



SECURITY IN THE NUCLEAR AGE

Finnish Plant Turns to Pelco

By Carey D. Schock, Managing Editor



A Powerful Solution...

Responsible for generating more than 25% of its supply of electricity, Finland relies on nuclear energy to both power its cities and curb its emissions of greenhouse gases. Located in Eurojoki in the southwest corner of the country, the Teollisuuden Voima Olkiluoto (TVO) plant is home to two boiling water reactors.

As a result of the natural concerns associated with nuclear power generation, TVO, in conjunction with the Finnish Centre for Radiation and Nuclear Safety (STUK),

demanded a state-of-the-art approach to security that included a Pelco video solution. According to Petri Leppimäki, TVO Corporate Security Manager, “STUK issues detailed regulations concerning the safety and physical protection of nuclear power plants, the purpose of which is to prevent illegal acts against the nuclear facilities it oversees.” In designing and implementing a video security solution that would comply with and satisfy the Centre’s regulations, TVO deployed the Pelco System 9770 Series Matrix Switch as the installation’s backbone for a combination of more than 100 Spectra IV and Esprit integrated camera positioning systems.

The result is high-quality, detailed video that is necessary for the general protection of the plant and, in particular, its fence line and perimeter security. “The very nature of the environment in which the TVO facility



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is located presents a number of security challenges,” explains Jussi Mäki of the security office. “Not only are we situated near forests and coastlines, which result in the need for advanced perimeter security, but we also have to be aware of the challenges presented by construction currently underway of the new OL3 reactor. The installation of video surveillance has greatly reduced the need to deploy manned guard tours of the facilities. Instead, we regularly conduct camera tours, which improve our ability to better allocate our physical resources.” And in the future, taking advantage of thermal imaging technology, available in the Esprit Ti camera system, provides a powerful security capability during nighttime operations.

Petri Leppimäki says that guards follow the activity captured by the Spectra IV and Esprit camera systems on monitors located in the TVO security control room. Additionally, the cameras have been programmed to immediately alert security personnel to fence-line alarms, enabling issues to be quickly and effectively resolved.

...A Pelco Solution

Subjected to severe weather conditions, including temperature swings from -15°C to +5°C, condensation, heavy wind, rain and ice, Pelco Spectra IV and Esprit camera systems are able to withstand the elements and deliver the unparalleled video that TVO security professionals demand. And because Pelco offers a wide array of enclosures, including pressurized systems, the reliability of these advanced imaging systems is second to none.

“I’m able to get all of the equipment and functionality that I need from one manufacturer,” notes Leppimäki. “Pelco’s extensive PTZ camera range and especially



the numerous ways of installing it was probably the best fit for our needs.” According to Ville Laakkio, of integration company Niscayah, responsible for OL1 and OL2 plant security, “For this caliber of installation it is crucial that everything is well documented and product manuals are precise. Problem solving can be very difficult if you are not 100% sure where to start. Pelco manuals are reliable and most importantly, its products work out of the box.”

As important was the upgrade path that a Pelco solution offered. TVO security wanted the ability to transition to a network-based, IP platform in the near future and Pelco paves the road for such a migration strategy. By deploying a System 9700 Series Matrix Switch, TVO can easily take advantage of the flexibility afforded

through the Endura platform. Having already completed a feasibility study of such an upgrade, Endura is a natural extension to the existing system, providing network-based, distributed video management.

“I wanted to have the possibility in the future to upgrade to IP addressable technology. Pelco presented nicely the upgrade path from its Matrix Switcher to the Endura platform,” Leppimäki explains. “Live monitoring with hundreds of cameras and several monitors can be a challenge, so the system needs to be reliable. PC-based systems haven’t fulfilled our need. As a result, we have already completed a feasibility study of transitioning our current system to Endura.”

And that is the power of a Pelco solution: superior product quality and reliability as well as the flexibility to adapt to the changing needs of the application. As construction plans of the third TVO reactor move forward, Leppimäki and Mäki know that it will be able to use the same video security platform that is currently being deployed at the first two facilities. The Pelco solution is able to grow with the evolving nature of this application while providing the video security that such a high-profile installation demands.