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CP-200800357
Log # TXX-08047

Ref. # 10CFR50.90

March 6, 2008

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
SUPPLEMENT TO LICENSE AMENDMENT REQUEST (LAR) 07-004
REVISION TO THE OPERATING LICENSE AND TECHNICAL SPECIFICATION 1.0,
"USE AND APPLICATION" TO REVISE RATED THERMAL POWER FROM 3458 MWT
TO 3612 MWT. (TAC NOS. MD6615 AND MD6616)

REFERENCES: 1. Letter logged TXX-07106 dated August 28, 2007 from Mike Blevins to the NRC
submitting License Amendment Request (LAR) 07-004, proposing revisions to the
Operating Licenses and to Technical Specifications 1.0, "USE AND APPLICATION"
to revise rated thermal power from 3458 MWT to 3612 MWT
2. Letter logged TXX-08008 dated January 10, 2008 from Mike Blevins to the NRC
submitting a supplement to License Amendment Request (LAR) 07-004
3. Letter logged TXX-08013 dated January 31, 2008 from Mike Blevins to the NRC
submitting a supplement to License Amendment Request (LAR) 07-004
4. Letter logged TXX-08031 dated February 21, 2008 from Mike Blevins to the NRC
submitting a supplement to License Amendment Request (LAR) 07-004

Dear Sir or Madam:

Per Reference 1, Luminant Generation Company LLC (Luminant Power) requested changes to the
Comanche Peak Steam Electric Station, herein referred to as Comanche Peak Nuclear Power Plant
(CPNPP), Units 1 and 2 Operating Licenses and to Technical Specification 1.0, "USE AND
APPLICATION" to revise rated thermal power from 3458 MWT to 3612 MWT. Luminant Power
supplemented that request by responding to NRC Requests for Additional Information (RAI) per
References 2, 3, and 4.

In Reference 4, Luminant Power committed to provide additional information (Commitment No.
3458447) regarding maximum stress values at the steam generator nozzles and maximum stress values
at a critical location closest to the containment penetration for Units 1 and 2. The additional
information is provided in Attachments 1 and 2 to this letter.

A001

MRR

In accordance with 10CFR50.91(b), Luminant Power is providing the State of Texas with a copy of this proposed amendment supplement.

This communication closes commitment 3458447 and contains no new license basis commitments for Comanche Peak Units 1 and 2.

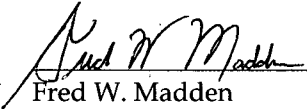Should you have any questions, please contact Mr. J. D. Seawright at (254) 897-0140.

I state under penalty of perjury that the foregoing is true and correct.

Executed on March 6, 2008.

Sincerely,

Luminant Generation Company LLC

Mike Blevins

By: _Fred W. Madden_
Fred W. Madden
Director, Oversight & Regulatory Affairs

Attachments - 1. Response to Mechanical and Civil Engineering Branch Questions on Steam Generator Nozzle Loads
2. Response to Mechanical and Civil Engineering Branch Questions on Critical Location Closest to the Containment Penetration

c - E. E. Collins, Region IV
B. K. Singal, NRR
Resident Inspectors, Comanche Peak

Ms. Alice Rogers
Environmental & Consumer Safety Section
Texas Department of State Health Services
1100 West 49th Street
Austin, Texas 78756-3189

**Response to Mechanical and Civil Engineering Branch Questions
on Steam Generator Nozzle Loads, Applicable for
NRC Questions 7b and 8b in Luminant Power letter logged TXX-08031
(Reference 4)**

The Steam Generator (SG) Main Feed Water (FW) and Auxiliary Feedwater (AFW) nozzle loads were evaluated for the Stretch Power Uprate (SPU) conditions. The FW loads are impacted by the SPU, and the increased loads are presented for both units in the following tables. For Unit 1, there are no changes in loads on the AFW nozzles for the SPU, since the recent SG Replacement analyses for the AFW nozzles were performed at an uprated power level. For Unit 2, the AFW loads are impacted by the SPU, and the increased loads are presented in the following Unit 2 tables.

Note that in general, only the Upset condition loads, or in some cases, only the Faulted condition loads are increasing due to the uprate. Loads that do not change for the uprate are not listed in these tables. Actual loads (before and after SPU) were further evaluated, if required, to ensure that their combined effect is less than the combination of allowable loads.

Forces are in lb_f, and moments are in $ft-lb_f$.

The information presented in the tables is summarized by a comparison of the design allowable values divided by the SPU load values. This ratio presents the design margin, and in all cases the design margin after SPU is above 1.0. The conclusion is that the SPU load comparisons all result in acceptable loading combinations.

Table SG Nozzle -- Unit 1 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG #1						
	Fa	**Fb**	**Fc**	**Ma**	**Mb**	**Mc**
SG Nozzle Loads Affected by SPU - After SPU	14480	54017	14528	134769	52460	126213
Applicable SG Nozzle Loads Prior to SPU	12865	49674	12983	125106	47834	114079
SG Allowable [Upset] Load	52000	90000	40000	237500	204167	445834
Design Margin - After SPU	3.59	1.67	2.75	1.76	3.89	3.53
Design Margin - Before SPU	4.04	1.81	3.08	1.90	4.27	3.91
Minimum Design Margin After SPU = 1.67 > 1.0, OK						
AFW Nozzle Loads for SG #1 – No Changes to Loads due to SPU						

Table SG Nozzle -- Unit 1 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG #2						
	Fa	**Fb**	**Fc**	**Ma**	**Mb**	**Mc**
SG Nozzle Loads Affected by SPU - After SPU	10193	54382	10572	118072	42591	121517
Applicable SG Nozzle Loads prior to SPU	9186	51004	9373	109118	40478	112418
SG Allowable [Upset] Load	52000	90000	40000	237500	204167	445834
Design Margin - After SPU	5.10	1.65	3.78	2.01	4.79	3.67
Design Margin - Before SPU	5.66	1.76	4.27	2.18	5.04	3.97
Minimum Design Margin After SPU = 1.65 > 1.0, OK						
AFW Nozzle Loads for SG #2 – No Changes to Loads due to SPU						

Table SG Nozzle -- Unit 1 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG #3						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	9833	46145	12291	131369	26019	133348
Applicable SG Nozzle Loads prior to SPU	8726	42462	11020	121929	23818	123339
SG Allowable [Upset] Load	52000	90000	40000	237500	204167	445834
Design Margin - After SPU	5.29	1.95	3.25	1.81	7.85	3.34
Design Margin - Before SPU	5.96	2.12	3.63	1.95	8.57	3.61
Minimum Design Margin After SPU = 1.81 > 1.0, OK						
AFW Nozzle Loads for SG #3 -- No Changes to Loads due to SPU						

Table SG Nozzle -- Unit 1 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG #4						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	14771	51224	19093	207960	29879	168261
Applicable SG Nozzle Loads prior to SPU	13218	47614	16931	189708	28036	155930
SG Allowable [Upset] Load	52000	90000	40000	237500	204167	445834
Design Margin - After SPU	3.52	1.76	2.10	1.14	6.83	2.65
Design Margin - Before SPU	3.93	1.89	2.36	1.25	7.28	2.86
Minimum Design Margin After SPU = 1.14 > 1.0, OK						
AFW Nozzle Loads for SG #4 – No Changes to Loads due to SPU						

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG # 1						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	29053	91148	28787	205252	88328	99741
Applicable SG Nozzle Loads prior to SPU	28511	89384	28380	203325	87636	98010
SG Allowable [Faulted] Load	62000	95000	65000	266666	225000	475000
Design Margin - After SPU	2.13	1.04	2.26	1.30	2.55	4.76
Design Margin - Before SPU	2.17	1.06	2.29	1.31	2.57	4.85
Minimum Design Margin After SPU = 1.04 > 1.0, OK						

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
AFW Nozzle Loads on SG # 1						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	6590	29130	6779	30217	4983	27702
Applicable SG Nozzle Loads prior to SPU	6475	28541	6672	29905	4930	27334
SG Allowable [Faulted] Load	28000	48000	23000	37500	42083	42083
Design Margin - After SPU	4.25	1.65	3.39	1.24	8.45	1.52
Design Margin - Before SPU	4.32	1.68	3.45	1.25	8.54	1.54
Minimum Design Margin After SPU = 1.24 > 1.0, OK						

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG # 2						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	21368	72157	39965	265046	130949	136475
Applicable SG Nozzle Loads prior to SPU	21103	70901	39250	261753	130133	134944
SG Allowable [Upset] Load	62000	95000	65000	545833	441667	729167
Design Margin - After SPU	2.90	1.32	1.63	2.06	3.37	5.34
Design Margin - Before SPU	2.94	1.34	1.66	2.09	3.39	5.40

Minimum Design Margin After SPU = 1.32 > 1.0, OK

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
AFW Nozzle Loads on SG # 2						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	6491	28236	6117	26398	7757	19232
Applicable SG Nozzle Loads prior to SPU	6357	27668	6015	26062	7637	18871
SG Allowable [Faulted] Load	28000	48000	23000	37500	42083	42083
Design Margin - After SPU	4.31	1.70	3.76	1.42	5.43	2.19
Design Margin - Before SPU	4.40	1.73	3.82	1.44	5.51	2.23

Minimum Design Margin After SPU = 1.42 > 1.0, OK

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG # 3						
	Fa	**Fb**	**Fc**	**Ma**	**Mb**	**Mc**
SG Nozzle Loads Affected by SPU - After SPU	24626	66043	21631	155488	101223	160796
Applicable SG Nozzle Loads prior to SPU	24294	64866	21280	153799	100570	158748
SG Allowable [Faulted] Load	62000	95000	65000	266666	225000	475000
Design Margin - After SPU	2.52	1.44	3.00	1.72	2.22	2.95
Design Margin - Before SPU	2.55	1.46	3.05	1.73	2.24	2.99

Minimum Design Margin After SPU = 1.44 > 1.0, OK

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
AFW Nozzle Loads on SG # 3						
	Fa	**Fb**	**Fc**	**Ma**	**Mb**	**Mc**
SG Nozzle Loads Affected by SPU - After SPU	8132	26986	7186	30393	8571	34485
Applicable SG Nozzle Loads prior to SPU	7989	26448	7043	29867	8469	33994
SG Allowable [Faulted] Load	28000	48000	23000	37500	42083	42083
Design Margin - After SPU	3.44	1.78	3.20	1.23	4.91	1.22
Design Margin - Before SPU	3.50	1.81	3.27	1.26	4.97	1.24

Minimum Design Margin After SPU = 1.22 > 1.0, OK

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
FW Nozzle Loads on SG # 4						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	10997	73604	32654	145237	93518	135149
Applicable SG Nozzle Loads prior to SPU	10940	72202	32090	143583	92630	133373
SG Allowable [Faulted] Load	62000	95000	65000	266666	225000	475000
Design Margin - After SPU	5.64	1.29	1.99	1.84	2.41	3.51
Design Margin - Before SPU	5.67	1.32	2.03	1.86	2.43	3.56
Minimum Design Margin After SPU = 1.29 > 1.0, OK						

Table SG Nozzle -- Unit 2 Steam Generator Feedwater and Auxiliary Feedwater Nozzles						
AFW Nozzle Loads on SG # 4						
	Fa	Fb	Fc	Ma	Mb	Mc
SG Nozzle Loads Affected by SPU - After SPU	5920	27227	5835	27889	5953	22565
Applicable SG Nozzle Loads prior to SPU	5816	26699	5743	27648	5893	22281
SG Allowable [Faulted] Load	28000	48000	23000	37500	42083	42083
Design Margin - After SPU	4.73	1.76	3.94	1.34	7.07	1.86
Design Margin - Before SPU	4.81	1.80	4.01	1.36	7.14	1.89
Minimum Design Margin After SPU = 1.34 > 1.0, OK						

**Response to Mechanical and Civil Engineering Branch Questions on
Critical Location Closest to the Containment Penetration,
Applicable for NRC Questions 7b and 8b in Luminant Power letter logged TXX-08031
(Reference 4)**

Containment Penetration Qualification for Stretch Power Uprate (SPU)

The following provides a summary of the qualification results for the limiting components in the containment penetrations for impacts due to the SPU. The load increase factors are conservative since they are based on enveloping loads and do not take credit for the relative contributions from all six components of the penetration reactions. These results are undergoing final review.

Qualification of the containment penetrations is covered in three areas; the anchorage, the reinforced concrete, and the sleeve.

a. Anchorage

The analysis of record compares pipe reaction loads as listed below for SERVICE and FACTORED load categories:

- axial force compared against allowable axial for each load category
- torsional moment compared against allowable torsion for SERVICE and plastic torsion for FACTORED
- shear compared against plastic shear
- bending compared against plastic bending

Qualification for the SPU conditions is performed by generating the SPU penetration load combinations and comparing the SPU load s to allowables as described above. The following table summarizes the highest existing and SPU load interaction ratios for each penetration:

	Load Interaction Ratio	
	Existing	SPU
SERVICE (Normal/Upset)	0.78	0.87
FACTORED (Faulted)	0.945	0.948

Thus, the maximum SPU load interaction ratio for containment penetration anchorage is 0.948. Prior to the SPU conditions, the maximum load interaction ratio for containment penetration anchorage was 0.945. Since the load interaction ratio remains below 1.0, the SPU load conditions are acceptable for the anchorage.

b. Reinforced Concrete

Existing analyses calculates rebar stresses due to the most critical FACTORED load combination. The most critical load combination is in the unbroken loop with another loop break inside containment.

The SPU penetration loads were compared to the design loads to determine the change of rebar loads due to SPU. The results show the following:

Maximum increase in penetration axial load, all penetrations = 1.06
Maximum increase in penetration bending moment, all penetrations = 2.17

Since axial loads affect the rebar stresses different from bending loads, a composite load ratio is calculated using axial and bending weight factors. A final composite load factor is calculated based on the relative contribution of the penetration load to the shell load. The resulting composite load factors are averaged for the local rebar forces and moments to obtain conservative overall load increase factor for rebar stress check as follows:

Average increase factor for Location 1 = 1.07 (closest to penetration)
Average increase factor for Location 2 = 1.06
Average increase factor for Location 3 = 1.04 (farthest from the penetration)

The most critical responses are:

	Existing	SPU (1)	Allowable
Maximum average stress in vertical rebar, ksi	44	47.1	54
Maximum strain in diagonal rebar (2)	80.83/E	86.5/E	90/E

Note 1: Maximum increase at location 1 is conservatively applied to the above most critical results at location 3
Note 2: E is the elastic modulus for the rebar

Thus, the existing margins in both of the most critical responses are more than adequate for the SPU load increases.

c.   Sleeve

The metal sleeve consists of the sleeve pipe and flued head. The existing analysis uses ANSYS finite element analysis (FEA) methods to evaluate the stresses due to the penetration design loads and other containment loads. The SPU penetration loads are compared to the existing penetration loads for the critical load combinations to determine load increase factors. The maximum load increase factors are applied to the existing FEA stress results to obtain the critical stresses for SPU. The load increase factors are also conservatively applied to all loads including pipe reactions and containment loads.

	Existing Stress Interaction Ratio	Load Increase Factor	SPU Stress Interaction Ratio
Upset	0.78	1.25	0.97
Faulted	0.50	1.12	0.62

Since the SPU Stress Interaction Ratios are less than 1.0, the SPU results are acceptable.