HOLTEC INTERNATIONAL

Holtec Highlights

HH #39.01 | January 2, 2024

2023: An Innovation-Fueled Year Focused on Advancing Holtec's Nuclear and Solar Energy Endeavors to Help Combat the Looming Climate Crisis

2023 will live in the annals of our company as the year when clean energy became the centerpiece of our endeavors stoked by several groundbreaking innovations that advanced Holtec's existing nuclear programs and fostered new breakthroughs in the field of solar energy. This issue recalls our key achievements in the past year in our established product lines in the nuclear industry, and the recently developed renewable energy technologies that are our entry in humankind's global fight to prevent the runaway warming of our planet which, in 2023, posted its highest average annual temperature over the past 125,000 years!

The iconic symbol for our innovations in nuclear technologies for 2023 will be Holtec's HI-LIFT heavy load handling device (see video by clicking ***here***) which overcame the severe structural limitations of Indian Point Unit 3's fuel storage building enabling the unit to be defueled in less than 20% of the allotted time and ~20% of the expected crew dose that would have been incurred if previously employed transfer methods continued. The crux of the HI-LIFT technology is to artfully arrange the heavy payload to be safely transferred to the plant's foundation by the structurally competent portion of the building, bypassing the weak regions such as the load bearing walls. The proven HI-LIFT technology stands to provide the solution path for decommissioning many retired nuclear units around the world that face crane capacity or building structural strength limitations.

Our core business of used fuel management had another successful year with 170 of Holtec's dry storage systems safely loaded in 2023 maintaining a safety record well above industry standards. We welcomed seven new nuclear units into our roster of esteemed dry storage customers in 2023, raising our global client base to 149 reactor units. Several clients placed repeat orders including SYNATOM of Belgium who ordered ten more HI-STAR 180D dual purpose casks. We are grateful to our discerning clients who continue to embrace our technology for the quality of our services and capabilities of our dry storage/transport systems that are being continually nourished by the stream of innovations; many protected by over 200 U.S. (and numerous foreign) patents held by the Company.

Ukraine's Centralized Spent Fuel Storage Facility (CSFSF) Commissioned in 2023

We should salute the courage and valor of our Ukrainian colleagues, typified by the country's nuclear energy leaders, Mr. German Galushchenko, Minister, Ministry of Energy of Ukraine and Mr. Petro Kotin, President, Ukraine's National Nuclear Energy Company "Energoatom," who led the successful

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commissioning and transportation of used nuclear fuel from the nation's operating reactors to the world's first dry Centralized Spent Fuel Storage Facility (CSFSF) (called Consolidated Interim Storage Facility (CISF) in the U.S.). This major milestone was achieved by the Ukraine's nuclear energy leadership in the face of incessant aerial barrage of missiles and drones on its nation's territory. The CSFSF features several patented Holtec designs to render the facility substantially impregnable to natural or man-made hazards. This facility has eliminated Ukraine's dependence on its malevolent neighbor on whom it had depended since the country's independence in 1991. The CSFSF is a singularly significant achievement for Ukraine which is critical for the continued operation of the nation's nuclear units to ensure its national energy security and independence.

Among our several notable dry storage achievements abroad is the commissioning of the industry's most robust on-site fuel storage facility at Slovenia's Krško Nuclear Power Plant wherein Holtec's HI-STORM FW casks are stored in an anchored configuration inside an earthquake-hardened and flood-proof Fuel Storage Building. This project was delivered on a turnkey basis with able support from the plant operator Nuklearna elektarna Krško (NEK). Another unique feature of the Krško Fuel Storage Building is its compliance with the extremely low dose accretion limit prescribed for the project.

Convinced that a central interim storage facility is essential to sustain a long-term renaissance of nuclear energy, we committed significant resources to secure USNRC license for a state-of-the-art below-ground storage system in 2023. This facility, called HI-STORE CISF to be located in Southeast New Mexico, is the epitome of structural and environmental safety and is viewed as the much-needed employment stabilizer for the region's cyclic oil-based economy. We hope the State would soon overcome its political divisions and revert to its prior stance of support for the enthusiasm of the local communities who have been overwhelmingly in favor of the CISF on their land ever since the project was muted in 2016.

We brought our practical creativity to bear in the labor and radiation dose-intensive business of decommissioning shuttered nuclear plants, drastically reducing the number of off-site waste package shipments as well as the cumulative crew dose through an innovative approach to segmentation of irradiated components and development and use of high-capacity casks for non-fuel waste. Holtec-owned Oyster Creek, Pilgrim and Indian Point sites are all in an advanced stage of dismantlement and decommissioning.

Despite the success of our decommissioning program, we became an advocate for refurbishing and restarting existing reactors in 2023 to mitigate global warming subject to the endorsement and support of the USG, the state government, and the local communities. Palisades, a superbly performing nuclear plant in picturesque southwest Michigan (pictured on right) that Holtec has owned since mid-2022 (when it was shut down early for business reasons), became the first plant where we have pivoted to nuclear generation from decommissioning. Thanks to a much-needed grant from the

Palisades Nuclear Plant, Covert, Michigan

State of Michigan, strong support from its visionary Governor, broad bipartisan support from its legislature and congressional delegation, abundant enthusiasm for restarting the plant in the local communities, a long-term power purchase agreement, and promise of a critical loan from the Federal government, we have launched the Palisades restart program with the goal to bring the plant online by year-end 2025. When repowered, Palisades will employ some 600+ workers making an average of nearly $118,000 annual compensation, support over 1,100 regional jobs, generate $363 million in annual regional economic development, produce more than 810 megawatts of reliable, clean power preventing over three-million tons of CO2 from being dumped in the air *every year*. Encouraged by the technical and commercial feasibility assessments, we have also planned to build two SMR-300 plants (Holtec's flagship small modular reactor) at the Palisades site. We expect to have these first SMRs built and commissioned by mid-year 2030 which should pave the way for numerous such units to be built around the country and the world. Each SMR-300 will prevent over 1-1/4 million tons of CO2 from being spewed into our environment per year. Our goal is to build 500 SMR-300s by 2060.

In another positive development, our *Holtec Britain* subsidiary received a £30 million grant from the UK's Future Nuclear Enabling Fund to complete the initial steps of the Generic Design Assessment (GDA) as a necessary prelude towards possibly deploying our SMR-300s in the United Kingdom.

Finally, our three-year long program to develop a disruptive solar power plant system called HI-THERM HSP ("***H****ybrid* ***S****olar* ***P****ower*") was completed in 2023. We reckon the innovative designs that we have embedded in HI-THERM HSP will make it cost-competitive with the presently reigning photovoltaic/battery technology for industrial scale solar plants. Moreover, HI-THERM HSP will have a long service life (over 60 years) and deliver electricity to meet the 24-hour daily cycle of varying consumer demand coupled with the uncertainty of the sun's power supply which is unavailable during night hours and overcast days. An 80 MWe HI-THERM HSP plant requires merely 425 acres of land at sites located in sub-tropical latitudes which speaks to land use efficiency of the HI-THERM HSP technology. "We believe HI-THERM HSP in concert with our unconditionally safe SMR-300 nuclear reactor will deliver power supply diversity premised entirely on clean energy and provide a credible solution for the 193 nations who met and set the de-carbonization targets at the recently-concluded COP-28 in UAE," says Dr. Kris Singh, Holtec's CEO.

We wish our readership a healthy and happy New Year

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