

ANS Issues Clarification on ANSI/ANS-8.3-1997 (R2003), “Criticality Accident Alarm System.”

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Inquiry:

What is the criteria that constitutes a “nontrivial” risk (Ref. ANS-8.3 Section 4.1.1)? ANSI/ANS-8.3-1997(R2003) Section 4.1.1 states:

“Installation of an alarm system implies a nontrivial risk of criticality. Where alarm systems are installed, emergency response procedures shall be maintained. Guidance for the preparation of emergency plans is provided in American National Standard Administrative Practices for Nuclear Criticality Safety, ANSI/ANS-8.19-1996.”

Response:

The first sentence of Section 4.1.1 is an information statement. It is not a requirement, recommendation, or statement of permission. The statement is a qualifier for the follow-on requirement for maintaining emergency response procedures. The statement serves to emphasize that having an alarm without emergency procedures is contrary to consensus industry best practices.

Section 4.1.1 does not address when an alarm system is required. Even when the risk of a criticality accident is judged to be nontrivial, other considerations may result in a justifiable decision not to install an alarm system. An evaluation of overall risk should recognize other and potentially greater hazards could result from false alarms and sudden interruption of operations.

ANSI/ANS-8.3-1997(R2003) does not provide a definition or criterion associated with the word “nontrivial.” A revision of this standard is in development and the working group will consider adding a definition or criterion for “nontrivial.”