

FTCP FY09 OPSPLAN: Competency Development
Objective 1, Action 4: 3/16/09

Objective 1: Define and describe the key steps an individual should take following initial TOP qualification to achieve status as a DOE-recognized expert. (Dave Chaney)

Action 4: Evaluate external industry groups relative to Recognized Experts.

I. The following external groups were evaluated for designation of Recognized Experts:

1) The Institute of Nuclear Power Operations (INPO):

The Institute for Nuclear Power Operations (INPO) ACAD 97-014 (Rev.1, December 1998), National Academy for Nuclear Training Guidelines for Instructor Training and Qualification, defines **Subject Matter Expert (SME)** as:

- i. An individual qualified or previously qualified and experienced in performing a particular task. An SME may also be an individual who by education, training, and/or experience is recognized as an expert on a particular subject or system.**

The commercial nuclear industry typically only uses SME's or Recognized Experts in a training environment.

Manufacturer's, Nuclear System Steam Supplier (NSSS) or Architectural Engineer (AE) contractor technical representatives are used to resolve equipment or system operation technical issues. Those technical representatives become Recognized Experts through extensive experience in problem solving after having been certified or trained in that organization's internal program. These experts usually are certified by external organizations (ABIH, BCSP, or State PE programs)

2) Nuclear Energy Institute (NEI):

NEI refers to the use of ANSI/ANS-3.1-1993, titled "American National Standard for Selection, Qualification, and Training of Personnel for Nuclear Power Plants" and ANSI/ANS-3.2-2006, titled "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants.

There is no "Recognized Expert" designation within the commercial nuclear industry, rather Professional Engineer (PE) and independent body certifications are utilized.

- o Generally, positions at a Nuclear Power Stations require a minimum educational level and Experience duration requirements in that function (e.g., Plant Manager, Operations Manager,**

Maintenance Manager, Chemistry Manager, Radiation Control/Protection Manager).

- **Section 4.7 Independent Review Personnel comes closest to classification as “Recognized Experts”. Independent review, as required by American National Standard for Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants, ANSI/ANS-3.2, may be performed by either a standing committee or by a separately established organizational unit that does not report to the Plant Manager. Personnel assigned responsibility for independent reviews collectively shall have the experience and competence required to review problems in the following areas:**
 - (1) Nuclear power plant operations
 - (2) Nuclear engineering
 - (3) Chemistry and radiochemistry
 - (4) Metallurgy
 - (5) Nondestructive testing
 - (6) Instrumentation and control
 - (7) Radiological safety
 - (8) Mechanical engineering
 - (9) Electrical engineering
 - (10) Administrative control and quality assurance practices
 - (11) Training
 - (12) Emergency plans and related procedures and equipment.

Personnel who perform independent reviews may perform the reviews for more than one specialty area, provided they are competent in the areas they review. If sufficient expertise is not available from within the owner organization, independent reviews shall be supplemented by use of outside consultants or other qualified organizations. In those cases where independent review is performed by an organizational unit separate from the on-site operating organization, the qualifications specified in ANSI/ANS-3.2 shall apply to the supervisor of the organizational unit and to the staff specialists performing independent reviews.

3) **U.S. Nuclear Regulatory Commission:**

The NRC has a qualification and training program for NRR Program Managers, Discipline Engineers meeting OPM requirements, and NRC Region Resident Inspectors.

There is no “Recognized Expert” designation within the US NRC, rather Professional Engineer (PE) and independent body certifications are utilized.

- ***Regulatory Framework*** - The regulatory framework for reactor oversight consists of three key strategic performance areas: reactor safety, radiation safety, and safeguards. Within each strategic performance area are cornerstones that reflect the essential safety aspects of facility operation. These seven cornerstones

include: initiating events, mitigating systems, barrier integrity, emergency preparedness, public radiation safety, occupational radiation safety, and physical protection. Satisfactory licensee performance in the cornerstones provides reasonable assurance of safe facility operation and that the NRC's safety mission is being accomplished. Each cornerstone contains inspection procedures and performance indicators to ensure that their objectives are being met. For more detail, and listings of the inspection procedures and performance indicators within each cornerstone, please refer to [Inspection Procedures & Performance Indicators by ROP Cornerstone](#). Additional background information can be found on the [Detailed ROP Description page](#). The Office of Public Affairs has published a plain language description of the ROP in [NUREG-1649](#). The ROP-related program and policy documents are also conveniently summarized by subject area on the [ROP Program Documents page](#).

- <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>

4) U.S. Chemical Safety and Hazard Investigation Board

The Chemical Safety Board uses specialists hired under OPM categories and experienced industry professionals as functional experts. The specialists may attain State PE or independent board certification.

There is no "Recognized Expert" designation within the U.S. Chemical Safety Board, rather Professional Engineer (PE) and independent body certifications are utilized.

- http://www.chemsafety.gov/index.cfm?folder=contact_information&page=index

5) OSHA

OSHA uses specialists hired under OPM categories and experienced industry professionals as functional experts. The specialists may attain State PE or independent board certification.

There is no "Recognized Expert" designation within the US NRC, rather Professional Engineer (PE) and independent body certifications are utilized.

- <http://www.osha.gov/>

II. CONCLUSION. *The consensus of the 5 entities evaluated is that "Recognized Experts" may be used in a training environment as Subject Matter Experts, but that industry and regulators generally rely on internal qualification and certification programs or PE/Independent Body Certifications and Experience for operational/maintenance/functional expertise, without having a "formal" cadre of "Recognized Experts".*