

Training for *safety* Excellence



KHNP Executive Vice President, Quality & Safety Division Cheong-ro Yoon was executive sponsor for a safety culture training course delivered by COG for KHNP staff at various levels of the organization.

Korea Hydro & Nuclear Power (KHNP) is taking a stepped approach to achieve safety culture excellence over a decade-long period. One of many of initiatives to achieve this is the CANDU Owners Group nuclear performance safety culture training program.

The culture of the nuclear industry is continuous learning. It is what the World Association of Nuclear Operators (WANO) was premised upon at its inception. In an industry with high consequence risks and a challenge with public perception, it is also a business necessity.

In 2013, Korea Hydro and Nuclear Power (KHNP), recognized that safety culture was an area it needed to strengthen to ensure public and employee safety and to earn community and broader public support. And, as the utility's Executive Vice President of Quality & Safety, Cheong-ro Yoon says, "Quality is safety and safety is quality."

The company's plan for improvement in its safety culture is a long game. KHNP management recognizes true change, especially culture change, does not occur overnight. Its goal is not simply heightened awareness of its corporate staff. It wants to drive change through the organization and, eventually, it wants to become an industry leader.

"Ensuring safety and reliability is the most important aspect of our operations," Yoon says. "It should be supported by a strong safety culture across all areas such as design, con-

struction and operation of a nuclear power plant. Unless safety culture is firmly established and embedded in our operations, we can neither expect sustainable development nor win trust of the public."

KHNP developed a stepped plan for its safety improvement that takes the company from its journey beginnings in 2013 to its end date in 2022. The mid-to-long term plan includes:

- Annual execution plans;
- Safety culture training tailored to each position;
- Assessments to measure safety culture progress;
- Adoption of eight safety culture principles with 32 specific items; and
- Research & Development on safety culture.

As part of its training plan, KHNP looked to COG to deliver presentations and mentoring that would help it both inculcate safety culture and manage good safety performance.

The training, which occurred over a five-day period in July, 2016 at a KHNP office building in Gyeongju-si, Korea, was delivered in three parts: a two-day workshop for engineering



COG's John Froats (bottom, third from left) and John Sowagi (bottom, second from right), spent five days training three different KHNP employee groups on safety culture. The training is part of KHNP's vision to become industry safety leaders through a decade-long plan. KHNP EVP Cheong-Ro Yoon, (third from right, bottom) is the training sponsor.

staff from four of the KHNP sites; another two-day program for managers and then a one-day program for KHNP executives at the director and VP level.

The COG trainers were John Froats and John Sowagi. Froats is a nuclear engineering professor at the University of Ontario Institute of Technology (UOIT) -- a Canadian university, with a deep specialty in nuclear technology, and particularly CANDU.

Prior to becoming a professor, Froats had a lengthy career as a nuclear engineer including his work as Chief Nuclear Engineer at Ontario Power Generation and he is a past president of COG.

Sowagi, has spent his career developing human potential through leadership and industrial training. His work includes the development of COG's *Nuclear Professionals Development Seminar* program, which trains high-potential individuals leadership skills in preparation for the rigors of senior management.

Like the COG leadership seminars, the COG safety culture course KHNP attended was kept to small groups to allow meaningful dialogue; it used an industry leader (Froats) as a mentor and advisor to the class; and used case studies and real problems that would be encountered in the field.

The formula clicked for the participants who rated the program 4.8/5 on their feedback evaluations.

Yoon says the training gave KHNP a better understanding of

safety culture and ways to apply it in concrete ways.

"The COG safety culture training was very helpful in establishing the culture where pre-job briefing and pre-job safety training are conducted in a better way. Work is put on hold immediately and prompt action is taken if a safety-related issue is found," he says.

"The COG training helped us better understand the concept of safety culture and laid a foundation for applying safety culture from the textbook into our operations. We did this through analysis of the gap between management's commitment to safety and procedure compliance in the field."

The training served as a reminder of the importance of the 'zero safety accident' policy and, reinforced that "safe operation cannot be emphasized enough," says Yoon. "I look forward to continued support and cooperation not only from COG but also from other organizations such as PWROG, FROG, WANO and INPO and hope to continue exchanges with other licensees worldwide to improve safety culture."

Today, KHNP participants are students, committed to continuous improvement. One day, they intend to be industry leaders.

In interview with KHNP's EVP of Quality & Safety, Cheong-ro Yoon

KHNP EVP Cheong-ro Yoon sat down with COG Project Manager KiSang Jang a few weeks after the COG safety culture training session to talk about the company's plans for improving safety culture within the organization and equally throughout its power plants. Below are a few excerpts from that conversation:

Reinforcing safety culture

"KHNP internalized safety culture through the 'Nuclear Safety Statement' to achieve and maintain the highest level of safety, recognizing nuclear safety is closely related to organizational culture. In its Charter, KHNP specified requirements for a safety-first nuclear plant operation and committed to achieve safety excellence by maintaining a high level of quality in its safety systems. KHNP's commitment to the internalization of nuclear safety is well incorporated into the CEO's management expectation and corporate core values. In addition corporate executives reinforce safety culture frequently."

Assessing improvement in safety culture

"We strive hard to make safety culture take root in our organization by conducting a safety culture assessment for our employees, including contractors, every two years... Safety culture is assessed through survey, interview and observation. Weaknesses are identified and improved."

Checking understanding:

"Safety culture awareness of employees is assessed based on eight nuclear safety culture principles such as 'everyone is personally responsible for nuclear safety'. There are 32 specific items (that fall under the eight principles)."



COG Project Manager KiSang Jang (left) talks safety culture with COG seminar executive sponsor, KHNP EVP Cheong-ro Yoon.

Learnings on safety culture from the COG seminar

"I think we need to urgently resolve our current issues of ignoring risks by focusing on schedule and confucian culture, which can make it difficult for safety concerns to be raised by employees.

As EVP of the Quality & Safety Division, I realized again the importance of top management's attention to safety culture, leading by example, and creating an atmosphere where safety is considered as an overriding priority when conducting training and performing work."

A THREE-PHASED SAFETY CULTURE PLAN

Phase 1 (2013-2015): Establish the foundation for safety culture.

Phase 2 (2016-2018): Enhance safety culture.

Phase 3 (2019-2022): Lead a global safety culture.