Chernobyl's dry storage facility completed by Holtec is now ready to be commissioned to process and load used fuel from its three shuttered reactors

Success at last! On August 29, 2019, Holtec's Project team completed the comprehensive pre-commissioning program (also called Cold Tests) for the Chernobyl Interim Spent Nuclear Fuel Storage Facility (ISF-2) - the world's largest dry storage installation. Completion of Cold Testing, marked by the demonstration of full functionality of the Facility with no major issues or impediments to licensed operation, was confirmed at the working meeting by the Ukraine's national nuclear regulator, State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) on September 6, 2019. ISF-2 will formally enter commissioning once the Operator (Chernobyl NPP) obtains SNRIU's *individual operation license* which will initiate the marathon campaign to dismember each of Chernobyl's 21000-plus fuel assemblies into three parts (two fuel bundles and an activated connecting rod) in a purpose-built Hot Cell and place them in interim dry storage.

This project was begun by Areva in 1998 and finished by Holtec this year. Upon taking over the project in 2011, Holtec began work to develop a fully functional facility using the legacy systems, structures and components (SSCs) supplied by Areva, and acquiring new replacement systems, as needed, from the US, Germany, France and Italy, among other countries. The seemingly endless slog of modifying and developing replacement SSCs that could work within the constraints of the partially built and aging facility, followed by qualifying, licensing, manufacturing and testing them turned out to be an interminably long and tedious process. The site acceptance tests involving 110 individual and 46 integrated tests including an astonishingly large number of SSCs (more than a thousand), punctuated by the discovery of hidden defects and obsolescent parts, was finally completed by April of this year.

Cold Tests, which began on May 6, 2019, encompassed every SSC and every conceivable scenario that may be encountered by the facility's operator, including normal operations, remotely executed maintenance of activated equipment, suitability assessment of the auxiliary systems needed to control worker exposure and spread of contamination, and response to anomalous or emergency developments. Representative photos from the Cold Tests may be found at the end of this news release.

Currently, the plant owner and Holtec are in the process of closing out the documentations and handing over the facility to the owner to begin commissioning followed by production loading.

"Not a day too soon," says Sergiy Tarakanov, a Ukrainian citizen and General Manager of Holtec Ukraine and ISF-2 Program Manager, adding, "Chernobyl's wet storage facility where the entire massive inventory of used fuel is presently stored, is living beyond its design life. It is critical that this enormous inventory of fuel be moved to dry storage in the fastest possible time."

Holtec's former SVP of the Ukraine Operation Center and now the Company's Senior Corporate Director in charge of closing out the long-running Chernobyl contract, Mr. Riaz Awan, offers, "the Assembly of Donors including the US, and its fund administrator, the EBRD, who have patiently tracked the long and tedious evolution of this project for over two decades should savor this milestone. Thanks to the extreme diligence of our people and support of our Ukrainian contractors, what many considered to be impossible has been rendered possible. To the facility owner's staff on whom falls the burden

of operating this hideously complex facility, I wish to re-affirm that Holtec will stand with you. I am sure the Donors and EBRD will exhibit a similarly supportive posture."

To be sure, Chernobyl is the world's most complex dry storage project with numerous unique aspects; the use of *double wall canisters* to render any risk of leakage utterly non-credible, and the deployment of a *forced gas dehydrator* to extract the last molecule of entrained moisture from the fuel to ensure a guaranteed life-cycle protection from nuclear reactivity increase, are among the many technologies that were developed by Holtec to overcome the challenges that had stymied the project in its first decade.

Photos of Operability Tests

Photos of Maintainability Tests