



UK EPR GDA PROJECT				
UK EPR	Title: Resolution Plan for GI-UKEPR-CE05			
	RP unique number: GI-UKEPR-CE05-RP	Revision No.: 0	Effective Date: 29/06/2011	Page No.: 1 of 6
Approved for EDF by: A. PETIT Name/Initials  Date 29/06/2011		Approved for AREVA by: C. WOOLDRIDGE Name/Initials  Date 28/06/2011		

Resolution Plan Revision History

Rev.	Description of update	Date issued
0	First Issue	29/06/2011

1.0 GDA ISSUE

GDA Issue Title	Main Assessment Area	Related Assessment Area
Reliability of the ETC-C	Civil Engineering	Not Applicable

GDA Issue	There is not yet sufficient demonstration of the reliabilities achieved by use of the ETC-C as a design code.
------------------	---

2.0 OVERVIEW OF SCOPE OF WORK

RO-UKEPR-37 was raised to provide clarity over the required reliability of ETC-C with respect to containment seismic loading and containment overpressure. For the seismic case, barring a few minor clarifications, the response exhibited a clear progression and definition of a hazard with a frequency and the intricacy of the hazard with the fragility resulting in a compound risk. For the overpressure case, additional queries regarding increased pressure, fault scenarios, and frequencies were communicated and documented in ND Letter EPR70288N on 21 January 2011. Subsequent to this letter, AREVA/EDF provided updates to the previously transmitted engineering documentation and responded to all queries contained in ND Letter EPR70288N as transmitted in AREVA/EDF Letters EPR00761N, EPR00768N, and EPR00802N.

This GDA Issue requests AREVA/EDF to provide support for the ongoing assessment of the RO-UKEPR-37 associated documentation.

UK EPR	UK EPR GDA PROJECT			
	Title: Resolution Plan for GI-UKEPR-CE05			
	GI unique number: GI-UKEPR-CE05-RP	Revision No.: 0	Effective Date: 29/06/2011	Page No.: 2 of 6

3.0 GDA ISSUE ACTIONS AND RESOLUTION PLAN DELIVERABLES

3.1 Action GI-UKEPR-CE05.A1

Action I/D	Action Description
GI-UKEPR-CE05.A1	<p>Support assessment within the following areas and provide adequate responses to any questions arising from the assessment by ONR of submissions received late in Step 4 of GDA around the following topics:</p> <ul style="list-style-type: none"> • Reliability of EPR Inner Containment to earthquake. • Target reliabilities for UK EPR structures built to ETC-C. • Behaviour of EPR Inner Containment wall beyond design-basis conditions. <p>Based on a high level review of the documents and assurances provided to date I have sufficient confidence in the approach to conclude that it should be possible to provide a suitable demonstration of both the beyond design basis performance and the fragility for use in the PSA.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>

3.1.1 Deliverables already submitted to ONR/EA in response to GI-UKEPR-CE05.A1

The following documents have already been submitted in response to this action but have not yet been assessed by ONR.

	Date of submission
ENSGGC100106, Rev. B, Study of the Behaviour of the EPR Inner Containment Wall Beyond Design-Basis Conditions (submitted by AREVA/EDF Letter ND(NII) EPR00802R)	24/02/2011

This document constitutes a summary of the studies on the ultimate behaviour of the EPR inner containment under overpressure and thermal conditions characteristic of severe accidents and derives a reliability curve for overpressure.

	Date of submission
12 680 RP 01-41 Rev. A, Answer to HSE Regulatory Observation RO-UKEPR-37 - Ultimate Pressures in EPR Containment - Comparison of Simplified Method (EPRI Method) to Method Based on Statistical Numerical Simulation (submitted by AREVA/EDF Letter ND(NII) EPR00802R)	24/02/2011

This document investigates the statistical distribution of the containment ultimate pressures fragility curves

UK EPR	UK EPR GDA PROJECT			
	Title: Resolution Plan for GI-UKEPR-CE05			
	GI unique number: GI-UKEPR-CE05-RP	Revision No.: 0	Effective Date: 29/06/2011	Page No.: 3 of 6

Date of submission

12 680 RP 01-45 Rev. B, Answer to HSE Regulatory Observation RO-UKEPR-37
Determination of Failure Mode Ultimate Pressures – Comparison of Simplified (EPRI) or Fully Statistical Methods – Special Case of Low Probabilities (submitted by AREVA/EDF Letter ND(NII) EPR00802R) 24/02/2011

This document investigates potential inaccuracies which could arise in probabilistic failure analysis from the use of simplified computational methods to determine containment failure modes ultimate pressures, in particular when determining ultimate pressures corresponding to low probabilities of occurrence.

Appendix to AREVA/EDF Letter ND(NII) EPR00802R, Response to Regulatory Observation RO-UKEPR-37 24/02/2011

This letter responded to the remaining specific ONR comments issued through Letter EPR70288N.

3.1.2 Planned submissions in response to GI-UKEPR-CE05.A1

3.1.2.1 Description of Scope of Work

AREVA/EDF will support the ONR assessment of the engineering documentation and justification associated with fully responded RO-UKEPR-37.

3.1.2.2 Description of Methodology to be employed

As of 24 February 2011, AREVA/EDF has fully responded to all ONR provided comments transmitted in ND Letter EPR70288N. The engineering reports which have been provided in response to this letter will require review by ONR. This review is anticipated to require at least one (1) face-to-face meeting to facilitate resolution of any residual questions and/or offer clarifications to these responses. Accordingly, meetings have been planned for AREVA/EDF and ONR in the included work programme to facilitate this resolution.

No updates to the PCSR are expected since the documentation provided in response to RO-UKEPR-37 and associated ND Letter EPR70288N was incorporated into the PCSR (Sub-chapter 3.3) as part of the March 2011 PCSR submission. However, if the previously submitted documents require revision based on resolution of this GDA Issue, then the PCSR (Sub-chapter 3.3) may require update.

3.1.2.3 Deliverable description

Submission date to ONR/EA

None

N/A

UK EPR	UK EPR GDA PROJECT			
	Title: Resolution Plan for GI-UKEPR-CE05			
	GI unique number: GI-UKEPR-CE05-RP	Revision No.: 0	Effective Date: 29/06/2011	Page No.: 4 of 6

4.0 SUMMARY OF IMPACT ON GDA SUBMISSION DOCUMENTATION

4.1 GDA submission documents impacted by GDA Issue and scheduled to be created (C) or updated (U) within GDA

GDA Submission Documents	C/U	Related GDA Issue Action(s)	Submission Date to ONR/EA
SSER sub-chapters Not Applicable		N/A	N/A
GDA reference design documents (SDM in UKEPR-I-002) Not Applicable		N/A	N/A
Other GDA submission supporting documents Not Applicable		N/A	N/A

UK EPR	UK EPR GDA PROJECT			
	Title: Resolution Plan for GI-UKEPR-CE05			
	GI unique number: GI-UKEPR-CE05-RP	Revision No.: 0	Effective Date: 29/06/2011	Page No.: 5 of 6

5.0 JUSTIFICATION OF ADEQUACY

AREVA/EDF will support the ONR assessment of the engineering documentation and justification associated with fully responded RO-UKEPR-37.

As delineated in the write-up of GDA Issue GI-UKEPR-CE05, ONR has stated that based on their high level review of the documentation, they are confident that upon a more detailed assessment this GDA Issue can be adequately satisfied.

The engineering documentation which makes up the totality of the response to RO-UKEPR-37 and this GDA Issue support the below listed relevant ONR SAPs.

Engineering principles: safety classification and standards	Standards	ECS.3
Structures, systems and components that are important to safety should be designed, manufactured, constructed, installed, commissioned, quality assured, maintained, tested and inspected to the appropriate standards.		

Engineering principles: reliability claims	Form of claims	ERL.1
The reliability claimed for any structure, system or component important to safety should take into account its novelty, the experience relevant to its proposed environment, and the uncertainties in operating and fault conditions, physical data and design methods.		




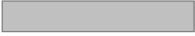





UK EPR	UK EPR GDA PROJECT			
	Title: Resolution Plan for GI-UKEPR-CE05			
	GI unique number: GI-UKEPR-CE05-RP	Revision No.: 0	Effective Date: 29/06/2011	Page No.: 6 of 6

6.0 TIMETABLE AND MILESTONE PROGRAMME LEADING TO THE DELIVERABLES

Consult the following pages for the associated timetable and milestone programme.

ID	Task Name	Duration	Start	Finish	Qtr 1, 2011			Qtr 2, 2011			Qtr 3, 2011			Qtr 4, 2011
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	Civil Topic Meetings	20 days	Wed Aug 10, '11	Wed Sep 7, '11										
2	Civil Topic Progress/Working Meeting	0 days	Wed Aug 10, '11	Wed Aug 10, '11										
3	Civil Topic Progress/Working Meeting	0 days	Wed Sep 7, '11	Wed Sep 7, '11										
4	Action 1 of GI-UKEPR-CE05	157 days	Thu Feb 24, '11	Fri Sep 30, '11										
5	EDF and AREVA Support ONR Assessment	157 days	Thu Feb 24, '11	Fri Sep 30, '11										
6	COB Report 12 680 RP 01-41 (Actual Submittal to ONR)	0 days	Thu Feb 24, '11	Thu Feb 24, '11										
7	COB Report 12 680 RP 01-45 (Actual Submittal to ONR)	0 days	Thu Feb 24, '11	Thu Feb 24, '11										
8	EDF Report ENGSGC100106 (Actual Submittal to ONR)	0 days	Thu Feb 24, '11	Thu Feb 24, '11										
9	AREVA/EDF Letter ND(NII) EPR00802R (Actual Submittal to ONR)	0 days	Thu Feb 24, '11	Thu Feb 24, '11										
10	ONR Assessment	35 days	Mon Jul 4, '11	Fri Aug 19, '11										
11	Resolution of ONR Assessment Comments (if applicable)	25 days	Mon Aug 22, '11	Fri Sep 23, '11										
12	Issuance of Updated Documentation (if applicable)	5 days	Mon Sep 26, '11	Fri Sep 30, '11										

Project: GI-UKEPR-RC02 Schedule
Date: Wed Jun 29, '11

Task  Progress  Summary  External Tasks  Deadline 
 Split  Milestone  Project Summary  External Milestone 

Page 1