

| REGULATORY OBSERVATION | |
|--|--|
| REGULATOR TO COMPLETE | |
| RO unique no.: | RO-ABWR-0005 |
| Date sent: | 17th April 2014 |
| Acknowledgement required by: | 13th May 2014 |
| Agreement of Resolution Plan Required by: | 19th May 2014 |
| Resolution of Regulatory Observation required by: | 30th September 2014 |
| TRIM Ref.: | 2014/155364 |
| Related RQ / RO No. and TRIM Ref. (if any): | |
| Observation title: | Hitachi-GE Nuclear Energy Ltd. Human Factors Specialist Resource and Organisation |
| Technical area(s) 13. Human Factors | Related technical area(s) 5. Fault Studies and Deterministic Safety Analysis 4. PSA 6. Control & Instrumentation Leadership and Management for Safety |
| <i>Regulatory Observation</i> | |
| <p>The UK ABWR design makes wide ranging and potentially important safety claims related to human reliability, which require substantiation in a modern standards safety case. ONR expects the development of the HF safety case and nuclear power plant design influenced by modern HF principles to be delivered by an identified HF team under the management of a specialist HF lead.</p> <p>Hitachi-GE's current arrangement is that HF is managed as part of its electrical and control and instrumentation department. ONR considers this organisational arrangement and the current level of HF resource insufficient to deliver the GDA outcomes on HF in the time envisaged. Hitachi-GE therefore needs to increase its HF capability to ensure that it has sufficient suitably qualified and experienced HF specialists and organisation to deliver the volume of HF analyses work required for GDA to meet UK regulatory expectations.</p> <p>Left unresolved, the above matters present a potentially significant project risk for Hitachi-GE delivering a successful GDA safety case within the desired timescale. ONR recognises that the organisational changes sought in the actions to this RO will require some time to develop; the key is continually improving Hitachi-GE's capability throughout the period of GDA Step 2 and into the first part of Step 3 in order to achieve a successful outcome.</p> | |
| <i>Regulatory Observation Actions</i> | |
| <p><i>RO-ABWR-0005.A1</i></p> <p><i>Hitachi-GE needs to appoint suitably qualified and experienced HF professionals as SME in Hitachi city and within the supporting team for the UK ABWR</i></p> <p><i>Resolution required by 30/09/2014</i></p> | |
| <p><i>RO-ABWR-0005.A2</i></p> <p><i>The position and authority of the appointed HF professionals should be declared in Terms of Reference, which gives such persons authority, consistent with Hitachi-GE's management arrangements, to ensure that their areas of responsibility are accomplished. They should have the authority and accountability to determine what and where human factors input to the design and safety case is required, to access all relevant design and safety case information and be able to intervene and make decisions to influence the design and safety case production and any changes.</i></p> <p><i>Resolution required by 30/09/2014</i></p> | |
| <p><i>RO-ABWR-0005.A3</i></p> | |

NOT PROTECTIVELY MARKED

Hitachi-GE to define its qualification, experience and training expectations for those with formal HF roles in the design and safety case process and demonstrate that the HF specialists employed have suitable qualifications and experience. Typical UK regulatory expectations for this are a Bachelor of Science Degree (or equivalent) in Human Factors, Ergonomics, Psychology/Organisational Psychology or related science / engineering degree, and at least four years cumulative experience related to the application of HF to safety cases and design of nuclear plant or similar high hazard industries such as major chemical processing plant.

Resolution required by 30/09/2014

RO-ABWR-0005.A4

Hitachi-GE should produce a resource strategy and plan detailing how it will obtain and mobilise necessary and suitable HF professionals to deliver a successful Step 2 GDA (and subsequent steps), including contingencies should this not be achieved.

Resolution required by 30/09/2014

RO-ABWR-0005.A5

Hitachi-GE should explain how those engineers appointed for cross-cutting work will have a suitable level of knowledge and experience in HF to identify import human factors issues.

Resolution required by 30/09/2014

REQUESTING PARTY TO COMPLETE

Actual Acknowledgement date:

RP stated Resolution Plan agreement date: