REGULATORY OBSERVATION

REGULATOR TO COMPLETE

RO unique no.:	RO-ABWR-0055
Date sent:	20th May 2015
Acknowledgement required by:	12th June 2015
Agreement of Resolution Plan Required by:	To be determined by the Hitachi-GE Resolution Plan
Resolution of Regulatory Observation required by:	10th August 2015
TRIM Ref.:	2015/186782
Related RQ / RO No. and TRIM Ref. (if any)**:**	
Observation title:	UK ABWR Generic Site Envelope - Seismic Hazard Definition
Technical area(s) 3. External Hazards	**Related technical area(s)** 2. Civil Engineering 6. Control & Instrumentation 7. Electrical Power Supply 11. Mechanical Engineering 12. Structural Integrity

Regulatory Observation

Description of issue:

The Seismic Hazard Definition for the UK ABWR GDA forms an important part of the External Hazards studies and the Generic Site Envelope characterisation. This also is the primary input for the seismic analysis of the Civil Engineering structures, development of secondary response spectra and seismic qualification of SSCs within other technical disciplines.

The Seismic Hazard Definition for the UK ABWR GDA is being developed jointly by Hitachi-GE and Horizon Nuclear Power with the latter leading on the technical development prior to formal acceptance by Hitachi-GE.

ONR have been informed that the Wylfa-Newydd site specific probabilistic seismic hazard assessment will underpin the UK ABWR GDA seismic design spectra. Horizon is currently planning to issue its Wylfa-Newydd site-specific seismic hazard definition in July 2015. ONR have previously raised concerns regarding the suitability of the site specific seismic hazard assessment that was being conducted and are not clear to what extent these have been addressed. Recent feedback suggests that this analysis may not properly consider the seismicity and geology of the area, and, therefore, may not follow relevant good practice, potentially underestimating the hazard. Thus, there is a risk that ONR may not be satisfied with the submission which is intended to justify the seismic design basis for GDA.

It is incumbent that ONR gain confidence in the adequacy of the seismic evaluations undertaken to underpin the UK ABWR generic site envelope prior to the end of Step 3 of GDA, when the design reference point, DRP (design freeze) for the UK ABWR will be established.

Regulatory Observation Actions

RO-ABWR-0055.A1

Hitachi-GE to provide an approved report documenting the probabilistic seismic hazard assessment which will underpin the seismic spectra for the UK ABWR GDA generic site envelope, adequately taking into consideration relevant geological characteristics and relevant good practice.

Resolution required by: To be determined by the Hitachi-GE Resolution Plan.

RO-ABWR-0055.A2

Hitachi-GE to arrange monthly L4 meetings (jointly with Horizon Nuclear Power) to inform ONR of progress on on-going seismic work undertaken to underpin the UK ABWR GDA generic site envelope.

Resolution required by: To be determined by the Hitachi-GE Resolution Plan.

RO-ABWR-0055.A3

If the Wylfa-Newydd site specific probabilistic seismic hazard is to be used in the Generic Site Envelope values to be adopted for the UK ABWR GDA, Hitachi-GE to provide evidence of formal review and acceptance.

Resolution required by: To be determined by the Hitachi-GE Resolution Plan.

REQUESTING PARTY TO COMPLETE

Actual Acknowledgement date:	
RP stated Resolution Plan agreement date:	