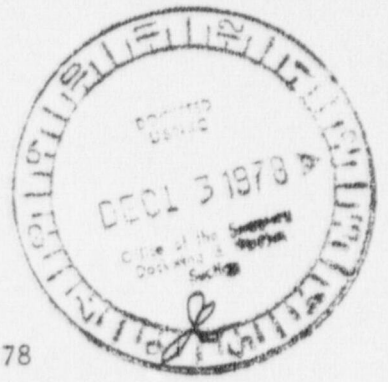
GEORGIA INSTITUTE OF TECHNOLOGY

ATLANTA, GEORGIA 30332

OFFICE OF
RADIOLOGICAL SAFETY



November 30, 1978

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

ATTN: Docketing and Service Branch

SUBJECT: Some Comments on Proposed Regulatory Guide 8.24

Dear Sirs:

To be brief this proposed Regulatory Guide 8.24 is inconsistent with other Guides such as 8.21 in certain areas. For example: Why should suggested removable surface contamination limits for Alpha activity be so different between the two Regulatory Guides? Also why should they be given in different units, dpm/100 cm^2 vs $\mu Ci/cm^2$?

In my opinion the Alpha and Beta limits in Regulatory Guide 8.21 are far to high, (apparently British numbers) while the limits for Alpha in Regulatory Guide 8.24 are more appropriate. It would be better in my view if the various departments in the Federal Government would stop publishing such inconsistency until a uniform number for removable contamination can be agreed upon.

Sincerely yours,

Robert M. Boyd

Robert M. Boyd

RMB:dwa

Rec'd 12/13

Attachments (2)

TABLE 1

SURVEY FREQUENCIES

Plant Areas	External Radiation Surveys	Air Sampling	Removable Surface Contamination Surveys
Uranium receiving, warehousing, shipping.	Monthly	Continuous air sampling; samples changed weekly and following any indication of release leading to airborne concentrations of uranium.	Monthly and following any indication of release
Active processing areas UF_6 vaporization, UF_6-UO_2 conversion, chemical processing, scrap recovery, powder processing, rod loading, decontamination, waste processing, change rooms.	Monthly	Continuous air sampling*; samples changed each shift, following any change in equipment or process control, and following detection of any event that may have released uranium, i.e., leakage (valves, pipes, tanks, trays), spillage, or blockage of process equipment (conveyors, elevators, hoppers).	Weekly and following any indication of release
Chemical-metallurgical laboratory.	Monthly	Continuous air sampling; samples changed each shift.	Weekly
Fuel assembly, inspection, storage.	Monthly	Continuous air sampling; samples changed weekly.	Monthly
Lunch rooms, cafeterias, snack bars, vending machine areas.	Quarterly	—	Daily

* See Regulatory Position C.1.3.

TABLE 2

SURFACE CONTAMINATION LEVELS IN ENRICHED URANIUM PROCESSING AND LWR FUEL FABRICATION PLANTS

	Limit (Alpha Activity) dpm/100cm^2 Removable
Controlled areas	5,000
Protective clothing worn only in controlled area	1,000
Uncontrolled areas onsite	200
Personal clothing (worn outside restricted area)	200
Skin	0*

* See Regulatory Position C.1.6 and footnote.

TABLE 2

LIMITS FOR REMOVABLE SURFACE CONTAMINATION IN MANUFACTURING PLANTS*

		Type of Radioactive Material**			
		Alpha Emitters			
	Type of Surface	High Toxicity ($\mu Ci/cm^2$)	Lower Toxicity ($\mu Ci/cm^2$)	Beta or X-Ray Emitters ($\mu Ci/cm^2$)	Low-Risk Beta or X-ray Emitters ($\mu Ci/cm^2$)
1.	Unrestricted areas	10^{-7}	10^{-6}	10^{-5}	10^{-4}
2.	Restricted areas	10^{-4}	10^{-3}	10^{-3}	10^{-2}
3.	Personal clothing worn outside of restricted areas	10^{-5}	10^{-4}	10^{-4}	10^{-3}
4.	Protective clothing worn only in restricted areas	10^{-4}	10^{-3}	10^{-3}	10^{-3}
5.	Skin	10^{-5}	10^{-5}	10^{-4}	10^{-3}

* As adapted from Table I of Reference 4. Averaging is acceptable over inanimate areas of up to 300 cm^2 or, for floors, walls, and ceiling, 100 cm^2. Averaging is also acceptable over 100 cm^2 for skin or, for the hands, over the whole area of the hand, nominally 300 cm^2.

** High toxicity alpha emitters include Am-243, Am-241, Np-237, Ac-227, Th-230, Pu-242, Pu-238, Pu-240, Pu-239, Th-228, and Cf-252. Lower toxicity alpha emitters include those having permissible concentrations in air greater than that for Ra-226 (s) in 10 CFR Part 20, Appendix B, Table 1, Column 1. Beta or x-ray emitter values are applicable for all beta or x-ray emitters other than those considered low risk. Low-risk nuclides include those whose beta energies are <0.2 MeV maximum, whose gamma or x-ray emission is less than 0.1 R/h at 1 meter per curie, and whose permissible concentration in air in 10 CFR Part 20, Appendix B, Table 1 is greater than 10^{-6} $\mu Ci/ml$.

Note: Contamination limits for unrestricted areas in this table are considered to be compatible in level of safety with those for release of facilities and equipment for unrestricted use, as given in Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors," and in "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," which is available from the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Ltr
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November 28, 1978

Mr. Boyce H. Grier, Director
Office of Inspection and Enforcement,
Region 1
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: IE Bulletin 78-12 RLNRC-0023
Docket No. 50-485

Dear Mr. Grier:

IE Bulletin 78-12 requested information concerning weld materials used in the manufacture of the Sterling Power Project Nuclear Unit No. 1 reactor vessel. The Sterling vessel has not yet been manufactured; thus no data are currently available. Westinghouse Electric Corporation, our NSSS supplier, has, however, been notified of your concern for vessel weld material control during the manufacture of the reactor vessel. Weld rod certification records will be part of the quality assurance package which will accompany the reactor vessel when it is shipped to our site from the manufacturing facility. Due to the anticipated volume of these records we prefer not to transmit them to you, however, they will be readily accessible for your review and inspection.

Sincerely yours,

John E. Arthur
Chief Engineer

xc: C. R. Anderson
Lex K. Larson
N. A. Petrick
Gerald Charnoff
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, DC 20555

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