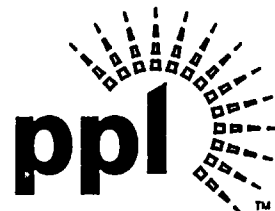




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June 11, 1999

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Stop P1-137  
Washington, D.C. 20555

**SUSQUEHANNA STEAM ELECTRIC STATION  
REQUEST FOR APPROVAL OF EMERGENCY  
ACTION LEVEL REVISION TO RADIOLOGICAL EFFLUENT EAL  
PLA-5047**

Docket Nos. 50-387  
and 50-388

The purpose of this letter is to transmit for NRC review and approval a proposed revision to the Susquehanna Steam Electric Station Emergency Plan (attached). This proposed revision involves a change to the Unusual Event and Alert classification of the Radiological Effluent Emergency Action Level (EAL) for gaseous effluents that will be consistent with the NUMARC/NESP-007 (Rev 2) guidance. PP&L, Inc. (PP&L) will continue to use the existing liquid Radiological Effluent EAL. This revision is being submitted for NRC approval in accordance with the requirements of 10 CFR 50, Appendix E, Section IV.B, "Assessment Actions," because it involves a revision to the Emergency Action Levels which requires NRC approval prior to implementation.

PP&L requests NRC approval of the above noted revision as soon as possible, in order to reduce the probability of unnecessary entries into the Susquehanna SES Emergency Plan.

Two nuclear power plant licensees received NRC approval to implement the NUMARC EAL's (NUMARC/NESP-007, Rev. 2) in 1998. Although these approvals were for the entire NUMARC EAL package, PP&L's request is similar to the gaseous portion of the Abnormal Rad Levels/Radiological Effluent EAL section for the Unusual Event and Alert classifications contained in those approvals. The McGuire Nuclear Station submitted their initial request on December 27, 1995, with NRC approval documented in a NRC SER dated January 28, 1998. The Three Mile Island Nuclear Station submitted their initial request on December 2, 1995, with NRC approval documented in a NRC SER dated September 8, 1998.

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Please contact Ms. C. A. Smith at (570) 542-3233 if you have any questions concerning these changes.

Sincerely,



R. F. Saunders

Enclosure

copy: NRC Region I  
Mr. S. L. Hansell, NRC Sr. Resident Inspector  
Mr. V. Nerses, NRC Sr. Project Manager  
Mr. D. J. Allard, BRP/DEP



## Revised Radiological Effluent EAL

PP&L, Inc. requests NRC approval of a revised gaseous effluent EAL using the basis of the NUMARC/NESP-007 (Rev 2) Radiological Effluent EAL. PP&L will continue to use the existing liquid Radiological Effluent EAL. This revision will reduce the probability of unnecessary entries in the Susquehanna SES Emergency Plan as a result of incorporating I-133 dose factors in determining the EAL gaseous effluent alarm setpoint for iodine.

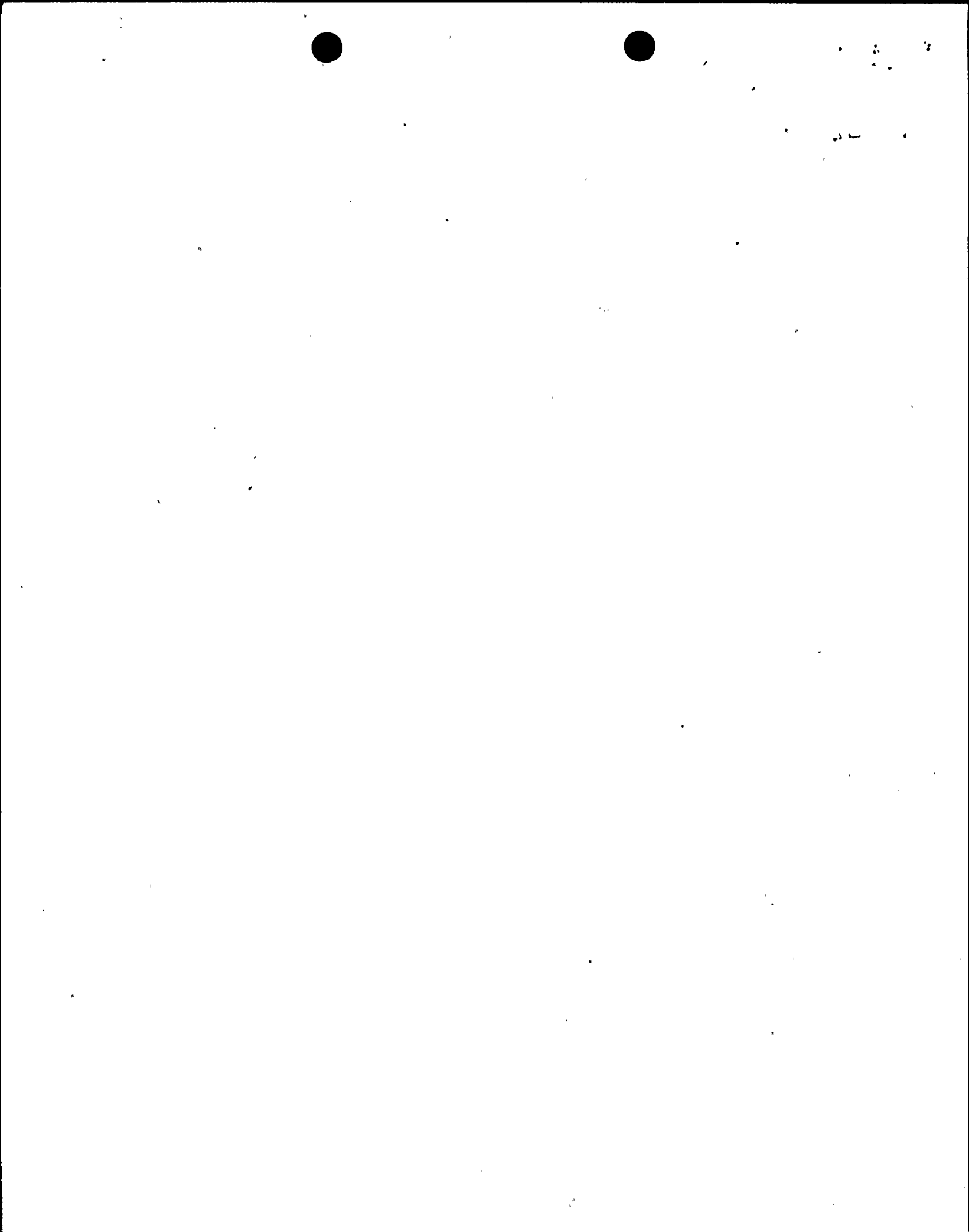
### Summary of Change

One parameter for entry into the existing Unusual Event and Alert classifications for the gaseous Radiological Effluent EAL is I-131 activity. The Improved Technical Specifications (ITS) requires that the contribution of I-133 activity, in addition to I-131, be considered. The addition of I-133 activity results in a lower effluent release rate setpoint for the Unusual Event and Alert classifications of the gaseous portion of the Radiological Effluent EAL. Under the existing Radiological Effluent EAL this lower gaseous effluent release setpoint could result in unnecessary entries into the Susquehanna SES Emergency Plan due to spurious and unconfirmed Iodine effluent release alarms from the Susquehanna SES gaseous release monitoring system (SPING). These unconfirmed alarms are the result of interference of noble gas with the iodine channel of the SPING system.

Use of the NRC approved NUMARC guidance (NUMARC/NESP-007 (Rev. 2)) for the Unusual Event and Alert classification of the gaseous portion of the Radiological Effluent EAL provides the flexibility that will allow for the incorporation of the I-133 effluent release rate contribution, while reducing the probability of unnecessary entries into the Emergency Plan. Specifically, the NUMARC guidance allows for:

- confirmed readings prior to entry into the Emergency Plan,
- increased allowance of effluent activity prior to entry into the Emergency Plan, and
- allowance for a timed continuous release prior to entry into the Emergency Plan.

PP&L is developing a revision to the liquid portions of the Radiological Effluent EAL for the Unusual Event and Alert classifications that is consistent with the NUMARC/NESP-007 (Rev. 2) guidance. To complete this revision a change to the Commonwealth of Pennsylvania's Protective Action Guidelines is also required. The revision to the liquid portions of these EAL's is scheduled to be submitted to the NRC in the fourth quarter of 1999.



### Justification for Revision

Regulatory Guide 1.101 (Rev. 3) August 1992, states in part that NUMARC/NESP-007 (Rev. 2) is an acceptable method to the NRC for determining emergency action levels. Also, Emergency Preparedness Position (EPPOS) No. 1 dated 6/1/95, states in part that "Licensees may provide to the NRC other changes that utilize NESP-007 guidance. The staff should evaluate those changes on their individual merits and their compliment to the licensee's classification scheme as a whole." Therefore, EPPOS No. 1 provides licensees the option to submit specific portions of NESP-007 for NRC approval to enhance their Emergency Plan. Additionally, this proposed revision to the Unusual Event and Alert classifications of the gaseous portion of the Radiological Effluent EAL does not decrease PP&L's response to an emergency since PP&L actions utilizing the gaseous portion of the NUMARC Radiological Effluent EAL continues to meet the requirements of 10CFR50.47 and 10CFR50 Appendix E as documented in the regulatory analysis for Regulatory Guide 1.101 (Rev. 3).

### State and Local County Review

The proposed change has been discussed and agreed upon by the Pennsylvania Emergency Management Agency, Pennsylvania Department of Environmental Protection/Bureau of Radiation Protection and the affected local governmental agencies.

### Implementation

PP&L, Inc. requests NRC approval of this revision as soon as possible, in order to reduce the probability of unnecessary entries into the Susquehanna SES Emergency Plan.

Table 5.1

CLASSIFICATION OF EMERGENCY CONDITIONS  
(Unusual Event)

Initiating Conditions	Emergency Action Levels	Basis for Initiating Conditions <sup>1</sup>
<p>1.a Radiological gaseous effluents exceed <u>2 times the Technical Requirement Limits for 60 minutes or longer. instantaneous release.</u></p>	<p>1.a (A or B)</p> <p>A. <u>Valid Building Vent Stack Monitoring System (SPING) indications high radiation on Panel 0C630 or 0C677.</u></p> <p>1. Noble gases <math>\geq 1.70E+6</math> - <math>8.51E+5</math> micro Ci/min, or                  2. I-131 <math>\geq 2.08E+2</math> - <math>1.04E+2</math> micro Ci/min, or                  3. Particulate <math>\geq 1.54E+3</math> - <math>7.72E+2</math> micro Ci/min</p> <p>OR</p> <p>B. <u>Confirmed sample analyses for gaseous releases indicating total site release rates exceed:</u></p> <p>1. <u>Noble gases &gt;1000 mrem/year whole body or</u>                  2. <u>Noble gases &gt;6000 mrem/year skin or</u>                  3. <u>I-131, I-133, H-3, and particulates with half-lives &gt; 8 days &gt;3000 mrem/year to any organ (inhalation pathways only)</u></p>	<p>1.a <u>NUREG 0654, Example 2 - NUMARC NESP-007, AUI, Unusual Event.</u></p>
<p>1.b <u>Radiological liquid effluents exceed Technical Requirement Limits for instantaneous release.</u></p>	<p>1.b <u>Report of radiological liquid effluent exceeding Technical Requirement Limits. This includes effluent sources such as Service Water or RHR Service Water Loops A or B.</u></p>	<p>1.b <u>NUREG 0654, Example 2 - Unusual Event</u></p>

1. Appendix F lists NUREG 0654 Initiating Conditions not used.





Table 5.1

CLASSIFICATION OF EMERGENCY CONDITIONS  
(Alert)

Initiating Conditions	Emergency Action Levels	Basis for Initiating Conditions <sup>1</sup>
<p>1.a Radiological gaseous effluents exceed <del>200</del> 10 times the Technical Requirement instantaneous Limits for 15 minutes or longer.</p>	<p>1.a (A or B)</p> <p>A. <u>Valid Building Vent Stack Monitoring System (SPING) indications on Panel 0C630 or 0C677.</u></p> <ol style="list-style-type: none"> <li>1. Noble gases <math>\geq 1.70E+8</math> <del>8.51E+6</del> micro Ci/min, or</li> <li>2. I-131 <math>&gt; 2.08E+4</math> <del>1.04E+3</del> micro Ci/min, or</li> <li>3. Particulate <math>\geq 1.54E+5</math> <del>7.72E+3</del> micro Ci/min</li> </ol> <p>OR</p> <p>B. <u>Confirmed sample analyses for gaseous releases indicating total site release rates exceed:</u></p> <ol style="list-style-type: none"> <li>1. Noble gases <math>&gt; 1.0E+5</math> mrem/year whole body or</li> <li>2. Noble gases <math>&gt; 6.0E+5</math> mrem/year skin or</li> <li>3. I-131, I-133, H-3, and particulates with half-lives <math>&gt; 8</math> days <math>&gt; 3.0E+5</math> mrem/year to any organ (inhalation pathways only)</li> </ol>	<p>1.a <del>NUREG 0654, Example 15 - NUMARC NESP-007, AAL Alert.</del></p>
<p>1.b Radiological liquid effluents exceed 10 times Technical Requirements Limits for instantaneous release.</p>	<p>1.b Report of radiological liquid effluent release exceeding 10 times Technical Requirement Limits. This includes effluent sources such as Service Water or RHR Service Water Loops A or B.</p>	<p>1.b NUREG 0654, Example 15 - Alert.</p>

1. Appendix F lists NUREG 0654 Initiating Conditions not used.

