February 16, 2010

MEMORANDUM TO: Edward Roach, Acting Chief
Health Physics Branch
Division of Construction Inspection
& Operational Programs
Office of New Reactors

FROM: Robert Kellner, Health Physicist **/RA/**
Health Physics Branch
Division of Construction Inspection
& Operational Programs
Office of New Reactors

SUBJECT: SUMMARY OF JANUARY 20, 2010, CATEGORY 2 PUBLIC MEETING WITH THE NUCLEAR ENERGY INSTITUTE TO DISCUSS HEALTH PHYSICS ISSUES FOR NEW REACTORS

On January 20, 2010, the Nuclear Regulatory Commission (NRC) staff held a teleconference meeting with members of the Nuclear Energy Institute (NEI) to discuss new reactor health physics issues. Enclosure 1 lists the meeting attendees.

A public meeting notice was issued on January 5, 2010, and was posted on the NRC's external (public) web page (Agencywide Document Access Management System (ADAMS) Accession No. ML100040299). The notice included the meeting agenda, which was also available as a handout at the meeting. The discussions included:

- General COLA/DCD Application Status and Lessons Learned
- Status of Industry Radiation Protection Templates
- Radiological Aspects of Construction and Pre-Operation
- Regulatory Updates and Perspectives
- Miscellaneous Topics of Interest

NRC provided status updates of COLA and DCD applications and lessons learned from the review process. Information provided included the Turkey Point, Bellefonte, Vogtle, South Texas, and Calvert Cliffs COLAs, as well as progress of the AP-1000, ESBWR, EPR, and USAPWR design applications. NRC also provided information concerning a generic issue with the level of detail provided in initial RAI responses which results in supplemental RAIs or additional follow-up with the applicant. The overall affect is an increase in the time required to complete the safety evaluation.

In response to a question by NRC during the December meeting, NEI stated that based on meetings between NRC and NEI over the past few weeks, a revised draft of NEI 08-02, Corrective Action Processes for New Nuclear Power Plants During Construction, should be submitted for NRC review during the 1st quarter of 2010. NRC asked if NEI has considered possible revision of the NEI 08-08A template to incorporate the latest industry initiative concerning buried piping. NEI stated that the industry buried piping initiative has not been finalized and that the effort is being lead by the NEI Engineering organization with input from Rad Protection. As the buried piping initiative is finalized, applicability to new reactors will be evaluated.

The NRC Hydrologic Engineering Branch (RHEB) provided copies, and an overview of the proposed Interim Staff Guidance (ISG) ISG-014 “Interim Staff Guidance on Standard Review Plan Sections 2.4.12 and 2.4.13 Assessing Ground Water Flow and Transport of Accidental Radionuclide Releases” which is available as ADAMS document number ML091320560. The ISG is scheduled to be made available for comment in the next few weeks and the FRN will be forthcoming. The FRN will also re-open DC/COL-ISG-013 “Interim Staff Guidance on NUREG-0800 Standard Review Plan Section 11.2 and Branch Technical Position 11-6 Assessing the Consequences of an Accidental Release of Radioactive Materials from Liquid Waste Tanks for Combined License Applications Submitted under 10 CFR Part 52” for an additional comment period.

NEI provided draft summaries of the discussions and understanding reached for two of the previously discussed radiological aspects of construction and pre-operation problem statements, and one new problem statement. The topics were; 1) Exposure of workers from a neighboring operational nuclear plant, and 2) Use of radioactive sources NOT covered under the COL, and 3) Training of the Engineering Procurement and Construction (EPC) Staff. The draft summaries and problem statement are included as Enclosure 2. NEI stated that based on discussions during the NEI RP Task Force meeting and with industry, further work is needed on the ‘Excavation & dredging of soils & sediments, and pumping of surface & groundwater’ problem statement to completely characterize all issues. NEI also noted that several of the originally identified topics are more business decisions (e.g. Rad Protection Staff Mobilization) rather than regulatory issues and suggested removing them from discussions. NEI also suggested that several of the original topics could be combined. NRC agreed with the assessment and NEI agreed to revise the list of topics and provide a proposed revised list at the next meeting. Discussion of ‘Exposure of workers from a neighboring operational nuclear plant’ identified that wording changes are needed in the understanding to clarify specifics on who has responsibility for monitoring and/or reporting construction worker exposure during each phase of pre-construction, construction, and pre-operation.

NRC stated that workshops to solicit input on the Part 20 and Part 50, Appendix I regulatory revisions for ICRP 103 will begin after the Regulatory Information Conference in March 2010. NRC asked NEI for suggestions on which industry meetings or venues would provide the best forum to solicit input. NEI stated that the NEI Health Physics Forum is scheduled for July 25-28, 2010 which would provide access to a large power reactor audience. NEI agreed to provide feedback to NRC concerning other upcoming industry specific meetings that represent other segments of the industry.

NRC stated that work has started on development of an ISG outlining the review criteria to support issuing Part 30, 40, and 70 license amendments to the Part 52 license. This ISG will provide the formal guidance to support information included in memorandum ML083030065 “Receipt, Possession, and Use of Source, Byproduct and Special Nuclear Material Authorized by 10 CFR PART 52 Combined Licenses”. NRC also provided updated information concerning the status of the staff evaluation of buried piping.

NEI provided information on a recent reorganization within NEI. Ralph Andersen has assumed the position of Senior Director and is now responsible for the overall radioactive materials program, and Ellen Anderson has responsibility for the RP task Force and power reactors.

The next meeting was scheduled for February 17, 2010. Subsequent to the meeting, NEI contacted NRC to cancel the February and March meetings due to limited industry participation during the upcoming outage season and multiple scheduling conflicts. The next meeting will be scheduled for April, 2010.

Enclosure:

List of Attendees
Construction and Pre-Operation Radiological Problem Statement *Draft*

cc w/encl: See next page

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Construction and Pre-Operation Radiological Problem Statement Draft

cc w/encl: See next page

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OFFICE	NRO/DCIP/CHPB	NRO/DCIP/CHPB (BC)
NAME	R. Kellner	E. Roach
DATE	02/16/10	02/16/10

OFFICIAL RECORD

Public Meeting with the Nuclear Energy Institute (NEI) Discussion of New Reactor Health Physics Topics January 20, 2010 Meeting Attendees			
Name	**Organization**	**Name**	**Organization**
Ed Roach	NRC – HQ		
William Smith	SNC		
Aaron Wilmot*	Westinghouse		
Richard Conatser	NRC – HQ		
Robert Kellner	NRC – HQ		
Ellen Anderson	NEI		
Steven Garry	NRC – HQ		
Tony Pilo*	Progress Energy		
Sara Bernal	NRC – HQ		
Mark Paul	Dominion		
Hosung Ahn	NRC – HQ		
Martin Phalen	NRC – HQ		
Ron LaVera	NRC – HQ		
Ed Stutzcage	NRC – HQ		
George Kuzo*	NRC - RII		

* By Telephone

Exposure of Workers

Problem Statement: Workers employed for construction of new nuclear power plants may be exposed to direct radiation and/or radiation from gaseous and/or liquid effluents from other licensed and non-licensed sources outside the scope of the Combined Operating License (COL).

Applicability of Regulatory Requirements:

- 10 CFR 19, "NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS."
- 10 CFR 20.1301, "Dose limits for individual members of the public."
- 10 CFR 20.1302, "Compliance with dose limits for individual members of the public."
- 10 CFR 19.3, " Definitions." :*Worker* means an individual engaged in activities licensed or regulated by the Commission and controlled by a licensee or regulated entity, but does not include the licensee or regulated entity.
- 10 CFR 20.1003 "Definitions": *Occupational dose* means the dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. Occupational dose does not include doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, from voluntary participation in medical research programs, or as a member of the public.
- 10 CFR 20.1003 "Definitions": *Member of the public* means any individual except when that individual is receiving an occupational dose.
- 10 CFR 20.1003 "Definitions": *Public dose* means the dose received by a member of the public from exposure to radiation or to radioactive material released by a licensee, or to any other source of radiation under the control of a licensee. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, or from voluntary participation in medical research programs.
- 10 CFR 20.1003 "Definitions": *Residual radioactivity* means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR part 20.

Understanding: It is the joint responsibility of the nearby operating nuclear power plant management, applicant, and engineering, procurement and construction contractor (EPC) to determine if workers employed for the construction of a new nuclear power plant are classified as "individual members of the public" or "occupational workers."

If these workers are classified as "individual members of the public" then the joint management listed above must demonstrate the requirements of 10 CFR 20.1301 and 10 CFR 20.1302.

If these workers are classified as "occupational workers" then the joint management listed above must demonstrate the requirements of 10 CFR 19.11, 10 CFR 19.12, 10 CFR 19.13, and 10 CFR.

Use of Radioactive Sources Not Licensed Under the COL

Problem Statement: Workers employed for construction of new nuclear power plants may be exposed to radiation from sources (e.g. radiography and soil density gauges) that are not controlled or monitored under Part 50 or 52 licenses.

Applicability of Regulatory Requirements:

- 10 CFR 19, "NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS."
- 10 CFR 20, "STANDARDS FOR PROTECTION AGAINST RADIATION."
- 10 CFR 34, "LICENSES FOR INDUSTRIAL RADIOGRAPHY AND RADIATION SAFETY REQUIREMENTS FOR INDUSTRIAL RADIOGRAPHIC OPERATION."
- 10 CFR 150, "EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274."
- 29 CFR OSHA

Understanding: It is the responsibility of the management of the workers employed for the construction of new nuclear power plants to ensure that their workers are provided awareness training commensurate with the hazards to which they are exposed per 10 CFR 19. In situations in which construction workers are exposed to radiation from soil density gauges or similar devices, radiation awareness training should be provided.

Licensees performing radiography are responsible for radiation safety requirements per 10 CFR 34 and/or state requirements.

EPC Training Requirements

Problem Statement: Workers employed by engineering, procurement, and construction contractors (EPC's), for the purpose of new nuclear power plant construction, must receive training commensurate with the hazards in which they could be exposed to on the construction site.

Applicability of Regulatory Requirements:

- **29 CFR 19.10**
- **10 CFR 19.12**

Understanding:

Nuclear Energy Institute

cc:

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