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Anticipated Transients That Could Develop into More Serious Events

Comment On: NRC-2015-0167-0001
Anticipated Transients That Could Develop Into More Serious Events; Request for Comment on Draft Revision to Regulatory Issue Summary

Document: NRC-2015-0167-DRAFT-0006
Comment on FR Doc # 2015-17510

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7/17/2015
SOFR 42559

Submitter Information

Name: Anonymous Anonymous
Submitter's Representative: Zackary Rad
Organization: NuScale Power, LLC

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RULES AND DIRECTIVES
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General Comment

See attached file(s)

Attachments

RIS 2005-29 Rev 1_NuScale Comments

SUNSI Review Complete
Template = ADM - 013
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Add= A. Papera (9xP16)



LO-0915-17624

September 15, 2015

Docket: NRC-2015-0167

Ms. Cindy Bladey
Office of Administration, Mail Stop: OWFN-12-H08
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001.

SUBJECT: NuScale Power, LLC Submittal of Comments on Draft Regulatory Issue Summary 2005-29, Revision 1, "Anticipated Transients That Could Develop Into More Serious Events" (Docket ID NRC-2015-0167).

NuScale Power, LLC (NuScale) appreciates the opportunity to provide the NRC with comments on draft Regulatory Issue Summary 2005-29, Revision 1, "Anticipated Transients That Could Develop Into More Serious Events" (RIS 2005-29). In accordance with the referenced Federal Register Notices (FRN) Vol.80, No. 125, Pg. 42559, dated July 17, 2015, attached are NuScale's comments for Docket ID NRC-2015-0167. This letter makes no regulatory commitments and no revisions to any existing regulatory commitments.

Please feel free to contact Zackary Rad at 980.349.4831 or at zrad@nuscalepower.com if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Zackary Rad", written over a horizontal line.

Zackary Rad
NuScale Power, LLC
Manager, Licensing Support

Distribution: Greg Cranston, NRC, TWFN-6E7
Omid Tabatabai, NRC, TWFN-6E7

Attachment: NuScale Comments on Draft Revision 1 to RIS 2005-29



#	Affected Section, Page or Text	Comment	Recommendation
1	General comment	It is not clear whether the issue raised in the RIS is an issue with licensed plant compliance, or rather a safety concern. As a result, it is difficult to determine how this RIS would affect new plant applications.	<p>If the issue is with how licensed plants need to comply with the licensing basis as established by an UFSAR, then this RIS should (1) clearly state that it deals with a compliance issue rather than a safety issue, (2) make a recommendation on how existing plants can resolve the compliance issue, and (3) make a recommendation on how new plants can avoid the compliance issue.</p> <p>If there is also a safety concern, for example if a Condition II event lead to unacceptable consequences or the frequency of specific events needs to be reduced based on a risk assessment, clearly stating the safety concern, maybe separately from this RIS, will be beneficial. Dealing with a safety concern could involve a change in the licensing basis for existing plants or new requirements for new plants.</p>
2	INTENT, p 1, <i>“Specifically, licensing bases, as documented in final safety analysis reports (FSARs), updated FSARs (UFSARs), or design control documents (DCDs), failed to</i>	SRP 15.0 (NUREG-0800) defines Condition II and Condition III events as AOOs. p 15.0-2 <i>“The SRP uses the term AOOs to refer to the events that are categorized in Regulatory Guide 1.70 and in Regulatory Guide 1.206 as</i>	Change statement to <i>“failed to demonstrate that Condition II events would not progress to more serious events (Condition III or Condition IV events), as defined in the commonly used</i>



<p><i>demonstrate that anticipated operational occurrences (AOOs, also Condition II events) would not progress to more serious events (Condition III or IV events)."</i></p> <p>Comment also applies to:</p> <ul style="list-style-type: none"> • BACKGROUND INFORMATION, p2, <i>"In other words, Condition II events (AOOs) are more frequent than Condition III events."</i> • SUMMARY OF ISSUE, p4, <i>"failed to meet the non-escalation criterion for three mass addition Condition II events (AOOs)."</i> • SUMMARY OF ISSUE, p4, <i>"The NRC staff is concerned that these Condition II events (AOOs) could escalate to a small break loss of coolant accident (SBLOCA)."</i> • BACKGROUND INFORMATION, B.2, p6 <i>"as specified in the design requirements for Condition II events (AOOs)."</i> 	<p><i>incidents of moderate frequency (i.e., events that are expected to occur several times during the plant's lifetime) and infrequent events (i.e., events that may occur during the lifetime of the plant).</i></p> <p><i>Incidents of moderate frequency and infrequent events are also known as Condition II and Condition III events, respectively, in the commonly used, oft-cited but unofficial American Nuclear Society (ANS) standards."</i></p>	<p><i>ANS standards. Conditions II and III events are considered anticipated operational occurrences in accordance with Section 15.0 of NUREG-0800"</i></p>
<p>3 BACKGROUND INFORMATION, p3,</p>	<p>It is not clear why the conditions described in</p>	<p>Clarify why the specific example does</p>



<p><i>“There have been several instances where the non-escalation criterion was not met, and a Condition II event generated a Condition III event. Specifically, inadvertent operation of the emergency core cooling system (ECCS) resulted in filling the pressurizer, and, in at least one case⁵, relieved water through the power operated relief valves (PORVs). If water relief through the PORVs continues long enough, there is potential for the rupture disc on the pressurizer relief tank to rupture and RCS water to be spilled directly into containment, leaving the plant in a condition that will require significant clean-up efforts and potentially cause dose concerns.”</i></p>	<p>the specific example are considered an escalation to a Condition III event.</p> <ul style="list-style-type: none">• Spilling water directly into containment is allowed for Condition II events. Examples include small pipe breaks that are within the normal makeup capacity and spurious opening of pressure relief valves which is classified as a Condition II event for PWRs and BWRs.• “leaving the plant in a condition that will require significant clean-up” is an operational concern rather than a public and health and safety concern for Condition II events. Limited fuel failure which is allowable for Condition III events does have a potential public health and safety consequence which could preclude resumption of plant operations. From ANSI 18.2-1973, p8, <i>“Condition III incidents shall be accommodated without the cladding failure of more than a small fraction of the fuel elements in the reactor, although sufficient fuel element damage might occur to preclude resumption of operation without considerable outage time.”</i>• “dose concerns” in terms of distinguishing	<p>not meet Condition II acceptance criteria.</p>
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		<p>between Condition II and Condition III events are associated with fuel failures rather than spilling water into containment.</p>	
<p>4</p>	<p>C. Inadvertent Opening of a PORV or PSV, p8, "Most licensing basis analyses choose to show closure of the PSV, PORV, or its block valve prior to ECCS actuation, in order to avoid the pressurizer filling shortly after ECCS delivery begins."</p>	<p>This statement creates the expectation that ECCS actuation with a stuck open PSV is not an allowable plant configuration for a Condition II event. Depending on valve type, a PSV does not have a means for ensuring closure if the valve spuriously opened. PSVs also do not typically have block valves. Further, SRP 15.6.1 classifies this event as an event that leads to a decrease in inventory, the same event class for LOCAs analyzed under SRP 15.6.5 which requires ECCS actuation. SRP 15.6.1 does not require valve closure or preventing ECCS actuation. Relevant precedent includes North Anna UFSAR, Revision 45, p 15.2-37, ML092810047. "<i>Long term effects of this type of event, i.e., after reactor trip, are addressed in the analysis of the small break Loss of Coolant Accident (Section 15.3.1).</i>" For precedent on new plants see Section 15.6.1 of EPR DCA.</p>	<p>State that ECCS actuation to mitigate spurious opening of a PSV is an allowable plant configuration for this Condition II event. Precedent from plants that were licensed to mitigate this event by relying on ECCS actuation without PSV closure should also be included.</p>