NUCLEAR ENERGY INSTITUTE

Ellen P. Anderson
SENIOR PROJECT MANAGER
HEALTH PHYSICS & LLW
NUCLEAR GENERATION DIVISION

November 19, 2009

74 FR 49895
9/29/09
(2)

Rulemaking and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Mail Stop: TWB-05-B01M
Washington, DC 20555-0001

Subject: Industry Comments on Draft Regulatory Guide, DG-8039, "Methods For Estimating Effective Dose Equivalent From External Exposure," Docket ID NRC-2009-0425.

On September 28, 2009, the U.S. Nuclear Regulatory Commission (NRC) issued a *Federal Register* Notice (74 FR 49895) soliciting public comment on the draft regulatory guide, "Methods For Estimating Effective Dose Equivalent From External Exposure." DG-8039 provides guidance on dosimetry methods that the NRC considers acceptable for determining effective dose equivalent for external (EDEX) radiation exposures as they pertain to implementation of Title 10 *Code of Federal Regulations* Part 20 (10 CFR 20).

The Nuclear Energy Institute (NEI)[1] provides the enclosed comments on behalf of the nuclear energy industry on the subject draft regulatory guide. Taking our comments into account, we believe that the guide will prove useful to NRC licensees in accurately estimating effective dose equivalent from external exposure.

Thank you for the opportunity to comment on the document, and we look forward to reviewing the final version. If you have any questions concerning these comments, please contact me at 202-739-8043; exa@nei.org.

Sincerely,

Ellen P Anderson

Ellen P. Anderson

Enclosure

[1] NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

1776 I Street, NW | Suite 400 | Washington, DC | 20006-3708 | P: 202.739.8043 | F: 202.533.0144 | exa@nei.org | www.nei.org

ENCLOSURE

Industry Comments to DG-8039

	Issue	*Citation*	*Comment*
1	Use of Reference Dosimeters - Comparing DG-8039 to ANSI N13.41-1997, "Criteria For Performing Multiple Dosimetry"	Page 3, C. Regulatory Position	DG-8039 does not discuss the use of a Reference Dosimeter, which is a single dosimeter worn at one location on the body when multiple dosimeters are **not** worn. The typical reference location is the front of the body at the torso. This dosimeter is used in addition to multi-badges with weighting factors.
2	Use of ANSI standard compartment weighting factors	Page 3, C. Regulatory Position	Please confirm that if a licensee was previously approved to use the ANSI standard compartment weighting factors, then no additional change is required by the licensee.
3	Confirmation to use EPRI method after previous authorization to use ANSI method	Page 3, C. Regulatory Position	Please confirm that those utilities that applied for and received authorization to previously use the ANSI standard method will be able to use the EPRI method for EDE.
4	Partial-body irradiations that shield dosimeters	Page 5, section 2.c	In the case of parallel beam exposures, the whole body is irradiated and the shielding of both dosimeters by the body can be prevented. This is a phenomenon that in general affects the use of all dosimeters and should be considered prior to placement of dosimeters. Personnel are advised to ensure that dosimeters are worn so that at least one of the two dosimeters "sees" the major source, or sources of radiation. The radiological work should be conducted in such a way that no shielding material is present between the radioactive source(s) and the dosimeters.
5	EPRI Two Dosimeter Method for estimating EDE are conservative	Page 5, section 2.e	An analysis was performed after publication of RIS 2004-01 by EPRI to investigate NRC's concerns regarding source locations within 33 cm from the body. The NRC may be interested in the results of the analysis which was published in the Health Physics Society Journal; X.G. Xu et

	Issue	*Citation*	*Comment*
			al., "Effective Dose Equivalent for Point Gamma Sources Located 10 cm Near the Body," Health Physics, 91(2): 108-118, August 2006. In that paper, EDE data for point gamma sources at 0.3, 1.0, and 1.5 MeV, which were located 10 cm from the surface of the body were presented. The results of the analyses show that the EPRI Two Dosimeter Method for estimating EDE for source locations ranging from the overhead to the foot are conservative except for two general regions near the front upper thigh and directly overhead. In these instances, alternative placement of the dosimeters should be considered.

NRCREP Resource

From: BELL, Denise [dxb@nei.org] on behalf of ANDERSON, Ellen [exa@nei.org]
Sent: Thursday, November 19, 2009 3:59 PM
Subject: Industry Comments on Draft Regulatory Guide, DG-8039
Attachments: 11-19-09_NRC_Industry Comments on Draft Regulatory Guide, DG-8039.pdf

November 19, 2009

Rulemaking and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Mail Stop: TWB-05-B01M
Washington, DC 20555-0001

Subject: Industry Comments on Draft Regulatory Guide, DG-8039, "Methods For Estimating Effective Dose Equivalent From External Exposure," Docket ID NRC-2009-0425.

On September 28, 2009, the U.S. Nuclear Regulatory Commission (NRC) issued a *Federal Register* Notice (74 FR 49895) soliciting public comment on the draft regulatory guide, "Methods For Estimating Effective Dose Equivalent From External Exposure." DG-8039 provides guidance on dosimetry methods that the NRC considers acceptable for determining effective dose equivalent for external (EDEX) radiation exposures as they pertain to implementation of Title 10 *Code of Federal Regulations* Part 20 (10 CFR 20).

The Nuclear Energy Institute (NEI) provides the enclosed comments on behalf of the nuclear energy industry on the subject draft regulatory guide. Taking our comments into account, we believe that the guide will prove useful to NRC licensees in accurately estimating effective dose equivalent from external exposure.

Thank you for the opportunity to comment on the document, and we look forward to reviewing the final version. If you have any questions concerning these comments, please contact me at 202-739-8043; exa@nei.org.

Sincerely,

Ellen P. Anderson

Enclosure

Ellen P. Anderson
Senior Project Manager, Health Physics & LLW

Nuclear Energy Institute
1776 I Street NW, Suite 400
Washington, DC 20006
www.nei.org

P: 202-739-8043
F: 202-533-0144
E: exa@nei.org