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Oyster Creek Submits License Renewal Application

On July 22, Oyster Creek Generating Station began a new chapter in its storied history as AmerGen Energy formally submitted the station's 20-year license renewal application to the Nuclear Regulatory Commission (NRC).

"This is an important milestone for the employees of Oyster Creek, and the citizens of Ocean County and New Jersey," said **Bud Swenson**, Oyster Creek Site Vice President. "Our goal is 20 more years of clean, safe, reliable power generation and we will do it through safe, event-free operations."

Final Application

In preparing the detailed applica-

tion, more than 2,400 pages long, AmerGen/Exelon reviewed thousands of documents, including a detailed review of historical equipment and component performance, and a rigorous review of the existing maintenance and engineering programs to ensure that the station is capable of maintaining plant systems over the extended license period.

Oyster Creek also conducted an environmental impact study to understand any expected environmental impacts over the extended operating life of the plant.

The application has undergone 18 months of internal challenge

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Underwater Paint Job Takes Dresden Unit 1

A Step Closer to SAFESTOR → TFT BIO-DUR 560



This guy is underwater! A UCC diver rolls on a coat of special epoxy to a wall of the Unit 1 Spent Fuel Pool. The epoxy, which will prevent the release of airborne contamination once the pool is drained, is applied by divers while they are submerged underwater.

If you've ever tried to paint your house during a rain shower, you know what a difficult and messy task it can be.

So imagine what it must be like trying to paint underwater.

"Actually, it's not as tough as it sounds," said **Doug Weaver**, a diver and the Project Manager for Underwater Construction Company (UCC).

And he should know, because Weaver, UCC Supervisor **Paul Enix** and five of their colleagues, spend the better part of their days at Dresden doing just that – painting the inside of the Unit 1 fuel pool while completely submerged in water.

This unique painting project is part of Exelon Nuclear's effort to

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Unit 1 Fuel Pool

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place Unit 1 in SAFESTOR condition prior to the start of decommissioning, which will begin following the license expiration for Dresden Units 2 and 3. One of the key activities associated with SAFESTOR is removing the water from the Unit 1 fuel pool and transfer canal.

“However, draining the water from the pools without risking a release of airborne contamination proved to be a considerable challenge,” said **Joe Panozzo**, Lead Project Manager for the Unit 1 SAFESTOR operation. “But our research led us to the Idaho National Environmental Engineering Laboratories, which had perfected a method of applying a special high-gloss epoxy underwater that seals surfaces like our fuel pools.”



UCC Diver **Matt Crowell** pulls off his helmet after completing his shift in the Unit 1 Spent Fuel Pool. The divers work in two-man teams and are closely monitored to ensure that Nuclear, Industrial and Radiological Safety standards are maintained during the painting process.

The epoxy consists of two compounds that are held in separate chambers in a paint machine that sits next to the Unit 1 fuel pool. The paint is heated to 110 degrees and fed by hoses to the paint roller. The hoses are about 100 feet in length and run through a sleeve, which is heated to help maintain the proper paint temperature.

The two-part epoxy paint is com-

bined into a single hose and is mixed about six feet from the paint roller. A diver uses the roller to apply a single coat of epoxy (approximately 30 mills thick) to the walls of the fuel pool in much the same way someone would paint any other wall.

“The only difference,” notes Panozzo, “is that he and the wall are both underwater.” And since water shields radiation, radiation exposure to the divers is minimal.

The UCC divers typically perform two painting dives a day on Unit 1 – a three-hour dive in the morning and another three-hour dive in the afternoon. During each dive, two painters work as a team and every phase of the operation is closely monitored. A worker at the dive station desk maintains constant communication with the divers, while technicians at a Radiation Protection desk monitor dose levels and watch the painters via closed circuit TV.

Panozzo said that the underwater painting process is very deliberate and methodical.

“After each three-hour dive, we have to clean the rollers and other equipment so they don’t become caked with hardened epoxy for the next dive. While it may seem somewhat painstaking, we have to make sure we are doing everything properly.”

Prior to the start of the underwater fuel pool painting last fall, the walls and floors were hydro lazed to remove any contaminants and loose paint to ensure the paint would properly adhere to the walls. Once the cleaning was completed, the debris was vacuumed off of the floors.

The water in the pool was initially “shocked” with hydrogen peroxide to kill the “bugs.” The water was then processed by Duratek, using their patented Advanced Liquid Processing System (ALPS) to remove contaminants, provide water clarity and purify the water for discharge. Along with the diving activities, the water is continually monitored for purity.

The divers stand on scaffolding – similar to the kind used by window washers on skyscrapers – which is

lowered into the water. Starting at the top of the fuel pool walls, they painted a 12-foot high area around the pool to create what Panozzo calls a “bathtub ring.”

“Because of procedural limitations that govern the dive times when divers go deeper than 40 feet, they lowered the water level once they painted our ‘bathtub ring,’” he explained. “As such, our divers never approached that 40-foot threshold.”

According to Panozzo, the divers have so far painted 6,412 square feet, which is approximately 80% of the Unit 1 fuel pool wall area. He anticipates that the divers will complete painting the remaining 8,000 square feet by early August.

Once the painting is complete, the water in the pool will continue to be treated until it meets stringent environmental requirements, at which time it will be processed through Unit 2/3 for disposal.

The high-gloss coating on the fuel pool surfaces will prevent any radioactivity from seeping out and will enable us to easily clean and apply additional epoxy, if necessary, in the future.

“Since Dresden Unit 1 is among the oldest nuclear facilities in the world, we are one of only a handful of companies pioneering this technology,” Panozzo said. “That’s pretty exciting – although I must admit it is a bit surreal watching someone paint a wall underwater.”

Over 90% of all accidents are the result of unsafe acts . . .



. . . not unsafe conditions.