

June 30, 2004

The Honorable George V. Voinovich, Chairman
Subcommittee on Clear Air, Climate Change
and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

During our meeting on June 3, 2004, we discussed a number of issues related to U.S. Nuclear Regulatory Commission inspector training and qualifications. The enclosure provides our response to your questions regarding (1) the inspector training program, (2) the training which was provided to the inspectors with respect to the Davis-Besse lessons learned, (3) the typical background/experience, demographics, and salary structure for inspectors, and (4) the background of the current Davis-Besse inspectors compared to the background of the inspectors prior to the event.

Thank you for the opportunity to discuss with you the lessons learned from the Davis-Besse event. Please do not hesitate to contact me if I can be of further assistance.

Sincerely,

/RA/

Nils J. Diaz

Enclosure:
Response to Questions Regarding
NRC Inspector Training and Qualifications

Response to Questions Regarding NRC Inspector Training and Qualifications

NRC inspector training program

The NRC inspector training and qualification program is designed to ensure the development of competency in the four general areas of (1) technical expertise, (2) legal basis and regulatory processes, (3) regulatory practices, and (4) personal and interpersonal effectiveness. The inspector qualification process begins with the basic-level program, which typically takes several months to complete. At the basic level, individuals work on activities that will introduce them to the regulatory framework, fundamental plant design and operation, information technology, emergency response, communication, and inspection. Upon completion of all of the requirements in the basic-level training area, the individual will be certified as qualified at the basic level by their immediate supervisor. This basic inspector certification, along with an individual's past experience, ensures that an inspector is fully capable of performing quality reactor inspections.

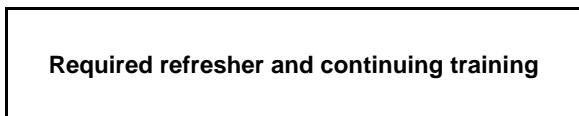
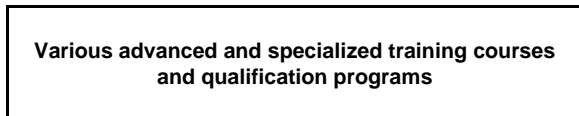
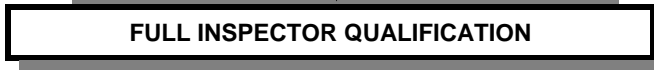
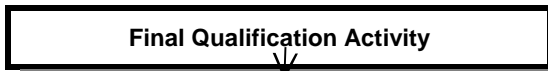
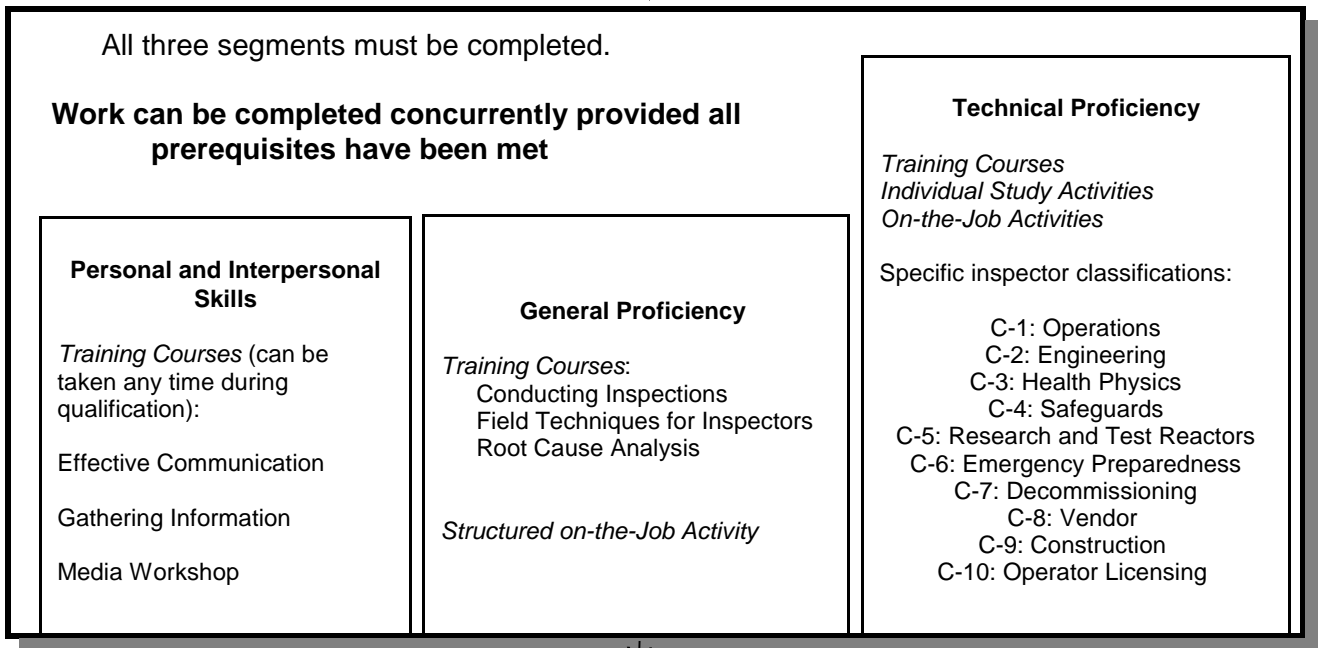
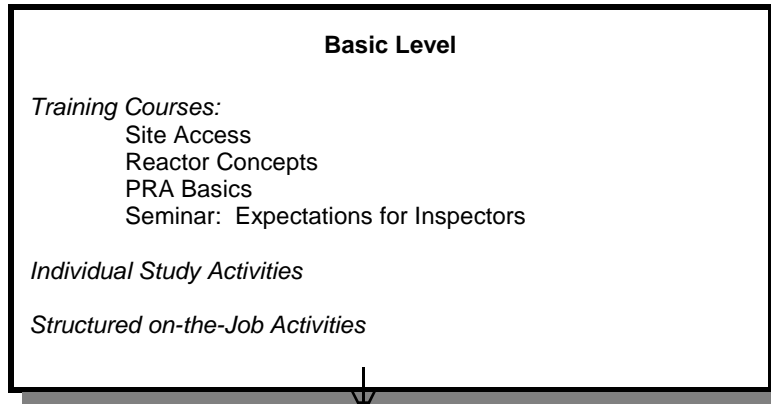
Successful completion of the basic level is a prerequisite to beginning the full inspector qualification. Two aspects of inspector performance are addressed at this level, general proficiency and technical proficiency. General proficiency focuses on developing the inspection, teamwork, and the interpersonal skills needed by an inspector to function either independently or as part of a team to implement the inspection and oversight program. Technical proficiency focuses on developing the appropriate depth of knowledge in one of the specific technical areas (operations, engineering, health physics, safeguards, research and test reactors, emergency preparedness, vendor inspection, construction inspection, and operator licensing). Technical proficiency training activities are unique to each of these specific areas. Full inspector qualification also requires the completion of training courses in the personal and interpersonal skills areas.

For final qualification a qualification board evaluates the ability of an individual to integrate and apply the knowledge, skills, and abilities needed to perform at this level of proficiency. The qualification board evaluation includes an oral examination. Finally, the qualification board submits its recommendation to the regional administrator or office director for certification. Once fully certified, an inspector may independently perform assigned activities with routine oversight and supervision.

In most cases, additional specialized and advanced training is not a required part of the qualification program. Some fully qualified inspectors may complete more advanced training beyond the level of the qualification program if such training is consistent with the needs of the agency or with individual professional development goals. All inspectors are required to complete continuing and refresher training to maintain their qualification. Continuing training addresses changes to the program, provides lessons learned from recent industry and agency activities, and provides more in-depth knowledge in areas that are covered in initial qualification training. Refresher training is designed to maintain the overall level of inspector performance by readdressing areas that were covered in initial qualification training. The overall sequence of the inspector training and qualification program is outlined in a flow chart on the next page.

Enclosure

Inspector Training and Qualification Program Sequence



Training provided to NRC inspectors with respect to Davis-Besse lessons learned

In response to the recommendations made by the Davis-Besse Lessons Learned Task Force, several enhancements have been made to the inspector training program. From a program perspective, a new Web-based "read and sign" training process was developed which allows inspectors to complete training modules from a remote location. This method of training gives inspectors faster access to information. They no longer have to wait for revisions to formal classroom courses. Since implementing this training method last year, the NRC has issued five training modules. The modules range from specific technical issues such as the effects of boric acid corrosion, to more general subject matter, such as lessons learned from the Columbia space shuttle accident. In the case of the Columbia training, the Web-based training was followed up with a presentation and discussion in each of the regional offices, stressing the importance of a strong corrective action program.

The NRC is also adding a requirement for periodic refresher training on the reactor oversight process. The first session was conducted in May 2004 and was led by a senior manager from headquarters. The intent of this periodic training is to improve and consistently implement the reactor oversight process, address areas of identified deficiencies, and maintain the overall level of reactor oversight program performance. In addition, as a result of the Davis-Besse event, several other Regional initiatives have been undertaken by the various Regional offices, such as increased focus on a questioning approach to licensee practices, discussion of good inspector techniques, sharing of events during staff meetings, and increased emphasis on inspectors being aware of industry operating experience.

NRC inspector background/experience, demographics, and salary structure

Resident inspectors are normally hired into the regional offices and remain there until they have completed basic certification training as described above. The regional offices assign inspectors to sites under the tutelage of a senior resident inspector. Typical resident inspectors fit the following profile: they are college graduates (some hold graduate degrees) who have acquired relevant experience from the commercial nuclear power industry and/or Nuclear Navy experience. In calendar year 2003, 27 new resident inspectors entered the program. On average, these 27 resident inspectors had approximately 9 years of relevant non-NRC experience. Also, in calendar year 2003, the average resident inspector had more than 5 years of NRC experience (over 10 years of relevant non-NRC experience) and the average senior resident inspector had more than 11 years of NRC experience (over 8 years of relevant non-NRC experience). In calendar year 2003, only one resident inspector left the NRC, indicating that inspectors are not leaving the inspection program but instead are being promoted or reassigned elsewhere in the agency. In order to recruit and retain qualified resident inspectors, the NRC established a special salary schedule in 1981 for inspectors at nuclear power plants. The special salary schedule provides higher pay for resident and senior resident inspectors. For 2004, resident inspector pay levels range from \$55,904 to \$104,071, excluding locality pay, which could be as high as 23 percent of base pay.

Background of Davis-Besse Inspectors

Current Inspectors:

Position	Education	Inspector Dates	Other Experience
Senior Resident Inspector	MS Environmental Engineering and BS Marine Engineering Systems	Qualified inspector July 1998; assigned to site January 2002	U.S. Navy, nuclear shift test engineer and supervisor at Norfolk Naval Shipyard (qualified on 3 different reactor plants), currently a lieutenant commander in the Naval Reserve and holds a U.S. Coast Guard third assistant engineer license for steam and diesel plants.
Resident Inspector	MBA, MS Nuclear Science and Engineering, BS Engineering	Qualified inspector September 2003; assigned to site June 2003	U.S. Navy and more than 25 years of nuclear utility experience, including assistant plant manager and other positions. Has been with NRC since August 2002.
Resident Inspector	MS Nuclear Engineering, BS Chemistry	Qualified inspector August 2003; assigned to site September 2003	2 years with nuclear utility and has been with NRC since May 2002.

Inspectors at Time of Event:

Position	Education	Inspector Dates	Other Experience
Senior Resident Inspector	BS in Engineering	Qualified inspector in 1995; assigned to site May 1995 (resident 1995-1999; senior resident 1999-2001)	U.S. Navy, then joined NRC in November 1994 as reactor engineer.
Resident Inspector	MS in Environmental Engineering Sciences, BS in Zoology/Biochemistry	Qualified inspector July 2000 (previously qualified materials inspector); assigned to site October 1999 (left site May 2003)	U.S. Navy, senior reactor operator license (research reactor), manager of the University of Florida Training Reactor (faculty), joined NRC in 1998 and qualified as uranium recovery/radioactive materials inspector until assignment to Davis-Besse in October 1999.