

**REVIEW OF:**

**Proposed Design Basis Events (DBE) Rule,  
Dated August 20, 1992**

*Prepared for*

**Nuclear Regulatory Commission  
Contract NRC-02-88-005**

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# 1 INTRODUCTION

The proposed design basis events (DBE) rule, dated August 20, 1992, has been reviewed in accordance with the instructions provided in the letter from B. Jagannath to A. Chowdhury, dated August 21, 1992. This review is focused on specific changes to the proposed regulatory text. This review identified four specific comments concerned with consistency of the proposed regulatory text within itself and with portions of 10 CFR Part 60 which remain unchanged. In this regard, there may be some potential inconsistencies related to specific terminologies used in the proposed rule that may present difficulties or create additional uncertainties. However these potential inconsistencies in the proposed rule do not violate any fundamental principles or concepts. The Specific Comments are given for consideration by the NRC for potential modifications to the proposed rule, if deemed appropriate.

# 2 SPECIFIC COMMENTS

(1) Page 18, proposed section 60.131(b)(1).

The italicized title of the current 60.131(b)(1), "*Protection against natural phenomena and environmental conditions*," may have been omitted from the proposed rule.

(2) Page 18, proposed section 60.131(b)(5).

In the proposed 60.131(b)(5) the phrase, "if any of the design basis events should occur," may be more consistent with other similar changes if this phrase were changed to, "assuming occurrence of design basis events."

(3) Page 18, proposed section 60.131(b)(11).

In the proposed 60.131(b)(11) the word "any" may be inconsistent with other similar proposed changes [e.g., 60.131(b)(1), 60.131(b)(7), 60.131(b)(8), and 60.133(g)(2)]. Also, in the proposed 60.131(b)(11), the use of the word "any" may be grammatically inconsistent if the definition for "design basis events" were to directly replace the phrase, "design basis events" in the proposed rule.

(4) Page 19, proposed section 60.133(g)(2).

The proposed change to 60.133(g)(2) may not be consistent with the current intent of 60.133(g)(2), depending upon the interpretation of the phrase "during normal operations and under accident conditions." The proposed rule change to 60.133(g)(2) may give the impression that the underground facility ventilation system has been predetermined by NRC to be important

to safety. This impression may be given because 60.133(g)(2) uses language similar to that proposed for the revisions to 60.131(b), *Structures, systems, and components important to safety*.

Typically the entire ventilation system of a nuclear power plant is not classified as a safety related system (important to safety). Only those portions of the ventilation system that penetrate the containment building are safety related. For these penetrations the ventilation ducts are replaced with steel pipes which have two containment isolation valves. Classification of an entire ventilation system as being important to safety would require the ducts and dampers of that system to meet all the criteria of 60.131(b). The impact on design and construction of the underground facility ventilation system by requiring it to, "Assure the ability to perform essential safety functions assuming occurrence of design basis events," needs to be carefully considered.

It may also be helpful to contrast the proposed criteria in 60.133(g) with the criteria for the surface facility ventilation, in 60.132(b), and that proposed for effluent control in 60.131(c)(1). The criteria in 60.132(b) and the proposed 60.132(c)(1) appear consistent with 60.133(g)(1), but there are no similar criteria for the surface facility ventilation, as that for underground facility ventilation given in the proposed 60.133(g)(2). It may be important to note that the surface facility ventilation could have even greater safety functions than the underground facility ventilation, considering unpackaged spent fuel may be handled in the surface facility, while only HLW contained in packages meeting the design criteria of 60.135(b)(3) will be handled in the underground facility.

After consideration of the intent of the current 60.133(g)(2) the proposed change may be one of the following.

- Leave the proposed rule as it is, if it is the intent that the underground facility ventilation system must meet essentially the same criteria as a system identified as being important to safety, per the proposed definition of "Important to safety."
- Modify 60.133(g)(2) to use language similar to 60.133(a)(2), which uses the phrase, "credible disruptive events during the period of operations," if this is the intent of the current rule.
- Delete this section from the current rule since essentially the same requirements are covered by 60.131(b), if DOE determines the underground facility ventilation system is important to safety. This would be consistent with the approach taken for surface facility ventilation.