



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 7, 2016

Mr. Bryan C. Hanson  
President and Chief Nuclear Officer  
Exelon Nuclear  
R. E. Ginna Nuclear Power Plant  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: R.E. GINNA NUCLEAR POWER PLANT - REQUEST FOR ADDITIONAL  
INFORMATION REGARDING: DELETION OF E BAR DEFINITION AND  
REVISION TO REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY  
TECHNICAL SPECIFICATIONS (CAC NO. MF7339)

Dear Mr. Hanson:

By application dated February 4, 2016, as supplemented by letters dated April 14 and June 28, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession Numbers ML16035A015, ML16105A243, and ML16180A448, respectively), Exelon Generation Company, LLC, the licensee, propose changes to R. E. Ginna Nuclear Power Plant (Ginna) Technical Specifications (TSs). The license amendment would revise Ginna's TS Reactor Coolant System (RCS) specific activity definition and associated surveillance requirements. The proposed changes would replace the current TS limit for RCS gross specific activity with a new limit for RCS noble gas specific activity. The noble gas specific activity limit would be based on a new dose equivalent Xenon-133 definition that would replace the current E-Bar average disintegration energy definition. The changes are consistent with Technical Specification Task Force (TSTF) Standard Technical Specification Traveler, TSTF-490, Revision 0, "Deletion of E Bar Definition and Revision to RCS Specific Activity Tech Spec."

The Nuclear Regulatory Commission staff is reviewing the submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). We understand that you plan to respond to the enclosed RAI within 30 days of the date of this letter.

B. Hanson

- 2 -

Please contact me at (301) 415-2020 if you have any questions on this issue.

Sincerely,

A handwritten signature in black ink that reads "Brenda Mozafari". The signature is written in a cursive, flowing style.

Brenda Mozafari, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure:  
As stated

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION  
REGARDING DELETION OF E BAR DEFINITION AND REVISION TO REACTOR COOLANT  
SYSTEM SPECIFIC ACTIVITY TECHNICAL SPECIFICATIONS

R. E. GINNA NUCLEAR POWER PLANT, LLC

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-244

R. E. GINNA NUCLEAR POWER PLANT

By letter dated February 4, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML16035A015), Exelon Generation Company, LLC the licensee, proposes changes to the R. E. Ginna Nuclear Power Plant (Ginna) Technical Specifications (TSs). The licensee's amendment would revise Ginna's TS Reactor Coolant System (RCS) Specific Activity definition and associated surveillance requirements. The proposed changes would replace the current TS limit for RCS gross specific activity with a new limit for RCS noble gas specific activity. The noble gas specific activity limit would be based on a new dose equivalent Xenon-133 definition that would replace the current E-Bar (E̅) average disintegration energy definition. The changes are consistent with Technical Specification Task Force (TSTF) Standard Technical Specification Traveler, TSTF-490, Revision 0, "Deletion of E Bar Definition and Revision to RCS Specific Activity Tech Spec."

During the Nuclear Regulatory Commission (NRC) staff's review of the impact of implementing TSTF-490 the NRC staff determined that more information was needed to complete the review. The NRC staff requested the licensee provide additional justification for the proposed change to increase the Completion Time of Required Action B.1 to 48 hours and why it is acceptable to be in an unanalyzed condition for 48 hours (ADAMS accession Number ML16075A119). On April 14, 2016, the licensee responded to the NRC staff's request and on June 28, 2016, submitted a supplement to its response (ADAMS Accession Numbers ML16105A243 and ML16180A448).

The licensee's response provided a sensitivity analysis that varied dose equivalent Xenon-133 (DEX). The sensitivity analysis concluded that the DEX necessary to challenge the limits within Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.67, is substantially greater than the proposed DEX TS limit, and without further dose equivalent Iodine-131 spiking, would require more than 100 percent of fuel rods to be failed. This analysis was performed specifically for the steam generator tube rupture and main steam link break accidents. The NRC staff has reviewed the licensee's response and has determined that the sensitivity analysis is not complete because it lacks an evaluation of the failure of small lines carrying primary coolant outside containment comparison to the 10 CFR 100 limits.

Enclosure

Ginna's updated final safety analysis report (UFSAR) Section 9.3.4.4.6.1, "Suction Lines," states:

Under SEP Topic XV-16, RG&E reviewed the radiological consequences of failure of small lines carrying primary coolant outside containment. The worst-case break was taken to be the chemical and volume control system letdown line break, with a break flow, rate of 60 gpm, and the assumption that the flash fraction of fission products contained in the leaked coolant was released. Assuming a previous iodine spike, the primary coolant activity was set at 60  $\mu\text{Ci/g}$  Iodine-131 dose equivalent. After a 20-min delay, operator action to isolate the break was assumed, based on available information such as volume control tank level, letdown line flow and pressure, and radiation monitors in the auxiliary building. The conclusion of this review, confirmed by an independent review by the NRC, was that the offsite radiological consequences are 1 rem whole body and 12 rem thyroid, a small fraction of the 10 CFR 100 guidelines.

Ginna's UFSAR Section 15.6.2, "Radiological Consequences of Small Lines Carrying Primary Coolant outside Containment," states:

An analysis was conducted by the NRC under the Systematic Evaluation Program (Topic XV-16), to ensure that any release of radioactivity from a postulated failure of small lines carrying primary coolant outside containment would result in limited exposure, well within 10 CFR 100 exposure guidelines. The doses calculated by the NRC (*Reference 2*) were 12 rem thyroid and 1 rem whole body which were below 10% of the 10 CFR 100 exposure guidelines.

A review of Ginna's updated final safety analysis report appears to show that the failure of small lines carrying coolant outside containment is part of Ginna's current licensing basis. The NRC staff notes that further review determined that an alternative source term was not implemented for this failure analysis. Therefore, the failure of small lines carrying coolant outside containment utilizes Ginna's original license source term and the doses calculated must continue to remain below 10 percent of the thyroid and whole body doses stated 10 CFR 100, as stated in Standard Review Plan 15.6.2, "Radiological Consequences of the Failure of Small Lines Carrying Primary Coolant outside Containment."

#### **ARCB-RAI**

The NRC staff is requesting that the licensee please provide a sensitivity analysis similar to that provided for the steam generator tube rupture and main steam link break accidents in letter dated June 28, 2016, that discusses the radiological consequences of the failure of small lines carrying primary coolant outside containment for the proposed change to increase the TS Completion Time of Required Action B.1 from 8 hours to 48 hours; or explain why the discussion provided in UFSAR sections 9.3.4.4.6.1 and 15.6.2 do not apply to this license amendment request.

B. Hanson

- 2 -

Please contact me at (301) 415-2020 if you have any questions on this issue.

Sincerely,

*/RA/*

Brenda Mozafari, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure:  
As stated

cc w/encl: Distribution via Listserv

**DISTRIBUTION:**

PUBLIC LPL1-1 R/F	RidsNrrDorlLpl1-1 Resource	RidsNrrPMREGinna Resource
RidsNrrDorIDpr Resource	RidsACRS_MailCTR Resource	KBucholtz, NRR
RidsNrrLAKGoldstein Resource	RidsRgn1MailCenter Resource	BMOzafari, NRR
		RidsNrrDraArcb Resource

**ADAMS Accession No.: ML16278A077**

**\*by email**

OFFICE	LPL1-1/PM	LPL1-1/LA	DRA/ARCB	LPL1-1/BC(A)	LPL1-1/PM
NAME	BMOzafari	KGoldstein*	UShoop*	DPickett	BMOzafari
DATE	10/05/16	10/05/16	10/03/16	11/07/16	11/07/16

**OFFICIAL RECORD COPY**