved by Assembly
31. Belarus Environmental Investment Programme	NEFCO	23.07	7	Approved by Assembly
TOTAL		€3.4 billion	€136.9 million	

The **Northern Dimension Environmental Partnership (NDEP)** was set up in 2001 in response to calls from Russia and the international community for a concerted effort to address environmental problems in the Northern Dimension Area (NDA). The most pressing actions relate to water, wastewater, solid waste, energy efficiency and nuclear waste.

The NDEP Support Fund is managed by the EBRD and provides grant financing to key investments in environmental and nuclear safety projects in the Northern Dimension Area. NDEP projects are implemented by the EBRD, NIB, NEFCO, EIB, the World Bank and KfW.

The European Union, Russia, Belarus, Belgium, Canada, Denmark, Finland, France, Germany, the Netherlands, Norway, Sweden and the United Kingdom are the sponsors of the NDEP Support Fund, which currently stands at close to €348 million.

For more information, visit www.ndep.org, or contact:

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