



The Nuclear Dialogue

January 31

### What is Technical Conscience?

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by [Kenneth A Holt \(Services - 6\)](#) on 1/31/2019 9:15 AM

In the recently issued Revision 1 of INPO 10-005 "Principles for Maintaining an Effective Technical Conscience", INPO defines it as "the personal obligation that nuclear professionals internalize and exercise to ensure plant activities are conducted in a manner that is consistent with plant design and licensing basis, that ensures high reliability; and that preserves operating, design, and safety margins." In practical terms, it means:

- Engineers and technical staff use sound technical principles to produce high quality products
- Engineers and technical staff develop and maintain technical knowledge and proficiency in areas of plant design & operating limits, codes & standards, and technical programs
- Operations, Maintenance, RP/Chemistry, Engineering, and other plant staff routinely monitor plant conditions to identify design vulnerabilities, degraded equipment conditions, and reductions in design or operating margins
- All Nuclear Professionals identify, challenge, question, and advocate resolution of issues that affect nuclear safety or plant reliability
- Station and Corporate leaders at all levels respect and reinforce the importance of technical considerations with a consequence-biased approach in decision-making

The basic concepts that were present when INPO 10-005 was originally issued in 2010 remain in place. The most important changes that are part of Revision 1 are:

- Emphasis that Technical Conscience is not an *Engineering* program or process. Engineering is often the guardian of the plant design & licensing bases and is charged with upholding both, but the obligation of exercising Technical Conscience includes all Nuclear Professionals at all levels of the organization.
- Decision-making is rooted in using a consequence-biased approach. Promoting a culture where asking "What is the worst thing that can happen?" or "What if we are wrong?" is expected and using that input to mitigate or eliminate the risk of the proposed activity or response to a degraded equipment issue is valued. This is part of what I often refer to as "N+1" thinking.

"Principles of Maintaining an Effective Technical Conscience" is closely aligned with our Dominion Energy Nuclear Core Values, Nuclear Safety Policy, and Strategic Objectives. It is also a companion to other INPO fundamental principles documents such as:

- INPO 15-005, Leadership & Team Effectiveness Attributes
- INPO 10-004, Principles for a Strong Operational Focus
- INPO 12-012, Traits of a Healthy Nuclear Safety Culture
- INPO 15-011, Principles for Excellence in Integrated Risk Management

Over the coming months, we will perform a detailed review of the new INPO 10-005 Revision 1 to identify any gaps and develop any change management plans needed. We will also be conducting our every-four-year self-assessment of our Technical Conscience and Risk Management behaviors for the Dominion Nuclear fleet, using cross-functional and cross-site teams. Results from this assessment will be shared and corrective actions applied as needed.

We work in a highly technical business that requires adherence to the highest standards of safety and reliability. Understanding and applying the principles from INPO 10-005 will help us ensure we meet that requirement.

Thanks,

Dan

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