

**Mr C. B. Ford**

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For the attention of the Performance and Innovation Unit,

**"A Submission on the need for New Nuclear Power Plants"**

The present Government has now, through the decision to carry out a review on Energy Policy, given me and others an opportunity to state the clear benefits in Britain maintaining the nuclear option, within our portfolio of energy sources.

I have worked in the energy industry all my working life, with experience in coal and oil power stations, as well as nuclear. I am very proud of the stations and culture we maintain in the nuclear industry and our safety record is second to none.

It is also very noticeable, that although the environment is very topical at the moment, and the targets we are trying to achieve under the Kyoto Protocol, very little is said, certainly in the media, about the role nuclear power has to play in this.

The energy business is a long-term business, and I am very reassured that the government is trying to map out our energy policy right up to 2050. I am also firmly believe that the Government cannot leave our energy needs solely in the hands of the private sector. We need public / private partnerships to secure our energy needs into the future.

By setting up a public / private partnership, through BNFL, involvement in the latest advances in nuclear technology, Britain can once again lead the world in nuclear technology innovation. It would also allow us, for the first time in the history of the British nuclear reactor designs, to take advantage of economies of scale in production, commissioning & operation of our power plants.

**The future of the British Nuclear Industry**

The attached table and graph shows the current output and life expectancies of the Nuclear Power Stations in Wales, Scotland and England. There are presently no plans in place to build new nuclear stations. As part of a long term energy strategy for this country, we need to start planning for new nuclear build now, as the lead time for a large modern nuclear station can be of the order of 6-8 years.

Why do we need to maintain our nuclear option?

- Nuclear energy is climate friendly – it emits virtually no greenhouse gases, a major cause of global warming
- Nuclear electricity saves the emission of about 65 million tonnes of CO<sub>2</sub> a year – half of Britain's vehicles would have to be taken off the roads to make equivalent savings.
- Nuclear is a clean air electricity supplier – it does not produce the gases that cause acid rain or urban smog.
- We must keep option open for nuclear to be part of Britain's future energy mix.
- Our expertise in the nuclear field has been built up over a number of decades. We once led the world in nuclear innovation. The industry directly provides 30,000 highly skilled jobs, and twice as much again indirectly.
- The British Nuclear Industry has a sound safety record, with all issues discussed openly.
- The Kyoto Protocol and Britain's own CO<sub>2</sub> emission targets will not be obtained unless the nuclear generation option is maintained or increased.

Around the globe we can witness the progression of new designs of nuclear reactors. If things go as planned, construction of a demonstration module of a pebble bed reactor will be built in South Africa in 2001. In the U.S.A., the Nuclear Regulatory Commission has granted a Design Certification to the AP600 design, which uses passive safety technology to achieve a simple cost effective design. A number of PWR's are being planned and constructed across the globe. Britain not only needs to be part of this, but leading the way.

To allow the nuclear industry to move forward again in this country, we, all of us need to raise its profile, to ensure all the issues and options are discussed. A long term energy strategy needs to be put in place now, covering the next 10-20 years. This is not an issue that can be left with individuals, or individual companies, but it is something we must agree on at a national level and be fully supported by the Government.

## **The British Nuclear Industry – contribution and life expectancy**

### **Magnox fleet (BNFL)**

Station	Output (Megawatts)	Latest date for end of Generation
Calder Hall	192	2006/2008
Chapelcross	196	2008/2010
Bradwell	250	2002
Hinkley Point A	475	Now shutdown
Dungeness A	455	2006
Sizewell A	430	2006
Oldbury	460	2013
Wylfa	1082	2016/2021

**TOTAL FOR MAGNOX = 3540 MW**

### **AGR Fleet (British Energy)**

Station	Output (Megawatts)	Latest date for end of Generation
Dungeness B	1120	2008
Hartlepool	1205	2014
Heysham 1	1060	2014
Heysham 2	1340	2018
Hinkley Point B	1270	2011
Hunterston B	1195	2011
Torness	1210	2018

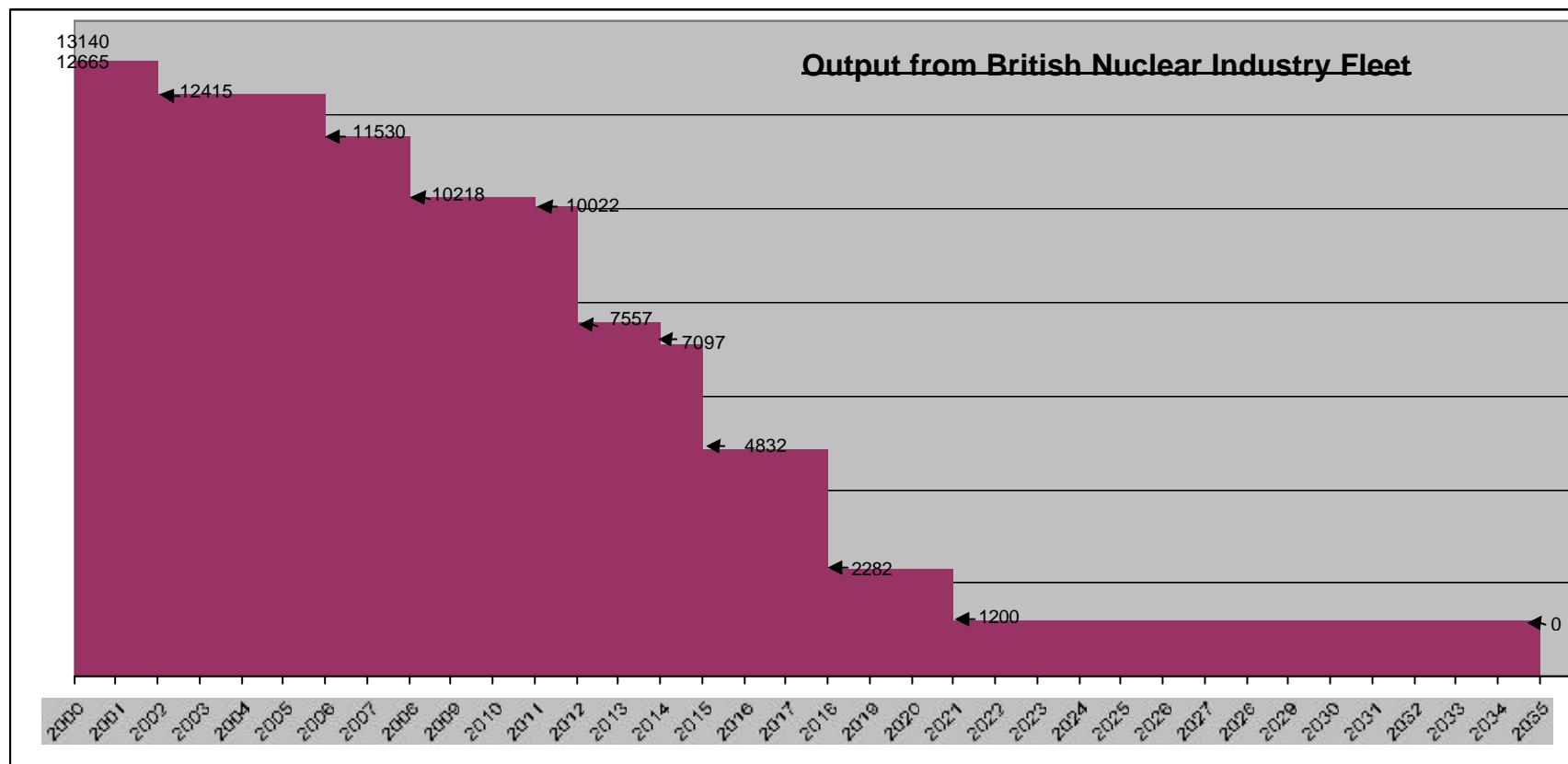
**TOTAL FOR AGR = 8400 MW**

### **PWR Fleet (British Energy)**

Station	Output (Megawatts)	Latest date for end of Generation
Sizewell B	1200	2035

**TOTAL FOR PWR = 1200 MW**

The total contribution from the British Nuclear Stations is 13,140 MW's. As a percentage of the grid demand across Wales, Scotland and England, this represents approximately 60% during the minimum summer demand period and 23% during the maximum winter demand period. Also 13,140 MW's represents 17% of the total installed generating capacity in Wales, Scotland and England.



Notes:

1. Max Winter Demand = 57 GWs (1 Gigawatt = 1000 Megawatts)  
 Min Summer Demand = 22 GWs  
 Total installed capacity = 76.1 GWs (9.6 GW in Scotland, 66.5 GW's in Wales and England)
  
2. Berkeley, Hunterston A and Trawsfynydd currently undergoing decommissioning