



BANNG
Blackwater Against New Nuclear Group



BANNG UP TO DATE

October, 2015

*An occasional newsletter to update and provide information to supporters of the
Blackwater Against New Nuclear Group (BANNG)*

SPECIAL ISSUE, AUTUMN 2015 – THE CHINESE ARE AT THE GATES

Guest edited by Professor Barry Jones, member of the BANNG Core Group

The Editorial and article (‘Bradwell and the Nuclear Issue: questions and answers’) start on p. 5 But first, some information from the BANNG Secretary)

1. *Chinese Nuclear Development At Bradwell - What Can Be Done* (Varrie Blowers, Secretary)

What YOU Can Do

Inform the public:

Members of the public often think that because there was a power station previously at Bradwell, a new one will be much the same. This is incorrect. There will be significant differences:

- the reactor (one is currently planned) will have four times the generating capacity of the former power station - and a lot more if there should be more than one reactor;
- the volumes of cooling water required from the shallow Blackwater will be much larger than previously and this will have an adverse effect on marine life;
- in the event of cooling towers being required, there will be a major impact on the low-lying landscape;
- the area around Bradwell will become a major construction site over several years, including possibly a port facility;

- the scale of the operations will transform the peaceful Blackwater into a major industrial site.

But the crucial difference is that there will be long-term, on-site storage of highly radioactive spent fuel and other high-level radioactive wastes. This storage will continue long after the power station has closed down (the station would run for around 60 years). Dangerous wastes would be left on this vulnerable low-lying coast perhaps indefinitely but certainly well into the next century.

Evidence for this can be found in the National Energy Policy Statements and other government consultation documents. Information can also be found in the BANNG responses to government and other consultations on the BANNG website (banng.info).

Neither the government nor the industry tends to inform the public that with a new nuclear power station comes very long-term storage of nuclear waste on a fragile site!

It is obvious from letters and comments in the local press that many members of the public believe that any new power station will be like the former one. If you are talking to anyone about the proposed new nuclear power station and they believe this to be the case, please disabuse them!

Let people know that if the new power station goes ahead, the south coast of the estuary will become home to:

- one or two new reactors;
- a spent fuel store;
- an ILW store;
- stores for other radioactive wastes;
- new power transmission lines;
- possibly cooling towers; and
- possibly a port facility.

If a new nuclear power station is built, the Blackwater estuary will be changed for decades to come, possibly forever.

Sign the BANNG e-Petition against a new Chinese nuclear power station:

Please remember to sign the e-Petition yourself and to ask as many people as you can to sign it. The link to the e-Petition can be found on the Home Page of the BANNG website (banng.info).

Write letters:

You will shortly be receiving a document prepared by me that can be used for a letter-writing campaign to the Prime Minister, the Secretary of State for Energy and Climate Change, MPs, Councillors and the media. Please look out for this.

Lobby your MP and local councillors:

Your MP and local councillors need to know that people are against the proposed new nuclear build – for very good reasons (see above).

Get involved in future BANNG events:

We will be organising events and it would be good if as many BANNGers as possible would get involved. We'll be in touch about these.

Encourage people to join BANNG:

We need as many supporters as possible for the fight ahead!

What The BANNG Core Group Is Doing

Public Meeting:

There will be a Public Meeting in the near future on the prospects and problems of new nuclear build at Bradwell. Details will be with you in due course.

Information in local and national press:

BANNG has been drawing the public's attention to the proposal for Chinese nuclear companies to build a new nuclear power station at Bradwell and the implications, through the local and national press. We have also written to local MPs and councils.

Actions by BANNG Core Group members:

The Chair of BANNG, Andy Blowers, has written to the Chinese nuclear companies, to EDF, to the Secretary of State for Energy and Climate Change and to MPs about the problems with new nuclear build at the Bradwell site. He has also been interviewed by *The Guardian* and *The Times*.

Barry Turner, Vice-Chair, has co-authored with me the BANNG responses to the recent government and EA consultations (see items 2 and 3 below).

Professor Barry Jones has been corresponding with the national press. Within BANNG, he has been particularly promoting the security and health issues that would arise from a new Chinese power station at Bradwell.

Nichola Cain, Communications Officer, and her personal office team have set up the BANNG e-Petitions and Facebook page. They monitor these and alert me to queries and problems that need to be dealt with.

You will know that I have also been doing my bit from my correspondence with you!

**2. Discharges Arising From Dissolution of Fuel Element Debris (FED):
update -**

Environment Agency 'consultation':

You should by now have received the BANNG response to the Environment Agency's (EA) 'consultation' on the application by Magnox to extend the permit for discharges into the Blackwater estuary from 12 months to 24.

Terri Portmann, the Marine Consultant employed by Graham Farley, a member of the BANNG Core Group, challenged the legality of the “Penfold” consultation process used by the EA, which it seems applies to issues of low public interest. Under pressure, the EA then admitted that there was indeed a lot of public interest in the discharges arising from FED and that, therefore, the Penfold Rules were inappropriate. The Agency has, therefore, changed the format of the consultation.

You will remember that on 23 June, 2014, BANNG held an Open Meeting addressed by Tim Deere-Jones, a Marine Consultant, on ‘Radioactive discharges into the Blackwater – who knows what’s going on?’. The 200 or so people present made it very clear that there was a great deal of concern about the radioactive discharges into the Blackwater estuary. The meeting gave BANNG a mandate to act on its behalf. As a result of the public concern expressed at the meeting, the EA decided to hold a drop-in session, with Magnox and other agencies, at West Mersea. BANNG has met with the EA on three occasions over the past year and has made it very clear that a high level of public concern continues to exist. The EA representatives mentioned the Penfold Rules but nothing was said about these only being used for an issue of low public interest. It is inexplicable why the Agency chose to run its consultation under this process. We are, therefore, very grateful to Terri for taking up the legal position with the EA.

What is now proposed still does not represent public consultation as the EA will only communicate with those who have already responded. The EA should have written to all of you who made a response, as follows: ‘We will contact you again to communicate when we are consulting on our draft decision which will include publishing documents that show you how we reached it and how we considered your comments. You will then have one month to comment on our decision. We will aim to consult on our draft decision within three months’.

If you responded and were not contacted by the EA, please e-mail me:
varrieblowers@yahoo.com

Graham is continuing to pursue tenaciously the possibility of a legal case against the Magnox application to extend the discharges into the Blackwater from 12 months to 24. Graham and Terri were responsible for the appearance of an article by Charles Clover in *The Sunday Times* of 27 September, 2015.

BANNG e-Petition against the extension of discharges arising from FED dissolution into the Blackwater:

Please remember to sign the e-Petition yourself and to ask as many people as you can to sign it. The link to the e-Petition can be found on the Home Page of the BANNG website (banng.info).

Terri Portman’s Parliamentary Petition to enforce/stop the discharges from Bradwell as the permit has expired:

Please sign Terri’s Parliamentary Petition and ask as many people as you can to sign it, too. The live link to the Petition and the text explaining its purpose, is:

<https://petition.parliament.uk/petitions/109762/sponsors/Kh8qNh7EWrpEQIG0a68e>

The link can also be found on the Home Page of the BANNG website (banng.info):

3. Geological Disposal -

You should have received the BANNG response to the Government's 'Call for Evidence on Implementing Geological Disposal: working with communities'. In it attention is drawn to the local communities that are already having to host dangerous radioactive wastes, such as the intermediate-level waste (ILW) at Bradwell – without having volunteered to do so.

4. BANNG Website

BANNG has been awarded a grant by LUSH to overhaul its website.

5. Poster competition

Details of a poster competition by The Mersea Island Courier and its sister paper, The Tribune, sponsored by BANNG will be sent to you shortly.

Editorial: IT'S A DEAL – BUT NOT YET A DONE DEAL?

(Professor Andy Blowers, Chair of BANNG)

There was an air of dismay but not surprise at the long anticipated announcement that a deal was being struck that could eventually lead to a Chinese designed and built nuclear power station at Bradwell. Given the deal has been brokered at the highest level between the British and Chinese Governments it may seem that new nuclear power on the Blackwater is inevitable. But, even if the deal is signed and sealed, there is no guarantee at all that it will be delivered.

There is still a long, long way to go and it is, by no means certain, that we shall see a return of nuclear to the Blackwater. There are good reasons for believing it will not happen and we must keep these firmly in view in the coming months and years in the long, seemingly interminable, battle to stop new nuclear at Bradwell.

First, the deal depends on the Chinese putting investment in to bail out the mainly state-owned French company EDF in its faltering efforts to get the first of the new nuclear stations up and running. Apart from all the other problems it faces, the Hinkley Point, Somerset, project is dependent on a combination of foreign (mainly French) investment, taxpayer subsidies, government guarantees and high bills for consumers. It is a notoriously bad deal rejected by a mass of expert opinion but the government, in its desperation to see EDF complete it, has desperately wooed the Chinese to put their money in. And, before they can turn to Bradwell

the Chinese will have to put up further investment at Sizewell, too, which is the other EDF nuclear project in England. So, the question may be asked: *will the Chinese continue to have the stomach to put up the money for expensive nuclear projects in Britain before embarking on their own project in Bradwell?*

Second, there is the rather glib assumption that the Chinese reactors will get straightforward regulatory approval. A main reason for the Chinese interest in Bradwell seems to be that it would give them an opportunity to demonstrate their reactors pass the stringent regulatory requirements of the UK's Office for Nuclear Regulation. That would enable them to flaunt their design in the global market place. But, approval cannot be guaranteed even though the Secretary of State Amber Rudd seems to assume it can. She is being disingenuous and the Chinese may not be so easily fooled. There are serious technical obstacles to be overcome especially with respect to abstracting large volumes of cooling water from a shallow estuary. *Is it conceivable that the technical obstacles to building a new nuclear power station at the Bradwell site can be overcome?*

Third, the Bradwell site is wholly unsuitable for a new nuclear power station four times larger than the old Magnox station. Unlike the old station the dangerous, highly radioactive spent fuel as well as other wastes will need to be stored on site until well into the next century, possibly indefinitely, as there is no solution for longer term management yet in sight. And this will be on a site liable to inundation and coastal change as sea levels rise and storm surges and other processes make the site highly vulnerable. *Will the Bradwell site be safe for the storage of dangerous radioactive wastes in the far future?*

Fourth, the Blackwater is an important and protected environmental area with many international and national designations including a Marine Conservation Zone especially to conserve the Native Oyster. The marine environment would be severely compromised by the cooling water regime and discharges and emissions from the power station. According to national policy, nuclear developers demonstrate Imperative Reasons of Overriding Public Interest (IROPI) to achieve an environmental permit for a nuclear power station. *Will the Environment Agency decide that the national need for nuclear power at the Bradwell site is so imperative that the Blackwater environment can become a national sacrifice area?*

Fifth, the risk to health and to security cannot be gainsaid. The risks to public health from routine and accidental emissions and discharges of radioactivity are recognised and a location such as Bradwell close to a substantial population naturally raises public anxiety. An incident or a major accident at Bradwell, though of course very unlikely, is not impossible. If something did happen it might be impossible to prevent the widespread impact of radioactivity. And, it would certainly be difficult to manage the evacuation of a substantial population over a wide area. *Will it prove possible to produce an emergency response plan that would meet public concerns and provide sufficient assurance of safety?*

Sixth, the security implications of vital national nuclear infrastructure being placed under

the control of a foreign power are obvious. Any nuclear power station might be a target for terrorist attacks but there are also the dangers inherent in more subtle cyber attacks. Effective surveillance may well be impaired where facilities are in foreign ownership. The question must be asked: *how far national security interests are surrendered by encouraging other states to invest in our nuclear infrastructure?*

All these issues and questions stand in the way of an easy passage for any new nuclear power station at the Bradwell site. Each and every one of them provides a singular reason to prevent such a project. But, there is one other factor that could be decisive in the effort to stop new nuclear at Bradwell. That is, the mobilisation of the Blackwater communities in opposition and protest. BANNG has been working now for eight years and has built up a formidable membership and portfolio of expertise and information. We have continued to lobby government and local councils, talk with the regulators, confront the nuclear industry and we have engaged with the public through public meetings, our website, social media, radio and TV. We handed over a 10,000 signature, face-to-face Petition against new nuclear build at Bradwell and storage of on-site spent fuel to the Energy Minister in 2011.

The Chinese deal is a further step along the way but new nuclear at Bradwell is not a done deal. We shall continue our campaign in the months ahead and hope you will support us in whatever way you can.

Bradwell and The Nuclear Issue: questions and answers **(Professor Barry Jones, member of the BANNG Core Group)**

1. Do we need new nuclear?

The question of whether the UK needs a new fleet of nuclear power stations remains deeply controversial. The critical questions concern the overall potential of alternative sources of electricity to meet the country's future needs; the time-scale over which new nuclear power stations can enter service; and the scale of the costs entailed by a new fleet of nuclear power stations. And, of course, there are the risks from discharges, accidents, terrorist activity and storage of dangerous radioactive wastes that nuclear power poses to present and future generations.

- **Genuine renewable sources** of electricity have been making huge advances— solar and wind have spread extensively in recent years.
- A major failure of energy policy has been to support wind and solar generation without an accompanying requirement to **store generating potential** during times of

surplus supply. The result has been that renewable generators have been paid subsidised prices for the electricity that they actually generate but also paid substantial fees **NOT TO GENERATE POWER** when the base load from non-renewables is sufficient to meet current demand. With more sensible contracts, renewables' operators would have been (and could be) faced with substantial incentives to install storage facilities (arrays of batteries or hydrogen fuel cells).

- There is also a range of **additional sources of power generation** that are likely to become available which promise to transform the electricity-generating scene:
 - ◇ a range of forms of **tidal power generation** is being developed – from tidal stream turbines to the proposed Swansea Bay tidal lagoon;
 - ◇ **hydrogen fuel cell power generation**, with hydrogen generated in a variety of ways, is available and can be readily deployed on a wide scale.
- There has been a systematic **downplaying of efficiency measures** – insulation of existing homes; improved building quality of new houses; improvements in industrial processes – of which reduction of house building standards is merely the most recent example.
- It is now clear that no new nuclear power stations will enter service before 2023, at the very earliest (according to EDF's announcements regarding the Hinkley project). This will mean that the **power generating crisis** created by the closure of a number of existing power stations will have come, and passed, before new nuclear 'comes to the rescue'. By the middle of the next decade any new nuclear power station will be surplus to requirements.
- Incredibly the Government is planning new nuclear power stations at six different locations around the coast of England and Wales. If they all get built it will be at massive cost and will displace electricity production from cheaper, greener and more sustainable renewable energy.

New nuclear power stations constitute, by widespread agreement, by far **the most expensive form of future electricity generation** while the costs of all genuine renewables are falling steadily. Despite initial governmental assurance, new nuclear will require extensive public subsidies.

- ◇ New nuclear can be constructed only on the promise of **very high guaranteed prices** (the 'strike price' agreed for Hinkley is approximately twice the current wholesale price for electricity). These excessive prices will have to be paid by all electricity consumers through a levy on their regular electricity bills.
- ◇ Nuclear power stations are unique in requiring extremely **costly decommissioning, waste management and clean up** at the end of their active lives.
- ◇ Worse, commercial companies will not insure nuclear power stations against

the liabilities arising from accidents that affect the wider public. Such **insurance** will, again, have to be provided by the UK government from general taxation.

- Considerations such as these are precisely those that have persuaded a host of experts to conclude that the proposed nuclear power station at Hinkley is a ‘white elephant’ and ‘no longer constitutes a financially responsible deal’ (*Financial Times*, 9 September 2015). And the replication of similar deals farmed out to foreign state investment spells financial disaster on a monumental scale afflicting the country for decades to come.

2. Is Bradwell a suitable site for a new nuclear power station?

This is clearly a rhetorical question. The official National Policy Statement on energy policy listed Bradwell as one of the approved sites for new nuclear power stations. However:

- The so-called ‘sustainability’ assessment within the policy statement accepted that a new nuclear power station at Bradwell would pose a **clear environmental threat**. But, it introduced the idea of **Imperative Reasons of Overriding Public Interest** to ditch the environment in favour of development. Basically IROPI means anything goes as long as nuclear energy is part of Britain’s energy mix. The Blackwater becomes a national sacrifice area for a quite unnecessary nuclear power station.
- Bradwell is located on the Blackwater estuary – which is relatively shallow; has a low rate of refreshment from the open sea; is vulnerable to flood risks; and is surrounded by significant clusters of population.
- The Blackwater is a shallow estuary which cannot tolerate the huge demand for cooling water for reactors the size of those which are planned. So, either the marine ecology will be destroyed or cooling towers may have to be built. Cooling water supply is possibly the biggest impediment to development of a nuclear power station at Bradwell.
- Any serious accidents at a new power station would entail the evacuation of many thousands – if not hundreds of thousands – of local residents.
- There are unresolved issues concerning the past damage to health inflicted by the former power station and by the current discharges of residues from the experimental process for the dissolution of fuel element debris (**FED**) being carried out at Bradwell.
- A new nuclear power station at Bradwell would be committed to producing electricity for at least sixty years. But, the highly active wastes including spent fuel would be stored on a vulnerable site indefinitely, placing a burden of risk on generations to come. Who knows what the conditions at the site will be like in fifty years, or a hundred or in the indefinite future?

The preponderance of independent experts and consultants have thus judged Bradwell to

be one of **most unsuitable sites for a nuclear power** station around the UK coast. So, the answer to the question, Is Bradwell a Suitable Site? is a resounding **No**.

3. Who is Building What for Whom? Who Benefits, Who Pays?

Given the considerable costs, uncertainties and potential dangers, questions have to be asked about the interests and motivations that lie behind proposals for a new fleet of nuclear power stations. It must be noted, first, that the UK government is pathologically unwilling to invest in its infrastructure, preferring private investment. Unable to get private investment it is leasing out strategic sectors like nuclear energy to foreign, state-backed investors. How crazy is that?

Two foreign powers taking over vital British infrastructure

Two foreign powers, in particular, are involved in nuclear development in the UK. The first is **France**, deeply embroiled in the Hinkley Point nuclear power station; colossally expensive, technically doubtful, heavily subsidised (by the British taxpayer) and running hugely over budget (currently £24B.) and incredibly late (timed initially for 2018, now unlikely, if ever, until **2023**). The other newly arrived on the scene is **China**, welcomed with open arms, offering to invest (at a price) to help the French find the wherewithal to fund their two projects at Hinkley Point and Sizewell. And it is the Chinese, wooed and apparently won by British blandishments that have their sights set firmly on developing at Bradwell, as sole operator using their own reactor design.

France

The commercial front-runner in nuclear development in the UK – EDF – has clear interests in serving the needs of the **French state-owned nuclear power** construction and operation industry.

EDF is also one of the big-6 electricity supply companies (along with National Grid) whose interests are served by the preservation of the established model of **large-scale generation and centralised distribution**.

These mega power stations stand in the way of the development of and the **construction** of a new, and ultimately more robust, system of **decentralised electricity generation** (wind farms, solar farms, and, ultimately, hydrogen fuel cell arrays) by smaller-scale, local providers. EDF was kind enough to lend specialists to the Department of Energy and Climate Change when it undertook its recent review of the energy market. Surprisingly, all the conclusions of that review favoured the clear interests of the leading,

established electricity suppliers. It is also unsurprising that subsidies for smaller scale, on-shore renewables are now being scaled down, whilst being maintained for larger, off-shore wind farms and, prospectively, new nuclear power stations built by major electricity suppliers, like EDF.

China

Chinese motivations are far more obscure. China is an emerging super-power with an aim of becoming the dominant regional power, if not global top-dog. It has also been remorselessly ‘neo-mercantilist’ for at least twenty years, with the mobilisation of all aspects of state power to support the country’s economic development and the expansion of its commercial power. In pursuit of these ends, China has – according to charges laid by the American government – engaged in extensive hacking against both governmental and commercial organisations in the US and undertaken widespread ‘theft’ of US intellectual property.

It is claimed that the motivation for building a new power station at Bradwell is to provide a showcase for a Chinese attempt to win nuclear power stations world-wide but this is barely credible given the number of nuclear power stations that they are already constructing in China and in a number of developing nations. The problem is that Chinese involvement in Bradwell amounts to the ability to construct and operate a facility that could, under some circumstances, be converted into a dirty bomb to spread radioactive material from east Essex to the eastern environs of London, itself.

And the UK?

The British government’s motive for soliciting Chinese involvement in the UK nuclear power industry is even more complex. The public excuse is to secure necessary financial support for a nuclear construction programme that it has deemed to be necessary for the future UK electricity supply (despite the many arguments to the contrary). An equally persuasive argument, however, is that the government wishes to oil the wheels of wider commercial arrangements, including export markets for high-value British manufactures and services and, perhaps crucially, to gain official Chinese approval for the UK’s financial sector’s involvement in a growing share of China’s off-shore investment.