

STATUS REPORT #23

Expert Group (formerly Project Steering Group) for Reduction/Elimination of Emissions of Dioxins and Furans in the Russian Federation with focus on the Arctic and northern regions impacting the Arctic August 2015

1. EG Members

The Expert Group (EG) is lead by Sweden and is currently constituted by representatives from Norway, Russia, Sweden and NEFCO

- Åke Mikaelsson Swedish EPA, SE EG Chair
- Niklas Johansson, Melica Biologkonsult, SE Key Expert
- Inger Karin Riise Hansen, Norwegian EA, NO Key Expert
- Dmitry Kuznetsov, Polar Foundation, RU
- Henrik Forsström, NEFCO

2. Project Background and General Achievements

The first Steering Group meeting was held on 11 – 12 March 2002 in Moscow. The Project consists of three phases, whereof the first was completed in August 2005 and the second in September 2008. During Phase I and Phase II the coordination in Russia was executed by the Centre for International Projects. The Russian Cleaner Production and Sustainable Development Centre has had a certain role in coordinating activities on Cleaner Production in collaboration with TEKNA (Norway).

The Phase I and the Phase II Reports are posted on the ACAP website. Preparations for Phase III have been initiated and are currently directed on the Vorkutinskiy Cement Plant (VCP) in the Komi Republic.

2.1. Phase I

In the first phase activities in 2002-2005, data were collected, the UNEP Toolkit was translated into Russian and a fact sheet on polychlorinated dioxins and furans (PCDD/F) in Russian language was produced and distributed by Russian authorities. A workshop was arranged in Stockholm to which Swedish specialists on sampling and analysis of flue gases were invited to present theoretical as well as practical blocks including hands-on training. Scientists from four Russian laboratories attended the workshop. In Russia, emission inventories were carried out based on UNEP Toolkit estimations at 61 sites investigated (21 in Arkhangelsk Oblast, 19 in Komi Republic and 21 in Murmansk Oblast) and in addition, 11 chemical analyses of flue-gas samples were made at 4 of them. Based on this dioxin emission inventory a priority list of emission sources was produced.

2.2. Phase II

Based on the results of the PCDD/F emission inventory in Phase I a more comprehensive review was carried out in 2005-2008. The project also explored different options for implementation of BAT and BEP requirements, *e.g.* legislation prescribing technical measures for reduction of dioxin emissions, setting limit values, voluntary commitments by industry, *etc.* 2

Other important parts of Phase II were cleaner production training and elaboration of recommendations for actions based on findings on how technical processes could be improved in order to decrease formation and release of environmental pollutants such as POPs.

As facilities relevant for further examination, the following were selected:

- Kotlas Pulp & Paper Plant, Koryazhma (Arkhangelsk Oblast)
- Vorkutinskiy Cement Plant (Komi Republic)
- Syktyvkar Timber Mill (Komi Republic) (Cleaner Production program only)
- Murmansk Municipal Solid Waste Incinerator Plant (Murmansk Oblast)

2.3. Phase III

Having awaited the translation and refinement of the Phase II report, the EG Dioxins continued its activities in 2011, elaborating a comprehensive Work Programme for the EG (see section 4 below) and during 2011-2014 concentrated its efforts to Activity 1: "Implement emission reduction actions at the Vorkutinskiy Cement Plant (VCP)".

Based on the recommendations for possible Phase III pilot projects identified in Phase II, the Expert Group agreed on a plan for reduction of the emissions of dioxins and dust as well as a Cleaner Production training programme at VCP. A first study funded by NEFCO was conducted in June 2011 – July 2013 and resulted in a report "*Study for a Demonstration Project targeting Dioxins and other pollutants at the VCP*". The report includes possible actions to reduce dioxin emissions complementary to the actions planned at the enterprise for reduction of dust emissions.

In follow of this report and in close cooperation with the Vorkutinskiy Cement Plant as well as with the environmental authorities in Komi Republic, the EG Dioxins during 2014 prepared three assignments for consultants, aimed at promoting emission reduction actions at the Vorkutinskiy Cement Plant:

- a) Sampling and Analysis of targeted pollutants at the Vorkuta Cement Plant in the Komi Republic
- b) Phase 2 of the Feasibility Study for dioxin mitigation and other environmental pilot measures at the Vorkuta Cement Plant in the Komi Republic
- c) Seminar in Syktyvkar on "Environmental Requirements for Using Waste as Fuels the Cement Industry"

On 27-29th of August 2014, the Seminar (c) was successfully conducted, with representatives from the Federal Environmental Supervision Service (Rosprirodnadzor) in the Komi Republic, the Ministry of Nature Resources of Environment of the Komi Republic as well as representatives from Finnish Environment Centre, the Norwegian Environmental Agency, the Swedish EPA and part of the BEAC WGE Subgroup for Hotspots Exclusion (SHE).

The final reports from the Sampling and Analysis (a) and the "Phase 2 of the Feasibility Study..." (b) have been prepared during 2015. Unfortunately difficulties in obtaining information regarding on methodology in analysis and reporting from the Russian laboratory has lead to significant delays in completion of both the reports from the assignments (a) and (b).

3. Current activities and expected deliverables during 2015

After having concentrated its efforts to Activity 1 in its Work Programme, (see section 4.1. below), the EG Dioxins is now about to start working also with the other activities. However the intensive work made at Vorkutinskiy Cement Plant will still require follow-up and continued support to launch the Pilot Demonstration Project aimed for. During 2015, the work of the EG Dioxins can thus be divided into the following parts, dealt with during a “Planning Workshop held in Stockholm on 12-14th of January 2015:

3.1. Follow-up the Assignments at VCP

During September 2015, the EG Dioxins expects both the Sampling and Analysis Assignment Report to give information of the actual emissions and the Feasibility Assignment Report to give advice on relevant action projects and related investments. An Action Plan for VCP will be prepared, that is presumed to include projects that may be subject inter alia to PSI funding.

3.2. Preparing project plans for the Activities A1-A5 of the EG Dioxins’ Work Programme

Project Proposals covering all activities in the Work Plan were elaborated during an EG Dioxins Planning Workshop in January 2015. The idea with the Project Proposals is to serve both as base for communication and endorsement with the ACAP WG and to serve as base for the further development of Project Plans to be launched as assignments for consultants under the auspices of the EG Dioxins.

Based on the output from the project planning workshop, two project proposals were endorsed by ACAP in January 2015 and then submitted to the PSI Committee, which endorsed them for Express of Interest at their meeting on 24th of March 2015. The EG Dioxins intends to develop these projects further with the aim to get them started during 2015-2016.

3.3. Preparing a Report on the EG Dioxins’ activities 2013-2014

Based on the assignments report from the three assignments conducted at the Vorkutinskiy Cement Plant in 2014, the EG Dioxins will draft a Report on the EG Dioxins activities during 2013-2015.

4. Planned activities according to EG Dioxins’ Work Programme

4.1. Phase III activity – Implement emission reduction actions at Vorkutinskiy Cement Plant

Since 2011, the EG Dioxins keep a dialogue with the Plant representatives and with the Ministry of Nature Resources and Environment of the Komi Republic as well as with the representation of the Federal Agency for Supervision of the Use of Nature Resources (Rosprirodnadzor) in the Komi Republic to assess the feasibility of further actions.

If feasible, Vorkutinskiy Cement Plant will be the first Phase III object under the work of the EG Dioxins, possibly in collaboration with the Integrated Hazardous Waste Management Strategy (IHWMS).

4.2. Up-date information on potential pilot objects identified in Phase II

In parallel to the activities at the Vorkutinskiy Cement Plant, possible actions at other objects identified in Phase II (Kotlas PPM, Syktyvkar Timber Mill, Murmansk Solid Waste Incineration Plant) will be considered. An up-date of the studies from 2006, incl. contacts with experts and owners is planned for 2015-2016 and if deemed viable, Terms of References for pre-feasibility or feasibility studies on relevant objects will be prepared.

4.3. Broadened inventory of other emission sources than those inventoried in Phase II

Furthermore, the EG Dioxins will consider additional Phase II projects from other parts of Russia than those studied in the Phase II inventory in 2006 and *e.g.* UNEP toolkit studies could be initiated at potentially relevant facilities not examined before. The EG Dioxins welcomes suggestions from the WG and other bodies on these issues.

4.4. Promote implementation of control technologies

Based on foreseen legal reforms, *inter alia* connected with Russia's decision to ratify key environmental protection related International Conventions*, it is likely that the authorities' capacities to control and regulate dioxin formation and emission and discharges will need to increase. The EG Dioxins will, if requested, offer guidance to the MNRE on these issues in order to promote compliance with these obligations.

* The EG intends to offer guidance on the implementation of in particular the following international conventions:

- UNEP Stockholm Convention on Persistent Organic Pollutants (POPs),
- UNEP Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.
- UNEP Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

4.5. Support to Russia's activities aiming at adaptation to the requirements under the International Conventions

The work to eliminate or reduce the emissions and discharges of dioxins and furans from Russia affecting the Arctic is related also to other efforts and activities planned by the Russian Federation, including the work to comply with international conventions such as the Stockholm Convention on Persistent Organic Pollutants, signed and ratified by the Russian Federation. Through its activities the EG Dioxins therefore may serve as a supportive force to these efforts and, *e.g.* provide expert advice in the implementation of new regulations, elaboration of instructions or educational efforts, etc. both on a general basis and in relation to specific plants/objects.

4.6. Coordination with other ACAP EG's

Coordination with other ACAP EG's is an important issue and reasons could be found to raise the attention and communication with any of the EG's. Since the collection, transport and incineration of hazardous waste is an important issue both in large cities and small rural settlements, the IHWMS EG as well as the Indigenous Peoples Contaminants Action Programme (IPCAP) EG are considered especially important for the EG Dioxins to cooperate with. Another significant emission source of dioxins and furans is various combustion processes, *i.e.* for heat and power generation which also may occur in cities as well as rural settlements. To address these issues, also the SLCP EG and Mercury EG may be important.

4.7. Co-ordination with the BEAC WGE Efforts on the Barents Environmental Hot Spots

The BEAC WGE Subgroup on Hot Spots Exclusion (SHE) is intensively working with the remaining 36 of the Barents environmental hot spots located in the Arkhangelsk Oblast, the Republic of Karelia, Komi Republic, Murmansk Oblast and Nenets Autonomous Okrug. The EG Dioxins thus may benefit from the contacts and the administrative pressure put also to some of the enterprises identified in Phase I and Phase II as potential sources of dioxin and furans. A list with those of the Barents environmental hot spots that are most relevant for further survey in respect of dioxin emission reduction actions will be compiled by the EG Dioxins and the most relevant way of co-ordinating the EG work with the work made by the regional Hot spot Exclusion Groups (HEGs) in the five northwest Russian regions will be outlined in co-operation with SHE.

5. Funding

The Swedish Ministry of Environment has granted a sum of 500,000 SEK to the Swedish EPA over the SLCP Fund at NEFCO, dedicated especially to actions aimed at reducing emissions of dioxins and furans from sources in Russia impacting the Arctic. The funds are available during 2015 and should preferably be combined with funds from other donors, in particular the PSI.

Based on the activities presented in section 4.1 – 4.5 above, the EG Dioxins has elaborated five draft project proposals, for which the EG Dioxins got approval from the ACAP WG (Rovaniemi meeting January 2015), based on which it submitted and got approval for Expression of Interest by the PSI Committee in March 2015.