

April 8, 2008

MEMORANDUM TO: Bruce S. Mallett
Deputy Executive Director for Reactor
and Preparedness Programs
Office of the Executive Director for Operations

FROM: Stephen J. Campbell, Senior Operations Assistant */RA/*
Technical and Regional Programs Branch
Office of the Executive Director for Operations

SUBJECT: SUMMARY OF DECEMBER 10, 2007, CATEGORY 2 PUBLIC
MEETING WITH THE INSTITUTE OF NUCLEAR POWER
OPERATIONS

On December 10, 2007, the Nuclear Regulatory Commission (NRC) senior managers met with members of the Institute of Nuclear Power Operations (INPO) senior managers to discuss nuclear-related issues. The meeting took place at the NRC Headquarters, Two White Flint North, located in Rockville, Maryland. The meeting was comprised of open and closed sessions. The public was invited to attend the open session. The purpose of the meeting was to exchange information regarding major activities that are underway or planned, to avoid unnecessary or unintentional duplication of activities, and to identify areas where independent activities by other organizations may be warranted.

The discussions included:

- (1) NRC Safety Culture Activities (Assessments, Expectations for Combined License (COL) Applicants/holders, Fuel Facilities);
- (2) New Plants;
- (3) Emergency Preparedness (EP);
- (4) Fundamentals Update;
- (5) Knowledge Management & Transfer; and
- (6) Training & Accreditation Update.

CONTACT: Stephen Campbell, OEDO/AO
(301) 415-1730

After brief opening remarks, INPO and NRC managers discussed the following issues:

- (1) **Safety Culture:** The NRC managers discussed efforts to better capture and evaluate safety culture at operating reactor, fuel cycle and new reactor facilities. This is accomplished by obtaining industry feedback, conducting NRC internal reviews and feedback from the Palo Verde 95003 inspections. It was also mentioned that a Calendar Year 2007 assessment of the Reactor Oversight Process for Safety Culture will be done. For fuel cycle facilities, NRC managers mentioned that NRC Regional Office in Atlanta (R-II) and the Office of Nuclear Materials Safety and Safeguards expected the first phase of Inspection Reports for fuel cycle facilities will capture safety culture insights, which are anticipated to be due in May of 2008. For New Reactors, NRC managers mentioned that safety culture assessment is being integrated into the construction inspection program, that the Office of New Reactors (NRO) is monitoring operating reactors approach to Safety culture and that NRO had sent an individual to assist in the Palo Verde inspection with a focus on cross-cutting, problem identification and resolution and working environment issues. Additionally, the NRC managers mentioned that two NRO personnel participate on the Agency Safety Culture Working Group.

INPO managers listed the Principles to a Strong Safety Culture in industry, which were:

- identifying that every individual is personally responsible for safety culture,
- leaders demonstrate safety,
- trust,
- decision making,
- recognizing that nuclear technology is unique,
- maintaining a questioning attitude, and
- the need to embrace safety culture.

INPO managers mentioned that Significant Operating Report 02-4, "Reactor Pressure Vessel Head Degradation at Davis-Besse Nuclear Power Station," documented the safety culture decline as a key event in shaping our path forward on safety culture. INPO managers stated that they had evaluated themselves after the Davis Besse Event. INPO managers stated that they had conducted plant evaluations for safety culture, developed the requisite safety culture assessment tools, and communicated safety culture improvement. INPO managers stated that a report would be issued in 2008. The INPO and NRC managers discussed potential impacts on plants from safety culture assessment and the need to be sensitive in this area and that it is important to effectively communicate safety culture issues.

- (2) **New Plants:** The NRC managers described several licensing activities that are ongoing in NRO. Additionally, they listed the following challenges in new plant construction:
 - Vendor Inspection Program - the international and domestic fabrication and the availability of components (vessel head forging, etc.) and the need to develop cooperative relationships;
 - Issues associated with construction inspection program associated with early site permits, Pre-COLs, and first-of-a-kind engineering;

- Training – evaluating whether COLs and Operations programs need to be defined as licensing programs; and
- The need to resolve Digital Instrumentation and Control issues.

The INPO managers discussed their benchmarking efforts for new plant construction which is documented in 07-003, "International Benchmark of New Reactors." INPO managers discussed their efforts to gain experience on plant start up from an extended shut down by having INPO personnel observe the recent Browns Ferry Unit 1, which had been shutdown for over 20 years, restart. Both the NRC and INPO managers discussed the need to integrate Knowledge Management efforts for new plant construction. Additionally, the managers discussed INPO's involvement on the reactivation of Watts Bar Unit 2 and efforts to gain experiences and understand industry impacts from that activity. Both groups discussed the possibility of rulemaking to license a suite of new reactor designs.

- (3) **Emergency Preparedness:** The NRC managers discussed the need to transfer EP knowledge through lessons learned from drills and exercises, through inspection findings and industry corrective actions. The NRC managers stressed the need for understanding the impacts of changes as well. Both groups discussed the importance of maintaining public confidence through outreach, and that internal and external stakeholder feedback and ensuring implementation of EP regulations are consistently implemented with appropriate risk balance. Several potential changes to EP activities were discussed that included hostile action based drills and exercises, and changes to rulemaking and emergency action level guidance. The NRC managers noted several examples of training problems that were discovered during drills and exercises and training problems.

The INPO managers briefly discussed the new EP department that has been established and the EP review visits that INPO has been conducting. INPO acknowledged many of NRC's comments and concerns and stressed the need to maintain consistency in implementing the regulations and that appropriate risk is assigned to EP findings.

- (4) **INPO Fundamentals Update:** INPO managers stated that exceptional (i.e., decreased unplanned plant shutdowns) industry operating performance has reduced operator experience with plant startups, shutdowns and reactor trips. INPO recognized the need to form an Operations Fundamental Group, which was part of their 2006 Business Plan. The group's focus was to improve operator fundamentals and, as a result, INPO had issued 06-002, "Human Performance Tools." In 2007, INPO conducted self assessments of the industry and developed Performance Indicators. INPO reported that improvement has been noted as verified by the Performance Indicators. INPO managers stated that industry fundamentals are needed in the areas of maintenance, engineering, radiation protection, chemistry, training and leadership. The INPO managers stated that in September of 2007, they had released the Leadership Fundamental document, which focuses on leadership and is covered by managers during fundamentals seminars and part of evaluations plans.
- (5) **Knowledge Management:** The NRC Managers discussed that Knowledge Management is critical for success and provided NRC staffing levels, current statistics on retirement, and loss NRC worker knowledge experience (i.e., 1000 years lost by the

end of 2007). The NRC managers discussed NRC's efforts to establish and institutionalize Knowledge Transfer and established directors to move it forward. A Knowledge Management tool that the NRC managers discussed included video capture interviews of departing the agency, an effort that may not be meeting expectations and therefore, alternative means are being sought. The NRC managers stressed that Knowledge Management Website would serve as a good communication tool, internal procedures on the topic are needed and are forthcoming, and rotational opportunities in different departments reinforce and expand knowledge. INPO mentioned that they inform several utilities on the Knowledge Management process and its benefits.

- (6) **Training Accreditation:** INPO senior managers discussed their findings on reviewing 196 programs at 33 plants. They had found that lesson materials had not been updated and weak program evaluations exist. To improve training, INPO senior managers stated that courses and seminars, for example, "Maintenance and Shift Manager Professional Development and First Line leadership," have been established and stated that there was an effective mix of Shift Managers and Maintenance Supervisors and an increase in mix of worker disciplines attending the courses and seminars. Based on feedback forms of the individuals who participated in the training, INPO reported there had been an increased improvement in job performance.

INPO senior managers indicated that online courses are available to take nuclear plant specific courses and INPO reported increased participation and good results.

Robert Myer, a member from the Professional Reactor Operator Society provided his comments concerning maintaining operator staffing levels and reducing procedure backlogs

Following the closed session of the meeting, James Ellis, INPO President and Chief Executive Officer and Luis Reyes, NRC Executive Director for Operations, signed a new Memorandum of Agreement between the INPO and the NRC. The Memorandum of Understanding updates the agency's previous agreement with INPO regarding activities related to new plants.

Enclosures:

1. List of Attendees
2. Meeting Handouts
3. Actions from December 10, 2007, INPO SMM

cc w/enclosures:

Institute of Nuclear Power Operations
Attn: James Ellis, CEO and President
700 Galleria Parkway, SE, Suite 100
Atlanta, GA 30339-5957

Institute of Nuclear Power Operations
Attn: Richard Purcell, Senior VP,
700 Galleria Parkway, SE, Suite 100
Atlanta, GA 30339-5957

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Atlanta, GA 30339-5957

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OFFICE	EDO:TRPS	EDO:TRPS	EDO:DEDR
NAME	SCampbell	TBloomer	BMallett
DATE	04/03/2008	04/03/2008	04/07/2008

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