

Hitachi-GE Nuclear Energy, Ltd.
UK ABWR GENERIC DESIGN ASSESSMENT
Resolution Plan for RO-ABWR-0045
UK ABWR - Operational Experience (OPEX)

RO TITLE:	UK ABWR - Operational Experience (OPEX)	
REVISION :	<u>2</u>	
Overall RO Closure Date (Planned):	29 January 2016	
REFERENCE DOCUMENTATION RELATED TO REGULATORY OBSERVATION		
Regulatory Queries	-	
Linked ROs	-	
Other Documentation	-	

Scope of work :

Summary

This regulatory observation is cross cutting across all ONR disciplines. It is being raised to ensure the Requesting Party's (RPs) safety case submission for the UK ABWR demonstrates adequate consideration to relevant operational experience.

Assessment Observation

It is ONR's judgement that to date the RP has not demonstrated sufficiently how it has considered and taken account of operational experience from BWR plants from around the world including Japan.

ONR acknowledges that the ABWR is an evolutionary design, incorporating a number of engineered features, which are considered improvements to earlier designs. In addition, the ABWR itself has been operating for a number of years.

As part of ONR GDA Step 3 ONR Inspectors plan to consider the two commissioned operational experience reports. The respective technical disciplines' Step 4 assessment plans will set out how each discipline plans to progress the topic.

ONR considers this regulatory observation to be cross-cutting and of interest to all assessment disciplines.

To undertake a meaningful GDA, ONR wishes to:

1. baseline ONR's regulatory knowledge of all BWR and ABWR operational experience across the world;
2. provide the RP an opportunity to demonstrate the adequacy and robustness of its ABWR technology; and
3. understand how the RP has adequately considered operational experience to reduce risks So Far As Reasonably Practicable (SFAIRP).

Regulatory Expectations

The objective of this Regulatory Observation is for the RP to demonstrate that the UK ABWR considers relevant operational experience from around the world. This will be achieved by the existence of an audit trail.

The RP should generate an appropriate resolution plan which:

- a. defines and scopes the planned activities;
- b. includes a controlled programme identifying: planned activities; deliverables; milestones; timescales and resource requirements; and
- c. identifies progress updates to ONR through the planned GDA engagements.

Regulatory Observation Actions

Action RO-ABWR-0045.A1:

As part of GDA Step 3, the RP, adopting a similar approach to the two reports commissioned by ONR (issued under correspondence REG-HGNE-0079R), should initiate a review of operational experience of the Japanese BWR nuclear power plants.

Action RO-ABWR-0045.A2:

As part of GDA Step 3, the RP should generate and issue a summary/synopsis on how it intends to demonstrate that the UK ABWR design and safety case takes account of Japanese and relevant international operational experience.

Action RO-ABWR-0045.A3:

As part of Step 4, the RP should generate and issue a report that demonstrates how the UK ABWR safety case and design consider relevant operational experience from North America, Europe and Japan. It is expected that this review will:

- on a structure, system or component (SSC) basis, or by grouping of similar SSCs, identify generic themes and trends of relevant operational experience,
- explain any relevance to the UK ABWR; and
- explain how the UK ABWR submission takes account of the operational experience.

Please note ONR does not expect an “event-by-event” treatment of operational experience.

Description of work:

Corresponding to RO-ABWR-0045, Hitachi-GE has established RO actions described below:

Action # 1: Corresponding to RO-ABWR-0045.A1

As part of GDA Step 3, Hitachi-GE will initiate a review of operational experience of the Japanese BWR nuclear power plants. This information and OPEX information from the two reports commissioned by ONR (issued under correspondence REG-HGNE-0079R) will be combined in a report that summarizes the operational experience so that it can be used to identify generic themes and trends of relevant operational experience from Japan, Europe and North America as requested in RO-ABWR-0045.A3.

Deliverable : OPEX Report for UK ABWR, Rev.0

Resolution Date : 28th August 2015

Action # 2: Corresponding to RO-ABWR-0045.A2

As part of GDA Step 3, Hitachi-GE will prepare a summary/synopsis on how it intends to demonstrate that the UK ABWR design and safety case takes account of Japanese and relevant international operational experience. An approach will be developed describing the organisation and process to address OPEX for the UK ABWR within Hitachi-GE. It will include gathering OPEX information, processing the information within Hitachi-GE and the arrangement for keeping records. This approach will be summarized in the report named "OPEX Report for UK ABWR" (refer to action for RO-ABWR-0045.A1 above).

Deliverable : OPEX Report for UK ABWR, Rev.0
Resolution Date : 28th August 2015

Action # 3: Corresponding to RO-ABWR-0045.A3

Hitachi-GE will prepare and submit the first OPEX study result which includes information on how the UK ABWR incorporates the OPEX information summarized in the previous report prepared to respond to RO-ABWR-0045.A1.

Naturally, review of OPEX should continue until the time when the last UK ABWR will be completely decommissioned, so that OPEX reports should be revised or prepared regularly and not only during the GDA period but also after GDA. However, Hitachi-GE would like to close this RO by issuing the first study report.

Deliverable : OPEX Report for UK ABWR Rev.1
Resolution Date : 23rd December 2015

Summary of impact on GDA submissions:

<u>Related RO Actions</u>	<u>GDA Submission Document Title</u>	<u>Document ID</u>	<u>Submission Date to the Regulators</u>
ROA1	OPEX Report for UK ABWR	GA91-9201-0003-00698, Rev.0 (XE-GD-0419, Rev.0)	28 th August 2015
ROA2	OPEX Report for UK ABWR	GA91-9201-0003-00698, Rev.0 (XE-GD-0419, Rev.0)	28 th August 2015
ROA3	OPEX Report for UK ABWR	GA91-9201-0003-00698, Rev.1 (XE-GD-0419, Rev.1)	23 rd December 2015

Programme Milestones/ Schedule:

See attached Gantt Chart (Table 1).

Reference:

None

Table 1 RO-ABWR-0045 Gantt Chart

Resolution Plan for RO-ABWR-0045 rev.1 UK ABWR - Operational Experience (OPEX)				2015																															2016										
				April					May					June					July					August					September					October			November			December			January		
				1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13
Level	Action Title	Start	Finish																																										
1	Regulator's issuance of RO																																												
1.1	ONR issue RO	17-Apr-15	17-Apr-15																																										
1.2	Hitachi-GE acknowledge RO & issue Resolution Plan	18-Apr-15	10-Jul-15																																										
1.2.1	Resolution plan rev.0	18-Apr-15	15-May-15																																										
1.2.2	Resolution plan rev.1	3-Jun-15	10-Jun-15																																										
1.2.3	Resolution plan rev.2	24-Jun-15	10-Jul-15																																										
1.3	Regulator's confirm credibility of Resolution Plan	15-May-15	24-Jul-15																																										
1.4	Regulator's publish RO and Resolution Plan	15-May-15	24-Jul-15																																										
2	Preparation of Submissions and Closure of RO Actions																																												
2.1	Action #1	18-Apr-15	28-Aug-15																																										
2.2	Action #2	18-Apr-15	28-Aug-15																																										
2.3	Action #3	1-Jul-15	23-Dec-15																																										
3	Regulator's Closure of RO																																												
3.1	Regulator's assessment	24-Dec-15	22-Jan-16																																										
3.2	Regulator's publication of RO closure letter	23-Jan-16	29-Jan-16																																										