

June 2, 2006

MEMORANDUM TO: Christopher P. Jackson, Chief
Generic Communications and Power Uprate Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

FROM: Joseph A. Golla, Project Manager /RA/
Generic Communications and Power Uprate Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF APRIL 27, 2006, PUBLIC MEETING WITH INDUSTRY TO
DISCUSS RADIATION PROTECTION COMBINED OPERATING
LICENSE (COL) ISSUES

On April 27, 2006, Nuclear Regulatory Commission (NRC) staff met with representatives of Nuclear Energy Institute (NEI), and other industry representatives in a public meeting at NRC headquarters in Rockville, Maryland. The enclosure provides a list of those in attendance at the meeting and additional industry representatives who participated via teleconference.

At this meeting the NRC staff gave a brief presentation of the background of Draft Regulatory Guide DG-1145 and discussed the differences and similarities between Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 and Part 52 license reviews. NRC staff then engaged industry in a discussion of some of industry's concerns over what items should be included in Chapter 12 (Radiation Protection) of a COL application. This discussion was based on material presented by the staff in the March 15, 2006, DG-1145 Workshop. Some of the major issues discussed are described below.

Compliance with 10 CFR 20.1406 (Minimization of contamination) in COL applications

Industry representatives expressed the position that since the staff's evaluation of the Westinghouse AP1000 design control document (DCD) did not consider the design related aspects of 10 CFR 20.1406 (Minimization of contamination), then the staff could not expect COL applicants referencing the Westinghouse DCD to address the design related aspects of this requirement. Industry representatives stated that 10 CFR Part 52 contains provisions (10 CFR 52.63(a)(1)) to impose new requirements on the design certification and the NRC would have to use this process if it wants to apply this requirement to the Westinghouse AP1000 DCD. Westinghouse did say that COL applicants referencing the Westinghouse DCD would address the operational issues contained in 10 CFR 20.1406.

The NRC staff stated that 10 CFR 20.1406 has been a regulation since 1995 and, therefore, it is not a backfit to apply this regulation to a license application that was submitted after this date. In addition, the wording of 10 CFR 20.1406 states that it applies to applicants for a license and, therefore, would apply to a COL applicant.

With respect to the staff's statement that the COL applicant will have to comply with 10 CFR 20.1406, Westinghouse voiced the concern that the staff may require the COL applicant to commit to other regulatory guides and NRC technical report designations (NUREGs) that surfaced after the certification of the DCD. Westinghouse said that this trend would be contrary to and would serve to erode the whole Part 52 licensing process by raising new issues that should have surfaced and been resolved during the DCD review.

The NRC staff replied that this issue of 10 CFR 20.1406 being applied to COL applicants and not to the AP1000 DCD is an isolated case of a regulation not being identified during staff review of a DCD application and is not likely to happen again. Since the 10 CFR 20.1406 issue is a special case, there is little danger of similar cases like this arising. The staff stated that regulatory guides and NUREGs provide guidance and are not regulations.

Westinghouse said that if the NRC states that COL applicants must comply with 10 CFR 20.1406, Westinghouse would rather this requirement apply to the DCD vendor instead of the COL applicant. The DCD vendor could then describe how they plan to comply with the regulation and provide examples of how the plant is designed to minimize contamination, facilitate decommissioning, and minimize the generation of radwaste. Once the vendor generated a commitment to 10 CFR 20.1406 that was acceptable to the staff, that identical commitment could then be passed on to all the COL applicants that referenced that DCD and the DCD vendor would have to provide only one set of designs that would apply to all COL applicants referencing the DCD.

Locations of radiation monitors

Westinghouse raised the concern of why the NRC had indicated, in the March 15, 2006, workshop, that a COL application must include the locations of area, airborne radioactivity, and portal monitors on the plant layout drawings. Westinghouse stated that they thought that this issue had been closed out in the DCD for the AP1000 design.

The NRC staff stated that the DCD for the AP1000 only references general location of radiation monitors since exact locations were not known at the time of review. The staff noted that the guidance in Regulatory Guide 1.70 specifies a level of design detail regarding radiation monitors that includes locations of both area monitor detectors and airborne monitor sample collectors. This level of detail is needed for the NRC staff to be able to ensure that these monitors are accessible for maintenance and are located to accurately measure the local radiation levels (e.g. radiation monitors not obscured by shielding walls or components from the radiation that they were installed to measure).

Westinghouse stated that completion of plant design work (for the AP1000) has been carefully scheduled over the next several years to correspond with COL application schedules. Design work to accurately locate radiation monitors is still several years away. If Westinghouse were to redirect the design schedule efforts to specifically locate the radiation monitors at an earlier date (to align with the COL review) this could add additional costs and cause scheduling problems. Westinghouse suggested that instead of providing this information in the COL application, the staff can audit this information at some point at Westinghouse's offices.

Very high radiation areas

Westinghouse raised the concern of why the NRC had indicated, in the March 15, 2006, workshop, that a COL application must describe, show the locations, and provide isometric drawings of each very high radiation area. Westinghouse stated that very high radiation areas are shown on the DCD plant layout drawings and asked the staff why they wanted the COL applicant to provide detailed isometric drawings in the COL application.

The NRC staff responded that 10 CFR 20.1602 (Control of access to very high radiation areas) states that the licensee shall institute additional measures (over those measures required for control of access to high radiation areas) to ensure that an individual is not able to gain unauthorized or inadvertent access to very high radiation areas. To properly evaluate the controls established for very high radiation areas, the staff would like to see detailed isometric drawings showing the areas around very high radiation areas (including radiation monitor locations and physical access controls).

Westinghouse responded that instead of providing this level of detail in the COL application, Westinghouse would prefer that the NRC staff audit this information at Westinghouse's offices.

Reference to different versions of ANSI standards

Dominion questioned why Section 12.3.4 of DG-1145 referenced the 1993 version of American National Standards Institute (ANSI) N13.1 for effluent monitor design while Section 11.5 of DG-1145 referenced the 1999 version of this ANSI standard. NEI stated that if the NRC staff approved a DCD which referenced a specific ANSI standard and this standard was updated following certification of the DCD, this does not mean that the earlier version of the ANSI standard is no longer valid to reference or that the COL applicant must reference the revised ANSI standard in their submittal.

The NRC staff stated that the 1999 version of ANSI N13.1 is performance based and easier for the licensee to meet than the 1993 version (the 1993 version of this ANSI standard is very similar to the 1969 version, which is referenced in Regulatory Guide 1.70, Standard Format and Content for Safety Analysis Reports for Nuclear Power Plants). For this reason, Section 11.5 of DG-1145 references the 1999 version of ANSI N13.1. The NRC staff will revise the reference to ANSI N13.1 in Section 12.3.4 of DG-1145 to be consistent with the reference to this standard in Section 11.5 of DG-1145 (i.e., to reference the 1999 version of this standard). Likewise, the Acceptance Criteria sections of Chapters 11 and 12 of the revised version of the Standard Review Plan (SRP) will refer to the 1999 version of this standard as describing a basis acceptable to the staff to implement the requirements of 10 CFR Part 20. The AP1000 DCD referenced the 1969 version of ANSI N13.1. A COL applicant referencing the AP1000 DCD could either reference the 1969 version of this standard (by referencing the AP1000 DCD as the basis for a deviation from the acceptance criteria in the SRP) or could reference the 1999 version of the standard as is referenced in the SRP.

Incorporation of experience from past designs and operating plants

Industry representatives raised the concern of why the NRC had indicated, in the March 15, 2006, workshop, that a COL application must describe how experience from past designs and operating plants is used to develop an improved radiation protection design to ensure that occupational radiation exposures are as low as reasonably achievable (ALARA). Industry stated that the NRC staff should have evaluated this type of design information in the DCD submittal.

The NRC staff replied that the purpose of discussing this issue at the March 15, 2006, workshop, was to ensure that the COL applications included a commitment to review and incorporate, where applicable, operational experience from operating plants into their operational radiation protection programs. To the extent that design work is still being conducted during the COL application review period, it is expected that the vendor will continue to review and evaluate design changes/modifications that would serve to ensure that the plant is designed to maintain occupational radiation exposures ALARA.

The overall concern voiced by industry at this meeting was that, based on items discussed at the March 15, 2006, workshop, industry feels that the NRC staff is asking the COL applicant to address design issues in the COL application. The industry representatives stated that all design issues should have been dealt with in the DCD and only operational issues should be addressed in the COL application. Industry also stated that the list of items to be included in a COL application for Chapter 12 (Radiation Protection), which was presented at the March 15, 2006, workshop, contained numerous design related items.

The NRC staff stated that it is not the staff's intention in the COL review to reopen design issues that were closed during the DCD review. However, details of design could have a significant impact on the ALARA criteria and if sufficient detail is not provided in the DCD/COL for certain areas (e.g., location of area monitors and location of radioactive equipment/components within cubicles), the NRC staff may not have enough information regarding certain designs to make reasonable assurance findings.

The NRC staff and industry discussed the path forward regarding resolving written comments on DG-1145 for Chapter 12 and final issuance of the regulatory guide.

There were no public comments and the meeting was adjourned.

Project No. 689

Enclosure: As stated

Incorporation of experience from past designs and operating plants

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| NAME | CHawes - via email | CHinson | JGolla | CJackson |
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List of Attendees for April 27, 2006
Meeting of NEI and Industry and NRC

| NAME | ORGANIZATION |
|---------------------|---------------------|
| Andersen, Ralph* | NEI |
| Beard, J. Alan | GE Nuclear |
| Becker, Gary | Southern Nuclear |
| Bell, Russ | NEI |
| Cesare, Guy | NUSTART |
| Colaccino, Joseph | NRC/NRR |
| Dehmel, Jean-Claude | NRC/NRR |
| Ely, Richard | Enercin Services |
| Frye, Tim | NRC/NRR |
| Getz, Richard | Areva NP |
| Gilles, Nanette | NRC/NRR |
| Golla, Joe | NRC/NRR/DPR |
| Grant, Edie* | NUSTART |
| Hardin, Leroy | NRC/NRR |
| Hayashi, Yuichi | AP1000 Westinghouse |
| Hinson, Charlie | NRC/NRR |
| Kirstein, Eric* | General Electric |
| Maisler, Jay | Enercon Services |
| Meneely, Tim | Westinghouse |
| Morris, Marvin* | Enercon Services |
| Oesterle, Eric | NRC/NRR |
| Paul, Mark* | Dominion |
| Pedersen, Roger | NRC/NRR |
| Quinn, Dennis* | EPRI |
| Sterdis, Andrea | Westinghouse |
| Tarantino, Carl* | Dominion |

* Participated via teleconference

Enclosure

