



ADVANCE MEDICAL & RESEARCH CENTER, INC.

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PONTIAC, MICHIGAN 48057

313-373-8120

June 23, 1982

Docketing & Service Branch
Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Division 8
Task OP 722-4

DOCKET NUMBER
PROPOSED RULE



PR - Misc Notice
Reg Guide

Gentlemen:

Enclosed are my comments on Qualifications for the Radiation Safety Officer in a Large-Scale Non-Fuel Cycle Radionuclide Program. I realize that this regulation covers all radiation safety from the small facility to the large facility but I do not feel that it addresses the various sizes of clinical laboratories.

Most clinical laboratories are using prepackaged radionuclide kits for invitro testing which are of the order of 10 u Ci/kit. There is no preliminary preparation of these kits, they are used as is. These kits constitute probably 95% of all the radioisotope kits used in the clinical laboratory.

Rules and Regulations should be clearly stated, marked, adheared to and records maintained on background counts, wipe tests, badge monitors and waste disposal.

Where invitro testing of prepackaged kits is concerned there should be a radiation safety committee which sets up the safety procedure then continues to oversee it.

If any further monitoring is necessary, then consider the services of Health Physicist on a consultant basis. As the types of isotopes increase, tagging of substances with isotope increases in vivo testing of patients, then a full time Health Physicist should be retained.

Sincerely,

John Pappas
Chief Biochemist
ADVANCE MEDICAL & RESEARCH CENTER, INC.

JP/jsh

Acknowledged by card

6/29/82 mdy

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PDR REGGD
08-XXX C PDR

Add: Ed Hill
5650 NL



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
BOLLING AFB DC 20332

WSTH

23 JUN 29 20:13

23 June 1982

REPLY TO AFMSC/ SGPZ
ATTN OF BROOKS AFB TEXAS 78235

SUBJECT Qualifications for the Radiation Safety Officer in a Large-Scale Non-Fuel-Cycle Radionuclide Program

TO Secretary of the Commission
U.S. Nuclear Regulatory Commission
ATTN: Docketing and Services Branch
Washington DC 20555

DOCKET NUMBER
PROPOSED RULE PR-Misc Notice
Reg Guide

1. The following comments are offered on the proposed Regulatory Guide Qualifications for the Radiation Safety Officer in a Large-Scale Non-Fuel-Cycle Radionuclide Program, Task OP722-4, April 1982:

a. Reference to certification by the American Board of Health Physics implies that only certified health physicists will be considered as a qualified Radiation Safety Officer (RSO). Request clarification.

b. The definition of "large" programs as one which calls for a full time professional implies that the proposed guide will be applicable to all licensed programs as all licensed programs require a full time RSO. Coupled with the ambiguity of "combination of the number of workers involved" and "the amount or form of the radioactive material" leads to speculation as to what type of programs will be expected to conform to the proposed guide, if adopted. A more complete definition of "large" programs is needed to preclude arbitrary interpretations.

c. The proposed guide indicates that experience need not be gained in large programs but may be gained in programs "similar in kind and scope". The redundancy should be eliminated.

d. As 10CFR35 is referenced, a clarification is required for RSO's in nuclear medicine operations. The current NRC "staff position" (licensing) is that personnel will be required to meet the criteria of Regulatory Guide 10.8, Appendix A, paragraph 2a and 2b, which is far from meeting the criteria of the proposed guide and offers little toward radiation safety.

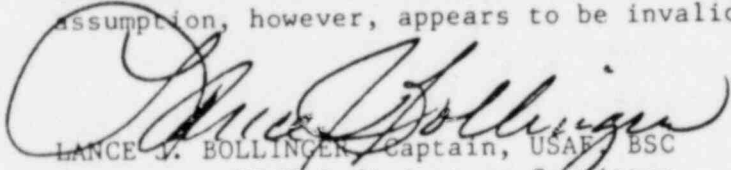
e. The characteristics of qualifying RSO's delineated in Appendix A of the proposed guide appear to be highly subjective. Clarification is needed as to the manner in which the NRC intends to evaluate these required characteristics in an objective manner, and the degree of detail in supporting documentation required when submitting applications.

Acknowledged by card. 6/29/82.mdv

Add: Ect Hill
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f. Any benefit derived from implementation of the proposed guide should be more specific and not couched in vague terms as "definite benefit" and "likely benefit". The creation of an artificial shortage of "qualified" personnel through regulation to achieve some undefined, if any, dose reduction is questionable.

2. It is with great concern that the minimum qualifications required of individuals to fill licensing review and inspection positions are noted (see attachment). It is not unreasonable to expect individuals within licensing review and inspection to meet the same criteria imposed on licensees to insure an effective, and efficient, radiological safety program. This assumption, however, appears to be invalid.



LANCE J. BOLLINGER, Captain, USAF, BSC
Secretary, USAF Radioisotope Committee
Office of the Surgeon General

1 Atch
Health Physics Society
Newsletter, May 82,
p. 14

Medical College of Georgia, Department of Radiology, Augusta, GA 30912.

Attn: Jon H. Trueblood, Ph.D., Chief, Medical Physics Section, 404 828-3036.

Description: Radiation Safety Officer. Responsible for two hospitals with 1,000 beds and 50 x-ray rooms, the Augusta area-wide Radiation Therapy Center, and research facilities with 100 principal investigators. Applicants must possess an MS degree and have experience. A PhD and/or board certification with computer programming experience is desirable. (5 82)

U.S. Nuclear Regulatory Commission, Division of Organization and Personnel, PREP Branch, HPNL, Washington, D.C. 20555, 301 492-8242.

Description: Health Physicists - Entry and mid-level positions in the following areas:

- Nuclear fuel cycle facilities: Evaluates radiological safety and environmental impact associated with license applications.
- Low level-waste treatment: Reviews and evaluates applications for processing, treatment, storage and disposal of low-level radioactive waste.
- Radiation inspection: (a) Responsible for the technical and radiation safety evaluation of applications for use of byproduct, source and nuclear material. (b) Inspects all types of NRC licensees authorized to possess use and process nuclear material. (Middletown, PA duty station).

All positions require a minimum of a BS degree in a physical science or engineering with at least 30 semester hours in health science chemistry, physics, biology or mathematics with knowledge of the principles, theory and practices in the field of radiological safety. (5 82)

National Bureau of Standards, Gaithersburg, MD. Attn: Les Slaback, 301 921-2247.

Description: Entry level Health Physicist, GS 7-11. Primary responsibility in accelerator health physics with ancillary duties associated with radioisotope and SNM operations, x-ray facilities, and Cf-252 operations. Some shift work involved. OPM rating necessary. Requires appropriate BS degree or four years of appropriate coursework plus experience. (5 82)

Institute for Resource Management, Inc., 428 Fourth Street, Annapolis, MD 21403.

Attn: C.B. Kincaid, 800 638-4372.

Description: Senior Health Physics and/or Chemistry Technicians, for field assignments at nuclear power plants. Start-up experience especially helpful. (5 82)

General Electric Company, Knolls Atomic Power Laboratory, P.O. Box 1072, Schenectady, NY 12309.

Attn: C.T. Parent, 518 393-6611.

Description: Radiological Engineers. Immediate openings in entry level positions. Successful applicants will initially complete training program leading to various assignments in radiological controls engineering. Requires BS degree in engineering or physical science. MS degree in nuclear engineering or health physics desirable. Excellent opportunities for pursuing advanced degree. (5 82)

Nuclear Metals, Inc., 2229 Main Street, Concord, MA 01742. Attn: Bo Beal, Employment, 617 369-5410, ext. 384.

Description: Health Physicist. Requires two years experience in TLD, contamination control, NRC, EPA regulations, radioactivity measuring devices. Experience with depleted and/or natural uranium a plus. Work with two other professional health physicists in plant and environmental radiological surveillance. Requires BS in health physics or physical science with training in health physics.

Description: Manager, Hazardous Waste. 80% of responsibilities involve volume reduction, packaging shipping, NRC, DOT, EPA regulations, and burial for radioactive waste. Remainder involved with chemical material waste. Management responsibility will involve more than 25 people and budget in the millions of dollars. BS in a biological physical science is required with additional training in health physics preferred. Five years in the field with some management experience is required. (5 82)

Marshall University, Huntington, WV 25701.

Attn: Office of Personnel.

Description: Radiation Safety Technician, Physics & Physical Science. Requires minimum of Associate degree in Health Physics or two years of college or university coursework with a major in health physics, biology, physics, or chemistry and one year experience as a technician in a radiation laboratory. Individuals unable to meet the minimum requirements may qualify as a trainee if a Bachelor's degree is held in one of the aforementioned disciplines. Application deadline: June 4, 1982. (5 82)

University of Colorado, Health Sciences Center, 4200 E. 9th Avenue, Denver, CO 80262.

Attn: Kenneth L. Crusha, Program Administrator, Environmental Health & Safety Office, C-275 303 394-7966.

Description: Health Physicist. Requires BS degree with major work in physics, chemistry, or a related technical field. Performs technical work and training in a health and safety program for the control and regulation of health hazards. Opening is for entry-level (no experience) or experienced health physicist. (4 82)

Long Island Lighting Company, Shoreham Nuclear Power Station, P.O. Box 628, Wading River, NY 11792.

Attn: Leo Clements, 516 929-8300.

Description: Health Physics Technicians. Requires high school diploma plus two years experience in power reactors. Functions include radiological monitoring and surveillance to delineate and control working conditions and preparing Radiation Work Permits specifying requirements regarding protective action and equipment. Duties also include operation, calibration and repair of radiation detection instrumentation; computer based gamma spectra analysis systems and body burden analyzers; and maintenance of ALARA, Dosimetry and Respiratory Protection programs. (4 82)

Whiteshell Nuclear Research Establishment, Pinawa, Manitoba, CANADA, ROE 1L0.

Attn: T.E. Kirkham, Personnel Supervisor, 204 753-2311.

Description: Health Physicist, to participate in a program involving the investigation and control of radiation hazards. Will advise research, design, operations and maintenance groups on radiation safety matters and do applied research and development, when necessary, in the health physics field. Will also prepare and present training courses in radiation safety and investigate incidents involving radioactive contamination or radiation exposure. Prefer MS degree in physics or in an area related to health physics and three years experience in radiation protection work. Knowledge and/or experience in handling alpha-active materials is essential. Preference will be given to Canadian citizens. (4 82)

US Army Medical Department, HQDA (DASG-PSP-E) Pentagon, Rm 2D523, Washington, D.C. 20310.

Attn: Col. Frank E. McDermott, Radiological Health Consultant, 202 697-2796 (collect).

Description: Health Physicists needed for the Nuclear Medical Science Program, to be utilized in the areas of operational and environmental health physics; radiological physics; nonionizing radiation protection; research; teaching; and medical aspects of nuclear weapons effects. Prefer MS or PhD degree in health physics, radiological physics, radiation biology, biophysics, physics, nuclear engineering, nuclear science, or related field. (BS degree and pertinent experience will be considered on an individual basis). Inquiries and/or application are non-obligatory. A full knowledge of available assignments, salary and benefits will be presented to the applicant prior to any commitment on his part. (4 82)

Nuclear Regulatory Commission, Washington, D.C. 20555.

Attn: R.E. Alexander, Chief, Occupational Radiation Protection Branch, 301 443-5975.

Description: Health Physicists, to identify the need for and manage health physics research contracts as required to support the NRC's occupational radiation protection program, and develop technical health physics standards for application in the NRC's regulatory program. One entrance level opening (GS 11 12); one advanced level opening (GS 13 14). (4 82)

Memorial Medical Center



June 25, 1982

'82 JUN 28 11:00

WBA

DOCKETING SERVICE
BRANCH

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Attention: Docketing and Service Branch

DOCKET NUMBER
PROPOSED RULE PR-Misc Notice
Reg Guide

Dear Sir:

I am providing comment on the proposed regulations describing the qualifications of the radiation safety officer for a "large program" involving the use of radioactive materials. The following items should be considered. First, a more precise and clear definition of large, medium, and small programs must be given. It appears that the 25 listed "characteristics" (see attachment 1) of a large program could apply to vastly different programs depending on the frequency with which various characteristics are actually carried out. Secondly, in light of the frequency of the 25 "characteristics", the full time capacity of the RSO becomes questionable. Certainly, from the economic point of view, qualified consultants could be used to render assistance in a specific area. Such consultation could be used periodically as the need arises or routinely, via contract. Thirdly, the training and experience criteria of the RSO as listed in Table 1 (attachment 2) is much too restrictive. Very often the RSO, at large medical institutions, is a radiological physicist. In particular, a physicist certified by the American Board of Radiology or a physicist who has received a Ph.D. in the nuclear physics field would be qualified to be the RSO for a "large" program.

In summary, restricting the RSO qualifications only to the health physics or radiological health area, and at the same time, neglecting the positive use of qualified consultants could place a financial burden on some institutions. Furthermore, the proposed restrictive regulations ignore the impact on programs due to the small number of individuals available to act as RSO, per Table 1, if the proposed regulations are adopted.

Sincerely,

Nicholas A. Detorie, Ph.D.
Radiation Safety Officer
Memorial Medical Center/
SIU School of Medicine

NAD:mlh
Enclosure

J509

Add: Ed Hill 5650 NL

Acknowledged by card. *6/29/82.mdv*

APPENDIX A

CHARACTERISTICS FOR QUALIFYING A RADIATION SAFETY OFFICER CANDIDATE

1. Ability to communicate clearly, both verbally and in writing.
2. Knowledge of mathematics, physics, chemistry, and biology sufficient to understand health protection standards, theories, and practices.
3. Knowledge of current standards, guides, and reports published by various organizations (e.g., the International Commission on Radiological Protection; the National Council on Radiation Protection and Measurements; the United Nations Scientific Committee on the Effects of Atomic Radiation; the National Academy of Sciences, National Research Council Advisory Committee on the Biological Effects of Ionizing Radiations; and the American National Standards Institute) and the ability to understand, interpret, and effectively apply them.
4. Knowledge of applicable NRC regulations, regulatory guides, and NUREG-series reports and ability to understand and effectively apply them.
5. Knowledge and ability sufficient to operate instruments used in the program for measuring radiation and radioactive materials and to interpret the resulting measurements.
6. Knowledge and ability sufficient to perform calibrations of instruments used in the program for measuring radiation and radioactive materials.
7. Knowledge and ability sufficient to select radiation and radioactive materials measuring instruments appropriate to their proposed use in the program.
8. Knowledge and ability sufficient to evaluate the need for shielding and to determine the types and amounts of shielding required.

9. Knowledge and ability sufficient to calculate radioactive decay, buildup, and secular and transient equilibrium.
10. Knowledge and ability sufficient to calculate internal and external radiation doses.
11. Knowledge of personnel monitoring devices and the ability to select the proper device for a specific application.
12. Knowledge and ability sufficient to manage or conduct a radiation protection training program for facility personnel.
13. Knowledge and ability sufficient to recognize and anticipate existing and potential radiation safety problems.
14. Knowledge and ability sufficient to recognize potential criticality problems and to take appropriate and timely action with respect to such problems.
15. Knowledge of current radioactive effluent treatment methods, equipment, and procedures and ability to effectively use them.
16. Knowledge and ability sufficient to recognize the potential for contamination associated with work with radioactive materials, to control contamination, and to decontaminate equipment, facilities, and personnel.
17. Knowledge and ability sufficient to prepare a facility emergency plan and to conduct or manage the conduct of operations in accordance with the plan.
18. Knowledge and ability sufficient to evaluate, select, and maintain and effectively use and supervise the use of respiratory protective equipment.
19. Knowledge and ability sufficient to evaluate, select, and maintain and effectively use and supervise the use of protective clothing.

20. Knowledge and ability sufficient to evaluate, design, test, maintain, and supervise the maintenance (from the radiation safety standpoint) of process control and confinement systems such as gloveboxes and hoods.
21. Knowledge and ability sufficient to evaluate, select, design, maintain, and test sealed sources of radiation and devices in which the sources are to be used.
22. Knowledge and ability sufficient to evaluate, select, and design and effectively use, maintain, and supervise the use and maintenance of radioactive waste collection, treatment, packaging, and disposal equipment and facilities and to prepare related radiation safety procedures.
23. Working knowledge of transport regulations and requirements as they apply to the transport of radioactive materials.
24. Knowledge and ability sufficient to conduct a bioassay program.
25. Knowledge and ability (including a maturity of judgment developed from appropriate radiation safety program experience in work situations similar to that of the program for which he or she is a candidate radiation safety officer) sufficient to manage effectively the applicant's radiation safety program.

Table 1

COMBINATIONS OF TRAINING AND EXPERIENCE FOR A RADIATION SAFETY OFFICER

Formal Education and Certification	Experience
A. Bachelor's degree in health physics or radiological health.	A. Four years of applied health physics experience in a program with radiation safety problems similar to those in the program to be managed.
B. Bachelor's degree in a physical science or a biological science with a physical science minor, and one year of graduate work in health physics.	B. Same as above
C. Master's degree in health physics or radiological health.	C. Three years of applied health physics experience in a program with radiation safety problems similar to those in the program to be managed.
D. Doctor's degree in health physics or radiological health.	D. Two years of applied health physics experience in a program with radiation safety problems similar to those in the program to be managed.
E. Comprehensive certification by the American Board of Health Physics.	E. Same as above