

NDEP News

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Petrozavodsk receives NDEP funds to upgrade its water and wastewater facilities



Signing of the Petrozavodsk agreements (from left) CEO of PKS **Mr Alexandr Safranov**, RKS Director of Finance **Mr Pavel Kursae**, First Deputy Governor of Republic of Karelia **Mr Alexandr Chazhengin** and NEFCO vice President **Mr Kari Homanen** (photo courtesy of NIB)

On 9 July 2012 a financing package worth EUR 32 million was signed to modernize drinking water and wastewater facilities in Petrozavodsk. The investment coordinated by NEFCO consists of a EUR 4 million

NEFCO loan, NIB loan of EUR 7 million, NDEP grant of EUR 5 million and a grant from the Finnish Ministry of Environment of EUR 2 million. To complete the deal, the Russian federal government, the government of the Republic of Karelia and Petrozavodsk Communal Utilities Systems (PKS) have put in additional local contribution of EUR 14 million.

Petrozavodsk is the capital of the Republic of Karelia and has a population of about 270,000. It is located along the shores of the Onega Lake linked also to the Ladoga Lake via rivers. Both lakes are the largest in Europe and flow both into to the Baltic and the White Seas. Petrozavodsk has been identified as one of the environmental hot spots by the Barents Euro-Arctic Council and by HELCOM.

The investment provides for a completion of a new chemical treatment unit, construction of a sludge recycling and dewatering plant and for upgrading the existing wastewater treatment plant to include biochemical processing of wastewater. Once fully modernized, the plant is expected to cut the phosphorous discharges into the Lake Onega by 60 tonnes per year.



Signing of the Petrozavodsk agreements (from left) NEFCO Vice President **Mr Kari Homanen**, First Deputy Head of Petrozavodsk City Administration **Mr Evgeny Zhuravlyov** and Senior Adviser from the Finnish Ministry of Environment **Ms Kirsi Kentti** (photo courtesy of NIB)

The signing of the Petrozavodsk project is a real breakthrough after many years of previous efforts to improve the quality of drinking water and the level of wastewater treatment in the Republic of Karelia. The newly appointed Head of the Republic of Karelia, Mr Alexander Khudilaynen, was most crucial in facilitating



the deal which will hopefully pave way for other much needed investments in the region.

The grants from NDEP and Finland of EUR 7 million in total were the key to make the investment viable. "The wastewater treatment facilities in Petrozavodsk should have been upgraded long time ago but it took us some time to find credits which we now have. The grants of EUR 8 million will provide a substantial help to the local population," said Mr Evgeny Zhuravlyov, the first Deputy Head of Petrozavodsk Administration at the signing ceremony.

The project is expected to be finalised by 2015.



Existing facilities at the Petrozavodsk wastewater treatment plant (photo courtesy of NIB)

NDEP Steering Group meets in Helsinki on 8 June 2012



(from left) **Mr Harro Pitkänen**, NIB Senior Director and Deputy Head of Lending and **Mr Kalle Kankaanpää**, European Union, Northern Dimension and Baltic Sea issues, European External Action Service

The Implementing Agencies of NDEP (EBRD, EIB, NIB, NEFCO and KfW), together with the European Union and Russia held its next regular Steering Group meeting on 8 June 2012 in Helsinki. Belarus, Finland, Germany, Norway and Sweden attended as observers. The meeting was chaired by Mr Harro Pitkänen, the NIB Senior Director and Deputy Head of Lending.

The recent replenishment initiative to mark the 10th Anniversary of NDEP has mobilized substantial new funds for future activities. In June 2012, the total resources of the Fund came to the total of EUR 337.4 million with EUR 176.3 million allocated for the environmental and EUR 161.1 million for the nuclear window of the Fund. The figures include a new Norwegian contribution of EUR 2.6 million to the nuclear window paid in December 2011 and a pledge of EUR 3 million from Germany for the environmental window of the Fund. Within the environmental window, over EUR 62 million is now available in grants to support IFI lending for new projects.



NDEP Steering Group meeting at the NIB offices in Helsinki – 8 June 2012

At its meeting, the Group reviewed the progress of the on-going projects and noted an increased rate of disbursement in 2012. So far about EUR 42 million of total signed NDEP grants of EUR 99 million has been disbursed to suppliers. The Group also approved a new proposal to modernize a district heating network in the city of Lomonosov in Leningrad Oblast which requires a EUR 2.5 million NDEP grant.

The Steering Group welcomed Mr Vladimir Pavlovich, Chargé d'Affaires of the Embassy of Belarus in Finland who confirmed their Government's commitment to proceeding with the signing of the three NDEP projects in Vitebsk, Grodno and Brest in summer 2012. Belarus has paid its EUR 1 million donation to NDEP in full and is also finalizing its framework agreement with NEFCO.

At the start of July 2012, the chairmanship of the NDEP Steering Group will pass over to the EBRD. The next meeting Steering Group will be held in Kaliningrad on 4 October 2012.

NDEP Nuclear Operating Committee reviews progress at its meeting in London on 8 June 2012

The Nuclear Operating Committee convened on 8 June 2012 in London with representatives of Contributors from Canada, Denmark, Finland, France, Germany, Norway, Russia, Sweden and the UK. Mr Mario Pain from the French Ministry of Ecology, Energy, Sustainable Development and the Sea was re-elected as the NOC Chair.



(from left) **Mr Mario Pain**, NOC Chair and **Mr Vince Novak**, Director of the EBRD Nuclear Safety Department

The EBRD, which is managing the NDEP nuclear safety projects, reported good progress but highlighted many complex challenges ahead. It is planned to tow the Lepse ship to the Nerpa shipyard later this summer. The safety of the transportation is of paramount importance. Projects in the Andreeva Bay are under way but the time-scale and budget constraints remain tight. Two major procurements are underway for the Enclosure for the Dry Storage Units (which contain 22,000 spent fuel assemblies) at Andreeva Bay and for the defueling of the Papa-class reactors.

A site visit to Andreeva Bay, Atomflot and Nerpa Shipyard in the Murmansk



Ms Jane, Smith-Briggs, EBRD Senior Programme Manager made a site visit to the NDEP projects in Murmansk and Andreeva Bay in June 2012. A short report from her mission follows below.

Dismantlement of the Lepse floating maintenance base (FMB)

The specialised storage facilities on board the Lepse contain up to 639 spent fuel assemblies (SFAs). A considerable amount of high and intermediate-level liquid radwaste (LRW) is stored in the spent nuclear fuel storage tank tubes, in special tanks and in the cooling circuit. The majority of the SFAs stored in the Lepse are categorised as damaged and the use of regular procedures and practices for defuelling is impossible in its current state. Therefore the unloading of the SFAs from the storage facility on the ship requires the use of specialised equipment and procedures which need to be developed. The approved concept design for the dismantling of Lepse requires that the ship is transported to Nerpa shipyard where the specialist infrastructure will be constructed and equipment installed.



"Lepse" Floating Maintenance Base in Murmansk fjord

A contract is in place with Atomflot to prepare Lepse for transportation and to carry out the transport. The preparation for transportation includes the removal of radioactive waste, decontamination of the vessel and the provision of radiation protection and ventilation systems. This work is well advanced. Lepse is also undergoing repairs in the floating dock to close or seal all the openings in the hull and the deck prior to transportation. The towing 'design' has recently been submitted to the Russian Federation Regulator for review. It is anticipated that the towing will take place in Q3 2012.



"Lepse" in a dry dock, June 2012

Considerable progress has been made in the design development of the SNF and RW management processes and associated infrastructure. The consolidated design information including the safety case and environmental impact assessment should be available in Q4 2012.

Decommissioning of Building No 5 in Andreeva Bay

Building No.5 is in a poor physical state and it is heavily contaminated with radioactivity. The storage pool survey results showed that there are six spent fuel assemblies (SFAs) remaining in one of the small pools. These SFAs are responsible for the highest gamma-radiation levels at the top of the pool which are up to 20 mSv/h. The amended and restated GIA 004A provides for the removal of the six SFAs to ensure the nuclear safety of the Building. The work will also result in the decrease of the background radiation in the

technological hall and provide improved radiological safety for the future decommissioning work.

The direct selection of NIKIET as the Consultant for the development of the SFA removal technology, supervision of its manufacture and deployment and a radiation survey after recovery of the SFAs received non-objection from the NDEP Assembly of Contributors on 19 April

SNF management system in Andreeva Bay

The objective of this Grant Implementing Agreement (GIA 007A) is to establish the system for the handling and transport of the 22,000 spent fuel assemblies stored in Andreeva Bay. The project includes the procurement and installation of the required cranes for the accumulation pad for the casks, the Dry Storage Unit (DSU) Enclosure and for the pier; the construction of accumulation pad for the casks; the procurement of the SNF retrieval and repacking equipment; the construction of the DSU Enclosure, the development and supply of a special vehicle to transport the SNF casks from the DSU Enclosure to the accumulation pad and a trolley system to transport casks from the accumulation pad to the pier.

The construction of the Accumulation Pad is on target for completion at the end of 2013 as scheduled.



Construction of the Cask Accumulation Pad at Andreeva Bay (Photo courtesy of SevRAO)

Tenders for the rail-mounted crane on the pier have been submitted and the evaluation process is nearing completion. The tenders for the four overhead cranes for the DSU Enclosure and the Accumulation Pad and the tenders for the construction of the DSU Enclosure have been submitted. These are currently being evaluated.

Rosatom will procure certain items of the specialised SNF retrieval and repacking equipment. Some of this equipment is already available at other nuclear legacy sites in the Russian Federation and will be transferred to Andreeva Bay this summer. Other items of equipment will be transferred later and/or designed and manufactured to specifications previously used in similar activities in the Russian Federation.

The tender documents for the procurement of the specialised SNF retrieval platform (to be funded through the GIA) are at an advanced stage and the draft tender documents for an open tender should be submitted to the Bank for review in Q2 2012.

Tender documents for a special vehicle to transport the SNF casks from the DSU Enclosure to the accumulation

pad and for a trolley system to transport casks from the accumulation pad to the pier are at an advanced stage of preparation and should be issued in Q2 2012.

“Good Progress of the St Petersburg Neva Programme” - Interview with Mr Jan Johansson, NIB Senior

In spring 2009, NDEP extended a grant of EUR 24 million to support the Neva programme implemented by the SUE Vodokanal St Petersburg. The overall investment of EUR 562.6 million is financed by the federal, City and Vodokanal's own resources totalling EUR 461.2 million, IFI loans of EUR 60 million and additional bilateral grants of EUR 17.4 million. The environmental effect of the programme will be based on removing 860 tonnes of phosphorus, 1,060 tonnes of nitrogen and 6,980 tonnes of BOD every year.



A short interview with **Mr Jan Johansson**, NIB Senior Programme Manager, highlighting the latest activities follows below.

• **After the Flood Protection Barrier, St Petersburg Neva Programme is the largest project in the NDEP portfolio. Could you say a few words to exemplify the sheet magnitude and complex structure of this investment?**

This is a huge project. It includes two 12-kilometre tunnels with a diameter of 4 metres built at depths of 40 to 90 metres, over 5.5 kilometres of micro tunnels, 28 shafts, a unique wastewater pumping station located 90 metre below ground to sustain wastewater flow in the tunnel, and the rehabilitation of the Northern Wastewater Treatment Plant (NWWTP). The Neva Programme will help eliminate direct discharges by some 300,000 cubic metres a day. This is comparable to the effect of launching the South-Western Wastewater Treatment Plant in 2005 (330,000 cubic metres a day).

• **How would you describe the latest developments?**

The programme has entered its final phase and is proceeding more or less in line with the schedule. The construction of the tunnel collector has basically been completed. We can be fairly confident that all major facilities will be completed by mid-2014, as scheduled. The NDEP financed pumping station should be in operation by the end of 2013.

• **Which part of the overall construction technically most challenging?**

Undoubtedly, this is the wastewater pumping station. This pumping station has no analogues in the world. The water and wastewater utility company Vodokanal of St Petersburg has involved the best available scientists and engineers to design and construct the station.

- **SUE Vodokanal St Petersburg is constructing two parallel tunnel collectors. What is the reason for the second line? How much of the existing tunnelling is already in operation?**

A reserve/parallel line of a sewage collector is always advised to be built to avoid a potential environmental disaster in case the collector breaks down. This is especially true for large cities, like St Petersburg, where the impact of such disaster can be enormous. In case of the Northern Tunnel Collector, its first line is in operation. The collector's second line has basically also been completed by now and will be launched after the wastewater pumping station has been completed and commenced.

- **The Neva Programme has received the largest ever NDEP grant totalling EUR 24 million. Please could you tell us how the NDEP funded component is proceeding?**

The NDEP component is proceeding generally in line with the schedule. A large portion of the funds has already been used in the procurement of equipment for the wastewater pumping station. The remaining part is expected to be used to acquire equipment for the NWWTP by the end of this year. There could be some further delays in implementation due to complexity of the project and time needed to draw technical specifications. We expect those to be done within a couple of months.

- **Would you say that operating such a complex project structure with so many players is an asset or a hindrance to the overall implementation?**

Of course, the more players, the more difficult is the implementation. The Programme Steering Committee is doing a very good job coordinating the efforts. And the professionalism and dedication of the parties involved, particularly the Vodokanal Project Implementation Unit let the project run rather smoothly.

- **Finland and Sweden are the key international partners. Could you provide more information on the type of contracts and amounts signed with Swedish and Finnish companies so far?**

Invitations for all tenders in relation to this programme have been published in the Swedish and Finnish information networks. Nevertheless, the interest from Swedish and Finnish companies to bid for the larger supply contracts has so far been rather limited. Anyhow, some supply contracts have been awarded to the Finnish companies Watern Oy, Onninen Oy and KSB Finland. Swedish SWECO International AB has got a consulting contract (for the development of the NWWTP preliminary design). The Finnish Ramboll Oy has got a consulting contract to serve as a management consultant for the programme.

Two large supply contracts for equipment supply to the NWWTP are still up for grabs and we are confident that both Finnish and Swedish companies will actively bid for those. One package is to be financed by Sida so that contract will be awarded to a Swedish supplier due to nationality restriction.

- **What is the NIB's experience of working with SUE Vodokanal St Petersburg and perhaps your own previous impressions while working for the Swedish Consulate in St Petersburg? What is their unique method of simply getting things done?**

NIB has a longstanding relation with Vodokanal of St Petersburg that stretches over 10 years. Vodokanal has certainly gained very much experience from working with international financing and implementing large-scale investment programmes during this time. The personal dedication of Vodokanal's Director, Mr Felix Karmazinov, to continuously develop the business, improve the services to the inhabitants and the company's environmental performance has also been a very important factor of the success.



A 90m deep shaft built to house NDEP financed pumping station



Modernization of the Northern Wastewater Treatment Plant is partly funded by NDEP

NDEP 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	Approaching completion
5. Komi Syktyvkar Municipal Services	EBRD	31.8	6	Approaching completion
6. Kaliningrad District Heating Rehabilitation	EBRD	21.8	7.3	Under construction
7. Archangelsk Municipal Water Services Project	EBRD	25.5	8.2	Under construction
8. Novgorod Water and Wastewater Rehabilitation	NIB	23	3	Under construction
9. St. Petersburg Neva Programme	NIB	563	24	Under construction
10. Kaliningrad Water and Environmental Services	EBRD	110	10	Under construction
11. Vologda Municipal Water Services	EBRD	20	5.18	Under construction
12. Kaliningrad Project Implementation Unit	EBRD	3.8	3	Under implementation
13. Sosnovyi Bor Municipal Water Services	NEFCO	3.3	0.5	Under construction
14. PIU for Poultry Farms in Leningrad Oblast	NEFCO	3.5	2	Under implementation
15. Petrozavodsk Waster and Wastewater Rehabilitation	NEFCO	32	5	Approved by Assembly
16. Ten Suburban WWTP in St Petersburg	NEFCO	16	3.75	Under construction
17. Petrozavodsk Solid Waste Management	NEFCO	8.5	1.5	Approved by Assembly
18. Pskov Water/Wastewater Infrastructure Rehabilitation	EBRD	27.4	6.5	Under construction
19. Murmansk City Water/Wastewater Rehabilitation	EBRD	30.1	6	Approved by Assembly
20. Vitebsk Wastewater Treatment Rehabilitation	EBRD	21.1	2	Approved by Assembly
21. Grodno Water/Wastewater Treatment Rehabilitation	NIB	21.1	2	Approved by Assembly
22. Brest Water and Wastewater Treatment Rehabilitation	NIB	18.4	2	Approved by Assembly
23. Vologda District Heating	EBRD	17.8	2	Under implementation
24. Gatchina Wastewater Treatment Plant	NEFCO	2.5	0.39	Approved by Assembly
25. Tikhvin Wastewater Treatment Plant	NEFCO	1.3	0.25	Approved by Assembly
26. Vyborg Wastewater Treatment Plant	NEFCO	6.5	1.25	Approved by Assembly
27. Novgorod District Heating	EBRD	23.3	1	Approved by Assembly
28. Gatchina District Heating	NEFCO	4	0.5	Approved by Assembly
TOTAL		€3.3 billion	€120 million	

The **Northern Dimension Environmental Partnership (NDEP)** was developed 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, waste-water, solid waste, energy efficiency and nuclear waste.

NDEP evolved from this initial idea into a fully established partnership whose Support Fund, managed by the EBRD, provides grant financing to key investments in environmental and nuclear safety projects in the NDA. 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 €337.4 million.

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

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