

Attachment 2

Brief Information on SSE Chornobyl NPP Activity

State Specialized Enterprise Chornobyl NPP (SSE ChNPP) is a company for decommissioning of ChNPP power units and transformation of Shelter facility into an environmentally safe system, founded on basis of governmental property and subordinate to the State Agency on Exclusion Zone Management.

SSE ChNPP was established on basis of Chornobyl NPP by the Decree of President of Ukraine dated September 25, 2000, No.1084/2000 and Resolution of Cabinet of Ministers of Ukraine dated April 25, 2001. No.399.

The enterprise is the operator of Chornobyl NPP nuclear facilities at the stage of decommissioning and accident elimination and the operator of radioactive waste management facilities and interim radwaste storage facilities.

The activities are planned and implemented as per National Programme for Chornobyl NPP Decommissioning and of Shelter Facility Transformation into an Environmentally Safe System. The main funding source for Chornobyl NPP activity is State Budget of Ukraine.

The main tasks of SSE Chornobyl NPP are as follows:

- to ensure safe operation of ChNPP nuclear facilities, radioactive waste management facilities and other equipment;
- to decommission safely Chornobyl NPP Units and Ukrainian nuclear power plants;
- to transform Shelter facility into an environmentally safe system;
- to ensure the management of radioactive waste accumulated within ChNPP industrial site and Chornobyl Exclusion Zone and waste being generated during decommissioning and Shelter transformation into an environmentally safe system;
- to ensure Chornobyl NPP spent nuclear fuel management;
- to build and operate the infrastructure facilities necessary for Chornobyl NPP decommissioning and Shelter transformation into environmentally safe system;
- to provide ecological monitoring of the environment within the area of Chornobyl NPP location;
- to develop the technologies, to gain and use scientific and technical experience related to decommissioning of the nuclear facilities, elimination of the beyond design basis accident, and related to construction and use of the storage facilities for temporary and long-term storage of radioactive waste.

Chornobyl NPP is located in Exclusion Zone with high levels of radioactive contamination. Chornobyl NPP site still remains one of the largest ones in nuclear industry of Ukraine and Europe both with regard to its area and to the scope of activities carried out within it. Its area makes about 3,000 ha. 327 buildings and structures are in operation including three power units with RBMK-1000 reactor installations, Shelter facility, interim storage facility for spent nuclear fuel (ISF-1), radioactive waste storage facilities, open switchgear, cooling pond and other facilities and systems of infrastructure.

Upon acceptance of a politically-motivated decision, ChNPP stopped generation of electric power on December 15, 2000, and started the decommissioning activities. Since April, 2015, the SSE Chornobyl NPP has been at the stage of final shutdown and preservation (FS&P). The FS&P key tasks are as follows:

- to dismantle the external (with regard to a nuclear reactor) facilities' non-safety-related systems and elements that will not be required at the further stages;
- to enhance the barriers that prevent radioactivity spread into the environment;
- to preserve reliably and safely those parts of the facilities that are not subject to dismantling;
- to ensure the conditions for temporary monitored storage of radioactive substances.

Following the completion of FS&P stage, in 2028 a preservation and long-term safe enclosure under supervision stage will start for the ChNPP most contaminated equipment (approximately up to 50 years).

Within the framework of international technical aid projects with partial funding by Ukraine some facilities necessary for Chornobyl NPP power unit decommissioning and Shelter facility transformation into an environmentally safe system were built on ChNPP industrial site and in Exclusion Zone, namely:

Interim dry Storage Facility for spent nuclear fuel (ISF-2). The facility is intended for acceptance, processing for storage and storage within 100 years of spent fuel assemblies (SFA) which have been accumulated at Chornobyl NPP. The project is funded through Nuclear Safety Account by the EBRD.

Completion of the entire work package is scheduled for 2020.

Liquid Radwaste Treatment Plant (LRTP). The facility is designed to process the liquid radioactive waste accumulated during operation and to be generated within Chornobyl NPP as well as the operation liquid RAW of Shelter facility. It was funded through Nuclear Safety Account by the EBRD.

The facility has been commissioned.

Industrial Complex for Solid Radioactive Waste Management (ICSRM). The complex is designed to accept process and/or dispose solid radioactive waste accumulated during operation and the waste to be generated during ChNPP decommissioning, and Shelter operational solid radioactive waste. Its construction was funded by the European Commission and Ukraine.

ICSRM is at the stage of preparation for hot testing third stage.

Facility for Manufacturing Steel Drums and Reinforced Concrete Containers for SSE ChNPP radioactive waste storage. The facility is part of the infrastructure necessary for the Chornobyl NPP decommissioning. The project was funded by the European Commission within the framework of TACIS programme.

The work under project has been completed and the facility has been commissioned.

Shelter Implementation Plan (SIP). It is financed by Chornobyl Shelter Fund.

Shelter facility transformation plan anticipates three stages:

- stabilization of the existent Shelter structures;
- construction of a new safe confinement and preparation for retrieval of fuel containing materials (FCM) and high level waste (HLW) and long lived RAW;
- retrieval of FCM, HLW and long lived RAW, their conditioning with subsequent storage and disposal in line with the effective international standards.

When SIP was approved it covered completely the first and second stages of Shelter transformation and consisted of 22 tasks. As of now, the first stage is complete in full, and all actions of the second stage except for NSC construction have been excluded from SIP.

Within the project implementation period since 1998, in the framework of SIP the work for infrastructure improvement has been carried out for further implementation of the project and Shelter safety enhancement, such as Shelter dust suppression system, physical protection system and access system upgrading, automated Shelter condition monitoring system, Shelter fire protection system and Shelter integrated data base establishment.

One of the most essential projects implemented in 2004-2008 was the project for critical building structures stabilization of the existing sarcophagus. Upon completion of the work 80 percent of sarcophagus roof load was transferred onto new structures that resulted in reduction of Shelter collapse risk for a period of up to 15 years and provided time for construction of new safe confinement over the damaged power unit.

The most important condition for Shelter transformation into an environmentally safe system was construction of New Safe Confinement (NSC) over the existing Shelter facility that would protect Shelter against graceful degradation due to the weather effects and prevent

radioactive dust release into the environment including the release from accidental collapse of Shelter facility.

According to the design NSC covers the following elements:

- main building including arch component whose span from north to south makes 257.44 m, height is 108.39 m, length is 150 m, foundations, western and eastern end walls, necessary supporting and auxiliary systems;
- a technological building which comprises decontamination, size-reduction and packing areas, sanitary air locks, workshops and other service premises;
- auxiliary structures.

The works under the project have been completed; the certificate about facility readiness for operation has been obtained.