



Supporters of Nuclear Energy

Newsletter

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The Minutes of the recent AGM held at the Institution of Civil Engineers, have been removed from this public file and are available to Members only, by request, to the Secretary.

HAROLD BOLTER'S REPORT, GIVEN AT THE AGM

This is my final report at SONE's Secretary and it will be my shortest. There are good reasons for my brevity. For a start not much has been happening in the UK over the last 12 months as far as nuclear energy is concerned. We are still waiting for the promised nuclear renaissance to get under way. Another reason for me to get a move on is that we have not one but two speakers today – speakers I expect to play an important role in our affairs over the next several years.

The real disappointment of the last 12 months is that it all began so well. After a great deal of hesitation, not least on the part of the new Prime Minister, Theresa May, and her advisers, the Government finally approved the Hinkley Point C scheme. So did the European Community. Since then – what exactly?

Well, a lot of concrete has been poured down there in Somerset and lots of good things have been promised to a mainly supportive local community. However, we also heard that the scheme had been delayed for the umpteenth time and that its projected cost has risen to between £19.6 billion and £20.3 billion. And while it seems that the construction costs will still be shared between the mainly state-owned Electricite de France (EDF) and the wholly state-owned China General Nuclear (CGN) the financing of the project is still to be sorted out.

While the UK Government approved the Hinkley scheme it made a big thing of its belief that the contract that it had negotiated placed all the construction risk on the investors. It sounded good to electricity consumer organisations no doubt – but not to people being asked to stump up the money. To convince them that the risk was minimal the Government came up with the idea of a Contract For Difference or strike price which appeared to guarantee them a hefty return on their capital over a 35-year operational period. You will recall that the strike price was set at £92.5 – reducing to £89.5 if a sister power station, Sizewell C, was built by EDF.

Potential investors have still not been persuaded that the strike price idea is all that is

needed from the Government, however, even if many commentators, as well as the National Audit Office, consider it far too generous.

Potential investors want to see the Government put some financial muscle behind the project itself, as evidence that it really does support it and that it really is going to happen. In recent months the Government has indicated that it may well supply such finance. A junior energy minister, Richard Harrison, said as much in a conversation with a Daily Telegraph journalist on the fringe of the recent Conservative Party conference.

From what Mr Harrison said it is pretty clear that the strike price mechanism for Hinkley Point C is something which will not be repeated for any future new build nuclear energy schemes, which comes as no surprise. His alternative, which has not been spelt out, is a sort of hybrid arrangement.

A new model, he said, might be possible, hovering somewhere between the strike price mechanism and the suggestion making the rounds. Out and out State ownership is obviously not for a Conservative Government – even if opposition leader Jeremy Corbyn's extensive nationalisation plans do not appear to have frightened the natives over much if the opinion polls are anything to go by.

Twelve months ago Gerald Clark, a SONE Committee member, argued that tucked away in the agreement approving Hinkley the Government had already shown that it might accept a measure of State control. He pointed out that the deal had a couple of interesting conditions. Henceforth, it said, those investing in new nuclear power stations would not be allowed to offload their obligations without the consent of the Government. Moreover, in any future nuclear contracts involving a strike price, of whatever size, the Government would take a golden share, giving it effective control and, of course, financial responsibilities. Expect more on this in the coming months. NuGen, the company behind the Moorside new build power station in Cumbria, has confirmed that it has also been talking to the Government about a measure of State funding.

Although NuGen's chief executive, Tom Samson has said that he is 115 percent confident the scheme will go ahead doubts persist because of the financial problems surrounding NuGen's owner, Toshiba. (Interesting figure 115% - such precision... Toshiba has been seeking help from a variety of possible investors as well as the Government, notably Korea Nuclear Power Corporation (KEPCO) and China General Nuclear Power Corporation (CGN). It is well known that both have their own reactor designs which they would like to see adopted in the UK.

Meanwhile the Government has still to make up its mind where it is going in relation to the development and introduction of small modular reactors, (SMRs) causing a lot of frustration among the companies, notably the consortium led by Rolls Royce, which have an interest in them. Two SONE annual meetings ago (24 months) the then Energy Minister, Angela Leadsom, told us that SMRs could be the next big thing in nuclear energy. Eighteen months ago the Government launched

a competition to identify the company or companies best suited to take the SMR concept forward. And still we wait for something concrete....

Meanwhile as I leave the SONE Secretary post I continue to believe that there will be a nuclear renaissance despite the political uncertainty, encouraged to some extent by the £20 million to be spent by the Government on nuclear new build research and development and its plans to boost expenditure on education in nuclear power oriented subjects.

I also believe that there is a greater need than ever for SONE to press for the long delayed nuclear renaissance. In that regard I am 115 per cent – as Tom Sansom puts it – behind the structural changes which I know Wade Allison and John Lindberg have in mind and which they will outline in their coming duet as joint speakers. Thank you.

WADE ALLISON: PLANS FOR SONE'S FUTURE

In a sensible world in which the needs of society were provided by engineering and industry using the developed features of science there would be less need for a group like SONE. The development of nuclear energy should have become firmly established many decades ago. But it was not.

In a few days time on November 7th it will be the 150th anniversary of the birth of Marie Curie whose fearless investigations laid the foundations of nuclear science and its application in medicine a century ago. Today no charity appeal attracts more favourable attention than one in her name and furthers her work in the treatment of cancer. Yet were she to return today she would be shocked at our failure to achieve a similar public acceptance of her nuclear legacy in the field of energy.

The vision of nature that she bequeathed us has been distorted since her death in 1934 by the politics of nuclear weapons and traduced by a general fear of radiation. Nuclear technology was damned by the popular voice of the Cold War years and it must be exorcised by the same route. Though unsupported by hard evidence this fear has been gentrified as a pseudo-science, the LNT Model. This ultra cautious view supposes that, if much nuclear radiation is dangerous, a little should be dangerous in proportion. The evidence shows that such logic simply does not apply in this case, just as it does not apply in the simple examples of taking aspirin, giving blood, or jumping off a step. The caution is born of the worry that nuclear energy might be exceptionally dangerous. It isn't. This fallacy is used to justify a large and expensive part of the safety industry and is welded into regulations, working practices and international agreements connected with nuclear technology. It burdens the use of nuclear energy with spurious costs and ties talented people into employment that benefits no one.

Many scientists have struggled to expose this internationally institutionalised phobia and the vested interests that maintain it. At Fukushima Daiichi and at Chernobyl the panic it caused had a far more serious impact on health than any effect of radiation.

Its social, political and economic consequences were grave, locally and around the world. Fear of radiation has led to *ad hoc* financial and regulatory penalties imposed on civil nuclear energy that give advantages to wind energy, solar and natural gas – choices that threaten the stability of the supply grid and the equilibrium of the environment both of which nuclear energy avoids. Such matters are crucial to modern civilisation and the state in which we leave matters to later generations. On our watch we have failed so far to overcome an aversion to nuclear technology, not only among the general public and opinion formers, but among scientists and medical professionals too.

The task of SONE continues to be “*as an independent body to secure progress towards ensuring that the UK is firmly committed to having a programme of new nuclear power plants to deliver affordable, reliable and low-carbon electricity to homes and businesses.*” That involves encouraging government to ensure viable regulations and financial arrangements, encouraging industry and investors to develop and build the plant, reassuring and educating public opinion and the media to welcome and support this investment. Such a development is easily upset if confidence fails. As a small but disinterested voice SONE can play a useful role by speaking out and maintaining trust. But how?

This is a monumental task but seeds grow, especially when sown among young people. In this country we have a small majority in favour of nuclear energy and this should be exploited for the sake of our future prosperity. We also have a strong educational system that gives young people a firm grounding in the sciences – although too narrowly to engage with the whole nuclear story. Our industry has some useful experience in the nuclear field, for instance in nuclear submarine propulsion. Recently it has established supply chains in readiness for the construction of new power stations. The opportunity to take a lead that exists now in the UK does not exist for many other countries. But unless further decisions are made soon this opportunity will be lost. SONE needs to press matters with BEIS and government ministers without delay.

Engaging with young people and spreading the real news about nuclear energy to the public through schools and universities is productive. Talks, open discussion sessions, books and videos should reach a wide audience with the help of modern media – I am still expanding my use of these. Following this talk John Lindberg will explain with examples what can be done. Last week I spoke to the Oxford University Scientific Society “*Trust, Energy and the Environment: Nuclear, Please, 24/7!*”. It was followed by a lively question and answer session with scientists, medics and others with no science background. Following through such contacts we anticipate recruiting student members to SONE to help advance the cause. We expect to revamp the SONE website as the precise need comes into focus. We already have short articles, videos and other material. We anticipate soliciting the required website professional skills from volunteers to keep costs down. In September the Committee

suggested that we produce a leaflet – one has been published recently by Sense About Science to which Adrian Bull contributed. We have more work to do to see how this might fit in, given our limited resources.

Not all these ideas are likely to appeal personally to the current membership. However I hope that members will be pleased that SONE is raising its game and engaging the attention of new audiences, as well as providing the traditional monthly Newsletter. I wrote the Newsletter for July and September and expect to continue this in future. Often it will be appropriate to invite another member to contribute and this will enable the Newsletter to cover a wider range of topics. With recent increases in postage the mailing of the printed Newsletter has absorbed too much of SONE's modest resources and with the next round of membership subscriptions it is proposed to offer a choice between all-electronic email communication at the usual £25 per annum and postal communication at £50 per annum. Life members will be given the choice but asked whether they would accept email communication to save money. Internet links added to the Newsletter will allow all members to see some of the exchanges that take place by Twitter and Facebook, should they wish to do so. Nuclear Power has many friends but many enemies who would block its way. The real “anti-s” prefer to run away rather than engage in a proper debate. In eleven years of public lecturing I have never had a significant encounter with them – even when lecturing in Germany and Japan. Most people do not know very much. They prefer to ask lots of questions and then go home “to think about it”.

There is a large group of conservatives who do not want anyone “to rock the boat”. They prefer the *status quo*, whatever that is, and they are not concerned if it is unreasonable. They prefer to keep to their own little world, everything else is someone else's problem. Unfortunately this includes much of the medical profession, although many admit privately that if radiation regulations became science-based their job would be redundant and the NHS would save a large amount of money. The same applies in the nuclear industry itself. The time lost in unproductive working practices is without benefit to anyone – and many people know it.

Nuclear costs are raised artificially by fear of litigation linked to safety risks that have no basis in science. Courts of Law are not concerned with scientific reality but with regulations and rights. For instance, following Fukushima huge sums of money were paid out as compensation to people who had been evacuated although they should not have been and to people who suffered psychological trauma induced by nuclear fear. These sums are added to nuclear costs and insurance risks, all without justification.

The financing of long term projects in general seems to be challenging to today's market economic system, much more so than in days gone by. Nuclear would not be unusual except that a preference to account for fear-inflated liabilities far in the future frightens off advice-driven investors altogether. Such advice may come from

a committee rather than an individual, and so seeks safety from risk.

But the real risks are taken by young people, the hope and long term personal commitment made when choosing a career in nuclear. Their investment does not appear on the Government balance sheets but if they are disappointed and there is a run on their confidence it would take many decades to recover. This is a major concern for professional bodies like the Nuclear Institute. As a voice unrelated to industry SONE can speak best to the public. This matters less under more authoritarian regimes than in UK, as in Russia and China. There the development and deployment of nuclear power is proceeding apace. We should build nuclear energy into the UK infrastructure simply to remain competitive. A failure to match their investment would be a failure of the democratic capitalist system.

The future is daunting, you might say, but we have many friends and like-minded contacts around the world. There is the warm support and confidence that comes from fellow members of SONE. Thank you – please keep your suggestions and admonitions coming in – they are always welcome. I should like to thank Sir William for leading us into the future. In particular I should like to thank Harold Bolter and Terry Westmoreland as they step down from the front line after contributing for many years. I look forward to working with the new Committee including Ian McFarlane and John Lindberg who have generously agreed join us now.

John C.H. Lindberg, FRSA:

In order to secure a nuclear-powered future, we need to look to the past. News from early last week was certainly, at least at face value, positive. A people's committee in South Korea decided with a healthy majority that the country should finalise its two reactors under construction, against the will of their openly anti-nuclear president. He announced that he intended to follow the recommendations of said committee. So far, so good.

Why does this matter? South Korea is one of the last nuclear reactor vendors in the democratic world, operating in an environment where other Western firms like Westinghouse and AREVA are failing to deliver. This has allowed Russia and China to effectively seize the market in developing countries, allowing them to extend their spheres of influence both geographically and temporally.

However, it took less than a week before 'order' was restored, with president Moon Jae-in announcing that the phaseout of nuclear power in South Korea nevertheless was to continue. This marked the brief divergence between policy and political discourse, and this is where one of the key weaknesses of the pro-nuclear movement lies. The master discourse, or master narrative, is strongly anti-nuclear. However, this is nothing new.

After an early period of mainly positive connotations and imagery, normally

associated with quasi-utopian imagery and messages, the mood went sour. Successful policy entrepreneurs managed to merge the negative public sentiments towards nuclear weapons with nuclear power, via radiation acting as a cognitive bridge. This anti-nuclear power narrative, driven by radiophobia, was reinforced by a number of highly publicised incidents and accidents. From the mid-1970s until today, the anti-nuclear movement has been allowed to reign freely and thus ensured that anti-nuclear sentiments remain.

The majority of times pro-nuclear forces have attempted to improve public acceptability the outcome has been far from encouraging. Many billions have been spent over several decades, yet anti-nuclear sentiments and narratives still reign supreme. This stems from a failure to adapt to the last 30 years of research and advances in risk communication and public relations. Pro-nuclear campaigns are, and have been, fundamentally guided by the linear model of risk communication which asserts that the general public is rational and that facts will facilitate attitude changes. However, it has been increasingly evident that this notion is, at best, highly limited and that factors such as worldviews play an integral role in risk perceptions. Somewhere along the way we, as a pro-nuclear community, lost the way. Our message became one of cold rational thinking of numbers and logics rather than positive emotions. We lost the utopian dreams of a better society, fuelled by nuclear power, something now seized upon by pro-renewables advocates. We must, as a community, abandon the one-size-fits-all approach to communications with the public. If the public remains anti-nuclear it is highly unlikely that any policy maker would freely engage with nuclear power, which remains the ultimate vote loser. This will also hamper any future development of nuclear power stations once the current fleet retires.

Supporters of Nuclear Energy can play an integral role in changing the narrative around nuclear power. As an organisation we are independent of the industry, of governments and other stakeholders, empowering us to actively reform the system whilst retaining public trust. Whilst this journey will be challenging, we have little choice if we are to see nuclear power playing any role in our future societies. Social media will play a key role in trying to build pro-nuclear constituencies across the UK, and is an avenue that is currently severely under-utilised in the UK. I propose that we, under the SONE umbrella, undertake work to ensure a new public relations model for nuclear power can be created and deployed. There is a lot of experience and expertise in this room today, and I am confident that we will be successful.

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