

# BWR OWNERS' GROUP

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Rules and Directives

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BWROG-02034  
March 14, 2002

U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

12/14/01  
66 FR 64893  
4

Attn: Rules and Directives Branch  
Office of Administration

Subject: BWR Owners' Group Comments to Draft Regulatory Guide (DG-1111),  
"Atmospheric Relative Concentrations for Control Room Radiological  
Habitability Assessments at Nuclear Power Plants"

**BWROG Project Number 691**

Encl: BWR Owners' Group Comments to Draft Regulatory Guide (DG-1111),  
dated February 2002

Attached is the BWR Owners' Group's (BWROG) comments to the subject Draft  
Regulatory Guide in accordance with instructions provided in the Draft Guide.

It should be noted that, while these comments have been endorsed by a substantial  
number of the members of the BWROG, it should not be interpreted as representing  
any individual utility member. Each BWROG member utility must formally provide their  
own individual comments in order for those comments to represent that member utility.

Any questions can be directed to the undersigned or to Tom Mscisz (Exelon Nuclear),  
BWROG Control Room Habitability Committee Chairman at (610) 765-5971.

Sincerely,



JA Gray, Jr., Chairman  
BWROG Owners' Group

cc: K Putnam, BWROG Vice Chairman  
BWROG EOC  
BWROG Primary Representatives  
BWROG CRH Committee

Temple = ADM-013

E-RTDS = ADM-03  
Add = A. Beranek (MFB)  
S. LaVie (SFL)

BWROG CRH COMMITTEE  
UTILITY COMMENTS TO  
DRAFT REGULATORY GUIDE 1111 (Atmospheric Relative Concentrations for CRH)

March 2002

DG-1111 REFERENCE	COMMENT	RECOMMENDED CHANGE
Section B (Discussion)	Blank spaces and line in first paragraph	Remove blank spaces & line
Section C (Regulatory Position), Subsection 1 (General Considerations), first paragraph.	Where is regulatory guidance provided to determine if “unusual siting, building arrangement, release characterization, source-receptor configuration, meteorological regimes, or terrain conditions” exist?	Provide reference or guidance
Section C (Regulatory Position), Subsection 1 (General Considerations), fourth paragraph. (Top of page 5)	The description of the 2-8 hour X/Q value should have an example for clarification	Provide an example of what is meant.
Section C (Regulatory Position), Subsection 1 (General Considerations), fourth paragraph. (Top of page 5)	Last sentence in Title C (Regulatory Position).	Add words similar to: “However, the start of this period must be specifically determined for each facility.”
Section C (Regulatory Position), Subsection 1 (General Considerations), last paragraph.	Last paragraph indicates that the worst two hours of dose rate should employ the 0-2 hour value of X/Q. Should this guidance be applied to the two minute generic BWR delay between accident initiation and the onset of fission product release? (i.e., Is it necessary to apply the 2-8 hour value during the first two minutes, followed by 2 hours of the 0-2 hour value, followed by 7 hours and 58 minutes of the 2-8 hour value?)	Provide guidance or example.

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Section C (Regulatory Position), Subsection 2.1 (Meteorological Data Input), first paragraph	Reference 13 is apparently the basis for evaluating "local effects such as building and cooling tower wakes, brush and vegetation, or terrain." Reference 13 is not available on ADAMS.	Enter Reference 13 into ADAMS for use by licensees.
Section C (Regulatory Position), Subsection 2.1 (Meteorological Data Input), first paragraph	The guidance of RG 1.183 calls out RG 1.23 for collection of meteorological data. RG 1.23 indicates that two full years of data is desirable. DG-1111 suggests the staff believes up to 5 years of data may be necessary in some cases.	In the NEI Task Force discussions with the staff, 3 years of data would be acceptable. Change 5 years to 3 years in the document.
Section C (Regulatory Position), Subsection 2.2.2 (Elevated Stack Releases), Table 1	Table 1 is confusing. Field 2X contains the phrase "Blank spaces".	Indicate the number of blank spaces that are acceptable. Provide a sample input line(s) as an example.
Section C (Regulatory Position), Subsection 2.2.2 (Elevated Stack Releases), second paragraph	What criteria should be used to determine if a control room intake is "close" to the base of a stack?	Provide guidance.
Section C (Regulatory Position), Subsection 2.2.4.2	The net effect of this section will generally prevent application of diffuse area source methods for any building surface containing penetrations. If multiple penetrations are present and leakage is no more probable at one than another, the leakage could approximate a diffuse area source. Selection of only the most limiting penetration is unnecessarily conservative.	Request justification or clarification of intent.

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Section C (Regulatory Position), Subsection 2.2.4.5	(See attached sketch) Use of the diffuse source option is permitted for releases from volumes with a homogeneous concentration of radiological source (2.2.4.1). The total release rate must be assumed (2.2.4.2). The RG restricts the selection of diffusion coefficients more than the values recommended in the NUREG (2.2.4.3). The shortest horizontal distance from the source-building surface along the line of sight to the source building centerline (Line A on the sketch) is used rather than a slant range to the geometric center of the effective diffuse source plane (2.2.4.5). Credit has not usually been allowed for holdup or retention in the release building (2.2.4.8), and decay during transport time is not credited by codes like RADTRAD. Based on these provisions, the guideline for calculating the source to receptor distance is probably more conservative than necessary.	<ol style="list-style-type: none"> <li>1. Base the source to receptor distance on the source building centerline (Line C on the sketch) or some point between the building surface and the centerline. (e.g., Line B on the sketch is approximately half the distance between the closest point along the line from the intake to the source building center and the source building centerline)</li> <li>2. Allow the source to receptor distance to be a slant range.</li> </ol>
Section C (Regulatory Position), Subsection 2.2.4.8	This section contains a line that is more than half blank.	Remove the unnecessary blank spaces to continue the sentence.
Section C (Regulatory Position), Subsection 2.3.2 (Dual Ventilation Outside Air Intakes)	Typo – “sight”	Should be “sight”

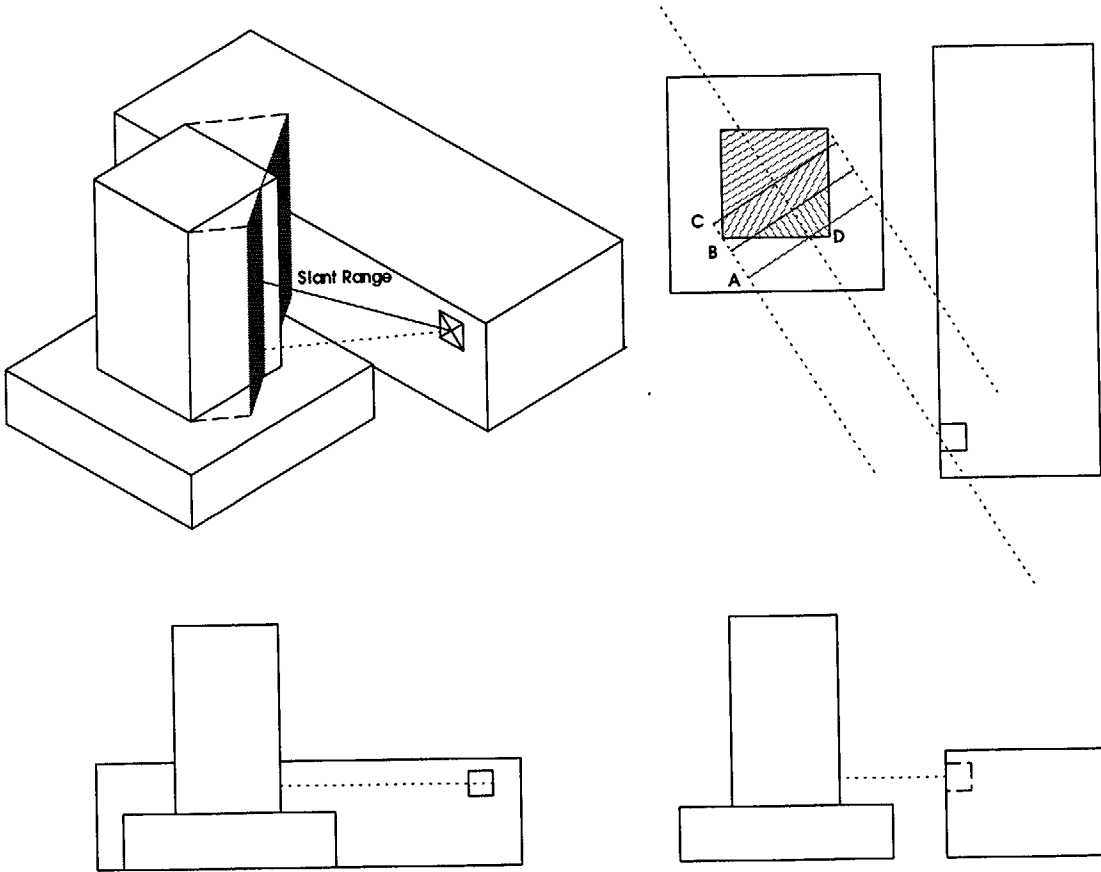
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<b>DG-1111 REFERENCE</b>	<b>COMMENT</b>	<b>RECOMMENDED CHANGE</b>
Section C (Regulatory Position), Subsection 2.3.3.1	The intent of this section is not clear. The equation provided does not describe what filter efficiency is used. Assuming an emergency ventilation intake flow of 1000 CFM and 99% filter efficiency for radioiodine this would require in leakage less than 1.0 CFM to avoid multiple Chi/Q calculations. On the other hand, assuming 0% filtration of noble gases would permit 100 CFM in leakage. If a composite filter efficiency is intended how would it be derived?	Add clarification or provide additional guidance on how this section is to be applied.
Section C (Regulatory Position), Subsection 2.3.3.2	The suggestion to use the shortest distance to the CRE is unnecessarily conservative.	If in leakage points are unknown, and ventilation assures homogeneous distribution of radioactivity the receptor point should be reasonably located at the geometric center of the CRE or in a location where control room operators are expected to spend most of their time.
Section C (Regulatory Position), Subsection 2.3.3.2	This section only discusses dual outside air intakes. For plants with more than two intakes, Equation 5 should be modified to account for these additional outside air intakes.	This can be accomplished by adding “+ (X/Q) <sub>i</sub> x F <sub>i</sub> ” in the numerator and “+ F <sub>i</sub> ” in the denominator.
Backfit Analysis (page 41)	It states that a backfit analysis is not required. Footnote 2 on page 35 states that if ... “the staff will pursue necessary corrections with the applicant.” If corrections to a previously approved methodology are required, isn’t this a backfit?	Clarify the footnote. (Unsure as to what wording should be)

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General	There is no statement whether this Guide will also apply to habitability of the Technical Support Center or NUREG-0737 mission doses.	Add clarification.
General	There has been discussion of a new release of ARCON96 to incorporate additional capabilities related to high velocity vented releases.	Update NUREG/CR-6331 to reflect this guidance when new code is released to reduce confusion over use of methods considered to be inappropriate.

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