

# EDGE OF DARKNESS

Presently, 12 nuclear power stations provide 22% of Britain's energy. By 2020, all but three will be shut down, oil extraction will be in decline and most of what gas remains will be under Russian control. So, the government is planning to build up to 10 replacement reactors at a total cost of up to £30bn ... But who's going to do it, who's going to pay, and what are the chances of finishing them before the lights go out? George Hay reports



large profits from supplying power. Some in the industry believe that the utilities can raise the money themselves but in return they want some guarantee of energy price certainty from the government. If prices remain as they are now, with oil at the unprecedented level of \$100 a barrel, they'll profit handsomely. But if prices fall, investors will make big losses.

Dewhurst thinks Blair could sanction some form of price threshold below which the government would step in to support the market, as it did three years ago when it bailed out BE after prices fell sharply. "In a deregulated market, that would happen in gas-fired stations, too," he says.

Another option is for private companies to foot the bill as they do in Finland, where industries such as paper, chemicals, and forestry have clubbed together to fund the Olkiluoto station. Tony Whale, chief executive of Envor, says firms mainly worry about when they will start to earn money from their investment. "These kinds of things have very long lead-in times," he says. "It can be 10 years before it even starts."

#### Q2: How do you procure them?

The days of megalithic government sponsorship of nuclear power stations are long gone. "These are going to be very capital-intensive, and you might see quite big consortiums forming to share risk," says Dewhurst.

The consortiums will probably have a lead utility firm, a financier, a programme manager and a reactor supplier. Of the programme managers, Amec and Jacobs have the muscle to compete with the US giants Fluor and Bechtel. The main players are likely to be the following:

- Utility companies: EDF, Eon, Scottish Power
  - Financier: Any of the major lenders
  - Programme managers: Amec, Bechtel, Fluor
  - Reactor design vendors: Aeva-Framatome, Toshiba-Westinghouse, AECI and General Electric.
- The procurement may well be a two-stage process. A utility firm may well be up with a big programme manager, as well as one of the major financiers and a team of consultants.

Then, each consortium could invite the reactor designers to bid. So you could have Amec and EDF, say, deciding on the Aeva design, which together with the Toshiba-Westinghouse AP1000 model is thought to be the favoured choice for UK new-build. If Amec and EDF get their design

**At the Sizewell inquiry, 90% of the questions were about whether we should build nuclear at all. We need to decide nationally whether it's a good thing before we start**

Philip Dewhurst, the Nuclear Industry Association

verified, they could well expect the government to approve the construction of a number of them. This leads on to the government's most crucial role, which is to streamline the regulatory and planning processes...

#### Q3: How do you get them approved?

The government will need to streamline the approval process to prevent stations becoming bogged down in planning. The last nuclear station in the UK was Sizewell B, finished in 1995; that took six years to get through the system. Nuclear protesters managed to slow the process by challenging the specifics of the application and lodging objections to nuclear power in general.

Companies hoping to win work on the stations are pressing for a fast-track process using Urban Development Corporation-style powers. "What we don't want to see is a public inquiry lasting two years," says Dewhurst. "At Sizewell, 90% of the questions were about whether we should build nuclear at all. We need to decide nationally whether it's a good thing before we start."

Such a policy would nip the more general protests from anti-nuclear campaigners in the bud. Planning decisions would be made on the basis of appropriateness for the local area, which could play into the government's hands, because reactors could simply be built on existing nuclear sites. Such areas have usually communities made pro-nuclear by the employment opportunities brought by the stations.

The last piece in the jigsaw is regulation. Each reactor design must have a safety and compliance licence granted by the Nuclear Installations Inspectorate, which is part of the Health and Safety Executive. Once a reactor design is on the table in Britain, the nuclear lobby wants the NII to consult with its counterparts in other countries that have licensed it, rather than starting from scratch. If American inspectors think it's safe, why shouldn't we? "I wouldn't expect the NII to go through the same lengthy process, but share information about compliance with other regulatory authorities," says Terry Gilbert, business development manager at Amec Nuclear.

If the red tape is not loosened, it may be difficult to assemble a supply chain. Sure Ion, of nuclear think tank BNES, points out that many other countries around the world will also be building nuclear facilities, and that "vendors essential to meet any UK policy on new nuclear build may prefer to work elsewhere".

Dewhurst acknowledges that the lack of resources at the NII could be an issue. "Our regulators are among the best but maybe we don't have enough to get the job done."

#### Q4: How soon can it happen?

Sir David King, the government's chief scientific adviser, has forecast that stations could be up and running as early as 2012. Amec's Gilbert agrees. "If the government sorts out the regulatory process and planning then the first concrete poured on site could be as little as three to five years away," he says. "If it then takes about five years to build then you can make that timetable."

With Blair's finger flexing on the starting pistol, an ambitious timetable like this seems likely. The industry had better get ready.

James Lovelock interviewed, pages 32-33; Gus Alexander says no to nuclear, page 40