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TXX-20031

U. S. Nuclear Regulatory Commission

ATTN: Document Control Desk

Washington, DC 20555-0001

Ref 10 CFR 50.55a

04/13/2020

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT (CPNPP)
DOCKET NO. 50-446
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING SNUBBER TESTING (SNB-1)
AND SNUBBER VISUAL EXAMINATIONS (SNB-2) RELIEF REQUESTS

- Reference 1. Letter TXX-20027 from Steven K. Sewell to the NRC "Snubber Testing and Snubber Visual Examinations Relief Requests" dated April 10, 2020 (ML20101K726)
2. NRC email from Dennis Galvin to Jack Hicks, "Request for Additional Information Proposed Alternative to American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) for Deferral of Snubber Testing (SNB-1) And Visual Examinations (SNB-2) In Accordance With 10 CFR 50.55a(z)(2)" dated April 11, 2020

Dear Sir or Madam:

Vistra Operations Company LLC ("Vistra OpCo") hereby submits a response to the NRC request for additional information (RAI) (Reference 2) regarding the snubber relief requests submitted with Reference 1. The attachment to this letter provides Vistra OpCo's response to the NRC Request for Additional Information.

This communication contains no new commitments.

Should you have any questions, please contact James Barnette at (254) 897-5866 or james.barnette@luminant.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven K. Sewell", written over a horizontal line.

Steven K. Sewell

c - Scott Morris, Region IV [Scott.Morris@nrc.gov]
Dennis Galvin, NRR [Dennis.Galvin@nrc.gov]
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Attachment to TXX-20031

COMANCHE PEAK NUCLEAR POWER PLANT

Response to Request for Additional Information
Regarding Snubber Testing (SNB-1) and Snubber Visual Examinations (SNB-2) Relief Requests

The NRC Staff's request for additional information (RAI) is provided below in bold text and is followed by the Vistra OpCo responses.

Request SNB-1

SNB-1, RAI 1:

In Section 4 (first paragraph), the licensee indicates that it is requesting authorization of a one-time Snubber Program interval extension from the spring 2020 refueling outage (RFO) to the fall 2021 RFO. Elsewhere in the submittal, the licensee refers to this request as "relief" for "elimination" of snubber testing. The staff does not consider this request to relate to "relief" under 10 CFR 50.55a(f)(5) nor "elimination" of snubber testing. Please clarify that this request relates to a hardship alternative under 10 CFR 50.55a(z)(2) for a one-time extension of the Snubber Program testing interval until the next RFO in the fall of 2021.

Response:

To clarify, CPNPP Unit 2 is requesting a one-time extension of the Snubber Program testing interval from the Spring 2020 RFO (2RF18) until the next RFO in the fall of 2021 (2RF19) pursuant to 10 CFR 50.55a(z)(2) on the basis that compliance results in hardship or unusual difficulty without compensating increase in level of quality or safety during the current pandemic due to the COVID-19 outbreak.

Therefore, to further clarify relief request, SNB-1, the following changes are being made:

The following wording replaces the first sentence of the first paragraph of Section 5, "Proposed Alternative and Basis for Use:"

Vistra OpCo is requesting this one-time interval extension associated with performing the identified snubber testing activities pursuant to 10 CFR 50.55a(z)(2) on the basis that compliance results in hardship or unusual difficulty without a compensating increase in level of quality or safety during the current pandemic due to the COVID-19 outbreak.

The following wording replaces the first sentence in the third paragraph in Section 5, "Proposed Alternative and Basis for Use:"

Based on the CPNPP Unit 2 snubber test history, the one-time Snubber Program interval extension from the upcoming Spring 2020 refueling outage (2RF18) to the next refueling outage (2RF19) will not impact the ability of the untested snubbers to perform their intended safety function until refueling outage 2RF19 when testing will resume.

SNB-1, RAI 2:

In Table 1, the licensee provides a list of 39 specific snubbers planned for testing this RFO for which the one-time Snubber Program test interval extension is being requested. Section 5 (second paragraph) discusses three snubber test failures during the RFO in the fall of 2018. It appears that only one of these snubbers that failed its test (RC-2-135-402-C41K) is among the plant snubbers listed in Table 1. Please confirm that Snubber RC-2-135-402-C41K is the only snubber that failed its test to be among those being requested for the test interval extension.

Response:

Snubber RC-2-135-402-C41K is the only snubber that failed its test to be among those being requested for the test interval extension.

SNB-1, RAI 3:

Section 5 indicates that Snubber RC-2-135-402-C41K experienced a high temperature condition because of its installed location. For high temperature degradation (such as dry grease) for snubbers, the NRC issued Information Notice (IN) 2015-09, "Mechanical Dynamic Restraints (Snubbers) Lubricant Degradation Not Identified due to Insufficient Service Life Monitoring." Please describe the basis for reasonable assurance that Snubber RC-2-135-402-C41K will be capable of performing its safety function until the fall of 2021, including the operating experience discussed in IN 2015-09.

Response:

Snubber RC-2-135-402-C41K was found with a possible damaged pin and spherical bearing. It was also noted that the snubber was found installed in the non-preferred direction – with the snubber body mass oriented toward the piping (heat source). During subsequent functional testing, the snubber was confirmed to have a high drag value, which did not meet the acceptance criteria. Following a disassembly inspection, the cause of the failure was determined to be dry grease – the apparent cause was high temperature of the piping to which the snubber was installed. Subsequent acceptable testing of an adjacent snubber attached to the same pipe and in the same environment, but installed in the preferred orientation provided reasonable assurance that installation of a new snubber in location RC-2-135-402-C41K oriented in the preferred direction (with the snubber body mass away from the piping) would be an effective corrective action. Furthermore, the evaluation of the failed snubber included an expansion sample of 19 snubbers randomly selected from systems containing hot fluid and functionally tested as additional scope. No other failures were found in the expansion sample. Additionally, an extent of condition evaluation, as part of the Corrective Action Program, reviewed all snubbers in all four loop rooms. A visual examination for like damage and configuration was conducted. Of all the snubbers evaluated where the snubber body was closer to the heat source (90 total), 19 had previously been tested and were all found to be acceptable. Of the 71 snubbers remaining, 8 (or 10%) were unpinned and fully stroked by hand – no adverse conditions were identified. These findings were consistent with the conclusions reached in the Corrective Action Program that dry grease was not a common mode failure being observed at CPNPP Unit 2. Therefore, with a new spare mechanical snubber installed in location RC-2-135-402-C41K during 2RF17 with the snubber mass located away from the heat source, there is reasonable assurance that the snubber will continue to be operationally ready to perform its safety function during the use of this interval extension.

In response to industry issues with degraded grease (including IN 2015-09), CPNPP Unit 2 continues to review the failure modes of all mechanical snubbers for indications of degraded grease. Over the entire snubber testing history at CPNPP, degraded grease has affected only two snubbers (CC-2-007-020-A43K and RC-2-135-402-C41K). Following each of these two failures, extent of condition reviews which included disassembly inspections, visual inspections, and/or hand strokes of snubbers installed in similar environments and/or orientation have been satisfactorily completed with no additional findings of grease degradation. In addition to an extensive testing history review and extent of condition investigations, CPNPP Unit 2 performed a snubber environmental study, which included documentation of maximum room temperature, maximum pipe temperature, pipe insulation class, radiation, relative humidity, and piping vibration limits. Based on the results of the failure history review and environmental study, it was concluded that the failures at CPNPP Unit 2 were not related to an inadequate service life monitoring program and that grease degradation did not pose a significant threat to the operational readiness of the snubber population at CPNPP.

All statements in SNB-1 Section 5 referring to three snubber test failures should have referred to four snubber test failures. In SNB-1 Section 5, replacing each instance of the word "three" with the word

“four” and adding the detailed discussion provided below along with the other detailed snubber failure discussions corrects SNB-1 Section 5.

Snubber RC-2-018-402-C61K was found missing one of its load pins. An analysis of the piping system considering this snubber disconnected, concluded that the piping system was capable of performing its design functions and was not adversely affected by this condition. Upon further inspection, it was determined this snubber would not hand stroke. The snubber was removed for testing and replaced with a new spare snubber. The removed snubber failed functional testing due to high drag and was disassembled for cause evaluation. Upon disassembly, all parts showed heavy wear and dried grease was found on and inside the Ball Bearing Screw Assembly due to excessive vibration. In the as-found condition, the snubber was out of position, pinched, and subject to side loading and greater wear and vibration than it would in the design configuration. The snubber at this location was tested SAT in the spring 1999 (2RF04), and during its previous visual inspection on 4/01/2008 (2RF10), no adverse conditions were identified. For these reasons, the as-found condition of the internal parts and grease are not expected to recur for a properly installed snubber at the RC-2-018-402-C61k location. The cause of the missing load pin could not be determined. All other Snubbers on this line and within all four Loops, of the Pressurizer rooms and other areas (368 Snubbers) were inspected by a certified VT-3 inspector. No missing Cotter Pins, Rue Rings or Load Pins were observed. This snubber was previously reported in TXX-20027 (COMANCHE PEAK NUCLEAR POWER PLANT DOCKET NO. 50-446 SNUBBER VISUAL EXAMINATION AND SNUBBER TESTING RELIEF REQUESTS) as testing acceptable; however, it did not meet the acceptance criteria. Since the missing pin was discovered during a visual examination, there were no additional snubbers tested.

SNB-1, RAI 4:

In Section 5, the licensee states that Snubber CS-2-RB-061-704-1 had a test failure in the past. The licensee did not provide any details about the test plan extension for Snubber CS-2-RB-061-704-1 per the applicable ASME OM Code, Subsection ISTD, paragraphs ISTD-5312 and ISTD-5412, as a result of this test failure.

Response:

Based on the extent of condition review, and adjoining snubbers testing acceptable, the cause of the snubber failure was determined to be a mishandling event or the snubber being struck by an external load not associated with an operational event. Therefore, it was considered to be an isolated failure under ISTD-5422, where additional tests are not required.

SNB-1, RAI 5:

In Section 4, the licensee states that it groups the program snubbers into two Defined Test Plan Groups (DTPGs) as the 10% test plan and the 37-sample plan. Please indicate the appropriate plan for each snubber listed in Table 1.

Response:

The designations on Table 1 for DTPGs are as follows:

PSA – Mechanical Snubbers – 37 Sample Plan

PM – Large Bore Hydraulic Snubbers – 10% Sample Plan

SNB-1, RAI 6:

In Section 4, the licensee indicates that some of the snubbers are steam generator snubbers. Please indicate the steam generators snubbers that are listed in Table 1 and describe their performance history separately.

Response:

The one steam generator snubber that is listed in Table 1 is TCX-RCESHS-17 located on line 39 of Table 1. This snubber was last tested SAT during 2RF09 during the fall of 2006. During 2RF11, there was scheduled maintenance completed on the reservoir fluid hoses attached to this snubber, however, no test was performed at this time. Therefore, line 39 of Table 1 is to be corrected as follows:

#	Snubber Component	Snubber Model	Defined Test Plan Group (DTPG)	Test Required	Test History	Service Life Expiration
39	TCX-RCESHS-17	1000	PM	Sample Plan	Tested SAT 2RF09	2033

SNB-1, RAI 7:

Table 1 indicates the Service Life Expiration date for each snubber within the scope of this request. Please indicate in which RFO these Service Life Expiration dates were established per ASME OM Code, Subsection ISTD, paragraph ISTD-6200.

Response:

The service life expiration date for each snubber within the scope of this request listed in Table 1 was confirmed during the last evaluation of the service life for these snubbers at the end of 2RF17 in the fall of 2018.

Request SNB-2**SNB-2, RAI 1:**

In Section 5 (first paragraph), the licensee indicates that it is requesting one-time “relief” associated with performing snubber visual examinations pursuant to 10 CFR 50.55a(z)(2) to the next refueling outage (RFO). Elsewhere in its request, the licensee refers to an “elimination” or “relief” from snubber visual examinations during this RFO. Please clarify that this request relates to a hardship alternative under 10 CFR 50.55a(z)(2) for a one-time extension of the Snubber Program examination interval until the next RFO in the fall of 2021.

Response:

To clarify, CPNPP Unit 2 is requesting a one-time extension of the Snubber Program examination interval from the Spring 2020 RFO (2RF18) until the next RFO in the fall of 2021 (2RF19) pursuant to 10 CFR 50.55a(z)(2) on the basis that compliance results in hardship or unusual difficulty without compensating increase in level of quality or safety during the current pandemic due to the COVID-19 outbreak.

Therefore, to further clarify relief request, SNB-2, the following changes are being made:

The following wording replaces the first sentence in the first paragraph in Section 5, "Proposed Alternative and Basis for Use:"

Vistra OpCo is requesting this one-time Snubber Program interval extension associated with performing the identified snubber visual examinations pursuant to 10 CFR 50.55a(z)(2) on the basis that compliance results in hardship or unusual difficulty without a compensating increase in level of quality or safety during the current pandemic due to the COVID-19 virus outbreak.

The following wording replaces the first sentence in the third paragraph in Section 5, "Proposed Alternative and Basis for Use:"

Based on the CPNPP Unit 2 snubber visual examination history, the one-time Snubber Program interval extension until the next refueling outage (2RF19) will not impact the ability of snubbers not examined to perform their intended safety function until refueling outage 2RF19 in the fall of 2021 when visual examinations will be completed.

SNB-2, RAI 2:

Table 1 lists a significant number of snubbers to be included in this alternative request. What is the total number of snubbers included in this request?

Response:

The total number of snubbers included in this request that are listed in Table 1 is 524 snubbers.

SNB-2, RAI 3:

In Section 5 (second paragraph), the licensee reports that 1140 visual examinations have been performed since 2011 with only 3 visual examination issues. The licensee states that only one snubber (RC-2-135-402-C41K) failed its subsequent testing while the other two snubbers met their test acceptance criteria. Please identify the two snubbers that failed their visual examination but met their test acceptance criteria.

Response:

In addition to snubber RC-2-135-402-C41K, the two snubbers that CPNPP Unit 2 was referring to in SNB-2 Revision 0, Section 5, which were identified with visual examination issues, are RC-2-018-402-C61K and MS-2-RB-045-010-2. However, during the preparation of the response to this RAI, it was identified that two of the three failed subsequent testing (RC-2-135-402-C41K and RC-2-018-402-C61K).

Based on this information, statements in Section 5 are being revised to correctly reflect that two of the three snubbers failed subsequent testing and were not within their test acceptance criteria. The list and references to three snubber test failures in Section 5 paragraph four should have included this 4th failed snubber - RC-2-018-402-C61K. All statements regarding the three failures in paragraph four (beginning with "In addition," apply to this 4th failure as well. Section 5 paragraph three should be replaced with the following:

Based on the CPNPP Unit 2 snubber visual examination history, the one-time Snubber Program interval extension until the next refueling outage (2RF19) will not impact the ability of snubbers not examined to perform their intended safety function until refueling outage 2RF19 in the fall of 2021 when visual examinations will be completed. Since 2011, there have been a total of 1,140

visual examinations of program snubbers, completed with only three (3) visual examination issues identified (RC-2-135-402-C41K, RC-2-018-402-C61K, and MS-1-RB-045-010-2).

RC-2-135-402-C41K was observed to have a possible damaged pin and spherical bearing. Upon removal for testing, this snubber appeared to be locked up; however, after testing was completed, the snubber was not locked up but was confirmed to have a significantly high drag value. An expansion sample of 19 snubbers was randomly selected from similar applications and functionally tested as additional scope. No other failures were found in the expansion sample.

RC-2-018-402-C61K was found missing one of its load pins. Upon further inspection, it was determined this snubber would not hand stroke. The snubber was removed for testing and replaced with a new spare snubber. The removed snubber failed functional testing due to high drag. The cause of the missing load pin was not determined. All other snubbers on this line and within all four loops, of the pressurizer rooms and other areas (368 Snubbers) were inspected by a certified VT-3 inspector. There were no missing cotter pins, rue rings or load pins observed. Since the missing pin was discovered during a visual examination, there were no additional snubbers tested. Since additional detail for the snubber test failures was originally provided in SNB-1 Section 5.0, the response to SNB-1 RAI #3 has been expanded to include a detailed discussion of the RC-2-018-402-C61K failure.

MS-2-RB-045-010-2 was reported as having been stepped on, and this condition was entered into the corrective action program. The snubber was unpinned, hand stroked through full travel, inspected by a certified VT-3 inspector, and determined that the noted condition was cosmetic only. Therefore, the snubber was reinstalled.

Each of these three occurrences were documented, evaluated, and corrective action was taken per the CPNPP corrective action program.

SNB-2, RAI 4:

Request SNB-1 indicates that Snubber RC-2-135-402-C41K is located in a high temperature area. Please describe the basis for reasonable assurance that Snubber RC-2-135-402-C41K will be capable of performing its safety function until the fall of 2021.

Response:

Snubber RC-2-135-402-C41K was found with a possible damaged pin and spherical bearing. It was also noted that the snubber was found installed in the non-preferred direction – with the snubber body mass oriented toward the piping (heat source). During subsequent functional testing, the snubber was confirmed to have a high drag value, which did not meet the acceptance criteria. Following a disassembly inspection, the cause of the failure was determined to be dry grease – the apparent cause was high temperature of the piping to which the snubber was installed. Subsequent acceptable testing of an adjacent snubber attached to the same pipe and in the same environment, but installed in the preferred orientation provided reasonable assurance that installation of a new snubber in location RC-2-135-402-C41K oriented in the preferred direction (with the snubber body mass away from the piping) would be an effective corrective action. Furthermore, the evaluation of the failed snubber included an expansion sample of 19 snubbers randomly selected from systems containing hot fluid and functionally tested as additional scope. No other failures were found in the expansion sample. Additionally, an extent of condition evaluation, as part of the Corrective Action Program, reviewed all snubbers in all four loop rooms. A visual examination for like damage and configuration was conducted. Of all the snubbers evaluated where the snubber body was closer to the heat source (90

total), 19 had previously been tested and were all found to be acceptable. Of the 71 snubbers remaining, 8 (or 10%) were unpinned and fully stroked by hand – no adverse conditions were identified. These findings were consistent with the conclusions reached in the Corrective Action Program that dry grease was not a common mode failure being observed at CPNPP Unit 2. Therefore, with a new spare mechanical snubber installed in location RC-2-135-402-C41K during 2RF17 with the snubber mass located away from the heat source, there is reasonable assurance that the snubber will continue to be operationally ready to perform its safety function during the use of this interval extension.

SNB-2, RAI 5:

Table 1 lists four large Paul Monroe Hydraulic Snubbers. Please summarize the recent history of the visual examinations for those snubbers.

Response:

The four, large bore Paul Monroe Hydraulic Snubbers listed in Table 1 were last evaluated SAT by visual examination during 2RF12 in the spring of 2011.

SNB-2, RAI 6:

Table 1 indicates the Service Life Expiration date for each snubber within the scope of this request. Please indicate in which RFO these Service Life Expiration dates were established per ASME OM Code, Subsection ISTD, paragraph ISTD-6200.

Response:

The service life expiration date for each snubber within the scope of this request listed in Table 1 was confirmed during the last evaluation of the service life for these snubbers at the end of 2RF17 in the fall of 2018.

SNB-2, RAI 7:

Note 1 at the end of Table 1 refers to “Previous visual examination Spring 2011 – All Satisfactory.” To which snubbers in Table 1 does this note refer?

Response:

Note 1 refers to all of the snubbers listed in Table 1. The last scheduled visual examination that included all of the program snubbers was completed during spring 2011. All snubbers were visually examined and found to be satisfactory.