

From: Ron Young
To: Jonathan Rowley
Date: 10/19/2007 5:05:35 PM
Subject: SBPB S & S Input for VY License Renewal SER - Section 2.2

Jonathan,

Per our earlier conversation, attached is the revised SBPB input for Section 2.2, "Plant-Level Scoping Results" of the VY SER.

The revised input briefly addresses VY's addition of 13 new in-scope systems and associated component types. The input also lists those systems where changes in license renewal system boundaries resulted in the addition of new component types, materials, or environments which affected AMR results in the LRA. (Recall that this list of systems needs verification.)

Thanks.

Ron

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From: Ron Young
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Recipients

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MESSAGE	994	10/19/2007 5:05:28 PM	
SBPB S&S Input for Vermont Yankee SER - Section 2.2 - Oct. 14 '07 Rev 1.wpd		10/19/2007 5:02:46 PM	43349

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2.2 Plant-Level Scoping Results

2.2.1 Introduction

In LRA Section 2.1, the applicant described the methodology for identifying SSCs within the scope of license renewal. In LRA Section 2.2, the applicant used the scoping methodology to determine which SSCs must be included within the scope of license renewal. The staff reviewed the plant-level scoping results to determine whether the applicant has properly identified all systems and structures relied upon to mitigate DBEs, as required by 10 CFR 54.4(a)(1), systems and structures the failure of which could prevent satisfactory accomplishment of any safety-related functions, as required by 10 CFR 54.4(a)(2), and systems and structures relied on in safety analyses or plant evaluations to perform functions required by regulations referenced in 10 CFR 54.4(a)(3).

2.2.2 Summary of Technical Information in the Application

In LRA Tables 2.2-1a, 2.2-1b, and 2.2.3, the applicant listed plant mechanical systems, structures, and EIC systems, respectively, within the scope of license renewal. In LRA Tables 2.2-2 and 2.2-4, the applicant listed mechanical systems and structures that are not within the scope of license renewal. Based on the DBEs considered in the plant's CLB, other CLB information relating to nonsafety-related systems and structures, and certain regulated events, the applicant identified plant-level systems and structures within the scope of license renewal as specified by 10 CFR 54.4.

2.2.3 Staff Evaluation

In LRA Section 2.1, the applicant described its methodology for identifying systems and structures within the scope of license renewal and subject to an AMR. The staff reviewed the scoping and screening methodology and provides its evaluation in SER Section 2.1. To verify that the applicant properly implemented its methodology, the staff's review focused on the implementation results shown in LRA Tables 2.2-1a, 2.2-1b, 2.2-2, 2.2-3, and 2.2-4, to confirm that there were no omissions of plant-level systems and structures within the scope of license renewal.

The staff determined whether the applicant properly identified the systems and structures within the scope of license renewal in accordance with 10 CFR 54.4. The staff reviewed selected systems and structures that the applicant had not identified as falling within the scope of license renewal to verify whether the systems and structures have any intended functions requiring their inclusion within the scope of license renewal. The staff's review of the applicant's implementation was conducted in accordance with the guidance in SRP-LR Section 2.2, Plant-Level Scoping Results.

In LRA Section 2.2, the staff identified areas in which additional information was necessary to complete the review of the applicant's plant-level scoping results. The applicant responded to the staff's RAIs as discussed below:

LRA Table 2.2-4, AStructures Not within the Scope of License Renewal, identifies the office building (administration and service buildings) as not within the scope of license renewal. The table identifies two UFSAR sections as references for office building. UFSAR Section 12.2.1.1.3 is an appropriate reference that identifies the administration building as a seismic Class II

structure. However, the second UFSAR Section 12.2.3 is actually for the turbine building and not the administration or service building. In RAI 2.2-1 dated August 16, 2006, the staff requested that the applicant clarify and correct the reference to UFSAR Section 12.2.3 in LRA Table 2.2-4.

In its response dated September 20, 2006, the applicant stated that the office building is called by various names in VYNPS documents: the office building or area, the service building or area, and the administration building. It is sometimes considered part of the turbine building and in other contexts described as a separate building. In UFSAR Section 12.2.3, this area is listed as the "service area" that is part of the turbine building. Although the reference to UFSAR Section 12.2.3 is correct, this reference could have been omitted since UFSAR Section 12.2.3 only lists the service area and provides no description or further information about the service area. The applicant stated that the office building is not within the scope of license renewal.

Based on its review, the staff finds the applicant's response to RAI 2.2-1 acceptable because the applicant clarified the use of the term office building; therefore, the staff's concern described in RAI 2.2-1 is resolved.

The pressure regulator and TG control system is described in UFSAR Section 7.11. The purpose of the TG control system is to control steam flow and pressure to the turbine and to protect the turbine from overpressure or excessive speed. The TG controls work in conjunction with the Anuclear steam system's controls to maintain essentially constant reactor pressure and limit reactor transients during load variations. The LRA does not address the nuclear steam system, nor does it appear to refer to UFSAR Section 7.11 in the text. In RAI 2.2-3 dated August 16, 2006, the staff requested that the applicant clarify whether the nuclear steam system controls are included within the scope of license renewal, or explain the basis for their exclusion.

In its response dated September 20, 2006, the applicant stated that the pressure regulator and TG control system as described in UFSAR Section 7.11 is an electrical and instrumentation and control (EIC) portion of the main TG system listed in LRA Table 2.2-2. The TG system provides automatic and manual controls to maintain essentially constant reactor pressure and limit reactor transients during load variations. Components in the system control steam flow and pressure to protect the turbine from overpressure or excessive speed. As discussed in the introduction to Table 2.2-1b, "EIC Systems within the Scope of License Renewal (Bounding Approach)," all EIC commodities contained in electrical and mechanical systems are in-scope by default. LRA Table 2.2-1b provides the list of electrical systems that do not include mechanical components that meet the scoping criteria of 10 CFR 54.4. Systems (such as the TG system) with mechanical components that meet the scoping criteria of 10 CFR 54.4 are listed in LRA Table 2.2-1a. The pressure regulator and TG control system as described in UFSAR Section 7.1.1 are not considered separate systems and therefore are not listed in LRA Table 2.2-1a. However, the components that perform this function are in-scope as EIC components. The applicant stated that the nuclear steam system controls are within the scope of license renewal.

Based on its review, the staff finds the applicant's response to RAI 2.2-3 acceptable because the applicant stated all EIC commodities contained in electrical and mechanical systems are in-scope by default; therefore, the staff's concern described in RAI 2.2-3 is resolved.

In response to the Vermont Yankee Nuclear Power Station - NRC License Renewal Inspection

Report 05000271/2007006, dated June 4, 2007, the applicant placed fluid system components within the turbine building within the scope of license renewal. The applicants original scoping had determined that most of the turbine building was not within the scope of license renewal with a few exceptions, i.e., the diesel generator rooms, a few limited areas, and segments of the service water and diesel fuel oil systems. The inspection team determined that the scoping of segments of the service water and diesel fuel oil systems were not, in some instances, in accordance with guidance and that safety-related cables for reactor protection system functions had not been appropriately considered. The applicant added the turbine building to the scope of license renewal.

The applicant's response to the inspection report and subsequent submittal of supplementary information related to implementation of an enhanced scoping review are documented in the their letters to the NRC dated July 3, 2007, July 30, 2007, and August 16, 2007. As a result of implementing of scoping review changes, the applicant expanded the scope of license renewal and added the following mechanical systems and associated in-scope components:

- HD and HV instruments system
- air evacuation system
- building (drainage system components)system
- circulating water priming system
- extraction steam system
- heater drain system
- heater vent system
- hydrogen water chemistry system
- make-up demineralizer system
- seal oil system
- turbine building closed cooling water system
- main turbine generator
- turbine lube oil system

The above 13 mechanical systems were added to LRA Table 2.2-1a and removed from LRA Table 2.2-2.

The following mechanical systems had system boundary changes. For these systems, new component types were added that affected the scoping and screening results in the LRA. For systems listed below, new components, materials or environments that affected the AMR results in the LRA were added.

- augmented offgas system
- condensate system
- condensate demineralizer system
- condensate storage and transfer system
- circulating water system
- feedwater system
- fuel oil system
- fire protection system
- house heating boiler system
- heating, ventilation, and air conditioning system
- potable water system
- stator cooling system

- sampling system
- service water system

The effects of the above changes are evaluated in the applicable sections of this SER.

The staff reviewed the selected systems and structures that the applicant had not identified as falling within the scope of license renewal to verify whether the systems and structures have any intended functions that would require their inclusion within the scope of license renewal in accordance with 10 CFR 54.4. The staff's review of the applicant's implementation was conducted in accordance with the guidance described in SRP-LR Section 2.2, "Plant-Level Scoping Results."

2.2.4 Conclusion

The staff reviewed LRA Section 2.2, the RAI and inspection report responses, and the UFSAR supporting information to determine whether the applicant failed to identify any systems and structures within the scope of license renewal. The staff finds no such omissions. On the basis of its review, the staff concludes that there is reasonable assurance that the applicant has adequately identified in accordance with 10 CFR 54.4 the systems and structures within the scope of license renewal.