INTRODUCTION AND BACKGROUND

1. This interim progress report primarily provides information on the work that has been undertaken in the Generic Design Assessment (GDA) programme during 2013. We have not provided routine quarterly reports during this period as we have not undertaken significant regulatory assessment work. Our work has concentrated on completing the reporting of our assessment of EDF and AREVA’s UK EPRTM reactor and on preparations for assessment of Hitachi-General Electric Nuclear Energy’s (HGNE) UK Advanced Boiling Water Reactor (UK ABWR).

2. Our assessment of the UK EPRTM began in 2007 and was completed in December 2012 when we issued the Design Acceptance Confirmation (DAC) and Statement of Design Acceptability (SoDA). This was a significant milestone as it was the first reactor to have received a DAC and SoDA. We believe this new approach to regulation has been a success and that our assessment will, if the design is built and operated in the UK, be effective in ensuring that people and the environment are protected from the hazards and impacts associated with the operation of such a reactor.

3. We therefore remain convinced of the value of the GDA for other reactor designs because it enables the identification and resolution of key safety, security and environmental issues, ahead of any regulatory permissions for the start of construction. Not only does this allow the regulators to have significant influence on the designs when it is most effective (i.e., while they remain ‘on the drawing board’), it should also lead to more predictable and achievable schedules for the safe construction of such reactors. This should give additional confidence to potential operators and investors.

4. We expect to continue preparatory work for the assessment of HGNE’s UK ABWR for the remainder of 2013 and we intend to publish a further report on progress around the end of this year after which we will recommence publication of routine quarterly reports.

5. We welcome comments on this report, please send them to us at: new.reactor.build@hse.gsi.gov.uk.

CLOSE-OUT OF GDA FOR EDF AND AREVA’s UK EPRTM REACTOR

6. Our assessment of the UK EPRTM took tens of thousands of staff hours and EDF and AREVA submitted thousands of documents for our examination. In 2011 we completed our planned assessment and ONR published its Step 4 assessment reports and the Environment Agency published its decision document. These identified 31 remaining GDA Issues that had to be resolved before we would consider issuing a DAC and SoDA. After 2011, we focussed our assessment on EDF and AREVA’s responses to these GDA Issues.

7. EDF and AREVA addressed each of the 31 GDA Issues with a suite of revised safety case documents. We assessed these and a significant number of design changes were incorporated into the generic design as a result. By December 2012 we had completed our assessment and concluded that all the GDA Issues had been addressed appropriately and we therefore provided a DAC and a SoDA. Provision of these means that we believe that the UK EPRTM reactor is suitable for construction on licensed sites in the UK, subject to site specific assessment, licensing and permitting.
At the time of closing each GDA Issue, we published confirmation letters on our website, and subsequently we published our assessment reports. Work on completion, review and publication of some of these reports continued into 2013, with the last of these reports being put on our website in March 2013. This then marked the completion of the project for the UK EPR™ which was a significant milestone as it was the first reactor to have completed the GDA programme.

Matters that we identified during the GDA assessment that need to be addressed by the licensee during the site specific phase of its new build programme are known as Assessment Findings. These are identified in our assessment reports.

Our current work on the regulation of the UK EPR™ is being focussed on the site specific work for Hinkley Point C. During this phase we will regulate the further development of the design changes identified in GDA and we will ensure, as part of our normal regulatory business, that the Assessment Findings that we identified during GDA are appropriately addressed.

All our GDA work for the UK EPR™ has been published on our website at http://www.hse.gov.uk/newreactors/reports.htm

PREPARATIONS FOR GDA OF UK ABWR

In January 2013, the Energy Minister asked ONR and the Environment Agency to undertake GDA of the UK ABWR. This came about following Hitachi’s purchase of Horizon Nuclear Power, which has plans to build nuclear power stations at the Wylfa and Oldbury sites. The UK ABWR is designed by HGNE.

The first task for ONR and the Environment Agency was to prepare various agreements to enable GDA to begin. These documents make clear that all costs for assessing the design will be recovered from HGNE and they also set out the formal arrangements for our interactions. These were signed in April and this marked the formal start of GDA Step 1 for the UK ABWR.

Step 1 is the preparatory phase, the timescale of which is largely dependent on HGNE’s plans to prepare the necessary safety, environmental and security documentation and submit them to ONR and the Environment Agency. We have had a number of detailed technical exchanges with HGNE, both in the UK and in Japan. These included visits to HGNE manufacturing facilities and to an ABWR that is nearing the end of construction. The information gained from these exchanges is being used by the regulators to aid the planning of our assessment and by HGNE to aid the planning and development of its GDA documentation. Staff from Horizon Nuclear Power are providing valuable assistance to HGNE to help with the preparations, informed by its experience and involvement in the previous GDA programme.

Good progress is being made and HGNE intends to provide technical submissions in October and December 2013, which should allow the regulators to complete their readiness reviews and commence the Step 2 assessment early in January 2014.

One of the lessons learned from the previous GDA programme was that it is vital for the regulators to have appropriate staff available from the outset. We currently have a small team engaged in the preparatory work and we have focussed on ensuring that a full team will be available from this autumn.

One of the activities we have already completed is a review of the main technical challenges that we raised during the GDAs of the UK EPR™ and the AP1000®. While these challenges are already made public via our assessment reports, we have specifically identified those that we believe could be applicable to the UK ABWR and we have shared these with HGNE to aid its planning and document preparation. Addressing these technical challenges at an early stage in GDA will help HGNE to present
comprehensive documents to the regulators and will therefore help maximise the efficiency of the assessment process. This is one of the reasons why we are estimating that the UK ABWR GDA could be complete in 4 years from the start of our assessment (ie, by the end of 2017). This timescale is of course subject to the timely delivery of high quality submissions from HGNE. For comparison, our planned assessment of the UK EPR™ took four and a half years, followed by one year to clear the 31 GDA Issues identified by our assessment.

Another of the preparatory activities we have undertaken is the updating, revision and publication of GDA guidance documents in the light of experience. In March the Environment Agency published on its website an updated version of their main GDA guidance document, titled:

- **Process and Information Document for Generic Assessment of Candidate Nuclear Power Plants**

19 ONR expects soon to complete and publish on its website the following documents:

- **New Nuclear Reactors: Generic Design Assessment Guidance to Requesting Parties**
- **Strategy for working with overseas regulators on the assessment of the UK ABWR**
- **Generic Design Assessment: A Guide to the Regulatory Process**

20 Because of the fast pace of GDA and the large number of documents examined, meetings held, and queries raised, it is important that robust arrangements are in place to manage this effectively. This also requires that HGNE establishes an appropriate technical and project management organisation in the UK. HGNE’s arrangements and organisation for GDA are under development and a demonstration that these are adequate will be an important part of the readiness review before the Step 2 assessment commences.

21 Our work for the remainder of 2013 will include assembling and briefing the GDA assessment team; their familiarisation with, the UK ABWR technology; planning the details of our Step 2 assessment; and developing project management and control arrangements, including the development of progress monitoring metrics.

**MORE INFORMATION ON GDA**

To find out more about Generic Design Assessment (GDA) - visit: [www.hse.gov.uk/newreactors](http://www.hse.gov.uk/newreactors)

To receive the latest news and information on GDA, subscribe to our eBulletin by visiting [www.hse.gov.uk/newreactors/ebulletin.htm](http://www.hse.gov.uk/newreactors/ebulletin.htm)