



## Supporters of Nuclear Energy

# Newsletter

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### THAT WAS THE YEAR THAT WAS (TWTYTW)

Years ago - 54 years to be precise - I was working as a television critic on a provincial newspaper. One of the shows I reviewed was a satirical comedy programme called That Was The Week That Was, which I shortened to TW3, although others claimed to have done. This Newsletter is my take on the important events of 2016 - and what a year that was, particularly in the political arena. I will also make some surprisingly optimistic predictions for 2017, the safest of which is that it will be as unpredictable as 2016 turned out to be.

Millicent Martin introduced TW3 with a song that began: "That was The week that was. It's over. Let it go." There have been times during the last 12 months when it seemed that three Governments - those of the United Kingdom, France and China - would never let go and agree on the way forward for the Hinkley Point C investment saga, the most important decision of the year for the UK nuclear energy industry. There were so many twists and turns that it was not clear whether we were watching a farce or a political satire. I am still unsure how the plot will unravel but hope for a happy ending.

For that to happen, one of my SONE committee colleagues, Gerald Clark, suggested that such was the funding uncertainty it might still be necessary for the UK's Conservative government to make a contribution towards the £18 billion cost of the Hinkley Point C project - part nationalisation by a Conservative government no less. Similar support funding for the Wylfa and Moorside schemes might also be needed, he suggested

He pointed out that when UK Prime Minister Theresa May finally decided to endorse the Hinkley Point C investment contract she insisted on a couple of interesting conditions. EDF, the French State-owned company behind the Hinkley scheme would not be able to offload its obligations without the consent of the British Government and in any future contracts of this kind the Government would take a "golden share," giving it control.

“She said nothing about the British Government taking a share of the investment burden in either instance but, if the circumstances required it, it is implicit that the Government would have to pay up,” Gerald said.

The Hinkley C decision may have been agreed by the UK, French and Chinese governments but it wasn't popular with everyone. Theresa May was decidedly uneasy about it and in France the deal was opposed by members of EDF's top management team, the Socialist Party and the French trade unions.

## **HINKLEY POINT C STILL HAS CRITICS**

Interestingly, Marine Le Pen, leader of the extreme right wing Front National political party is also a stern critic of the Hinkley Point C arrangement, despite having shown consistent support for nuclear energy in the past. She has described Hinkley as “a money pit” threatening the fragile financial structure of EDF. She is regarded as a strong contender for the French Presidency elections this Spring and, although she is unlikely to win, she - and her party - could gain ground and influence.

Another important critic of the deal done between the UK, French and Chinese Governments over the financing of Hinkley Point C is Horizon, the Hitachi-owned company behind the plan to build a new twin-reactor nuclear power plant at Wylfa in Anglesey. Horizon has made it clear that it believes that the funding structure used by EDF, which is of course owned by the French State, will not be sufficient to secure private investment in Wylfa.

This brings us back to the possibility of some form of UK Government involvement in the funding of Wylfa. A suggestion that the Government could provide as much as 25% of the cost of the Horizon project, with the Japanese Government also putting in a significant amount of capital, has not been denied by either Government. Indeed, the Chancellor, Philip Hammond, who met business leaders and Japanese officials earlier this month, has said that Japanese Government-related funding for the project could total £12 billion.

If the Japanese are talking about investing on that scale, if Hitachi itself puts up the 10% of the cost being talked about, if private investment is still being sought (which it is) and if the UK Government is considering investing it seems to me that the £14 billion cost suggested for Wylfa is way off the mark.

Nevertheless, Horizon said this month that it expected Wylfa's cost to be “competitive,” although it had warned the UK Government that aspects of the Hinkley funding model was having a “chilling effect on investors,” without specifying what was causing the freeze.

“It is no secret that we are in discussion with the UK Government and have been for some time,” a Horizon spokesman said. “These discussions are of

course complex and while they are ongoing it would be premature and inappropriate for us to comment on the nature of them.”

### **A FURTHER POINTER**

This month Japan and the UK announced that they intended to expand their existing collaboration in civil nuclear activities, which may be a further indication that the two Governments are thinking of joint investments. They signed a memorandum of co-operation in Tokyo which indicated that there would be expansion of collaboration in such areas as decommissioning and decontamination, research and development , global safety and security practices, and, not least, nuclear new build.

The agreement just reached, signed by the UK business and energy secretary, Greg Clark, notes that two Japan- led consortia - Horizon at Wylfa and NuGen, which is responsible for the Moorside project in West Cumbria, have projects which could create up to 20,000 jobs in the UK and provide up to 15% of the UK's electricity needs.

Mr. Clark's department issued a statement describing the UK as a world leader in nuclear decommissioning and waste management, which is correct. It is one of the reasons for optimism which I identified at the start of this piece. Closer collaboration with Japan will deliver real benefits for both countries in ensuring a sustainable future for nuclear energy, the department said.

Decommissioning and waste management experience has mainly been gained at Sellafield and that will continue, according to the business plan published by the UK's Nuclear Decommissioning Authority (NDA) half way through the month. Most will regard the plan as positive and encouraging and that is a fair assessment, given the objectives, regulations and instructions which the NDA has to operate under and the historical problems it has to deal with.

However, I continue to share the view of Professor Wade Allison, who has just joined SONE's committee, that decommissioning and waste management are areas where considerable savings could be made, reducing the costs of nuclear energy without risk of any kind. It is a view which is gaining ground in various countries but meanwhile the work of the NDA must continue under the legislative regime which prevails.

The NDA faces considerable challenges, however, challenges which cannot be brushed aside as unnecessary. Many can be traced back to the refusal of successive Governments and, in particular, the Ministry of Defence to get to grips with what was happening - or rather not happening - at Sellafield.

Not nearly enough was spent on waste management in the past, despite repeated warnings to successive Governments from my colleagues at British

Nuclear Fuels (BNFL) that problems were being stored up for the future and getting more serious by the year. Saving the taxpayer money may have seemed a good idea at the time but it led to the creation of the “big four” legacy facilities at the Sellafield site which the NDA is now having to deal with.

## **THE BIG FOUR PROBLEM AREAS**

- \* The Sellafield Magnox Swarf Storage Silo (MSSS) which is actually a series of silos into which fuel cladding and other waste from the early Magnox reactor programme was tipped. The exact composition of this waste is uncertain and is in a difficult chemical and physical form. It represents one of the biggest hazards on the Sellafield site.
- \* The Sellafield First Generation Storage Pond (FGMSP), constructed in the 1950s and 1960s to store, cool and prepare used Magnox fuel for reprocessing. It contains skips of used nuclear fuel which need to be retrieved and transferred for treatment and packaging prior to disposal. The facility presents a significant challenge because alongside the fuel the pond contains radioactive sludge, fuel fragments and other debris.
- \* The Sellafield Pile Fuel Storage Pond (PFSP), an open air storage pond built in the 1940s and 1950s to store, cool and prepare reactor fuel prior to reprocessing. The pond has remained open to the elements for more than 60 years and, alongside skips of irradiated fuel contains solid waste, including disused machinery and equipment and radioactive sludge.
- \* The Sellafield Pile Fuel Cladding Silo (PFCS), consisting of a series of silos built in the 1950s whose primary role was to receive and store intermediate level waste (ILW) from the military project at Windscale and then later from Calder Hall and Chapelcross.

In its business plan the NDA stated that its total planned expenditure for 2017-18 will remain almost the same as last year at £3.24 billion. The UK Government will fund £3.24 billion of this while £0.8 billion will come from income from the NDA’s commercial operations.

## **DEALING WITH THE LEGACY**

The NDA plan sets out its plans for cleaning up and decommissioning 17 of the UK’s earliest nuclear sites. These include the UK’s first nuclear power stations and various research and fuel facilities including Sellafield.

John Clarke, who will retire as Chief Executive of the NDA later this year had this to say: “We are now seeing contaminated waste being retrieved from the highest hazard facilities for the first time ever at Sellafield. Meanwhile, at

some of our other sites the removal of all spent nuclear fuel will soon be completed.

“It’s also important not to forget the great strides that have been made in dealing with low level waste generated by the nuclear industry. In 2010 we published a national strategy for dealing with this type of waste, This has led to innovative, more sustainable ways of dealing with this type of waste, including re-use, metal recycling, disposal to specially licensed landfill sites and combustion.”

Sellafield will account for £2billion of total expenditure under the plan, which has the closure of the Thermal Oxide Reprocessing Plant (THORP) during 2018 as a key objective. I have been very critical of the THORP plant over the years and expressed the view that another such plant would never be built in my book “Inside Sellafield,” published 20 years ago. The plant is currently operating well, however, and some, myself included, argued earlier this year that it should be used to reprocess the remaining Advanced Gas Reactor (AGR) spent fuel, which will now have to go into dry storage and spent fuel from overseas customers, notably the Japanese. This is not going to happen.

“The end of reprocessing operations in THORP provides a clear transition point for Sellafield,” the NDA said. “The site will move from commercial operations to decommissioning and the continued management of spent fuel and waste.”

Reprocessing began at Sellafield, then called Windscale, in 1952 with the operation of a military plant built to separate out plutonium for weapons materials. This plant was shut down after it had operated for 12 years and replaced by a new plant sized to reprocess civil nuclear fuel as well as military materials. Later there was THORP, which went into operation in August 1997, having taken a couple of decades to build.

It has now been decided that all nuclear fuel reprocessing at Sellafield will draw to an end by 2020. All 11 Magnox reactors will have had their residual fuel removed and transferred to storage by 2019. There will be an earlier start for retrievals from the Pile Fuel Cladding Silo at Sellafield, now expected to happen by 2020 The first NDA site will move into care and maintenance mode by 2019 and a low level waste repository decision will be made in 2018.

## **CLOSING THE DOORS**

Grounds for believing that the Pile Fuel Cladding Silo (PFCS) will be cleaned up sooner than anticipated came with the announcement this month of the installation of six 12.4 tonne stainless steel doors designed to enable the building’s locked vaults to be opened up, These doors will be the access point

for waste retrieval machinery to begin lifting out the silo's contents for the first time around 2020, reducing a potential hazard at the site.

The Silo has long been a cause for concern. Built between 1950 and 1951 it is 21 metres high and houses six extremely tall waste containers. By the mid 1990s the Silo was nearing the end of its useful life and, like any building exposed to the weather for 50 years, it required care and maintenance.

A programme of upgrade work was carried out to enable the building to continue to store waste safely, prior to the next task in the programme. This involves retrieving the waste and storing it in compact concealed units. The Silo now holds more than 3,200 cubic metres of intermediate level waste.

Also this month the NDA announced that for the first time radioactive sludge had been transferred out of Sellafield's Pile Fuel Storage Pond, the world's oldest fuel pond. This project is being delivered ten years ahead of schedule and for half the expected cost, NDA said. a notable achievement.

Sludge - formed from decaying nuclear fuel, natural growing algae and other debris - has accumulated in the water of the PFSP throughout its 65-year lifespan. It must be removed so the facility can be safely decommissioned. The project is being delivered for half the predicted £200 million cost and a ten-year project to drain the pond will start in 2019.

“This pond was not designed with decommissioning in mind and therefore we welcome this work by Sellafield Ltd. to begin the safe removal of sludge, which is a key step in making the site safer,” John Clarke said. “The removal of the sludge contributes to achieving our overall goal of risk reduction by placing radioactive material and substances under more modern storage arrangements until it is ultimately moved to a geological disposal facility.”

Sludge accounts for a third of the pond's remaining radioactive content, after 70% was removed in the form of fuel earlier this year. The first 500-litre drum containing the sludge was moved to an encapsulation plant in mid-December. The sludge removal process involves pumping the mud-like material into a purpose-built treatment plant next to the pond before its transfer to a drum filling plant. It will take several years to remove all of the sludge in the pond.

## **SELLAFIELD IN THE NEWS**

For the next few weeks and probably into February Sellafield Ltd will be in the news for reasons other than the usual media fascination with radioactive waste management and disposal, although that could play a part. Media interest will be focused more on what is to happen following the decision of the Copeland MP, Jamie Reed, to leave Parliament at the end of January, which will lead to a by-election.

Sellafield is in the Copeland constituency and Mr. Reed has been the constituency's MP for the last 12 years and a hard working and popular one at that. He succeeded Jack Cunningham, now Baron Cunningham of Felling and a SONE sponsor, and is now leaving to take up a new post as Head of Development and Community Relations at Sellafield. It is the association with Sellafield which I am sure will be dragged into what could develop into a distinctly lively election campaign.

There is already some evidence, even before the major political parties have chosen their candidates, that support for nuclear energy could be an important issue. Unusually, we may even see the leading candidates vying with each other to declare that they are one hundred per cent supportive of the UK's largest nuclear site. Anti-nuclear sentiments have never been popular in this part of West Cumbria.

Whoever is chosen as Labour's candidate faces a serious problem according to the contacts I maintain at Sellafield, which dominated so much of my working life. I won't beat about the bush. The problem is Labour's Leader, Jeremy Corbyn. There is already talk of local Party members asking him to stay away during the campaign and they won't have a Corbynite candidate imposed on them either.

When he announced his resignation as Copeland's MP Jamie Reed, who worked as a Press officer at Sellafield before he went into Parliament, went out of his way to try to convince the electorate that he doesn't have a problem with Mr. Corbyn or Shadow Chancellor John McDonnell. a loyal attempt at damage limitation if ever there was - but few believe him.

Mr. Reed is constantly being reminded that within minutes of Mr. Corbyn's victory in the 2015 Labour Party leadership election he resigned as a shadow health minister and had this to say about that decision:

"In the short time you have been Leader, along with the Shadow Chancellor, John McDonnell, you have sought to inject an unprecedented poison into our party. You have actively worked to divide Labour MPs from the Labour Party membership. You have repeatedly incited your supporters on social media to confront Labour MPs. Without doubt you are not fit to lead our great Party."

After that vitriolic attack Mr. Reed's soothing words when he announced his decision to leave the Commons sound pretty hollow: "I wish you every success in your endeavours to become our next Prime Minister," he said. Really?

## **CORBYN UNPOPULAR**

Jamie Reed's real opinion of Mr. Corbyn's merits as a potential Prime Minister are, in a sense, neither here nor there. Voters are already being reminded by others during the by-election campaign of the Labour Leader's opposition to the UK having nuclear weapons and his somewhat ambivalent views on civil nuclear energy.

The Mail on Sunday has just dug up a quote from Mr. Corbyn going back to 2011 in which he said this: "If the Romans had nuclear power there would now be barbed wire round every Roman remains because it would still be dangerous from nuclear waste." He may have changed his mind by now, of course, having studied the true nature of radiation rather than swallowing the nonsense put out by the anti-nuclear fraternity and having had the very real dangers of fossil fuel burning pointed out to him.

The fact is, however, that the Labour Leader's stance on Trident renewal, with the huge effect which an end to the nuclear submarine building programme would have on employment within Copeland's neighbouring constituency of Barrow and Furness constituency, has not gone unnoticed down the road at Sellafield. Barrow and Furness has as its MP John Woodcock, another stern critic of Jeremy Corbyn.

Because Jamie Reed's majority at the last General Election was only 2,564 local people in Copeland are beginning to see a Conservative victory at the pending by-election is a real possibility. UKIP, which has supported nuclear energy may also do well.

I will end on a positive note, as promised. A great deal of support to the local community in the Copeland area was given by British Nuclear Fuels during my time with the company but Mr. Reed is right to believe that there is scope for more to be done. With the Moorside nuclear power station new build development on the horizon and decades of important remedial work still to be done at the Sellafield site itself the local people deserve to be rewarded for their loyalty

I wish Jamie Reed well in his new role.

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SONE SECRETARY

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