


Attachment 1

Letter Number 2.16.056

Revised 10 CFR 50.54(q) Review for EP-AD-601, Emergency Action Level Technical
Bases Document, Revision 7


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10 CFR 50.54(q)(3) SCREENING

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Procedure/Document Number: EP-AD-601		Revision: 7, Revised	
Equipment/Facility/Other: Pilgrim Nuclear Power Station			
Title: Emergency Action Level Technical Bases Document			
Part I. Description of Activity Being Reviewed (This is generally changes to the emergency plan, EALs, EAL bases, etc. – refer to step 3.0[6]): <ol style="list-style-type: none"> 1. Correct typographical error from "low level" to "low pressure" Page 268 2. Change the set points for the Maximum Normal Operating Value for RWCU Filter Area TE-1291-60A from 105 to 115 degrees Fahrenheit and the Maximum Safe Operating Value from 120 to 130 degrees Fahrenheit per EC 52583. Pages 294,318 			
Part II. Activity Previously Reviewed? Is this activity fully bounded by an NRC approved 10 CFR 50.90 submittal or Alert and Notification System Design Report? If YES, identify bounding source document number/approval reference and ensure the basis for concluding the source document fully bounds the proposed change is documented below: Justification: <input type="checkbox"/> Bounding document attached (optional)		<input type="checkbox"/> YES 50.54(q)(3) Evaluation is NOT required. Enter justification below and complete Part VI.	<input checked="" type="checkbox"/> NO Continue to next part
Part III. Applicability of Other Regulatory Change Control Processes Check if any other regulatory change processes control the proposed activity.(Refer to EN-LI-100)			
APPLICABILITY CONCLUSION <input type="checkbox"/> If there are no other controlling change processes, continue the 50.54(q)(3) Screening. <input checked="" type="checkbox"/> One or more controlling change processes are selected, however, some portion of the activity involves the emergency plan or affects the implementation of the emergency plan; continue the 50.54(q)(3) Screening for that portion of the activity. Identify the applicable controlling change processes below. <input type="checkbox"/> One or more controlling change processes are selected and fully bounds all aspects of the activity. 50.54(q)(3) Evaluation is NOT required. Identify controlling change processes below and complete Part VI.			
CONTROLLING CHANGE PROCESSES 10CFR50.54(q), 10CFR50.59(c)(1); 10CFR72.48(c)(1) (See attached PAD)			
Part IV. Editorial Change Is this activity an editorial or typographical change such as formatting, paragraph numbering, spelling, or punctuation that does not change intent? Yes, Item 1 Justification: Item 1 is a typographical change which corrects the term "low level" to "low pressure" when referring to "low pressure pumps". This is an editorial change which does not change intent, facilities, equipment or processes for this procedure or affect any planning standard elements. "NO" is checked because the PNPS Emergency Plan revision contains other changes that are not editorial.		<input type="checkbox"/> YES 50.54(q)(3) Evaluation is NOT required. Enter justification and continue to next part or complete Part VI as applicable.	<input checked="" type="checkbox"/> NO Continue to next part


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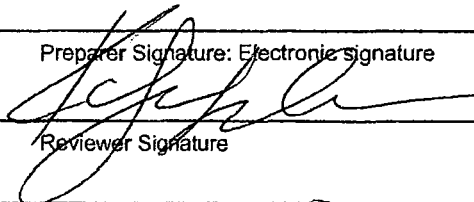
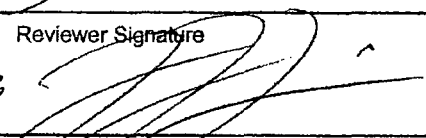
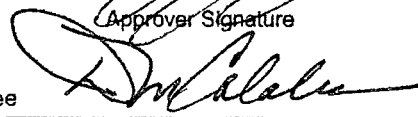
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Part V. Emergency Planning Element/Function Screen (Associated 10 CFR 50.47(b) planning standard function identified in brackets) Does this activity affect any of the following, including program elements from NUREG-0654/FEMA REP-1 Section II?			
1. Responsibility for emergency response is assigned. [1]			<input type="checkbox"/>
2. The response organization has the staff to respond and to augment staff on a continuing basis (24/7 staffing) in accordance with the emergency plan. [1]			<input type="checkbox"/>
3. The process ensures that on shift emergency response responsibilities are staffed and assigned. [2]			<input type="checkbox"/>
4. The process for timely augmentation of onshift staff is established and maintained. [2]			<input type="checkbox"/>
5. Arrangements for requesting and using off site assistance have been made. [3]			<input type="checkbox"/>
6. State and local staff can be accommodated at the EOF in accordance with the emergency plan. [3]			<input type="checkbox"/>
7. A standard scheme of emergency classification and action levels is in use. [4]			<input checked="" type="checkbox"/>
8. Procedures for notification of State and local governmental agencies are capable of alerting them of the declared emergency within 15 minutes after declaration of an emergency and providing follow-up notifications. [5]			<input type="checkbox"/>
9. Administrative and physical means have been established for alerting and providing prompt instructions to the public within the plume exposure pathway. [5]			<input type="checkbox"/>
10. The public ANS meets the design requirements of FEMA-REP-10, Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants, or complies with the licensee's FEMA-approved ANS design report and supporting FEMA approval letter. [5]			<input type="checkbox"/>
11. Systems are established for prompt communication among principal emergency response organizations. [6]			<input type="checkbox"/>
12. Systems are established for prompt communication to emergency response personnel. [6]			<input type="checkbox"/>
13. Emergency preparedness information is made available to the public on a periodic basis within the plume exposure pathway emergency planning zone (EPZ). [7]			<input type="checkbox"/>
14. Coordinated dissemination of public information during emergencies is established. [7]			<input type="checkbox"/>
15. Adequate facilities are maintained to support emergency response. [8]			<input type="checkbox"/>
16. Adequate equipment is maintained to support emergency response. [8]			<input type="checkbox"/>
17. Methods, systems, and equipment for assessment of radioactive releases are in use. [9]			<input type="checkbox"/>
18. A range of public PARs is available for implementation during emergencies. [10]			<input type="checkbox"/>
19. Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities. [10]			<input type="checkbox"/>
20. A range of protective actions is available for plant emergency workers during emergencies, including those for hostile action events.[10]			<input type="checkbox"/>


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21. The resources for controlling radiological exposures for emergency workers are established. [11]			<input type="checkbox"/>
22. Arrangements are made for medical services for contaminated, injured individuals. [12]			<input type="checkbox"/>
23. Plans for recovery and reentry are developed. [13]			<input type="checkbox"/>
24. A drill and exercise program (including radiological, medical, health physics and other program areas) is established. [14]			<input type="checkbox"/>
25. Drills, exercises, and training evolutions that provide performance opportunities to develop, maintain, and demonstrate key skills are assessed via a formal critique process in order to identify weaknesses. [14]			<input type="checkbox"/>
26. Identified weaknesses are corrected. [14]			<input type="checkbox"/>
27. Training is provided to emergency responders. [15]			<input type="checkbox"/>
28. Responsibility for emergency plan development and review is established. [16]			<input type="checkbox"/>
29. Planners responsible for emergency plan development and maintenance are properly trained. [16]			<input type="checkbox"/>
APPLICABILITY CONCLUSION			
<input type="checkbox"/> If no Part V criteria are checked, a 50.54(q)(3) Evaluation is <u>NOT</u> required; document the basis for conclusion below and complete Part VI.			
<input checked="" type="checkbox"/> If any Part V criteria are checked, complete Part VI and perform a 50.54(q)(3) Evaluation.			
BASIS FOR CONCLUSION			
Emergency planning element 4 in Part V of this form is affected by Item 2 in Part I of this form. A 10CFR50.54(q)(3) evaluation will be performed to determine whether or not the effectiveness of the PNPS Emergency Plan is reduced and prior NRC approval is required.			
Part VI. Signatures:			
Preparer Name (Print) Karen Larson-Sullivan		Preparer Signature: Electronic signature 	Date: 8/8/2016
(Optional) Reviewer Name (Print)		Reviewer Signature	Date:
Reviewer Name (Print) Duane White J.S. Lewis Nuclear EP Project Manager		Reviewer Signature 	Date: 8-17-16
Approver Name (Print) Donna Calabrese Manager, Emergency Planning or designee		Approver Signature 	Date: 8/18/2016

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ATTACHMENT 9.3
10 CFR 50.54(q)(3) EVALUATION

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Part I. Description of Proposed Change:

2. Change the set points for the Maximum Normal Operating Value for RWCU Filter Area TE-1291-60A from 105 to 115 degrees Fahrenheit and the Maximum Safe Operating Value from 120 to 130 degrees Fahrenheit per EC 52583. Pages 294,318


Part II. Description and Review of Licensing Basis Affected by the Proposed Change:

The potentially affected section of the PNPS Emergency Plan includes Section D, Emergency Classification System, Table D-1, Symptoms and Events Requiring Emergency Classification.

EP-AD-270, Equipment Important to Emergency Response, was reviewed. TE-1291-60A is listed under Attachment 9.1, Equipment Important to Emergency Response and Compensatory Measures, as an asset under Steam Leak Detection & Secondary Containment Temperatures for the RWCU Filter Area, but parameters of the set points of the equipment are not listed so there is no impact by the changes.

PNPS Licensing Correspondence Logs from 1976 through 2006 and the Licensing Basis History were reviewed to determine if any commitments would be affected by the revision of the PNPS EAL Technical Bases. No applicable commitments were found.

These proposed changes were also reviewed in consideration of changes identified within the PNPS Emergency Plan Chronology of changes, which identified no potential impact due to the proposed changes. An EN-LI-100, Process Applicability Determination was performed for EOP-04, Revision 12 and SAG-02, Revision 5, also affected by this change. See attached. The relevant criteria or process identified was the Emergency Plan (10CFR50.54(q)/EN-EP-305) review which is addressed by this evaluation. The PAD performed per EN-LI-100 for these identical changes concluded that the applicable portions of LBDs that were reviewed, including UFSAR Section 7.3.3, (design function of an SSC) and Section 7.3.4.8 (method of performing or controlling a design function of an SSC) are not affected by the changes and did not contain any relevant additional information.

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Part III. Describe How the Proposed Change Complies with Relevant Emergency Preparedness Regulation(s) and Previous Commitment(s) Made to the NRC:

10 CFR 50.47(b)(4) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures

Site Compliance – A standard emergency classification and action level scheme based on NEI 99-01 Revision 5 remains in effect with this change. The change addresses the elimination of nuisance alarms that may result in the false indication of a steam leak in Secondary Containment in accordance with the existing standard emergency classification and action level scheme.


Previous Commitments to the NRC – PNPS EPlan Chronological Change listing was reviewed with the subject EP-AD-601 changes under review, with no potential impact or relevancy observed. PNPS EP Procedure Listing and the current listing of NRC commitments associated with the PNPS EP-IPs or Emergency Plan changes were reviewed for potential NRC commitment impact as a result of this procedure revision. There were no identified conflicts as a result of this revision.

Part IV. Description of Emergency Plan Planning Standards, Functions and Program Elements Affected by the Proposed Change:

10 CFR 50.47(b)(4) - Emergency Classification System

- A standard scheme of emergency classification and action levels is in use.

Sections IV.B and IV.C of Appendix E to 10 CFR 50 provide supporting requirements. Informing criteria appear in Section II.D of NUREG-0654 and the licensee's emergency plan.

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Part V. Description of Impact of the Proposed Change on the Effectiveness of Emergency Plan Functions:

This revision changes the set points for the Maximum Normal Operating Value for RWCU Filter Area TE-1291-60A from 105 to 115 degrees Fahrenheit and the Maximum Safe Operating Value from 120 to 130 degrees Fahrenheit per Engineering Change (EC) 52583. These values appear in EP-AD-601, Emergency Action Level Technical Bases Document, at Table F-2 Secondary Containment Area Temperature and Radiation Maximum Normal Operating Values, and at Table F-3, Secondary Containment Area Temperature and Radiation Maximum Safe Operating Values. These Tables are found within the PNPS Bases Discussion, associated with the following EAL Thresholds for Fission Product Barriers:

Item 14: "Unisolable primary system discharge outside primary containment AND A valid entry condition to EOP-04 exists due to Secondary Containment area radiation or temperature above any Maximum Normal Operating Value (EOP-04, Table H)

Item 20: "Unisolable primary system discharge outside primary containment AND A valid entry condition to EOP-04 exists due to Secondary Containment area radiation or temperature above any Maximum Safe Operating Value (EOP-04, Table L)

As noted, these values also appear in EOP-4, and are being similarly revised in EOP-4 Revision 12.


As EC-52583 describes, TE-1291-60A detects the temperature changes in the RWCU Filter Area and inputs the information to recorder TRU-260-19 on panel C-921 in the Control Room. When the temperature detected by TE-1291-60A exceeds the set point programmed in TRU-260-19, an alarm signal is communicated to a common alarm on panel C904L-A6 "STEAM LEAK AREA TEMP HI" in the Control Room. TE-1291-60A is currently programmed/configured in TRU-260-19 for Maximum Normal Operating Value (105 deg. F) and Maximum Safe Operating Values (120 deg. F).

The high temperature alarm detected by TE-1291-60A is intended as an indication of a steam leak in the secondary containment area. However, many condition reports have been written regarding the inadvertent activation of the alarm on this panel, including CR-PNP-2006-2658, CR-PNP-2006-2739, CR-PNP-2006-4670, CR-PNP-2007-2732, CR-PNP-2010-2197, and CR-PNP-2014-01731. Troubleshooting and equipment walk-downs were performed, including observations on several occasions by Operators who confirmed that the high temperature alarm is not indicative of a steam leak, and that seasonal temperature changes is the main cause in increase in ambient temperature which results to the inadvertent alarms in the control room for TE-1291-60A on C904L-A6. This was further confirmed through observation of local area monitoring instrumentation such as C-61 (Rx Building Ventilation Control Panel) which also revealed no abnormal conditions. EP-AD-601, PNPS Basis under Reactor Coolant System advises that "a high RWCU area temperature may be indicative of increased ambient temperatures due to seasonal changes".

According to EC-52583, the design objective to resolve the problem is to revise the Maximum Normal and Safe Operating Area temperature alarm set points for the RWCU Filter Area, 80ft EL. monitored by TE-1291-60A. This will prevent the potential for inadvertent alarms due to normal seasonal temperature changes. In further detail, EC-52583 provides the following discussion of the temperature set points to monitor secondary containment integrity using the Maximum Normal Operating Temperature and the Maximum Safe Operating Temperature:

"Maximum Normal Operation Temperature basis is:

The highest value of the identified parameter expected to occur during normal plant operating conditions with all directly associated support and control systems functioning properly. [EPG Appendix B]

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The Maximum Normal Operating Temperature for this area is referenced in the system safety analysis calculation S&SA-053 sheets 49 and 51 based on FSAR Table 10.9-2 reactor building general area temperature, 6498-HB 'Reactor Building Quadrants & HPCI Room HVAC Mechanical Calculation', E-536 'Environment Qualification of Electrical specification', and PSTG 95-04. Rather than using licensing models, the maximum normal temperature setpoint for TE-1291-60A was based solely on the area temperature value of 105 deg F with no conservatism or basis for the actual value."

"Maximum Safe Operating Temperature (MSOT) basis is:

All values for MSOT are either a value less than the EQ peak temperature for the area, or within the margin for the components within the zone. [Calculation S&SA053 Rev 20 Sheet 52 of 54]


TE129160A is located in EQ Zone 1.13F (Cleanup Powdex Unit). The area is classified as a harsh environment indicating that temperatures can exceed 130 deg F [Specification &536 section &5. 1]. The peak temperature during a primary break outside of containment (PBOC) is 301 deg F. Calc S&SA053 shows that the high initial temperature is attributed to a break in HPCI piping that runs through the area. Figure C.4.1-21 in E-536 shows the temperature profile of a PBOC where the area temperature peaks at 301 deg F and quickly drops to approximately 190 deg F. Approximately 2 hours after the event, the area temperature levels to approximately 145 deg. F."

"The original maximum normal temperature of 105 deg. F was based on the highest expected temperatures in the area. The documented Condition Reports and troubleshooting performed have demonstrated that the maximum normal temperature for the area is approximately 111 deg. F. Therefore, the proposed changed maximum normal temperature of 115 deg F +/- 3 is still above the 111 deg F."

"The proposed change to the maximum safe temperature of 130 deg. F +/-3 Deg. F is well below the peak temperature of 301 deg F and less than the longer term, equalized temperature of approximately 145 deg F."

"The proposed set point changes for Maximum Normal Operating Temperatures and the Maximum Safe Operating Temperatures for TE-1291-60A will ensure that the Secondary Containment Control Emergency Procedure Guidelines design basis for secondary containment integrity will continue to be met while eliminating a nuisance alarm in the control room."

These changes recognize the sensitivity of these monitors to fluctuations in ambient temperatures and simply adjust these temperature alarm set points to prevent the potential for inadvertent alarms due to normal seasonal temperature changes. EC-52583 provides a detailed evaluation, design summary, margin analysis and evaluation resolution. These changes to Table F-2 Secondary Containment Area Temperature and Radiation Maximum Normal Operating Values, and Table F-3, Secondary Containment Area Temperature and Radiation Maximum Safe Operating Values, reflect these revised values and maintain support in the determination of Fission Product Barrier Loss/Potential Loss Matrix and Technical Bases found within EP-AD-601, Emergency Action Level Technical Bases Document. Pilgrim Station maintains an on-going basis for assessing and monitoring radiological conditions at the plant. This refinement in baseline temperatures set points does not change or impact the methods, systems or designated equipment for assessing or monitoring actual or potential offsite consequences of a radiological emergency condition and does not change or impact the Pilgrim emergency classification system.

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In addition, the proposed change does not result in a change to the underlying NEI 99-01 Revision 5 scheme for the site-specific EALs. The change addresses the elimination of nuisance alarms that may result in the false indication of a steam leak in Secondary Containment in accordance with the existing standard emergency classification and action level scheme.

The proposed changes to EP-AD-601 continue to meet the planning standards outlined in 10 CFR 50.47(b)(4). This proposed revision does not require a change to the PNPS Emergency Plan or represent a reduction in the effectiveness to the emergency plan and can be incorporated without prior NRC approval.

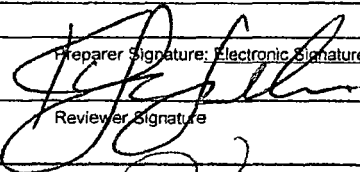
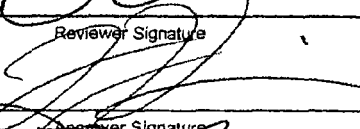
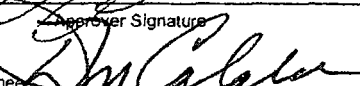
Part VI. Evaluation Conclusion

Answer the following questions about the proposed change.

- | | |
|---|---|
| 1. Does the proposed change comply with 10 CFR 50.47(b) and 10 CFR 50 Appendix E? | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| 2. Does the proposed change maintain the effectiveness of the emergency plan (i.e., no reduction in effectiveness)? | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| 3. Does the proposed change constitute an emergency action level scheme change? | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |

If questions 1 or 2 are answered NO, or question 3 answered YES, reject the proposed change, modify the proposed change and perform a new evaluation or obtain prior NRC approval under provisions of 10 CFR 50.90. If questions 1 and 2 are answered YES, and question 3 answered NO, implement applicable change process(es). Refer to step 5.8[8].

Part VII. Signatures

Preparer Name (Print) Karen Larson-Sullivan	Preparer Signature: Electronic Signature 	Date: 8/8/2016
(Optional) Reviewer Name (Print)	Reviewer Signature	Date:
Reviewer Name (Print) Duane White - J.D. Lewis Nuclear EP Project Manager 8-17-16	Reviewer Signature 	Date: 8-17-16
Approver Name (Print) Donna Calabrese Manager, Emergency Preparedness or designee	Approver Signature 	Date: 8/18/2016