Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-15-151

July 24, 2015

10 CFR § 50.4

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2
Construction Permit No. CPPR-92
NRC Docket No. 50-391

Subject: **Watts Bar Nuclear Plant Unit 2 – Diesel Generator Frequency – Response to NUREG 0847 Supplemental Safety Evaluation Report (SSER) 22, Open Item 32 - Correction**

References:

1. TVA Letter to NRC, "Watts Bar Nuclear Plant (WBN) Unit 2 – Diesel Generator Frequency – Response to NUREG 0847 Supplemental Safety Evaluation Report (SSER) 22, Open Item 32," dated February 3, 2014 (ADAMS Accession Number ML14038A079)

2. TVA Letter to NRC, "Application to Modify Watts Bar Nuclear Plant, Unit 1 Technical Specification 3.8.1 Regarding Diesel Generator Steady State Frequency (WBN-TS-13-08)," dated April 6, 2015 [ADAMS Accession No. ML081560183]

3. NRC Electronic Mail to TVA, "Draft REQUEST FOR ADDITIONAL INFORMATION MF6153.docx," dated May 28, 2015

The purpose of this letter is to correct information Tennessee Valley Authority (TVA) submitted on February 3, 2014 that supported a new allowable diesel generator frequency band for Watts Bar Nuclear Plant (WBN) Unit 2 (Reference 1). Specifically, the values for brake horsepower at 60.2 hertz for major safety related pumps shown in Table 5 of Enclosure 1 of Reference 1 were slightly below the values in the design calculation.

An application to modify the allowable diesel generator frequency band for WBN Unit 1 was submitted by TVA on April 6, 2015 (Reference 2). During the Nuclear Regulatory Commission (NRC) review of Reference 2, the staff identified that there was a difference between the values in Table 5 in the two submittals (Reference 3). The enclosure to this letter provides a new Reference 1 page E1-12 with a corrected Table 5 for WBN Unit 2. The values shown in the revised Table 5 are identical to the values provided in Table 5 of the WBN Unit 1 license amendment request to modify Technical Specification 3.8.1 (Reference 2). The difference between the values provided in Reference 1 and the values provided in this letter are very small and do not change the conclusions presented in the Reference 1 submittal. The error in Table 5 of Reference 1 has been entered into the TVA corrective action program.

If you have any questions regarding this submittal, please contact Gordon Arent at (423) 365-2004. There are no new regulatory commitments in this submittal.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 24th day of July 2015.

Respectfully,

J.W. Shea
Vice President, Nuclear Licensing

Enclosure: Replacement Page E1-12

cc (Enclosure):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Watts Bar Nuclear Plant, Unit 2
NRC Project Manager – Watts Bar Nuclear Plant, Unit 2

Enclosure
Replacement Page E1-12

increase in horsepower due to the increase in frequency is less than the nameplate rating times the service factor.

Pump motor brake horsepower at higher speeds (+ 0.3%) will be slightly higher as follows:

$$BHP_2 = 1.010 * BHP_1$$

Pump motor brake horsepower at lower speeds (- 0.3%) will be slightly lower as follows:

$$BHP_2 = 0.990 * BHP_1$$

The brake horsepower with a speed variation of ± 0.3% will vary by 1.0%. Table 5 provides a summary of the major pump brake horsepower.

Table 5 - Brake Horsepower

Pump	Normal / Accident Brake Horsepower (HP)			Design
	Rated (@ 60.0 Hz Effective)	-0.3% (@ 59.8 Hz Effective)	+0.3% (@ 60.2 Hz Effective)	Name Plate (HP)
Auxiliary Feed Water **	601.5	595.6	607.5	600
Containment Spray	595.1	589.1	601.1	700
RHR	440.0	435.6	444.4	400
Safety Injection	453.4	448.9	457.9	400
Centrifugal Charging	695.0	688.1	702.0	600
ERCW **	805	797	813	800
Component Cooling - Trains A & B and 2A-A	360 ***(370)	356 ***(366)	364 ***(374)	350

** See Sections 1.2.5.1 and 1.2.5.2 for additional evaluation regarding temperature increase for these pump motors.
*** CCS Pump 2A-A is permitted to operate at flow rates resulting in excess of 360 BHP (but less than 378 BHP) for the operating range identified in Table 4 (Reference 2.3).

All pumps have a slight increase/decrease in horsepower requirement; however, technical justification was provided for their acceptance (Reference 2.3):

1. The RHR, SI, CCS, and ERCW pump motors have a service factor of 1.15 and meet the standard acceptance criteria.