HITACHI

Hitachi-GE Nuclear Energy, Ltd.
c/o Hitachi Europe Limited
6th Floor
Capital House
25 Chapel Street
London
NW1 5DH.

**Hitachi-GE Nuclear Energy, Ltd. (Hitachi-GE) is a joint venture of Hitachi Ltd. (80.01%) and General Electric, Ltd. (19.99%). The company was founded on 1st July 2007 as a strategic global alliance.**

**Hitachi-GE is one of the world's leading comprehensive plant manufacturers. The company engages in the development, planning, design, manufacture, inspection, installation, pre-operation, and maintenance of nuclear reactor-related equipment and is able to execute integrated project management.**

**Hitachi-GE has been involved with 23 reactors in Japan to date, including those currently under construction. Among them, it has participated in all of Japan's Advanced Boiling Water Reactor (ABWR) projects—four ABWRs are already operational and three are under construction. Overseas, it has supplied major nuclear reactor equipment for the Lungmen Nuclear Power Plant in Taiwan.**

**In the UK, Hitachi-GE is the technology-provider and lead-contractor to Horizon Nuclear Power (Horizon), which has plans to develop and construct the UK ABWR at its two proposed sites, on the Isle of Anglesey and in South Gloucestershire. Hitachi-GE is also the Requesting Party for the Generic Design Assessment (GDA) of the UK ABWR.**

**Introduction**

i. Hitachi-GE appreciates the opportunity to respond to this consultation on the Secretary of State's proposed decision as Justifying Authority on the Regulatory Justification of the UK ABWR.

ii. Whilst Hitachi-GE is the Requesting Party for Generic Design Assessment (GDA) and the reactor provider for Horizon, the company is not the applicant for Regulatory Justification. In line with precedent, and as the trade body for UK nuclear companies, the UK ABWR Regulatory Justification applicant is the Nuclear Industry Association (NIA).

iii. In cooperation with Horizon, Hitachi-GE worked with the NIA throughout preparation of its application, providing material on the UK ABWR.

iv. Hitachi-GE believes it is important to note that whilst the ABWR has been deployed in Japan and Taiwan, the NIA's application relates to the UK ABWR. The UK ABWR is the derivation of the ABWR technology which is proposed for deployment in the United Kingdom.

**1. Chapter 1 (The Secretary of State's Proposed Decision) sets out the Secretary of State's proposed decision that the class or type of practice is justified by its benefits in relation to the health detriment it may cause. Do you agree or disagree with the Secretary of State's proposed decision? Please state the reasons for your answer. Do you consider that there are any matters relevant to the proposed decision that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

v. Hitachi-GE agrees with the Secretary of State's proposed decision. We believe that the benefits outlined in the NIA application including security of energy supply and carbon reductions, as well as the additional overall economic benefits, demonstrate clear benefits for the UK. Hitachi-GE also agrees with the Secretary of State that any potential health detriments are shown to be small and well understood, with a range of measures in place to ensure that any detrimental impacts are kept within acceptable limits.

**2. Chapter 4 (Carbon Reduction) sets out the evidence on the potential benefit through carbon reduction arising from the class or type of practice. It also sets out the Secretary of State's current views based on that information. Do you agree or disagree with the views presently held by the Secretary of State on these matters? Please state the reasons for your answer. Do you consider that there are any matters relevant to the potential benefit through carbon reduction**

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**that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

vi. Hitachi-GE believes that the Secretary of State's views accurately reflect the significant carbon saving which can be offered by nuclear generation in general, and specifically through UK deployment of the UK ABWR technology.

**3. Chapter 5 (Security of Supply and other Economic Effects) sets out the evidence on the potential benefit through security of supply and other economic factors arising from the class or type of practice. It also sets out the Secretary of State's current views based on that information. Do you agree or disagree with the views presently held by the Secretary of State on these matters? Please state the reasons for your answer. Do you consider that there are any matters relevant to the potential benefit through security of supply and other economic factors that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

vii. Nuclear Power is a proven large-scale base-load generation technology. It needs only periodic refuelling, for which the fuel can be secured from strategically and politically stable sources. The ABWR is also a proven design, with extensive operational experience. On this basis, Hitachi-GE supports the Secretary of State's views.

viii. Hitachi-GE also agrees with the Secretary of State's comments on the existence of arrangements for funding of waste management and disposal. Furthermore, Hitachi-GE agrees with Secretary of State's comments on the benefit to the wider economy of a nuclear component to the UK energy mix.

**4. Chapter 6 (Radiological Health Detriment) sets out the evidence on the potential radiological health detriment arising from the class or type of practice. It also sets out the Secretary of State's current views based on that information. Do you agree or disagree with the views presently held by the Secretary of State on these matters? Please state the reasons for your answer. Do you consider that there are any matters relevant to the potential radiological health detriment that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

ix. Hitachi-GE agrees with the Secretary of State's views on potential radiological health detriments. The NIA application clearly outlined the steps in place to minimise the impact of the proposed activity on health and the surrounding environment, and the Secretary of State highlights the very small proportion of the public's annual exposure to ionising radiation which comes from the existence of nuclear power stations. Furthermore, the ABWR is a proven and experienced reactor design.

x. Hitachi-GE also welcomes the Secretary of State's specific reference to BAT and ALARA in his comments on the minimising of detriment.

**5. Chapter 7 (Radioactive Waste) sets out the evidence on the potential detriment caused by the radioactive waste arising from the class or type of practice. It also sets out the Secretary of State's current views based on that information. Do you agree or disagree with the views presently held by the Secretary of State on these matters? Please state the reasons for your answer. Do you consider that there are any matters relevant to the potential detriment arising from the management and disposal of radioactive waste that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

xi. Hitachi-GE agrees with the Secretary of State's views. There are clear policies in place for both the interim and long-term management of spent fuel and nuclear waste.

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xii. The case was clearly made in the NIA application that the spent fuel and nuclear waste arising from development of the UK ABWR would not pose a fundamentally different challenge than that from existing or other proposed reactor designs; whilst there are clear obligations on a future operator to put in place funding arrangements for the management of spent fuel.

**6. Chapter 8 (Environmental Detriment) sets out the evidence on the potential environmental detriment arising from the class or type of practice. It also sets out the Secretary of State's current views based on that information. Do you agree or disagree with the views presently held by the Secretary of State on these matters? Please state the reasons for your answer. Do you consider that there are any matters relevant to the potential environmental detriment that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

xiii. Hitachi-GE agrees with the Secretary of State's views. The NIA application adequately set out the reasons why the development of the UK ABWR will not lead to environmental detriment over and above the potential for any major infrastructure project to do so.

xiv. Hitachi-GE also agrees with the Secretary of State's view that some specific aspects of an infrastructure development can only be addressed at a site-specific level and that these are addressed through the National Policy Statement and Development Consent processes.

**7. Chapter 9 (Safety, Security and Safeguards) sets out the evidence on the potential impact of the class or type of practice in terms of safety and security. It also sets out the Secretary of State's current views based on that information. Do you agree or disagree with the views presently held by the Secretary of State on these matters? Please state the reasons for your answer. Do you consider that there are any matters relevant to safety and security that are not referred to in this Chapter? If so, please state what they are, and explain how and why they are relevant, and state what conclusions you think should be reached in light of these matters.**

xv. Hitachi-GE agrees with the Secretary of State's views. The UK ABWR does not pose a new or different challenge with regard to Safety, Security and Safeguards, and there is an established regulatory regime in place to minimise the risk of detriment from an accident or security incident.

xvi. Hitachi-GE also notes the Secretary of State's comments on the importance of work conducted by the UK nuclear regulators under the Generic Design Assessment.

**8. Are there any other points which you wish to make?**

xvii. Hitachi-GE supports the Secretary of State's proposed decision, and believes that deployment of the UK ABWR will provide significant benefits to the UK, which thoroughly outweigh any potential detriments.