

Hitachi-GE Nuclear Energy, Ltd.
UK ABWR GENERIC DESIGN ASSESSMENT
Resolution Plan for RO-ABWR-0013
UK ABWR Probabilistic Safety Analysis: Project Plan and Delivery

RO TITLE:	UK ABWR Probabilistic Safety Analysis: Project Plan and Delivery	
REVISION :	1	
Overall RO Closure Date (Planned):	31. August 2016	
REFERENCE DOCUMENTATION RELATED TO REGULATORY OBSERVATION		
Regulatory Queries	-	
Linked ROs	-	
Other Documentation	-	

Scope of work :
<p>Background Hitachi-GE intends to develop, within GDA timescales, a full-scope modern-standard PSA to demonstrate that the risk associated with the UK ABWR is ALARP and to support the design change decision-making process. In this regard, Hitachi-GE submitted, in GDA Step 2, a high level plan to develop the UK ABWR PSA; according to this plan the Level 1 and Level 2 PSA for internal initiating events during operation at power would be finalised at the end of 2014. The remaining parts of the PSA would follow later in GDA, including delivery of the hazards PSA well into Step 4. In response to this RO Hitachi-GE are requested to provide the UK ABWR PSA and documentation in a phased but logical fashion, in accordance with the Project Plan; the staggered submission to ONR of information (documentation and computer models and / or data bases, as appropriate) related to individual PSA tasks will facilitate both ONR's assessment and early identification of any technical concerns, and Hitachi-GE's ability to address such concerns in a timely manner.</p> <p>Scope of Work The response to this RO is the delivery of the full scope PSA for UK ABWR in GDA. This Resolution Plan shows some of the actions and milestones for preparation and delivery of UK ABWR PSA. The detailed programme of work will be provided as part of the response to Action 1.</p>

Description of work:

ACTION 1 – UK ABWR PSA Project Plan

Hitachi-GE will provide the UK ABWR PSA Project Plan, which includes:

- PSA objectives, applications and definition of the requirements of the PSA to fulfil these.
- The identification and justification of the computer code(s) that will be used for Level 1 and Level 2 UK ABWR PSA (model and database).
- Definition of the PSA tasks required to be completed during GDA.
- Identification of the procedures and reports which will be produced or updated during the development of the UK ABWR PSA, for all the PSA tasks and PSA applications.
- A detailed work programme including all planned deliverables for the full scope UK ABWR PSA and documentation in a phased but logical fashion.

The plan will be updated and submitted to ONR at regular intervals throughout GDA as new information become available and changes occur. Any significant changes to the PSA project plan (e.g. changes in the tasks, the deliverables or the planned delivery dates) will be agreed with ONR prior to implementation. The plan will cover both steps 3 and 4 of GDA.

ACTION 2 – Allocation of Suitably Qualified and Experienced PSA Resources to Develop the UK ABWR PSA

Hitachi-GE will provide information on the resources allocated to develop the UK ABWR PSA in terms of manpower and qualifications and experience required to complete each of the PSA tasks identified in action 1. This information covers Hitachi-GE PSA team, other engineering teams supporting PSA activities, external support contractors, etc.

ACTION 3 – PSA Quality Assurance Plan and Quality Assurance Procedures

Hitachi-GE will provide the Quality Assurance Plan and information on procedures, which applied to UK ABWR PSA. This information includes the relationship between each task and involvement of other department.

ACTION 4 – PSA Task Procedures

Hitachi-GE will provide a task procedure for each of the UK ABWR PSA tasks.

ACTION 5 – PSA Task Analysis Files and Summary Report

ACTION 5.1

Hitachi-GE will provide the following information:

- Individual reports for each of the UK ABWR PSA task
- UK ABWR PSA summary report
- UK ABWR PSA computer model
- Task files, which will be provided to ONR upon their request.

The Task files describes title, objectives, summary, conclusion, related documents, and digital data link and contains related data, e.g. printed input for analysis, printed output for analysis, check sheets, etc.

ACTION 5.2 – Update plan on task analysis files

Hitachi-GE will provide a plan of updates of the tasks analysis files, including PSA model and documentation during GDA.

ACTION 6 – Document Database

Hitachi-GE will provide a Document Database and a plan of updates during GDA. The documents database consists of the document map and the table of the name and ID of PSA report, Methodology document, Report on each task and other documents used to support the development of each PSA task, including the documents produced by other technical areas supporting the assumptions and models in the PSA or for which the PSA provides an input. The document map shows the graphical relationship among above documents.

Summary of impact on GDA submissions:

<u>GDA Submission Document</u>	<u>Submission Date to ONR</u>
Topic Report on internal event Level 1 PSA at power	31 December, 2014
Topic Report on internal event Level 2 PSA at power	31 December, 2014
Topic Report on Severe Accident Phenomena and Severe Accident Analysis	31 December, 2014
Topic Report on shutdown PSA	July, 2015
Topic Report on SFP PSA	July, 2015
Hitachi-GE Standard ABWR Initiating Events and Estimations for Internal/External Hazards	May, 2015
Topic Report on Fire PSA	March, 2016
Topic Report on Flooding PSA	March, 2016
Topic Report on Seismic Margin Analysis	March, 2016
Level 3 PSA report	June, 2016
PSA summary report	July, 2016
Generic PCSR Chapter 25: Probabilistic Safety Assessment Rev.B	24 August 2015

NOTE: A complete list of documents, including documents produced by other technical areas that have interfaces with the PSA, will be provided as part of response to Action 1 and Action 6.

Programme Milestones/ Schedule:

See attached Gantt Chart (Table 1).

Reference:

Ref[1] Generic PCSR Chapter 25: Probabilistic Safety Assessment Rev.A, GA91-9101-0101-25000 Rev A

Table 1 RO-ABWR-0013 Gantt Chart

