



**Entergy Nuclear Southwest**  
Entergy Operations, Inc.  
17265 River Road  
Killona, LA 70066  
Tel 504 739 6660  
Fax 504 739 6678

**John T. Herron**  
Vice President, Operations  
Waterford 3  
jherron@entergy.com

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PR

September 21, 2001

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

Waterford 3 SES  
Docket No. 50-382  
License No. NPF-38  
Technical Specification Change Request NPF-38-236  
Integrated Leakage Rate Testing Interval Extension

Gentlemen:

In a letter dated July 23, 2001, Entergy had requested approval of a change to the Waterford 3 Technical Specifications extending the interval for the performance of the Integrated Leak Rate Test. In a phone call with the NRC reviewers in August, two topics were discussed: five typical questions on containment inspections that the NRC had issued to other licensees and the CE Owners Group Joint Applications Report that was referenced in our original submittal. Entergy agreed to address the containment inspection questions as they pertain to Waterford 3. Entergy further agreed to evaluate the risk impact using an analysis methodology similar to that approved for the Crystal River 3 (CR3) application.

The response to the containment inspection questions is provided in Attachment 1. A plant-specific sensitivity analysis that considers the differences in analytical approach between the original Waterford 3 submittal and the previously approved CR3 methodology is provided in Attachment 2. The approach taken in that original submittal is still considered to be appropriate, reasonable, and accurate in assessing the impact of an increase in the ILRT surveillance interval. The attached sensitivity study is provided to aid the NRC Staff in evaluating the Waterford 3 results on a basis consistent with that used on other docketed applications.

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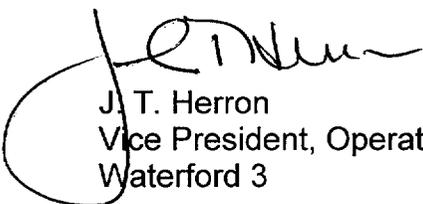
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The proposed change has been evaluated in accordance with 10CFR50.91(a)(1) using criteria in 10CFR50.92(c). As noted in the original submittal, this change involves no significant hazards considerations. This conclusion is not affected by the supplementary information provided here.

This submittal does not include any new commitments. Should you have any questions or comments concerning this request, please contact Jerry Burford at (601) 368-5755.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 21, 2001.

Very truly yours,



J. T. Herron  
Vice President, Operations  
Waterford 3

JTH/FGB/cbh  
Attachments

cc: E.W. Merschoff, NRC Region IV  
N. Kalyanam, NRC-NRR  
J. Smith  
N.S. Reynolds  
NRC Resident Inspectors Office  
Louisiana DEQ/Surveillance Division  
American Nuclear Insurers

ATTACHMENT 1

TO

W3F1-2001-0090

Response to 'Typical' Containment Inspection Questions

IN THE MATTER OF AMENDING

LICENSE NO. NPF-38

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

## **RESPONSE to 'TYPICAL' CONTAINMENT INSPECTION QUESTIONS**

In a meeting between the NRC Staff and NEI to discuss a generic effort to justify a possible extension of the ILRT interval to 20 years, the NRC Staff noted that a set of questions had been recently transmitted to two licensees who had submitted similar applications. Entergy has agreed to address these questions on the Waterford 3 docket in support of the NRC Staff review of Technical Specification Change Request NPF-38-236. The questions and Waterford 3 answers are provided below.

Because the containment inservice inspection requirements mandated by 10CFR50.55a and leak rate testing requirements of Option B of Appendix J complement each other in ensuring the leak-tightness and structural integrity of the containment, the Staff needs the following information to complete its review of the license amendment request.

1. None of the references describe (or summarize) the containment ISI program being implemented at [Waterford 3]. Please provide a description of the ISI methods that provide assurance that in the absence of an ILRT for 15 years, the containment structural and leak tight integrity will be maintained.

Response for Waterford 3 –

The Containment Inservice Inspection (CII) program at Waterford 3 is described in detail in CEP-CII-002, "Containment Inservice Inspection (CII) Program Plan." The program requirements include a general visual examination of the containment surfaces each inspection period. The general visual examinations are conducted in accordance with CEP-CII-003, "General Visual Examinations of Class MC Components." Any indications exceeding the screening criteria contained in CEP-CII-003 are provided to a qualified containment engineer who compares the indication to the design requirements of the containment vessel. Any indications that exceed the design requirements are documented in the Corrective Action Program and are dispositioned in accordance with the ASME code requirements. In addition to providing screening criteria, CEP-CII-003 also provides the qualification requirements for personnel conducting general visual examinations. The program currently requires VT examinations of bolted connections and moisture barriers as detailed in CEP-CII-002. Revisions to the CII program are anticipated and will comply with the regulatory requirements, including provisions for relief and alternative examinations, of 10CFR50.55a.

2. IWE-1240 requires licensees to identify the surface areas requiring augmented examinations. Please provide the locations of the containment liner surfaces that have been identified as requiring augmented examination and a summary of the findings of the examinations performed.

Response for Waterford 3 –

Preliminary walkdowns were conducted prior to the conduct of the IWE examinations in order to determine which surface areas if any at Waterford 3 would require augmented examination. During these walkdowns, the Responsible Program Engineer (RPE) in charge of containment inspection identified five areas that required supplementary examination to determine whether or not the areas required augmented examination as described in IWE-1240. These areas are documented in Table C-2, Appendix C to CEP-CII-002 (and in the table below).

Each of the prescribed supplementary examinations was completed in October of 2000. There were no indications of accelerated corrosion mechanisms or other conditions with the potential to jeopardize containment integrity or leaktightness noted at any of the locations. Additionally, none of the areas had experienced excessive wear. As a result, the RPE determined that these areas do not require augmented examination in accordance with IWE-1240. The RPE determinations are documented on the examination reports. The table below contains a brief description of each area examined, the examination method used, and the document number for the examination reports.

**Table**

**Surface Areas Requiring Supplementary Examination to Determine IWE-1240 Augmented Examination Applicability**

Description of Area	Supplementary Examination Method	Examination Report Number	Examination Date
Personnel Airlock (CB MPAL0001) Interior Door – Outer surface of door had coating removed due to wear induced by banging on the door to signal door operator.	VT-1	NDEN 2000-172	10-21-00
Personnel Airlock (CB MPAL0001) Exterior Door – Outer surface of door had coating removed due to wear induced by banging on the door to signal door operator.	VT-1	NDEN 2000-173	10-21-00
Escape Airlock (CB MPEAL0001) Interior Door – Outer surface ring around door had indications of wear and rust on the lower portion of the ring.	VT-1	NDEN 2000-174	10-21-00
Surface Area in the Annulus located next to the dome access ladder had large (approximately 1 ft x 2 ft) area of surface rust.	VT-1	NDEN 2000-175	10-21-00
Surface area on the vessel wall on the RCB –4 level between the elevator and Personnel Airlock had wear marks apparently due to scaffolding hitting the vessel wall.	General Visual	N/A	October 2000

It should be noted that Waterford 3 Containment Inservice Inspection Program, as described in CEP-CII-002, contains provisions to include areas accepted by evaluation in accordance with IWE-3122.4 into the category E-C examination tables.

3. For the examination of seals and gaskets, and examination and testing of bolts associated with the primary containment pressure boundary (Examination Categories E-D and E-G), relief from the requirements of the Code had been requested. As an alternative, it was proposed to examine them during the leak rate testing of the primary containment. However, Option B of Appendix J for Type B and Type C testing (as per Nuclear Energy Institute 94-01 and Regulatory Guide 1.163), and the ILRT extension requested in this amendment for Type A testing provide flexibility in the scheduling of these inspections. Please provide your schedule for examination and testing of seals, gaskets, and bolts that provide assurance regarding the integrity of the containment pressure boundary.

Response for Waterford 3 –

The current Waterford 3 Containment Inservice Inspection Program plan took effect on July 1, 2000 and will end on June 30, 2007. It uses the 1992 edition with the 1992 addenda of IWE. The code requirements have been modified by 10CFR50.55a and by several approved relief requests incorporated into the program.

ISI Relief Request IWE-03 for seals and gaskets and ISI Relief Request IWE-02 for examination and testing of bolt torque and tensioning were submitted to the NRC on April 29, 1999 (CNRO-99/00004) and supplemented by letters dated May 10, 1999, (CNRO-99/00016) and December 9, 1999 (CNRO-99/00025). The NRC approved these relief requests on January 13, 2000.

As stated in both relief requests, the alternate examinations of Appendix J Type B testing will be performed at least once during each Containment Inspection interval. Thus, the extension requested for Type A testing does not affect the frequency of these alternate examinations in that they will be performed once in the ten-year inspection interval.

NEI 94-01 describes the Type B testing frequencies in paragraphs 10.2.1 and 10.2.2. The extended test interval for Type B penetrations (except containment airlocks) is a maximum of 120 months. The test frequency for airlocks, door seals, and penetrations with resilient seals are to be tested at a frequency of once per 30 months.

Waterford 3 Technical Specification 6.15 states that the Appendix J program will be implemented in accordance with Regulatory Guide 1.163, which endorses NEI 94-01. The extension of the interval for conducting the ILRT will not modify the schedule for completion of any other examination or test.

4. The stainless steel bellows have been found to be susceptible to trans-granular stress corrosion cracking, and the leakage through them are not readily detectable by Type B testing (see Information Notice 92-20). If applicable, please provide information regarding inspection and testing of the bellows, and how such behavior has been factored into the risk assessment.

Response for Waterford 3 –

NRC Information Notice 92-20, Inadequate Local Leak Rate Testing, discussed inadequate Type B local leak rate testing of two-ply stainless steel bellows. Waterford 3 has eight penetrations that incorporate two-ply mechanical bellows in its configuration. The Entergy response to IN 92-20 (W3F1-92-0473) stated that based upon a review of the purchase specification and discussions with the manufacturers, that a mesh wire cloth between the plies ensures a gap for the adequate performance of an 10CFR50 Appendix J Type B test.

Based on the performance criteria established in NEI 94-01, the eight mechanical bellows were placed on the 120 month 10CFR50 Appendix J Option B extended interval beginning in October 1995.

5. Inspections of some reinforced concrete and steel containment structures have found degradation on the uninspectable (embedded) side of the drywell steel shell and steel liner of the primary containment. These degradations cannot be found by visual (i.e., VT-1 or VT-3) examinations unless they are through the thickness of the shell or liner, or, 100% of the uninspectable surfaces are periodically examined by ultrasonic testing. Please provide information addressing how potential leakage under high pressure during core damage accidents is factored into the risk assessment related to the extension of the ILRT.

Response for Waterford 3 –

The potential for containment leakage is explicitly included in the risk assessment. By definition, the intact containment cases, EPRI Containment Failure Class 1, include a leakage term that is independent of the source of the leak. Similarly, the Containment Failure Class 3a and 3b cases model the potential leakage impact of the ILRT interval extension. These cases include the potential that the leakage is due to a containment shell failure. The assessment shows that even with the increased potential to have an undetected containment flaw or leak path, the increase in risk is insignificant.

ATTACHMENT 2

TO

W3F1-2001-0090

Risk Evaluation of ILRT Interval Extension

IN THE MATTER OF AMENDING

LICENSE NO. NPF-38

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

**SENSITIVITY EVALUATION COMPARING  
the CEOG JAR METHODOLOGY with  
an ALTERNATE PREVIOUSLY APPROVED METHODOLOGY**

In response to a phone call discussing the July 23, 2001 Waterford 3 ILRT submittal between the NRC Staff and Entergy, Entergy agreed to provide additional risk information. The original submittal had referenced the Combustion Engineering Owners Group (CEOG) Joint Applications Report (JAR) for the supporting technical justification for the request of a one-time extension of the ILRT interval to 15 years. Entergy agreed to provide an analysis of the risk impact and not rely on the approval of the CEOG report, which might not be approved in time to support the Waterford 3 schedule needs.

Also in that discussion, the NRC Staff had indicated a preference for the risk analysis to utilize a methodology similar to that now approved for the Crystal River 3 application. Note that Entergy believes the methodology applied in the CEOG JAR to be reasonable and consistent with good practice in risk-informed evaluations. That evaluation uses a best-estimate approach to establish the probability of the containment failures of interest. As a result, the evaluation referenced in the original submittal represents a realistic and accurate determination of the risk due to the increase of the ILRT interval. The previously approved methodology utilizes a 95<sup>th</sup> percentile estimate of the probability of the containment failures of interest and the results reflect a conservative and somewhat greater impact of the change on overall risk. Other differences between the methodologies will be described below. The change is demonstrated to be risk insignificant in both methodologies.

Both of the methodologies followed the same general approach to the evaluation of the risk of the interval extension. There were differences in the approaches in the assumptions and in the development of a probability estimate for the release class 3 events. The methodologies:

- both utilize the EPRI TR-104285 release classes to categorize the various containment failure scenarios.
- both establish the plant-specific frequencies for each EPRI release class.
- both define estimated leakage for each release class.
- both quantify the risk for each release class by multiplying the class frequency times the assumed leakage.
- both evaluated three ILRT intervals: a baseline case (3 tests in 10 years), a current case (1 test in 10 years), and the proposed case (1 test in 15 years).

Table 1 summarizes the treatment of each of the EPRI Release Classes and provides a summary of some of the differences between the CEOG JAR and the CR3 methodologies.

**Table 1**  
EPRI Release Class Summary

Release Class	Description	CR3 Submittal	CEOG JAR
1	No containment failure	Frequency reduced as CI 3 increases; considered leakage of $L_a$	Frequency reduced with CI 3 increase; considered leakage of $L_a$
2	Large isolation failures	No change from baseline consequence measures; considered leakage of 35 $L_a$	No change from baseline consequence measures; considered leakage of 200 $L_a$
3	Isolation failures (sequences detected by ILRT and not LLRT)	3a: small leaks, 10 $L_a$ , non-LERF 3b: large leaks, 35 $L_a$ , LERF probability derived using 95 <sup>th</sup> %-ile $\chi^2$ distribution of NUREG-1493	3a: small leaks, 25 $L_a$ , non-LERF 3b: large leaks, 200 $L_a$ , LERF probability derived using log-normal distribution of NUREG-1493 data
4,5	Other small isolation failures (LLRT)	No change from baseline consequence measures; not analyzed	No change from baseline consequence measures; not analyzed
6	Other isolation failures	No change from baseline consequence measures; considered leakage of 35 $L_a$	No change from baseline consequence measures; considered leakage of 70 $L_a$
7	Induced failures	No change from baseline consequence measures; considered leakage of 100 $L_a$	No change from baseline consequence measures; considered leakage of 560 $L_a$
8	Bypass	characterized by SGTR scenario – not impacted by ILRT extension	characterized by SGTR and ISLOCA – not impacted by ILRT extension

Note – The description of the release classes above are based on the definitions provided in EPRI TR-104285.

### Evaluation of Baseline ILRT Interval

A sensitivity analysis is performed below by deriving the plant-specific risk impact for each ILRT interval using the previously approved methodology. The risk results of this evaluation for the baseline case are presented in Table 2. The release frequencies for the Class 2, 6, 7, and 8 bins are taken from the Waterford 3 IPE and are the same values that were used in the CEOG JAR. As noted in Table 1, the risk associated with the Class 4 and 5 bins is not impacted by the ILRT interval and is not analyzed here.

The release frequencies for the Class 3a and 3b bins are determined based on the previously approved methodology (see next paragraph). The release frequency for Class 1 is the value of core damage frequency (CDF) reduced by the frequencies of the Class 3a and 3b scenarios. (Note – the analysis referenced in the original Waterford 3 submittal had utilized a value of CDF representative of sequences in which the containment remains intact. This value was approximately 52% of total CDF. The previously approved methodology used total CDF. Total CDF is used in this sensitivity analysis.)

The Class 3a and 3b frequencies in the previously approved methodology were determined based on a 95<sup>th</sup> percentile  $\chi^2$  distribution of the NUREG-1493 data. For the baseline ILRT interval (3 tests in 10 years), this resulted in a frequency for Class 3a of 0.064 times CDF and a frequency for Class 3b of 0.021 times CDF. These frequencies are used in the Waterford 3 sensitivity analysis presented in Table 2. Note the CDF for Waterford 3 is 2.54E-05 per the current plant risk model.

**Table 2**  
Waterford 3 Risk Evaluation  
of Baseline ILRT Interval

Class	Frequency (per reactor-year)	Release (person-rem)	Risk (person-rem/year)
1	CDF- freq(3a)-freq(3b) = 2.32E-05	$L_a = 6.73E+04$	1.56
2	2.54E-08	$35 L_a = 2.356E+06$	0.06
3a	$0.064 \times \text{CDF} = 1.63E-06$	$10 L_a = 6.73E+05$	1.10
3b	$0.021 \times \text{CDF} = 5.33E-07$	$35 L_a = 2.356E+06$	1.26
6	4.78E-10	$35 L_a = 2.356E+06$	0.0011
7	1.08E-05	$100 L_a = 6.73E+06$	72.68
8	1.47E-06	$1.08E+08$	158.76
Total Risk			235.42

In the CEOG JAR, a risk contribution of the intact containment sequences (i.e., Classes 1, 3a, and 3b) was determined. Using the previously approved methodology, the risk contribution due to the ILRT Type A testing was considered to be due to the Class 3a and 3b scenarios. From Table 2, it can be seen that the risk contribution associated with the ILRT testing interval considering Classes 3a and 3b is:

$$\begin{aligned}
 \% \text{ Risk} &= [(\text{Risk}_{\text{Class 3a}} + \text{Risk}_{\text{Class 3b}}) / \text{Total Risk}] \times 100 \\
 &= [(1.10 + 1.26) / 235.42] \times 100 \\
 &= 1.00\%
 \end{aligned}$$

In the CEOG JAR, it was also assumed that the Class 2, 3b, 6, 8, and half the Class 7 (half the class 7 release was considered to be 'early') scenarios could lead to large early

releases and thus, contribute to LERF. The previously approved methodology focused only on the Class 3b scenario, which is the only LERF contributor affected by the consideration of the ILRT interval. As the parameter of concern in the evaluation is  $\Delta$ LERF, it is compared on a consistent basis in both methodologies. Thus, for this sensitivity analysis, the baseline LERF is the Class 3b frequency, or 5.33E-07.

### Risk Evaluation of the Current ILRT Interval (1 in 10 years)

This sensitivity analysis of the current 'once in 10 years' interval will be performed using the same approach as taken above for the baseline case. The frequencies for all release classes, except Class 1, 3a, and 3b, are unaffected by the change in the interval and remain as in Table 2. And the releases for all of the classes are the same as those shown in Table 2 for the baseline case.

The increased probability of not detecting excessive leakage in a Type A test directly impacts the frequencies of the Class 3 events. In the previously approved methodology, the Class 3a and 3b frequencies are determined by multiplying the baseline frequency by a factor of 1.1. This same factor is used in this sensitivity analysis to be consistent with the previously approved methodology. With this change in the Class 3 frequencies, the Class 1 frequency is also adjusted to preserve the total CDF. The evaluation of the current interval is presented in Table 3.

**Table 3**  
Waterford 3 Risk Evaluation  
of Current ILRT Interval

Class	Frequency (per reactor-year)	Release (person-rem)	Risk (person-rem/year)
1	CDF- freq(3a)-freq(3b) = 2.30E-05	$L_a = 6.73E+04$	1.55
2	2.54E-08	35 $L_a = 2.356E+06$	0.06
3a	1.1 x 0.064 x CDF = 1.79E-06	10 $L_a = 6.73E+05$	1.20
3b	1.1 x 0.021 x CDF = 5.87E-07	35 $L_a = 2.356E+06$	1.38
6	4.78E-10	35 $L_a = 2.356E+06$	0.0011
7	1.08E-05	100 $L_a = 6.73E+06$	72.68
8	1.47E-06	1.08E+08	158.76
Total Risk			235.63

As was noted above for the baseline evaluation:

- the risk contribution due to the Type A test interval is  $[(1.20 + 1.38) / 235.63] \times 100$ , or 1.09%.
- the LERF for the current interval evaluation is the Class 3b frequency, or 5.87E-07.

### Risk Evaluation of the Proposed ILRT Interval (1 in 15 years, one-time)

This sensitivity analysis of the proposed 'once in 15 years' interval will be performed using the same approach as taken above for the baseline case. The frequencies for all release classes, except Class 1, 3a, and 3b, are unaffected by the change in the interval and remain as in Table 2. The releases for all of the classes are the same as those shown in Table 2 for the baseline case.

The increased probability of not detecting excessive leakage in a Type A test directly impacts the frequencies of the Class 3 events. Based on the previously approved methodology, the Class 3a and 3b frequencies are determined by simply multiplying the baseline frequency by a factor of 1.15. With this change in the Class 3 frequencies, the Class 1 frequency is also adjusted to preserve the total CDF. The evaluation of the current interval is presented in Table 4.

**Table 4**  
Waterford 3 Risk Evaluation  
of Proposed ILRT Interval

Class	Frequency (per reactor-year)	Release (person-rem)	Risk (person-rem/year)
1	CDF- freq(3a)-freq(3b) = 2.29E-05	$L_a = 6.73E+04$	1.54
2	2.54E-08	35 $L_a = 2.356E+06$	0.06
3a	$1.15 \times 0.064 \times \text{CDF} = 1.87E-06$	10 $L_a = 6.73E+05$	1.26
3b	$1.15 \times 0.021 \times \text{CDF} = 6.13E-07$	35 $L_a = 2.356E+06$	1.44
6	4.78E-10	35 $L_a = 2.356E+06$	0.0011
7	1.08E-05	100 $L_a = 6.73E+06$	72.68
8	1.47E-06	1.08E+08	158.76
Total Risk			235.74

As was noted above for the baseline evaluation:

- the risk contribution due to the Type A test interval is  $[(1.26 + 1.44) / 235.74] \times 100$ , or 1.15%.
- the LERF for the current interval evaluation is the Class 3b frequency, or 6.13E-07.

### Conditional Containment Failure Probability

Another parameter of interest in evaluating the risk impact of a change to the ILRT interval is the conditional containment failure probability (CCFP). In the CEOG JAR methodology,  $\Delta\text{LERF}$  was considered to be directly related to  $\Delta\text{CCFP}$ . The results using that approach were a  $\Delta\text{CCFP}$  of 0.06% due to the proposed interval compared to the current interval, and 0.11% due to the change to the proposed interval compared to

the baseline case. Based on the previously approved methodology used in this sensitivity risk analysis, CCFP is defined as:

$$CCFP = 1 - (\text{frequency of no containment failure sequences} / \text{CDF})$$

Further, the sequences representing no containment failure were considered to be the Class 1 and 3a events. Thus, using this approach and the information from Tables 2, 3, and 4, the  $\Delta CCFP$  for Waterford 3 may be derived as shown below. (note – the subscripts used represent the interval: b-baseline, c-current, p-proposed)

$$\begin{aligned} \Delta CCFP_{c \text{ to } p} &= \{[\text{freq (CI1)} + \text{freq (CI3a)}]_c - [\text{freq (CI1)} + \text{freq (CI3a)}]_p\} / \text{CDF} \\ &= \{[2.30\text{E-}05 + 1.79\text{E-}06] - [2.29\text{E-}05 + 1.87\text{E-}06]\} / 2.54\text{E-}05 \\ &= 0.0008, \text{ or } 0.08\% \end{aligned}$$

Similarly, the impact of the proposed interval compared to the baseline case is given by:

$$\begin{aligned} \Delta CCFP_{b \text{ to } p} &= \{[\text{freq (CI1)} + \text{freq (CI3a)}]_b - [\text{freq (CI1)} + \text{freq (CI3a)}]_p\} / \text{CDF} \\ &= \{[2.32\text{E-}05 + 1.63\text{E-}06] - [2.29\text{E-}05 + 1.87\text{E-}06]\} / 2.54\text{E-}05 \\ &= 0.0024, \text{ or } 0.24\% \end{aligned}$$

## Summary

A summary of the sensitivity risk analysis of the ILRT interval changes using the previously approved methodology is presented in Table 5.

Regulatory Guide 1.174 provides guidance for determining the risk impact of plant-specific changes to the licensing basis. RG 1.174 defines very small changes in risk as resulting in increases of core damage frequency (CDF) below 1E-06/year and increases in LERF below 1E-07/year. Since the ILRT does not impact CDF, the relevant metric is LERF. Calculating the increase in LERF involves determining the impact of the ILRT interval on the leakage probability.

**Table 5**  
Summary of Results of ILRT Interval  
Risk Evaluation

ILRT Interval	ILRT Risk Contribution	LERF	$\Delta$ LERF from baseline	$\Delta$ LERF from current
baseline (3 in 10 years)	1.00%	5.33E-07	—	—
current (1 in 10 years)	1.09%	5.87E-07	5.4E-08	—
proposed (1 in 15 years)	1.15%	6.13E-07	8.0E-08	2.6E-08

Based on the Reg Guide 1.174 guidance, the extension of the ILRT interval from 10 years to 15 years is not risk-significant. It can also be noted that even the increase in the interval from the baseline case to 15 years is also below the risk-significance guideline of Reg Guide 1.174.

For comparison purposes, the evaluation results from the analysis referenced in the original Waterford 3 submittal, derived using different assumptions and methodology, are presented in Table 6.

**Table 6**  
Summary of Results of ILRT Interval  
Risk Evaluation (using CEOG JAR approach)

ILRT Interval	ILRT Risk Contribution	LERF	$\Delta$ LERF from baseline	$\Delta$ LERF from current
baseline (3 in 10 years)	0.26%	6.898E-06	—	—
current (1 in 10 years)	0.48%	6.903E-06	5.0E-09	—
proposed (1 in 15 years)	0.65%	6.906E-06	8.0E-09	3.0E-09

## Conclusion

The risk associated with extending the ILRT interval is quantifiable. Entergy has utilized two alternate methodologies to quantify the risk and evaluate the proposed change in the ILRT interval to 15 years. The sensitivity analysis developed above demonstrates that both methodologies demonstrate the risk associated with the extension of the interval is small and acceptable. On this basis, Entergy requests approval of a one-time extension of the Waterford 3 ILRT interval to 15 years as requested in the July 23, 2001 submittal.