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OFFICE OF SECRETARY
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Secretary,
U.S. Nuclear Regulatory Commission
Attn: Docketing and Service Branch
Washington, D.C. 20555

Gentlemen and Ladies;

We have read with concern the proposed amendments to the Nuclear Regulatory Commission regulations governing industrial radiography, Title 10, Code of Federal Regulations, Part 34 which appeared in the Federal Register, February 28, 1994, on pages 9429 through 9448. Whereas some of the proposals are welcomed changes, a few are unacceptable to the Navy program which is, by design, vastly different than land-based organizations typically encountered. It is recognized that enhancement of safety is paramount in any industrial setting, however, it is also evident that one may reach a point where additional or enhanced safety requirements will add no value to a well functioning program. It is disheartening to note that some of the proposed enhancements appear to represent an attempt to regulate poorly managed programs by universally applying more stringent regulations instead of narrowing the focus to the perpetually troublesome types of organizations. In addition, NRC is currently conducting a program to eliminate requirements that are marginal to safety and yet impose a regulatory burden. These new requirements are in conflict with these objectives.

Navy has established a remarkable record in industrial radiography radiation safety despite the diversity of its radiographic operations which are sometimes performed under genuinely challenging conditions. There have been no overexposures to workers or to the general public from radiography performed under the auspices of Navy's Master Materials License. In fact, the vast majority of radiography personnel have incurred annual exposures less than the previous annual limits allowed members of the general public. This exemplary record of safe conduct has been achieved by aggressive training and effective management oversight along with various self-imposed checks and balances. Navy has also been a forerunner in supporting and instituting proposed NRC rulings when they provide measurable benefit and value.

Navy objects to two aspects of the proposed amendment; the requirement for radiation safety officers (RSOs) to be certified radiographers with two thousand hours

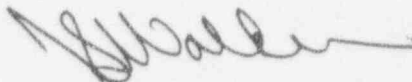
experience in radiographic operations, and procedures for third party certification of radiographers, including the mandated 520 hours of direct hands-on experience with radiography sources and devices. Neither of the requirements is considered warranted given the established Navy record. In addition, neither is achievable without dramatic alteration of radiographer career training paths and accompanying high costs. The radiographer and RSO experience requirement alone could have a severe impact upon the operational readiness of the fleet since most shipboard radiographers and RSOs cannot normally amass the proposed experience at that point in their careers. The safety of Navy radiography operations is maintained through close supervision and oversight by senior personnel in the ship's chain of command. In addition, RSOs at major shore installations are usually professional health physicists or radiation safety technicians who are not, and should not need to be certified radiographers in order to recognize and react to a hazardous situation. We believe the regulations should recognize the acceptability of other relevant radiation safety experience. Additionally, in lieu of independent third party certification, the regulations should allow a holder of a Master Materials License to administer its own certification program. As we have indicated previously, the Navy views itself much in the same light as an agreement state in terms of scope and sophistication of program. Consequently, the Navy should be allowed to certify its radiographers much as agreement states will be allowed to do under the new regulations. These points and others on the proposed amendment are discussed in detail in enclosure (1).

Navy firmly believes that its programs for radiographer and RSO training and qualification are among the finest. The programs have withstood innumerable inspections from the NRC, the Navy Radiation Safety Committee, and each facility's chain of command. Inception of the new rule in its present state would necessitate dramatic restructuring and lengthening of the qualification process for radiographers and RSOs and result in needless expenditure of taxpayers' dollars. This is not a desirable option in these austere economic times.

Navy entrusts NRC to consider the points herein and reconsider the proposed amendment. There appear to be options available which would afford enhancement of radiographic safety

commensurate with current safety requirements of other risky occupations without causing an unnecessary costly administrative burden on organizations which have demonstrated excellent compliance.

Sincerely,



J.S. WALKER
Rear Admiral, U.S. Navy
Chairman, Navy Radiation
Safety Committee

Enclosure:

- (1) Comments on NRC proposed amendments to 10 CFR 34 with attachment

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Comments on Nuclear Regulatory Commission
Proposed Amendments to 10 CFR Part 34

BACKGROUND. Both military and civilian Navy radiographers, on repair ships and shore repair facilities, are part of a multidiscipline non-destructive testing (NDT) capability. They also qualify and function in other NDT disciplines such as x-ray radiography, liquid penetrant, ultrasound, magnaflux, etc. The repair workload and need for any particular NDT technique are governed by such factors as fleet operations, age of the ships, the type of ship under repair, and potential combat scenarios. As such, most Navy radiographers do not perform gamma radiography as frequently as radiographers at commercial firms. Only 10 percent of a military radiographer's and 30 percent of a Navy civilian radiographer's NDT time is spent conducting gamma radiography. Thus, the length of time to amass the necessary number of "direct hands-on" experience hours for consideration as qualification to be a radiographer or radiographic safety officer is necessarily very long. Any increase in tempo of operations merely to accumulate "direct hands-on" experience is not in consonance with the principle of ALARA. Moreover, modification of career paths to divert potential radiographers to faster paced scenarios specifically for the purpose of gaining more "direct hands-on" experience will result in great expense in the form of temporary duty compensation and an increase in the employment base to maintain the necessary staffing level in the fleet. In either case, it will be extremely difficult and very impractical under the proposed rule for Navy to qualify radiographers for third party certification and as radiographic radiation safety officers.

1. Proposed 10 CFR 34.42 - Radiation Safety Officer. This section establishes the qualification requirements and duties of a Radiation Safety Officer. Navy concurs with the codification of the duties of the Radiation Safety Officer (RSO). However, Navy opposes the accompanying proposed qualification requirements of part 34.42(a)(1) and (2) which state that the RSO be a certified radiographer with two thousand hours of documented experience in industrial radiography operations, and at least 40 hours of formal classroom training with respect to establishment and maintenance of a radiation protection program. This new requirement precludes the use of personnel other than radiographers as RSO and thus excludes a large, very capable pool of Navy personnel.

Navy has maintained it's exemplary safety record in industrial radiography in part through the assignment of health physicists and radiation safety specialists as RSO for gamma radiography programs. These personnel receive eighty hours formal training in NRC and Navy regulations and radiation protection principles prior to being approved by the Navy Radiation Safety Committee as the RSO for a particular program. Navy has found that assignment of personnel other than

radiographers as RSO provides far better oversight and more effective internal auditing of the radiography program. Navy RSO's are included in the management structure and, as such, have significant independence from the production aspects of the organization. To insure this structure, Navy gamma radiography permits require that the RSO have direct access to upper management and the authority and responsibility to stop any operation considered unsafe.

Review of documented radiography accidents in NRC information notices indicates that most accidents have been directly or indirectly attributable to production concerns and always involve misjudgment, improper action, or faulty supervision by a senior radiographer. Thus, assignment of an experienced radiographer as RSO does not necessarily ensure verbatim compliance with federal regulations. Navy feels that assigning responsibility for gamma radiography oversight to a radiographer could result in subverting safety concerns in favor of production concerns. For example, if the RSO were influenced by production pressures, the RSO could conceivably be coerced into conducting gamma radiography under unsafe conditions. This type of pressure is unlikely to occur if the RSO were not affiliated with production. Additionally, Navy manning authority is unlikely to condone assigning scarce experienced radiographers to purely staff positions as RSO.

In all cases where Navy has assigned an RSO who is not a qualified radiographer, Navy has required that the facility assign a person who is a qualified radiographer as the Assistant RSO (ARSO). This ARSO is responsible for daily operation and supervision of the radiography program including direction of any manipulation of the source. As historical perspective, the attachment to enclosure (1) is the approval of this training and experience criteria by the Nuclear Regulatory Commission prior to the issuance of the NRC Master Materials License to the Navy and is the basis for Navy permit actions.

The NRC discussion of the proposed rule states "these requirements were previously referenced in regulatory guides. It is anticipated that most existing RSOs already meet these requirements." However, NRC Reg Guide 10.6, Rev 2, Item 7, states that the individual responsible for day-to-day management of the radiography program should be a radiographer with at least one year experience. This individual who is assigned daily supervision of the radiography operations is the ARSO in most Navy organizations. Nowhere in this regulatory guide does the term "RSO" appear, thus, NRC's assumption of currency appears misinformed.

NRC Information Notice No. 88-66 states in part "Moreover, the NRC will not excuse licensee employee violations in radiography operations because management was unaware of the violations...." NRC Information Notice No. 87-45 states in part "This notice is being issued to inform recipients about recent

safety-related violations of NRC requirements. These occurred during industrial radiographic operations and could have been prevented by proper management control action...." To properly exercise control, Navy feels it is imperative to provide management the flexibility to choose an RSO based on radiation protection expertise and ability to oversee all aspects of a program not on their demonstrated technical ability to operate an exposure device. Furthermore, as previously stated, the radiography experience requirement excludes health physicists and radiation safety professional from being assigned as RSO unless they are required to devote an extensive period of their career in the discipline of radiography.

It appears that the proposed rule mainly addresses small radiography companies. Since small companies would not normally be expected to be financially able to hire both radiographers and radiation safety specialists, it follows that these very small companies would use a radiographer as RSO. Large organizations with expansive operations will most likely find this rule unnecessarily limiting.

Navy highly recommends that the proposed rule be amended to modify the requirement that the RSO be a certified radiographer with 2000 hours experience in radiographic operations. Navy recommends that qualification of the RSO continue to require the 40 hours of formal classroom training with respect of the establishment and maintenance of a radiation protection program, the training required by proposed part 34.43(f)(1) through (5), and that the RSO be a radiation professional with one year of radiation protection experience similar to the RSO requirements of Part 35.

2. Proposed Appendix A to Part 34 - Radiographic Certification. Part I of this section provides the proposed requirements for an independent certifying organization for radiographers. Part II provides the proposed requirements for certification of radiographers. Part III provides proposed requirements for written examinations. It is our understanding that the only organization presently authorized to certify radiographers is the American Society of Non-Destructive Testing (ASNT). Furthermore it is our understanding that ASNT requires documentation of 520 hours of "direct hands-on" radiographic operations prior to certification.

a. Navy concurs with the concept for certification of radiographers. However, Navy strongly objects to the requirement to have an independent organization certify Navy radiographers. In the discussion of the proposed rule, NRC notes there are approximately 200 NRC radiography licensees and another 500 agreement state licensees. The proposed appendix A sets a precedent by allowing agreement states to conduct their own certification programs. Navy, under the Master Material License, issues 40-45 Navy radioactive materials permits for gamma radiography as well as 150 others for diverse activities.

The existence of the Navy Radiation Safety Committee and its subordinate Technical Support Center lays the foundation for Navy to successfully and credibly conduct its own radiographer certification program. Eight years of annual NRC reviews have proven Navy to have a viable and enviable program. As the Technical Support Center now reviews all NRMP applications, conducts formal inspections, and formally investigates and reports all incidents with radiographic devices, they would also be tasked to act as an independent certification entity using the guidelines promulgated by NRC. As such, Navy strongly recommends that alternative certifying entity options be made available to other than agreement states and that they be addressed in the proposed amendment.

b. Proposed Appendix A, Part II.2.(b) requires that applicants for certification provide documentation that demonstrates satisfactorily completion of a minimum period of 520 hours "direct hands-on" training. Prior to publishing this proposed amendment, the definition of activities considered to be included during "radiographic operations" was left to licensees. The proposed part 34.3 now defines the term "radiographic operations" as all activities associated with the presence of radioactive sources in a radiographic exposure device during transport and use of the device, to include surveys to confirm the adequacy of boundaries, setting up equipment, and any activity inside restricted area boundaries. It should be noted that, by this definition, it is possible that persons could become eligible for certification as a radiographer by accumulating 520 hours of transporting a source, surveying boundaries, and carrying equipment for a radiographer without ever once actually having been required to set up the equipment and properly conduct a radiography shot with attendant safety and survey requirements. Furthermore, the definition allows certification without ever having conducted a radiography source exchange changeout.

Navy highly recommends that any "direct hands-on" hour requirement be replaced with a requirement to have participated as a radiographers assistant (RA) for at least ten operations under the direct supervision of a certified radiographer. These operations should include; conducting a source exchange, and conducting a temporary jobsite radiography exposure including the setup, exposure of the source, retraction of the source, and attendant actions and surveys required by 10 CFR 34. Presently, Navy commands conducting gamma radiography require prospective radiographers to successfully complete operations under the observation of a radiographer. Furthermore, the radiographer must sign off a qualification card indicating that the RA has demonstrated competence in varying facets of operations. Navy proposes that the application for certification as a radiographer include

endorsements that at least ten operations have been successfully completed, and an evaluation of the RA's performance on his/her last operation prior to scheduled certification testing.

3. Proposed 10 CFR 34.23(b). The first sentence should be changed to read "... before being moved from one location to another where temporary restricted barriers are reestablished..." This change will clarify that it is not necessary to disconnect all guide tubes and install safety plugs to move an exposure device a few feet within the same restricted area. Newly engineered equipment modifications, required by the date this rule will become effective, and the act of locking the exposure device after an exposure should be sufficient to ensure safe operations.

4. Proposed 34.33(b) requires a check of the alarm system by "turning on the exposure device." Exposing the source for the purpose of checking the warning systems is an unsafe practice and not in consonance with ALARA. Navy alarm systems are tested by holding the locked fully shielded exposure device near the detector of the alarm system, a much safer practice. Recommend modifying the second sentence of the proposed rule to read "The test must include a check of the visible and audible signals by activating the alarm system with a radiation source before the room is used."

5. Proposed 34.47(a)(3). This section adds a requirement to process film badges and thermoluminescent dosimeters (TLDs) monthly as a safeguard against the potential for overexposures. The Navy does not concur with monthly TLD processing as it would have little additional safety value and significantly increase operating costs.

The required pocket dosimeter is already an excellent safeguard against overexposures. Pocket dosimeters serve two functions in this role, immediate detection of a potentially serious problem and a means to estimate exposure until the TLD is processed. The Navy has long used pocket dosimeter procedures that meet the new requirements and has had no difficulty tracking potential exposures and preventing overexposures. In addition, Navy routinely requires two pocket dosimeters be worn during radiography except in certain work areas where the TLD is read daily, after each shift.

The responsibility of ensuring a radiographer does not exceed the federal exposure limits rests with the licensee. To accomplish this, sound business practice should cause management to evaluate each individual worker's dosimeter records on a frequent basis and modify the workload appropriately. Processing TLDs monthly will not compensate for management shortfalls in providing sufficient oversight. Navy has found that the best tool for monitoring radiographer exposures on a job by job basis is the pocket dosimeter record.

Navy radiography programs process TLDs every seven weeks and have not experienced any problems with the TLD processing frequency overlooking potential overexposures. Furthermore, ships can opt to extend the wearing period for a greater duration when deployment prevents ready access to processing facilities. Monthly processing of TLDs, vice the current seven week cycle, would result in a 50 percent increase in dosimetry processing costs. This is a significant amount of money considering Navy has approximately one thousand radiographers monitored annually. The periodicity for processing dosimetry should be determined by the design ability of the dosimeter to accurately determine dose. Current TLDs will accurately reflect dose out at least three months. Highly recommend that the proposed regulation be modified to require TLDs be replaced at least quarterly.