

PMSummerColpEM Resource

From: Sebrosky, Joseph
Sent: Tuesday, October 25, 2011 4:36 PM
To: MONROE, AMY; GILES, JULIE M
Cc: PMSummerColpEM Resource; Vokoun, Patricia; Martin, Jody
Subject: NRC Staff Responses to Commission Post draft responses.docx
Attachments: NRC Staff Responses to Commission Post draft responses.docx

Amy and Julie,

Attached are the staff's draft responses to the Summer mandatory hearing safety questions to support the 10:00 am call tomorrow. The draft responses do not include responses to the Fukushima questions (i.e., A-E, and 1, 2, and 5). I intend to discuss these responses at a high-level tomorrow. Please note that these are draft responses and are subject to change based on management review.

Let me know if you have any questions.

Sincerely,

Joe Sebrosky

Hearing Identifier: VCSummer_COL_Public
Email Number: 369

Mail Envelope Properties (36CF286628C20846A68047F2463233095900A5D138)

Subject: NRC Staff Responses to Commission Post draft responses.docx
Sent Date: 10/25/2011 4:36:24 PM
Received Date: 10/25/2011 4:36:26 PM
From: Sebrosky, Joseph

Created By: Joseph.Sebrosky@nrc.gov

Recipients:

"PMSummerColpEM Resource" <PMSummerColpEM.Resource@nrc.gov>

Tracking Status: None

"Vokoun, Patricia" <Patricia.Vokoun@nrc.gov>

Tracking Status: None

"Martin, Jody" <Jody.Martin@nrc.gov>

Tracking Status: None

"MONROE, AMY" <AMONROE@scana.com>

Tracking Status: None

"GILES, JULIE M" <JMGILES@scana.com>

Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	Size	Date & Time	
MESSAGE	504	10/25/2011 4:36:26 PM	
NRC Staff Responses to Commission Post draft responses.docx			42621

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

NRC Staff Responses to Commission Post-Hearing Questions

Table 1 – SUPPLEMENTAL RESPONSES TO IN-HEARING QUESTIONS

For clarity with respect to several of the items in Table 1, the Staff has excerpted the question or, where necessary, summarized what it understands the follow-up question to be.

ITEM A

Staff Overview Panel, p. 67, lines 4-25; p. 68, lines 1-10

There is a need to duplicate Vogtle COL post hearing question number 1 and the Staff's associated response on the Summer COL proceeding.

Staff Response:

A response to this question is provided in response to question 1a below.

ITEM B

Item B - Staff Overview Panel p. 68, lines 11-25; p. 69, lines 1-14

In your testimony, you appeared to indicate no preference as to which of the options. Do you know which is the right answer? It says that the Staff recommends proceeding with issuance of the license and using the appropriate regulatory tools to impose new requirements in the event new requirements are established.

Staff Response:

Response to be discussed

Item C - Staff Overview Panel p. 71, lines 15-25; p. 72, lines 1-13

I had the same confusion about your opening statement, which adopted more of a neutral stance. I understand that you now to be indicating that the Staff retreats from or will be amending or modifying its recommendation as articulated in this response?

Staff Response:

See response to question B above.

ITEM D

Staff Overview Panel p. 78, lines 18-23

We have a post hearing question that we are going to look at to see what can be done in terms of our license condition..

Staff Response:

See response to question 1a below.

ITEM E

Staff Overview Panel p. 79, lines 18-25; p. 80, lines 1-2

Compare and contrast the options for imposing the recommendations from the near-term task force. What are the schedule and resource estimates for each option?

Staff Response:

Response to be discussed

ITEM F

Safety Panel 1 p. 116, lines 22-25; p. 117, lines 1-5

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

ITEM G

Safety Panel 1 p. 117, lines 5-15

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

ITEM H

Safety Panel 1 p. 126, lines 5-25; p. 127, lines 1-2

There is a conversation in Chapter 1 of the FSAR that discusses the impacts of construction, and post-construction activities, as it relates to safety, managerial or administrative controls. But, there really is not very much that gets into the impacts that the construction activity might have on operating programs at the existing site. For example, programs like emergency planning, fire protection, physical security, are all things that, could be impacted at Unit 1 by large construction activities. Was this looked at in any detail?

Staff Response:

The Staff's review focused on the COL Applicant's evaluation of potential impacts of construction hazards at the site on the SSCs important to safety for the operating unit as required by 10 CFR 52.79(a)(31). The Staff found that the Applicant's construction impacts evaluation met the requirements of 10 CFR 52.79(a)(31). Furthermore, the operating unit Licensees are required to address the impacts from the construction and operation of a new facility on the existing operating unit. For example, the 10 CFR 73.58 safety/security interface process, the 10 CFR 50.54 (q) emergency preparedness (EP) change process, the 10 CFR 50.59 change process, the 10 CFR 50.65 risk assessment process, the Design Certification Rule Section VIII change process, and the 10 CFR 50.71(e) final safety analysis report (FSAR) update process are used by the Licensee of the operating unit to address these considerations.

Throughout the Staff's review, the underlying principle that the organizations responsible for construction and operation have a shared responsibility for ensuring the safety of the operating unit through separate and distinct tasks is preserved during the pre-construction, construction and operational phases. The Staff's review of the COL Applicant's managerial and administrative controls during construction found that there is reasonable assurance that the Applicant will provide sufficient oversight, procedural controls, communications protocols and approvals to ensure the safety of any operating unit(s) during the construction of Units 2 and 3. This construction impact assessment process also considers the impact of construction of one of the new units on the operation of the other new unit following the Commission's 10 CFR 52.103(g) determination.

ITEM I

Safety Panel 2 p. 163, lines 1-10; p. 164, lines 8-16

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

ITEM J

Safety Panel 3 p. 221, lines 12-25, through p. 223, line12

What issues does human factors engineering deal with in the context of the COL?

Staff Response:

The Staff's review of the human factors engineering program is found in Chapter 18 of the Summer final safety evaluation report. As discussed in the chapter much of the human factors engineering material is incorporated by reference and is evaluated in NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," and its supplements. The following table provides a summary of the COL information that was evaluated by the staff. In accordance with the design centered review approach a STD designation at the beginning of COL item indicates that the item is standard to the AP1000 COL design center. A VCS designation indicates that the item is site-specific to the V.C. Summer application.

COL Item	Description
VCS COL 18.2-2	Provides human factors information related to the emergency operations facility and technical support center.
STD COL 18.6-1	Addresses staffing level and qualification of plant personnel
VCS DEP 18.8-1	Provide V.C. Summer site-specific departure related to the relocation of the technical support center.
STD COL 18.10-1	Addresses the execution of a training plan
STD COL 18.4-1	Addresses human performance monitoring after the plant is placed in operation.

ITEM K through N – to be supplied by the environmental group

Table 2 – Post Hearing Questions

Question 1a:

Please provide the Commission with the proposed license condition language that was prepared in response to Vogtle post-hearing Question 1.

Staff Response:

Response to be discussed

Question 1b:

In the event the Commission decides to impose a license condition requiring implementation of all Commission-approved recommendations from the near-term task force report, what language would you recommend?

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 2:

Please confirm that the Staff does not have a preference for either of the two options available to the Commission that were described in SECY- 11-0115, for implementing the Near-Term Task Force recommendations for the VCSNS, Units 2 and 3 combined licenses.

Staff Response:

See response to question B above.

Question 3:

In response to a question concerning the releases from two units simultaneously, the Staff stated that radiological doses at the site boundary could exceed 25 rem, if the doses from the two releases were added together. Given this conclusion, please describe the basis for concluding that adequate protection is provided based on site analyses that only considered releases from one unit.

Staff Response:

First, it is important to note that the Summer COL application meets all current requirements related to siting, including the dose reference values for accidents. With respect to the Summer COL application, current NRC regulations and guidance do not explicitly call for consideration of combined radiological releases from coincident accidents, given the design of the proposed new units, at the Summer site.

In accordance with guidance in Standard Review Plan (SRP) Section 6.4, the Staff has examined the Applicant's evaluation of whether a radiological release from one unit might affect control room habitability at another, and thereby contribute to an accident at an adjacent unit.

This scenario is considered unlikely because each control room is designed to withstand a limiting release from its own unit, doses from which would bound doses caused by releases from units further away. Therefore, the Applicant has shown an accident in one unit is not expected to cause multi-unit events. Also, since the three units at the V.C. Summer station will comply with GDC-5 by not sharing safety-related SSCs, then there is no potential for common-mode failures

Therefore, the Staff finds that adequate protection is provided on the basis of considering postulated releases from a single unit.

Question 4a:

The COL application is required to include emergency plans which comply with Appendix E to Part 50. 10 C.F.R. § 52.79(a)(21). Part 50 Appendix E provides, in B, “Assessment Actions,” that initial emergency action levels (EALs) must be described, agreed upon by the Applicant and state and local government officials, and approved by the NRC. From the discussion during the hearing, it appears that these requirements have not been satisfied. Instead, the Staff stated it reviewed and approved a plan for developing EALS and a license condition to produce the required EALs in accordance with that plan. Please respond to the following questions:

- a. **Since the regulation requires NRC approval of the initial EALs, what is the basis for accepting a license condition in lieu of the required EALs without granting the Applicant an exemption?**

Staff Response:

The Applicant was not granted an exemption of the requirement to describe the EALs that are to be used. An exemption for the Summer EAL scheme was not needed because Summer provided sufficient information to permit the Staff to make a finding of reasonable assurance that Summer will meet the applicable requirements when the COL is issued. 10 C.F.R. § 52.79(a)(21) requires COL applicants to submit emergency plans that comply with 10 C.F.R. § 50.47 and Part 50 Appendix E, and § 50.47(b)(4) requires that the emergency plans have a standard emergency classification and action level scheme (referred to as the “EAL scheme”). The EAL scheme consists of the overall program for how emergencies are recognized and classified.

Summer provided an overview of the EAL scheme, including defining its four emergency classification levels. In addition, Summer committed to follow, and proposed a license condition requiring it to follow, NEI 07-01, “Methodology for Development of Emergency Action Levels – Advanced Passive Light Water Reactors,” Revision 0, with no deviations. NEI 07-01 (Revision 0) is an NRC-approved document for developing EALs for an AP1000, and provides specific guidance on how the EALs will be developed once all necessary as-built, site-specific information is available. By providing an overview of the EAL scheme, and committing to submit a fully developed set of plant-specific EALs that follow NEI 07-01 (Revision 0), Summer has provided its EAL scheme in sufficient detail for the Staff to find that the emergency plan meets the requirements in § 50.47(b)(4) and Appendix E. Therefore, Summer has provided an acceptable EAL scheme sufficient to issue the COL.

The Staff will have further verification that the EALs have been properly updated because ITAAC 1.1 requires confirmation that specific parameter values are retrievable and the values

are specified in the Emergency Classification and EAL Technical Bases document. In addition, ITAAC 8.1 requires a full participation exercise prior to fuel load that will demonstrate the use and adequacy of the EAL scheme for both the Licensee and State and local officials.

Question 4b:

- b. Are there any other instances where the Staff accepted a plan in lieu of any of the application contents required under 10 C.F.R. § 52.79(a)(21)?**

Staff Response:

No. As explained above, with respect to EALs the Staff did not accept a plan “in lieu of any of the application contents” because the application did comply with 52.79(a)(21). The Staff is not aware of any instances where the Staff accepted a plan in lieu of any of the application contents required under 10 C.F.R § 52.79(a)(21).

Question 4c:

- c. The EAL license condition is silent on whether NRC review and approval is required. Does the Staff plan to review the submittal?**

Staff Response:

Consistent with its approach to determining compliance with other license conditions, the Staff will confirm that the fully developed EAL scheme was developed in accordance with NEI 07-01, Revision 0, with no deviations when it is submitted by the Licensee.

Question 5a:

In pre-hearing question 1, the NRC Staff was solicited for its recommendation between two alternatives for imposing any post-Fukushima regulatory changes to the VCSNS, Units 2 and 3 combined licenses. In response, the Staff recommended “proceeding with issuance of the license and using the appropriate regulatory tools to impose new requirements in the event new requirements are established.”

- a. Does the Staff continue to advance the same recommendation as it endorsed in its responses to the pre-hearing questions? If not, on what basis has the Staff altered its view?**

Staff Response:

See response to question B above.

Question 5b:

- b. If the Staff is now taking the position that license conditions should be imposed before issuance of combined licenses for VCSNS, Units 2 and 3, on what technical bases would the Staff draft these license conditions?**

Staff Response:

See response to question 1a and B above.

Question 6:

A great deal of the recent hearing on the Vogtle COL application was spent discussing squib valve operability and testing. Just to confirm for the record for the Summer COL, there is an ITAAC in the draft COL related to squib valves as well?

Staff Response:

Section 2.1.2, "Reactor Coolant System," of AP1000 Design Control Document (DCD) Tier 1, in Table 2.1.2-4, "Inspections, Tests, Analyses, and Acceptance Criteria [ITAAC]," includes ITAAC No. 12 to verify the functional design and qualification of the squib valves in the Automatic Depressurization System (ADS) of the AP1000 reactor. In particular, Design Commitment 12.a states that the ADS valves identified in Table 2.1.2-1 will perform an active safety-related function to change position as indicated in the table. Inspections, Tests, Analyses (ITA) 12.a.iv states that tests or type tests of squib valves will be performed that demonstrate the capability of the valve to operate under its design conditions. ITA 12.a.v states that an inspection will be performed for the existence of a report verifying that the as-built squib valves are bounded by the tests or type tests. Acceptance Criterion 12.a.iv states that a test report exists and concludes that each squib valve changes position as indicated in Table 2.1.2-1 under design conditions. Acceptance Criteria 12.a.v states that a report exists and concludes that the as-built squib valves are bounded by the tests or type tests.

In a request for additional information (RAI) during review of the AP1000 Design Certification amendment application, the NRC Staff requested Westinghouse to discuss the need for ITAAC related to the active safety-related valve functions of the AP1000 Passive Core Cooling System (PXS) Containment Recirculation Squib Valves and In-Containment Refueling Water Storage Tank (IRWST) Injection Squib Valves because the design of those valves differ from the ADS squib valves. Westinghouse agreed with the NRC Staff position and prepared ITAAC for the PXS squib valves. As result, Section 2.2.3, "Passive Core Cooling System," of AP1000 DCD Tier 1, in Table 2.2.3-4 includes ITAAC No. 12 that specifies a Design Commitment, ITAs, and Acceptance Criteria for the functional design and qualification of AP1000 PXS squib valves consistent with the ITAAC in Table 2.1.2-4 for the ADS squib valves.

As did the Vogtle combined license (COL) application, the V.C. Summer COL application incorporates by reference the AP1000 DCD including its provisions for the design and qualification of squib valves. The draft V.C. Summer COL lists the AP1000 ITAAC, including the ITAAC for the functional design and qualification of squib valves, in Appendix C, "Virgil C. Summer Nuclear Station Unit 2 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)." The NRC Staff will conduct ITAAC inspections to confirm that the squib valves to be used at V.C. Summer are qualified to perform their safety functions as part of the ITAAC closure process prior to plant startup.

With respect to periodic surveillance activities for squib valves, V.C. Summer FSAR Section 3.9.6, "Inservice Testing of Pumps and Valves," describes the inservice testing (IST) operational program to be developed through incorporation by reference of the provisions in AP1000 DCD Tier 2, Section 3.9.6, and supplemental plant-specific provisions. The description of the IST operational program in the V.C. Summer FSAR is based on the ASME *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code), 2001 Edition through the 2003 Addenda, which includes provisions for IST surveillance of explosive-actuated valves for current operating

plants. In addition, the V.C. Summer FSAR specifies that the IST program for squib valves will incorporate lessons learned from the design and qualification process for these valves such that surveillance activities provide reasonable assurance of the operational readiness of squib valves to perform their safety functions. Based on the requirements in 10 CFR 50.55a to implement the ASME OM Code as incorporated by reference in the regulations and the IST program description in the V.C. Summer FSAR, the NRC Staff found in its safety evaluation that the V.C. Summer COL application adequately describes the IST program for squib valves for incorporating the lessons learned from the design and qualification process, such that there is reasonable assurance of the operational readiness of squib valves to perform their safety functions that supports COL issuance. The NRC Staff will conduct inspections of the V.C. Summer IST operational program prior to plant operation to verify that surveillance activities for squib valves satisfy the ASME OM Code as incorporated by reference in 10 CFR 50.55a 12 months before initial fuel loading and also incorporate lessons learned from the squib valve design and qualification process.

Question 7:

According to the AP1000 DCD, the normal residual heat removal system is not considered a safety-related system. However, it penetrates containment and provides cooling to the incontainment refueling water storage tank. Based on this, why isn't it a safety-related system?

Staff Response:

As discussed in Section 5.4.7.1.1 (p.5.4-37) of the AP1000 design control document (DCD), there is a safety-related function for the normal residual heat removal system to provide containment isolation of the containment penetrations when isolation is demanded. The AP1000 normal residual heat removal system also has the safety-related function to provide a flowpath for long-term post accident containment inventory makeup. This is described in Tier 2 Sections 5.4.7.1 and 6.3.4 of the AP1000 DCD. As stated in Tier 2 Section 6.3.4 of the AP1000 DCD:

There is only one action that may be required to provide long-term core cooling. There is a potential need for containment inventory makeup. The need for makeup to containment is directly related to the leakrate from the containment. With the maximum allowable containment leakrate, makeup to containment is not needed for about one month. A safety-related connection is available in the normal residual heat removal system to align a temporary makeup source to containment.

The heat removal functions of the normal residual heat removal system are not safety-related. As further discussed in Section 5.4.7.1.2 (p. 5.4-39) of the AP1000 DCD, the normal residual heat removal system can remove heat from the in-containment refueling water storage tank. The safety-related function of residual heat removal is accomplished by the passive residual heat removal system heat exchanger, which is safety-related. This is described in Section 5.4.7.1.

Question 8a:

In regard to Emergency Planning, significant population in the area does not have transportation and the Applicant has stated in the ETE evaluation that transportation would be provided.

- a. **Did the Staff consider this commitment in its evaluation of the emergency plan? If so, please explain the Staff's conclusions**

Staff Response:

Yes, the availability of transportation resources, and the provision that are made for requesting additional resources when needed was considered. Transportation services are coordinated by the Transportation Services Coordinator in the County Emergency Operations Center. Back-up transportation support may be requested from the State through the South Carolina Department of Transportation. The review of transportation services is incorporated into FEMA's interim finding report (IFR) (ADAMS Accession # ML101890678). FEMA has determined that the plans are adequate, and there is reasonable assurance that the plans can be implemented with no corrections needed.

Question 8b:

- b. **What is your relationship with Fairfield County? Are they available to provide assistance if necessary?**

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 9:

In regard to Emergency Response, an EIS interview with the Fairfield County representative indicates that the county has underfunded emergency response infrastructure - has the Staff confirmed the capability of the local community to respond in the event of an emergency?

Staff Response:

Yes, the review of the capability of the local community to respond in the event of an emergency is incorporated into FEMA's interim finding report (IFR). FEMA's has determined that the plans are adequate, and there is reasonable assurance that the plans can be implemented with no corrections needed.

Question 10:

While pursuing this application, the footprint of the site has expanded beyond Unit 1, including resources and personnel (e.g. craft and construction workers, engineering, and support Staff). When do you plan to fully implement the Emergency Plan as submitted as a part of the licensing application for Units 2 and 3? Has any assessment been made related to impacts on the existing emergency plan until the new plan is place? If so, in what way? How do you plan to protect the construction workers – are they included in a formal training program and do they/will they participate in emergency drills?

Staff Response:

This question is primarily directed to the Applicant. The Applicant is required to evaluate construction impacts from Unit 2 and 3 on the operating Unit 1. As discussed in response to

question H above this includes potential impacts to systems, structures and components and to programs for the operating unit like emergency planning, security, and fire protection. Per the discussion in response to item H above, in accordance with the appropriate change and update process the Applicant must review these effects and the updating of these programs is subject to inspection as part of NRC oversight of the operating unit.

Question 11:

What is the relationship between the Technical Support Center (TSC) and the Operational Support Centers (OSCs) inside each unit? How will the OSCs be staffed?

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 12a:

There are no NRC regulatory requirements for the physical security plan during the construction phase and fabrication of components.

a. What measures are being taken to assure security at the site during construction?

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 12b:

b. What is being done for receipt inspection of components that are received on site or the fabrication of components off site?

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 12c:

c. How will you implement the transition from construction to operation?

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 12d:

d. What changes will occur in the security to initially establish a secure site?

This question was directed solely to the Applicant. Accordingly, the Staff has not provided a response.

Question 13:

During Wednesday's session (Tr. 115), a question was asked relative to simultaneous (worst case) accidents occurring on V.C. Summer units 2 and 3 and whether the 25 rem dose at the fence could be exceeded. The answer was yes if you just added the dose

numbers from the two units. What is missing in the answer is the analysis of the accident progression and consequence assessment. Thus a more detailed, realistic answer to the question would be helpful.

Staff Response:

To show compliance with the reactor siting requirements, the Applicant performs radiological consequences analyses for a set of postulated design basis accidents (DBAs). As described in NUREG-0800, Chapter 15, SRP 15.0.3 and Regulatory Guide 1.183, the DBA radiological consequences analyses are performed with no explicit inclusion of the likelihood of the event. The large release of fission products to the containment is assumed to occur, regardless of the initiating event, and deterministic bounding assumptions are made with regard to the accident scenario, fission product release from the core to the containment, fission product removal by systems or natural processes and fission product transport to the environment. A 95th percentile atmospheric dispersion factor is used to adjust the concentration of radionuclides at the receptors. In other words, the meteorological conditions at the site result in higher concentrations at the receptor location only 5% of the time. This assumption results in bounding doses, not representative ones. The dose calculated for this assessment considers the inhalation and external exposure to the passing airborne plume, but does not consider the dose from radionuclide ingestion, external radiation dose from rainout or fallout, or other pathways. Except that the duration of the exposure at the exclusion area boundary is assumed to be limited to two hours, the doses calculated do not account for any protective actions that may be taken in an actual event, such as evacuation or sheltering. These assumptions mean that the per-unit DBA dose consequences are not evaluated in the same realistic manner that the per-unit consequences of severe accidents are evaluated for the EIS.

A probability-weighted consequence assessment of DBAs is not required by regulation. In addition, the DBAs are assessments performed with deterministic assumptions to bound the potential consequences, but are not realistic. However, the likelihood of consequential or coincident accidents at the two AP1000 units on the V.C. Summer site is thought to be sufficiently low (see response to Question 3) as to not be required to be assessed for the purposes of the siting analysis.

Question 14:

If the Commission approves the proposed Technical Support Center (TSC) departure from the AP1000 DCD, would Commission approval also constitute approval of V.C. Summer Unit 1 TSC relocation? If so, would that be subject to NRC review and approval outside the V.C. Summer COL or AP1000 process?

Staff Response:

The approval of the TSC location for Summer Units 2 and 3 would not constitute approval for Unit 1. The Licensee for Summer Unit 1 would need to follow the applicable processes, in accordance with 10 CFR 50.54(q), to make the appropriate changes to the emergency plans specific to Unit 1.

Question 15:

What are the NRC design requirements regarding the TSC, including structural building aspects?

Staff Response:

The primary regulatory requirements on a TSC are found in 10 CFR 50.47(b)(8), and Appendix E, Section IV, E, 8. Guidance specific to the TSC design requirements is found in Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability," Section 8.2.1. Section 8.2.1.d provides the guidance that the TSC will be "structurally built in accordance with the Uniform Building Code." Additional guidance is found in NUREG-0696, "Functional Criteria for Emergency Response Facilities," Section 2.

With respect to structural building aspects, Section 2.5 of NUREG-0696 is specific to the structure of the TSC and states: "The TSC complex must be able to withstand the most adverse conditions reasonably expected during the design life of the plant including adequate capabilities for (1) earthquakes, (2) high winds (other than tornadoes), and (3) floods. The TSC need not meet seismic Category I criteria or be qualified as an engineered safety feature (ESF). Normally, a well-engineered structure will provide an adequate capability to withstand earthquakes. Winds and floods with a 100-year-recurrence frequency are acceptable as a design basis. Existing buildings may be used to house the TSC complex if they satisfy the above minimum criteria."

Question 16 – 21 are environmental questions