

**MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL  
PROTECTION OF THE REPUBLIC OF BELARUS**

**BELARUS INTEGRATED SOLID WASTE MANAGEMENT PROJECT**

**Component III: Persistent Organic Pollutant Stockpile Management**

**Environmental Impact Assessment  
Executive Summary**

Minsk

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## **EXECUTIVE SUMMARY**

### **Background**

The Republic of Belarus officially acceded to the Stockholm Convention in 2004 and assumed the respective implementation obligations. To implement effective measures on addressing the problem of POPs, the country has developed the National Implementation Plan in conformity with Article 7, which became a national program – «National Plan of the Republic of Belarus for the Implementation of its Obligations under the Stockholm Convention on Persistent Organic Pollutants for 2007-2010 and until 2028» approved by the Decree of the President of the Republic of Belarus.

Belarus is planning to implement the Integrated Solid Waste Management Project financed by the IBRD loan. The project includes the POPs Stockpile Management Component (the POPs Component), which will address the project development objective of assisting Belarus to manage present and future POPs stockpiles within the framework of the country's development of hazardous waste management capacity. This Component will be financed by the GEF with the World Bank as the Implementing Agency.

### **Project objective**

The overall objective of the proposed project component is to strengthen national capacity to manage POPs stockpiles within the national hazardous waste management framework.

### **Project description**

The POPs Component is structured into three activity based sub-components. The fourth sub-component covers Project Management costs.

### **Sub-Component III.1: POPs Stockpiles and Waste Risk Reduction**

This sub-component is primarily focused on the physically securing known POPs stockpiles and wastes and POPs contaminated sites in order to contract for the environmentally

sound disposal of readily accessible, priority POPs wastes such that the largest release risks are eliminated.

This sub-component covers the ongoing work initiated by the Government in 2002 and continued since that time largely using government funding during the project period and beyond. In general this relates to the process of systematically characterizing, re-packaging and providing for secure storage, both interim and long term, for the approximately 7,800 tons of identified obsolete pesticides (OPs) stockpiled in the country. These stockpiles are located in a number of rural store houses and custom designed secure storage facilities, and in a number of burial sites (the Petrikov, Dribin, Gorodok, Postavy, Verkhnedvisnk, and Slonim obsolete pesticides burial sites). Repackaging along with required upgrading and clean up of OPs in rural storage houses is being completed in 2009 and recovery/repackaging of OPs from burial sites has been initiated with one site completed (Brest) and a second large site currently being done (Petrikov). It is recognized that the overall inventory of stockpiled OPs includes materials that contain POPs, specifically DDT. Of the total estimated 718 tons of DDT stockpiled, 60.1 tons are now in secure storage sites, primarily Cherchersk where it is secure but not readily accessible. The remaining 658 MT is in burial sites, with the largest amount (447.2 tons) at the Slonim site. The focus of the GEF related financing in this activity is to capture the accessible high concentration POPs pesticides from the Slonim burial site and to export them for environmentally sound disposal at qualified destruction facilities.

Some other activities under this sub-component are directed at ensuring secure storage of present PCB stockpiles and wastes at owner's sites, arranging for the collection and transport of priority stockpiles to a qualified disposal facility outside the country. Additionally it addresses the longer term planning for the phase out of remaining operational PCB containing equipment in compliance with Convention obligations and the associated management activities (long term storage, pre-treatment, and environmentally sound disposal) that need to be undertaken to support this. The practical part of the Activity covers the contracting of a qualified international waste management company and any required local support services to collect priority PCB stockpiles and wastes from holder's sites and transport to a qualified destruction facility for their environmentally sound disposal. The priority PCB stockpiles and wastes cover stockpiled liquid PCB oil, and decommissioned transformers and capacitors considered priorities in terms of risk and sensitivity of location. The biggest risk is posed by the biggest PCB waste temporary

storage site in the Village of Minoity, Lida district. All in all it is estimated that the minimum amount disposed of will be 610 tons at the Minoity and other 6 highest priority locations. The work will be undertaken in accordance with the requirements set out in the Basel Convention Guidelines adopted by the Stockholm Convention, and the requirements of the Basel Convention applicable in Belarus as well as transit countries and the destination country. The activity will also provide for independent supervision and verification of removal and disposal by both local and international experts.

This sub-component will also comprise the work undertaken since 2006 and extending through the project period related to addressing POPs contaminated sites, recognizing that this will likely involve a long term program. Its primary focus during the project period will be work undertaken in the identification, assessment and, as practical, the containment of priority POPs contaminated sites. Currently, 19 sites potentially contaminated with POPs have been identified. These are primarily where PCB contaminated equipment has been stored or PCBs have been used as well as the remaining OP burial sites (Dribin, Verkhnedvinsk, Postavy, and Gorodok). In general, these sites are relatively small in area but require assessment and prioritization. GEF support will be provided for assessment for several sites identified as being high priorities in terms of risk of contaminant release. This activity will also support TA activities related to: i) development of a national POPs contaminated sites inventory, something that can form the basis for a broader national contaminated sites registry supporting general waste and chemicals management into the future; ii) training of local experts in international site assessment practices, including risk assessment; and iii) establishment of national standards for such assessments and associated clean up requirements.

### **Sub-Component III.2: Technical Support Capacity Development**

This sub-component addresses three specific sub-activities corresponding to priority areas where overarching technical capacity gaps were identified in the NIP and associated Action Plan. These include *Expanding POPs Monitoring and Analytical Capability*, developing and implementing a comprehensive information management capability for POPs that would fully meet Convention reporting and information exchange requirements, expansion of the preliminary NIP unintended release estimates and source inventory work into a functional source specific inventory and potential source registry.

### **Sub-Component III.3: Institutional and Regulatory Strengthening**

This sub-component covers project support for institutional and regulatory strengthening required to have a comprehensive legal and regulatory framework in place that would govern POPs. It will also support capacity development to ensure sustainable long term capability to maintain and enforce this framework, consistent with current and future Convention requirements, and more broadly emerging international practice related to sound chemicals management. It also includes public awareness and information exchange activities.

### **Sub-Component III.4: Project Management.**

The POPs Stockpiles Management Component will address key environmental concerns related to POPs. In accordance with the World Bank's guidelines and procedures OP/BP 4.01 on «*Environmental Assessment*» the proposed project was assigned an environmental Category «A»1, which means that a full Environmental Impact Assessment (EIA) report shall be an integral part of the project proposal. This is also consistent with the Belarusian legislation, regulations and practices requiring that all projects that may pose environmental impacts shall include EIA.

#### **Data on current POPs and PCBs stockpiles**

The inventory performed as part of NIP has identified obsolete pesticides stockpiles of 6.558 tons including 718 tons of DDT in Belarus. Almost half of the obsolete pesticides (OP) are located in 6 burial sites (the Petrikov, Slonim, Dribin, Gorodok, Postavy, and Verkhnedvinsk) at known locations within the country. The Slonim obsolete pesticide burial site contains up to 892 tons of pesticides including 447.2 tons of DDT (over 62% of total DDT stockpiles in Belarus), which makes this site the major burial of POPs pesticides in the country. The previous assessments of the burial site undertaken in the period 1999-2007 by Republican Research Technical Center "Ecomir" (1999), Belarusian Research Center "Ecology" (2004, 2005, 2006), Belarusian Research Geological Prospecting Institute (2007), and Central Research Institute of Complex Use of Water Resources identified migration of pesticides into ground waters. At present this pesticide migration is insignificant but there is a considerable risk of increased pesticide penetration into ground waters if the plume is not contained.

Identified PCB amounts are estimated at about 1600 tons of which 99.5% is contained in electrical equipment. The PCB containing equipment storage site in the Minoity village (the Lida district) accommodates containers with 3000 PCB containing capacitors. The total (gross) weight of containers is approximately 7 tons. Soils around concrete slabs where containers are located are contaminated. The level of contamination is estimated at 70 g/kg. The findings of PCB inventory suggest that it is the highest contamination level in Belarus.

Given the above, elimination of these POPs storage sites under the project is prioritized. The data on the concentration of pesticides in the ambient air are not available in Belarus. The most contaminated are the pesticide burial sites and PCB containing equipment storage sites. In the impact zone of the Slonim obsolete pesticide burial site the maximum allowable concentration (MAC) for DDT is exceeded by 9.5 times. The situation at other OP burial sites is similar. PCB concentration in samples of soils of agricultural lands adjacent to Minoity and similar minor PCB storage sites like Mir and Korelichi power substations ranges from 200 to 1200 µg/kg. There is no evidence suggesting that MAC for POPs in surface waters has ever been exceeded.

### **Legislative and institutional framework for the management of POPs**

The Republic of Belarus has adopted and enforced a number of international conventions, Codes and Laws, national and sectoral programs, concept documents and strategies defining the principles and priorities of the environmental protection policy including those relating to POPs management.

The Ministry of Natural Resources and Environmental Protection (MNREP) is responsible for the implementation of the obligations under the Stockholm Convention. The Coordinating Council for the Stockholm Convention Implementation has been established under MNREP to coordinate respective efforts of the government authorities.

### **Project Investments' Alternatives**

At present Belarus does not have a sufficient capacity allowing, in the immediate future, to reduce POPs stockpiles and to mitigate environmental contamination risks and harmful impact of POPs on human health. The main limitations to addressing the issue include lack of technology and installations for OPs and PCBs destruction, insufficient capacity to secure

environmentally sound long-term storage of POPs as well as technical capacity limitations to eliminating POPs. Therefore, “not having a project” scenario will entail deterioration of the environment around POPs storage sites with ground waters being the most affected. **This alternative is unacceptable.** Consequently, four options are considered in the assessment of the regional alternatives:

1. Cancellation of pesticide repackaging and removal of pesticides and containers with PCBs; improvement of POPs burial and storage sites for long-term storage. This option is unacceptable as it does not allow to considerably reducing the risk of environmental contamination.

2. Destruction of OPs and PCB containing equipment at the burial site using mobile facilities for POPs destruction. This option was rejected because using a modern mobile incinerator for POPs destruction requires considerable preparatory efforts including high costs and possible public opposition for selection of a plant, its transportation to the burial site, arrangement of additional structures, agreeing the procedure of works with the local authorities and lack of experimental data on environmental safety of such works. Also, the incinerators burning POPs (pesticides and PCBs) and other related waste are associated with the spread of undestroyed and newly formed POPs (e.g., dioxins and furans) into the environment, contaminating air, soil, vegetation, an human population.

3. Repackaging and transportation of the obsolete pesticides and PCB containing materials to an EU country for final destruction through incineration. This option is a simple project option ensuring the best environmental protection effect and involving minimum risk of environmental contamination. The benefit of this alternative is that POPs will be destroyed at a registered well-monitored facility that meets EU standards. Some temporary environmental impacts still exist with this selected project option and are mainly related to possible POPs leakages and potential contamination of air, soil and water during POPs burial openings, excavations and transportation (e.g. accidents, spillages). The Environmental Management Plan prepared as part of the EIA report for this option presents comprehensive prevention and mitigation measures for such possible impacts, including implementation of occupational, health safety and emergency preparedness requirements to be followed during project activities.

4. Repackaging and landfill disposal at the Chechersk Facility. In terms of environmental impact this option is equal to Option 3 but is unacceptable due to organizational constraints and limited capacity of the Chechersk Facility.

### **Environmental Impact Assessment**

Implementation of the key practical project activities may involve short-term local environmental impacts associated with opening of OP burial site, excavation and repackaging of obsolete pesticides and transportation of containers with OPs and PCB containing equipment. The EIA has found that the proposed project will not have significant adverse environmental impacts that may take place in areas broader than individual project sites. All impacts are primarily site specific and can be contained within the existing POPs pesticide and PCB site boundaries, and none of them are irreversible.

The main potential adverse impacts are related to possible POPs pesticide leakages during excavation and repackaging at the Slonim OP burial site; possible air pollution, soil and water contamination during the Slonim OP burial opening and OP excavation, temporary storage prior to export shipment, remaining environmental pollution and contamination of former POPs sites without timely clean-up and rehabilitation.

The EIA has found out that for all potential adverse environmental impacts from project activities there are prevention, minimization and mitigation measures outlined in various Belarusian regulatory procedures and requirements which have been reflected in the EMP.

The analysis of the Beneficiary's capacity to fully implement the EMP has shown that there are sufficient resources, institutional, regulatory, technical and personnel capacity of the system of the Ministry of Natural Resources and Environment Protection, Ministry of Emergency Situations, Ministry of Public Health, local stakeholders and potential contractors not only to control the project component implementation but also take necessary action in case of the described potential environmental impacts.

### **Disclosure process and public consultations**

In accordance with the national legislation and WB requirements, local communities and local authorities of the project areas were engaged in preparation and implementation of the



project activities during public meetings to broadly inform them about the project activities and possible impacts.

Two rounds of public consultations in the key project areas (Slonim and Lida) were held during elaboration of this EIA report. The announcements of public consultations were published in the local newspapers and in the Internet. EIA data have been posted on the web-sites of the Slonim and the Lida District Executive Committees and published in local media (see Annex 15). Public consultations held in Lida and Slonim demonstrated high level of interest of local households and local authorities in addressing the problem of POPs in these communities. Web-site [www.soz.minpriroda.by](http://www.soz.minpriroda.by) (MNREP official website covering the Stockholm Convention implementation progress in Belarus) will be used during project implementation to disseminate information about the project activities and their effectiveness.

### **Environmental Management Plan**

To reduce environmental and public health risks related to project implementation activities, the EIA incorporates an Environmental Management Plan including a Risk Mitigation Plan and a Monitoring Plan. The activities summarized in the Risk Mitigation Plan are based on the current regulatory framework for POPs management. Environmental and health impacts may temporarily emerge at the sites where works are performed. To prevent or to mitigate possible effects all necessary measures are envisaged including use of polyethylene film to protect soil from potential contamination with pesticides or PCBs, installation of sheds to protect pesticide and contaminated soil excavation places from precipitation and heat, trenches and arrangement of an isolated network of storm collectors, repackaging of all contaminated waste and supplies, use of protective clothes and face masks for workers, etc. A Monitoring Plan is an integral part of the Environmental Management Plan which establishes a procedure of monitoring of all affected environmental media. Environmental protection measures and their monitoring specified in the Plan will be obligatory included in the work contracts and will follow performance regulations.

### **Conclusion**

Implementation of this project will help Belarus to enhance its technical, institutional and expert capacity for current and future POPs stockpiles management. This would allow the

country to undertake further measures aimed at elimination of health and environmental risks associated with POPs stockpiles and to fulfill its obligations under the Stockholm Convention.