



**BANNG**  
Blackwater Against New Nuclear Group



**BANNG UP TO DATE**

**January, 2015**

*An occasional newsletter for supporters of the  
Blackwater Against New Nuclear Group (BANNG)*

*Edited by Andy Blowers*

**A HAPPY NEW YEAR TO ALL BANNGers**

**IMPORTANT NOTICE (see also 'Public Meeting', p.3)**

**PUBLIC MEETING ON 20 JANUARY, 2015 AT THE MERSEA MUSEUM,  
HIGH STREET, WEST MERSEA, CO5 8QD AT 7.30 P.M.**

**SPEAKER: PROFESSOR GRAHAM UNDERWOOD  
on the  
ECOLOGY AND FUTURE CHALLENGES TO THE BLACKWATER AND  
COLNE ESTUARIES**

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## **BANNG IN ACTION – REVIEW AND LOOK FORWARD**

### **Looking back over 2014**

During the past year BANNG has been fighting on several fronts the radioactive discharges into the Blackwater estuary and the atmosphere, arising from the dissolution with nitric acid of fuel element debris (FED):

- we published two papers in response to consultations; they are BANNG Papers Nos. 21 and 24 which can be found on the website;
- we held a Public Meeting with speaker Tim Deere-Jones, marine radioactivity consultant, talking about the risks to the marine environment and public health from discharges into the estuary;
- we urged the Nuclear Decommissioning Authority (NDA), Magnox and the Environment Agency (EA) to stop the radioactive discharges into the Blackwater estuary and the atmosphere;
- we have kept MPs and councillors informed of this contact;
- we organised a demonstration by young people at Tollesbury (see picture below) against these radioactive discharges;
- we met with officials of the EA on two occasions to discuss the radioactive discharges and improved monitoring arrangements.



We have also continued our campaign against new nuclear reactors at the Bradwell site:

- by focusing on the possible investment by the Chinese state in new nuclear development at Bradwell;
- by contacting councils, councillors, MPs, regulators and environmental groups on the issue;
- by raising our concerns through the media;
- by engaging with Government on the issue.

We have maintained our involvement with the Government's proposals for dealing with radioactive wastes in the long-term (see BANNG Paper No. 23 on the website).

We have participated at various levels with other campaigners and stakeholder groups:

- by BANNG Core Group members and supporters attending the Local Community Liaison Committee (LCLC) meetings to discuss the Bradwell site;
- at the Government/NGO Nuclear Forum discussing the geological repository, management of plutonium and foreign spent fuels, nuclear security, radiation and health, emergency planning and other matters. Andy Blowers co-chairs the Forum and Barry Turner is BANNG's representative;
- at meetings with the Office for Nuclear Regulation (ONR)/NGO Forum which covers design of new reactors, site safety and emergency planning. Andy Blowers is our representative;
- through networking with other campaigners at sites around the country;
- through communications (Press Releases, Newsletters, website, social media) with a wide range of networks, environmental organisations and political interests;
- through publications in newspapers and journals.

## **Looking forward to 2015**

### ***Public Meeting***

As stated on the front page, we start off the New Year with a Public Meeting on the 'Ecology and Future Challenges to the Blackwater and Colne estuaries'. Our speaker is Professor Graham Underwood of Essex University, an international expert on marine ecology and the dynamic processes that are occurring through climate change and other threats. He is especially knowledgeable on our local river systems.

**Please display the attached poster where you can.**

### ***Nuclear New Build***

This is likely to claim much of our attention this year as we seek to uncover what plans there may or not be for the Bradwell site. We shall be meeting with MPs and other elected representatives, most of whom are facing elections next May. It would be good to know whether they support BANNG's aims for a safe, secure and clean Blackwater estuary and, in particular, whether they will oppose any plans for new nuclear at Bradwell.

### ***Monitoring the Blackwater***

We shall be closely monitoring the monitoring proposals of the Environment Agency and continuing our opposition to radioactive discharges into the estuary.

### ***Care and Maintenance at the Bradwell site***

We shall look critically at the plans for Care and Maintenance of the old Bradwell site.

### ***Radioactive Waste***

We shall keep a close eye on any developments that suggest the possibility of bringing nuclear waste to Essex either for storage or disposal.

### ***New roles for our Chair***

Andy Blowers has been re-elected to co-chair the Government/NGO Nuclear Forum for a further two years alongside the heads of the Nuclear Development Office of the Department for Energy and Climate Change (DECC).

He has also been appointed as a member of an independent Oversight Group looking at public engagement in the development of new nuclear reactor designs.

Most recently Andy has been asked to serve on the Community Representation Working Group (CRWG) which is to work out how to achieve democratic participation in the voluntary siting process for a deep disposal facility for the nation's radioactive wastes. This appointment reflects his long experience in radioactive waste management policy as a former member of the Radioactive Waste Management Advisory Committee (RWMAC) and the Committee on Radioactive Waste Management (CoRWM), where he drafted the policy on partnership and voluntarism now being followed by Government.

### ***Welcome to our new Core Group members***

We welcome two new members to our Core Group, appointed at our AGM last June. They are:

- **Nicola Cain** from Tollesbury, who takes on the Communications role. Nicola's experience in communications design is increasing BANNG's outreach through social media as well as distribution of BANNG's various publications. Nichola took the lead in organising the successful demonstration against FED discharges at Tollesbury;
- **Graham Farley** from West Mersea, who has a particular interest in sustainable development in relation to nuclear issues. His links with the Environmental Law Foundation (ELF) bring a much-needed legal dimension to our work.

### ***Membership of the BANNG Core Group***

At the AGM held on 23 June, 2014 the Core Group membership was confirmed as: Andy Blowers (Chair), Barry Turner (Vice-Chair), Varrie Blowers (Secretary and Media Relations), Lyn Hartley (Treasurer), Nichola Cain (Communications), Charles Clark, Moyia Clark, Graham Farley, Ian Newton, Coral Newton, Paula Whitney, Shirley Swan.

During the year Lesley Mullins, our Community Awareness Officer, and Norma Creighton, our Membership Secretary, resigned from the Core Group. BANNG is most grateful to both for the tireless work they performed through demonstrations, meetings and especially in helping to organise and present the 10,000 signature Petition which stands as one of the group's greatest achievements.

### ***Farewell to BRARE (Bradwell for Renewable Energy)***

Val Mainwood, the Founder of BRARE (and a supporter of BANNG) has announced that her group is winding up. Val started the group in the 1980s and it has consistently campaigned for a safe and sustainable clean up of the Bradwell site and the development of renewable energy around the Blackwater estuary.

We are glad that such a seasoned campaigner as Val is a great supporter of BANNG. We are sad that BRARE has decided that it is time to call it a day. Three decades of campaigning is, however, a wonderful achievement. We wish all members of the BRARE group well – while reminding them that BANNG would welcome them as continuing supporters

*Below are short briefings on the three issues of most concern to BANNG.*

## **UPDATE**

### **Fed up with FED.**

#### **Radioactive discharges into Blackwater to continue despite BANNG's efforts to prevent them.**

BANNG's activities during 2014 were dominated by the issue of dissolution of Fuel Element Debris (FED) into the Blackwater. Basically, the issue was this. When the old Bradwell power station closed in 2002 a process of defueling began. The spent fuel assemblies which are highly active, heat generating, nuclear waste were removed from the reactor cores and sent to Sellafield for storage. But the magnesium alloy casings in which the fuel was held were stripped off and left on site as FED, classified as intermediate-level radioactive waste (ILW). The problem was what to do with it.

The solution, developed specifically for Bradwell, although it was hoped to use it elsewhere, was to construct a dissolution plant which would use a nitric acid based process to dissolve the FED which was in the form of a sludge, thereby reducing its volume by a factor of 20. This could then be stored in containers and placed in a purpose built facility on the Bradwell site. The problem was that some 15% of the radioactivity contained in the FED had to be discharged in an aqueous stream into the estuary and emitted into the atmosphere.

Although this had been planned for some years, there had been little effort made to make the public aware of the proposal. BANNG first took up the issue in response to a rather obscure consultation by the Nuclear Decommissioning Authority (NDA) on the options for dealing with FED. It appeared that, for Bradwell, there was only the one option: dissolution. The consultation did not, in fact, cover Bradwell. BANNG, however, was concerned about the threat to environment and human health from discharging radionuclides into a shallow estuary with a vulnerable marine ecology.

Moreover, dissolution was unnecessary since at some other sites the preferred option was to store FED, untreated, *in situ*. BANNG pressed its opposition to dissolution, first by responding to consultations (see BANNG Papers Nos. 21 and 24 on the website), then by an extensive correspondence with the top brass at Magnox (the site operators), the Nuclear Decommissioning Authority (the policy makers) and the Environment Agency (the regulators) calling on them to stop the process before it started.

We held a Public Meeting in June addressed by Tim Deere-Jones, an expert on radioactivity in marine environments. He told a packed meeting in the Mersea MICA Centre that information on what was being dumped in the river was sparse, that the monitoring was inadequate and that the impacts from discharges were largely unknown. We pressed the issue with the Environment Agency and met them on two occasions. They promised to increase the monitoring but rejected our appeal to stop the discharges.

### *A 'planned outage' lasting six months?*

Meanwhile, the continuous discharges into the river began in late June – or so we thought. It was not until the end of October that Andy Blowers happened, by chance, to discover that the discharging had stopped almost as soon as it began. Apparently there had been a 'planned outage' necessary for technical reasons. The mystery was how a planned outage could last for six months when the plan had been to continue the discharges for eighteen months until the end of 2015, at which point all operations at the Bradwell site would cease and the site would enter into its long-term 'Care and Maintenance' phase. Furthermore, why had no announcement been made to the public who were clearly extremely concerned about the risks to health and environment? What had they to hide?

BANNG believes firmly the dissolution project should be abandoned rather than carried on in the face of so much disquiet. At the time of writing it is not known whether dissolution has recommenced. It is clear it is intended to resume. So, it seems all our efforts to stop the dissolution have been in vain.

The reason for continuing with dissolution is economic – so much money has been sunk into the plant (we believe it is of the order of £75M+) that it would be difficult for the company to retreat now. However, other means of dealing with FED at other sites are being considered, for example packaging and storage, and this means that Bradwell will be the only site where dissolution of FED with nitric acid takes place. BANNG has always maintained that the FED at Bradwell should be packaged and stored.

So, cost triumphs over environment and public health with the Blackwater ecology and communities the victims. The best that can be said is that they will not want to try it again. The message to the Chinese or anyone else thinking of building new reactors and radioactive waste stores on our shores is, 'Don't mess with the Blackwater...'

[**Note:** To learn more about the Blackwater and the future threats it faces come along on 20 January to hear Professor Graham Underwood of Essex University (please see the item on 'Public Meeting' on p. 3) and the attached poster].

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## COMMENT

### **Nuclear Renaissance. What Renaissance?**

#### *A new dawn for nuclear*

It is now a decade or more since Tony Blair pronounced that 'nuclear is back, with a vengeance'. At the end of the last century, it seemed nuclear was finished as a source of electricity generation. Sizewell B had finally opened in 1995, late and over budget. It was commonly believed that that was that for nuclear energy in the UK. But, lo and behold, as the new century dawned, amid fears for energy security and environmental catastrophe, nuclear appeared to have all the answers. It would keep the lights on and save the planet, popular mantras endlessly repeated to justify an expensive, dangerous and unnecessary technology. At least in the UK, nuclear seemed to arise like a Phoenix from the ashes.

Within a few years, grandiose plans appeared for a fleet of new reactors scattered around the English and Welsh coasts (Scotland would have none of it). A prolonged public consultation process occurred designed to soften up a relatively compliant public to the idea that a big surge in nuclear energy was essential to replace old reactors and continue nuclear as an essential part of the energy mix. The reactors would be funded and built by an array of consortia in the private sector but including state-owned companies - so long as they were not British. Over the years an intriguing game of musical chairs has occurred as these consortia break up, re-form and reconstitute themselves.

The market was to be the progenitor of a new dawn. Investors were invited to put forward plans and the Government talked of multiple reactors at different sites providing as much nuclear generation as possible. Predictably, sites with existing nuclear power plants were identified as they offered existing infrastructure, land in friendly ownership and, it was presumed, community support for the jobs and wealth they would bring to people already familiar with the Holy Grail of nuclear power. The Renaissance was under way, or so it seemed.

***Nuclear is not the answer***

‘Renaissance’ seems a strange term for such an uncivilised and destructive thing as nuclear power. Yet it has been promoted as a cheap, reliable, technically efficient, safe, secure and environmentally benign technology. It is, of course, none of these things.

***It is certainly not cheap.*** EDF’s flagship reactor at Flamanville in France was initially priced at €3.3B and due to be completed in 2012. Latest estimates of cost are €8.35B and the estimated completion date is now 2017. Similar overruns have been experienced with the Areva project at Olkiluoto in Finland. Its original price was €3.2B but this has tripled. It is now scheduled to start operations in 2018 but few expect this to happen. As for Hinkley Point, the long delayed and yet to be committed, first of the new nuclear reactors in the UK, the cost is now an eye watering £24B, according to the EU. It is being subsidised at high cost to taxpayers and consumers, with a fixed price deal at twice the current market rate, index linked, over 35 years as well as receiving other Government subsidies. Nevertheless, its future is still in doubt and, even if it gets the final go-ahead, it will be the mid- 2020s before it comes on stream, almost a decade late.

***Nuclear is not reliable.*** Reactors, especially as they age, encounter technical problems and are taken off line. Over the past year there have been unplanned outages at several UK plants leaving a big gap in expected supply. The idea of nuclear as advanced, efficient, cost effective technology does not square with the facts of an antiquated technology based on behemoths that are inflexible and unreliable.

***It most certainly is not safe, or secure.*** Fukushima was the most recent demonstration of nuclear’s potential for catastrophic breakdown, resulting in shutdowns of reactors worldwide and the creation of a no-go area and displacement of communities for miles around the plant. A nuclear accident anywhere is a nuclear accident everywhere. With such a complex technical process, somewhere, some day, if an accident can happen, it will. And there is always the present danger of diversion of

nuclear materials and the vulnerability to terrorist attack. There are myriad examples of significant accidents, incidents and near misses.

***Nuclear is an environmental threat.*** This is not merely because of the devastation an accident may cause but through the inevitable production of long-lasting highly dangerous radioactive wastes. Nuclear's danger is perpetuated through eternity. It is a burden on future generations that the present generation cannot prevent. These dangerous wastes accumulate at sites such as Sellafield presenting a formidable problem of long-term security, risk and cost. The nuclear renaissance promises more of these unmanageable materials stored across the country at places like Bradwell.

### ***W(h)ither nuclear?***

So, is it going to fizzle out? Well, if the nuclear industry and its acolytes in Government are to be believed, redemption is just around the corner. Hinkley Point is all but a done deal, so they say. In the bewildering game of musical chairs (or, more aptly, pass the parcel) referred to above, plans are firmly in place to develop at Sizewell in Suffolk and Wylfa on Anglesey and exclamations of nuclear triumphalism exude from Moorside (aka Sellafield), while at Oldbury (Gloucestershire) there are rather more subdued murmurs these days.

That leaves just three of the eight nominated new nuclear sites without suitors to embrace – or does it? While the northern sites of Heysham and Hartlepool suffer from neglect, our own dear Bradwell is apparently being seduced by the lucre of the Orient. A high profile visit to China last summer by the Prime Minister and his entourage confirmed the prospect of Chinese investment into the UK's nuclear sector. In return for helping out the hapless EDF at Hinkley, the Chinese have apparently been assured that Bradwell could be theirs to build a nuclear plant all of their very own. We shall see; at present the proposal is a cloud no bigger than a man's hand but it could grow bigger in the coming months. Or not, as the case may be. We are aware, too, that it seems that Maldon District Council wishes to lobby the Government for new nuclear power stations at Bradwell.

For those of us fearful of a nuclear juggernaut rolling relentlessly forward there are reasons to be cheerful. So far nothing much has happened and even Hinkley may not go ahead. Worldwide, oil prices have slumped with the onset of fracking and recession, bad for the planet perhaps and certainly bad for nuclear which looks increasingly uncompetitive, clumsy and risky, both as an investment and as a technology. And, renewables are growing rapidly, costs are coming down and the technologies are fast developing. Nuclear no longer, if it ever was, seems a relevant part of the energy mix.

Soon it may become clear, even to the most purblind observer, that the nuclear emperor has no clothes and the dazzling scenarios of nuclear plants, large and small, populating the planet, are no more than fantasy. But, let us be cautious, some developments could take place before the nuclear renaissance subsides. And one of those could, just, be Bradwell. So, BANNG will remain vigilant and continue to oppose a project which would bring danger, disruption and devastation to the Blackwater.

## ANALYSIS

### **Radioactive Waste - A geological disposal facility for the UK. If not Sellafield, then where?**

Last July the Government published a White Paper under the riveting title of *Implementing Geological Disposal*. This came in the wake of the unsuccessful effort, two years ago, to get Cumbria to volunteer to enter a process to find somewhere to bury the nation's highly active radioactive wastes deep underground in a massive vault termed a Geological Disposal Facility (GDF). It was estimated the underground cavern would need to be six to eleven times the volume of the Albert Hall to take the volumes of wastes arising.

In the face of the Cumbrian setback, the Government has decided to have another go. Only this time it is trying a softly, softly, slower approach. It still claims to be committed to the voluntary principle and to local partnerships working together to gain public support for the idea of hosting a GDF in their community. But, this time around there will be some initial geological screening to indicate which parts of the country show some promise of providing suitable rocks at depth to contain the wastes safely for thousands of years.

There will also be preliminary work to determine how best to involve communities, how to measure their support and how to ensure decisions are democratically representative and participative. To this end a Working Group (the Community Representation Working Group) has been set up and Andy Blowers has been invited to serve on it (see item 'New Roles for Our Chair', p.3).

What does all this mean for Essex and more specifically for Bradwell, if anything? Well, the clay rocks that constitute the underlying geology of this part of Britain are potentially suitable given their impermeability and slow hydraulic flow rates. After all, clay is the flavour of the month for the French who already have a rock laboratory in similar formations in Eastern France. And, the Indian sign has been put on Essex before. Bradwell and Potton Island were both considered as possible sites for a deep repository before attention focused on west Cumbria.

It will not be long before approaches will be made to see if there are any takers for a possible deep repository in our neck of the woods. Bradwell is already a nuclear waste storage site; it could become a dumping ground for spent fuel if new reactors are built.

Bradwell is currently on course for ultimate clean up and restoration. Do we really want more reactors, more wastes and possibly a national nuclear dump to prolong Bradwell's role as a 'national sacrifice area' for eternity?

## ENDPIECE

### Reflections on a Visit to Sellafield – the most dangerous place in Europe

The Secretary and the Chair of BANNG, Varrie and Andy Blowers, spent a week in West Cumbria last October to gather information and meet people involved in nuclear matters in what is the UK's nuclear heartland. Highlight of the trip was a specially arranged tour of the Sellafield site, dubbed by Andy, who has made many visits to the site, as potentially the most dangerous place in Western Europe.

Varrie, who had never visited Sellafield before, described her impressions. 'My first glimpse of Sellafield was from high up in the Lakeland Fells in the declining light of a lowering, late Autumn evening. Over to the right was the rugged bastion of the central mountains dominated by Scafell, half hidden in the mist. All around was the lonely beauty of hills with dry stone walls, bracken, tumbling rills and hardy sheep. But, far below at the foot of Eskdale I could discern the nuclear plant, occasionally lit up by flashes of sunlight through parted rain clouds. From that distance, in that eerie twilight and primitive landscape, the plant nestled innocently on the plain between mountains and the sea, for all the world recalling to mind the silhouette and environs of a medieval monastery. It was a truly awesome sight.'

Even up close, the mass of concrete and steel buildings purveys scant impression of the menace lurking within. Most of the buildings have the form of giant hangars, new and old, some surrounded by masses of pipework, with 28 miles of road and 8 miles of railway linking the complicated layout, the River Calder running through the middle of the site. It is extraordinary to think that within a mere 1.5 square miles are concentrated two reprocessing works (both due to close within the next decade), the remnants of Windscale (Britain's first nuclear power station producing plutonium for our atomic bombs), Calder Hall (the first power station to provide electricity for the national grid), an array of newish buildings providing for a range of clean up functions and an assortment of massive concrete structures where the so-called 'legacy' wastes from the early years are stored.

The iconic profile of Sellafield is gradually being dismantled. The four cooling towers of the Windscale piles have already gone, their existence only traceable by large rings on the concrete pads on which they stood. The 'golf ball' of the Windscale Advanced Gas-Cooled Reactor (WAGR), prototype of the country's AGR fleet of reactors, is now decommissioned and will shortly be gone. One of the chimneys of Windscale has already been demolished and the other is being gradually and carefully taken down. Doomed, too, is the bulky filter at the top, foolishly known as 'Cockroft's Folly' after the scientist who insisted it was built. His foresight proved invaluable when the chimney trapped the bulk of the radioactivity released during the Windscale meltdown in 1957. Without it the devastation might have been incalculable.

Elsewhere is the tall chimney of the first reprocessing plant still in operation. Nearby arise the huge sheds housing the vastly expensive Thermal Oxide Reprocessing Plant (THORP), once the pride of Sellafield with its promise of orders from across the world, now forlornly eking out its last years before closure in 2018. But the greatest foci of concern are the formidable and sinister looking grey legacy waste buildings, anonymously numbered: B27, an open pond with military wastes; B29, single skinned

with ponds of sludge, skips and unrecorded wastes; B30, ‘Dirty Thirty’, with ridges and valleys of sludge, fuel and skips; and, most hazardous of all, B38, with its load of uncharacterised waste. These areas present the most formidable challenge and will take many years to clean up, while soaking up the bulk of the £2B or more annual budget for dealing with Britain’s nuclear legacy.

Sellafield already has two-thirds of the radioactivity arising from the country’s nuclear industry. It has the largest plutonium stockpile in the world, stores of spent fuel awaiting reprocessing, highly active liquors awaiting encapsulation or vitrification into glass blocks and the stew of dangerous wastes in the legacy ponds which are an absolute priority for management.

As Varrie says: ‘The work of cleaning up Sellafield is by far the biggest task facing the country’s nuclear industry. Everything else pales beside this. But, what we don’t need is the distraction of yet more nuclear waste piling up and with nowhere to go. We should focus on safe long-term storage at Sellafield as the biggest issue’.

[**Note:** For an analysis on Sellafield as the focus of radioactive waste management see Andy Blowers’ recent publication, *A geological disposal facility for nuclear waste – if not Sellafield, then where?* in *Town and Country Planning*, vol. 83, No. 12, December, 2014. This can be found on the Town and Country Planning website.]

## **SUPPORTERS AND DONATIONS**

Your support is valuable to us and we hope you value your participation in our campaign to protect the Blackwater by opposing new nuclear build, radioactive waste storage and discharges into the estuary.

The larger our supporter base the more effective we can be. Now is the time for existing supporters to renew their donations and for new supporters to join us. The suggested annual donation is £10 or £5 unwaged. We ask you to donate what you feel appropriate and whatever you give it will be gratefully received.

Please send your donations to the BANNG Treasurer, Lynn Hartley, Ray View, The Strood, Peldon, Essex, CO5 7QL.

Many thanks.

