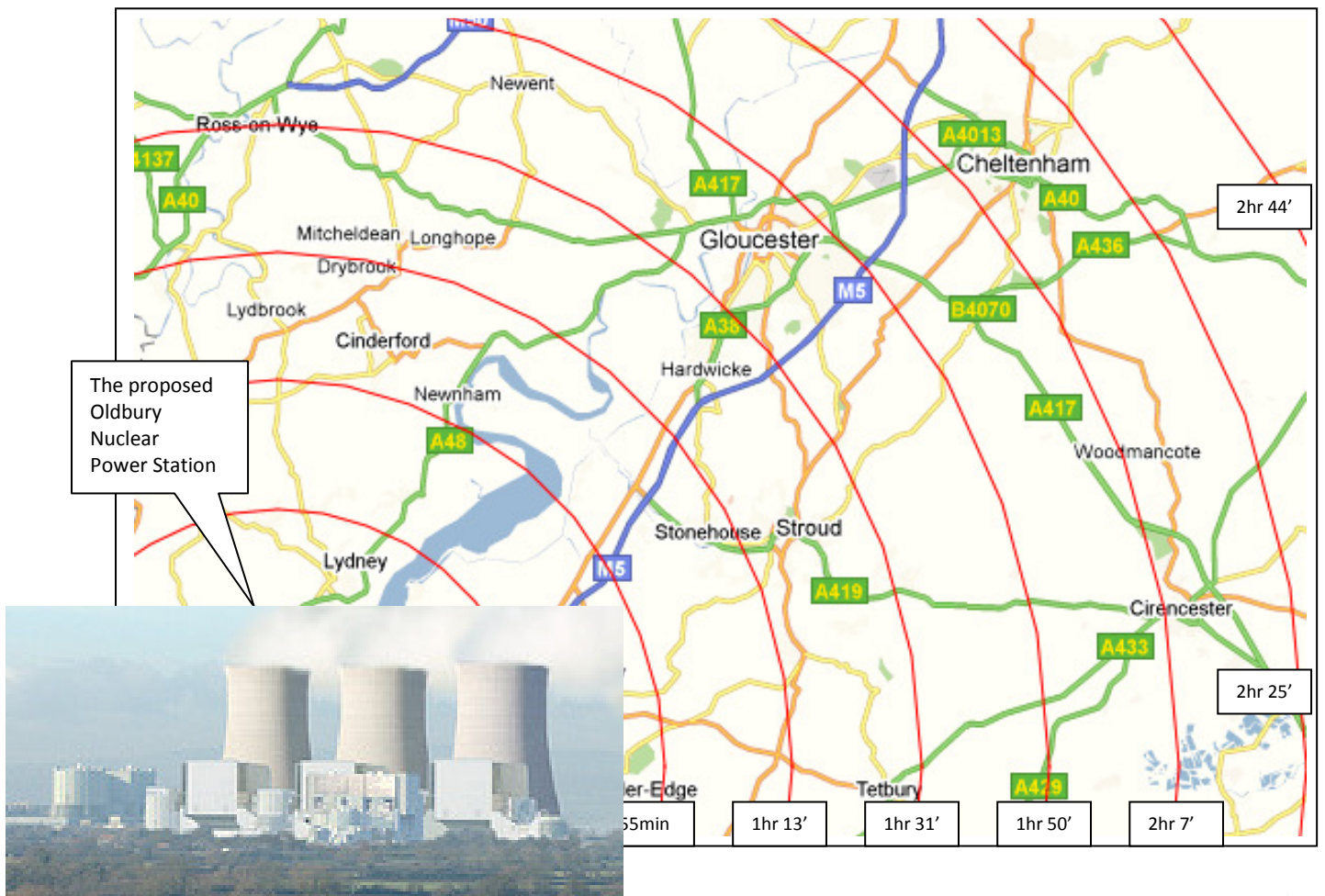


The Right to Know

Oldbury Nuclear Expansion and Your Safety – the risks to the people of Gloucestershire

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April 2010



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Executive Summary

There are two facts about Stroud District and Gloucestershire that many people are not aware of.

1. We are downwind of the ageing Oldbury Nuclear Power Station, the oldest operating nuclear power station in the country, a station that has been kept going well beyond its original design life despite continuing concern about deterioration of the reactor graphite core.
2. Oldbury is planned to be replaced by a reactor seven times the output of the present reactor, a reactor so large and so wasteful of energy that it may require three or four massive cooling towers, each over 600ft tall.

Under the Labour Government's changes to planning law the new nuclear power-station will not be approved by elected local politicians, able to represent the interests of their constituents. Instead the decision on whether to build this monster power station will be in the hands of an unelected quango – the Infrastructure Planning Commission (IPC).

The plans for the massive new power station have not been part of the election debate so far – because both Labour and Conservative Parties are in favour. And so people are not aware of something that, if the plans go ahead, will be a feature of our area for the next 60 years. **The Green Party believes this is wrong – people have a right to know and a right to a say in the future of their area and in the safety of their children.**

This report has been commissioned to bring this issue into the public domain. It highlights five main reasons why a new nuclear power station is not wanted in Oldbury:

1. **Cancer clusters** – nuclear power stations are consistently associated with increased levels of cancer in the surrounding area. A statistically higher risk of cancer, including childhood leukaemia has already been identified associated with the existing Oldbury Power Station.
2. **Legacy of Nuclear Waste** – the report highlights how the waste problem remains unresolved.
3. **Risk of catastrophe** – although the numbers of large nuclear accidents are low, the consequences of a large melt-down would be devastating, with tens of thousands of people affected and the land unusable for centuries. This report highlights the time it would take for major population centres on Gloucestershire to be contaminated given the prevailing wind and mean wind speeds.
4. **Loss of jobs** – although significant numbers of people, usually from outside the area, would be hired temporarily during the construction phase of a new nuclear power station, the number employed during operation will be low. This would represent a loss of around 25,000 jobs compared to generating the same amount of electricity by renewable means like wind.

5. **Faster ways of reducing greenhouse gases** – a similar amount of money to the cost of the new Oldbury Power Station, invested in genuine renewables like offshore wind, or energy efficiency would save more carbon dioxide more quickly.
6. **Visual intrusion** – the 600ft cooling towers, belching water vapour, will tower over the neighbouring communities of Sheperdine and Oldbury and change the character of the Severn Vale for the next 60 years.

Why have you not heard about the expansion of Oldbury? Why is something of such importance not being debated on the TV and reported on in the local press? One important reason is that the government is doing its best to speed the proposals through, come what may. To do this the planning process has been deliberately taken away from local people and the responsibility for consultation lies with the German-based companies proposing to build it – is it in their interest to have the fullest possible public debate?

The Green Party is fundamentally opposed to the use of nuclear power. This paper explains why we oppose specifically the expansion of the nuclear station at Oldbury, on the Severn and just 16 miles from the centre of Stroud. We identify three very serious types of risk to local people from Oldbury: risks to health from the radiation that the plant has emitted during its working life and that are a by-product of the generation of energy from nuclear materials; the risks from the disposal of nuclear waste, the big unanswered question facing the UK's nuclear programme; and the risks of a catastrophic accident.

The Green Party believes that if we take the risk, we should make the decision.



An impression of the nuclear power stations and cooling towers of the proposed new nuclear build at Oldbury. Taken from above Hill.¹

1. The Proposals

Oldbury is one of the first generation Magnox nuclear stations, generating electricity on the banks of the Severn since 1967, and the oldest power-station still operating in the UK. The power-station is on a 71-hectare site 15 miles north of Bristol and 16 miles upwind of Stroud. The power station uses water from the River Severn for cooling; it is powered by Uranium fuel. This site is coming to the end of its life but Oldbury was identified in autumn of last year as one of 10 sites that the government has approved for nuclear expansion.

What is proposed is a power station of around 3,300Mw capacity, over seven times the current output of the old Oldbury power station. This will involve either two French designed Areva EPR reactors, of which the first examples currently under construction in Finland and France are both beset with problems, or three of the American Westinghouse AP1000. Both designs are based on the pressurised water design (or PWR), which will rely on the integrity of its steel pressure vessels for its 60-year design life.

The reactors will need three or four cooling towers which could be over 600 feet tall but it seems that even our mighty Severn may be insufficient to supply the cooling requirements. An alternative to the passive cooling towers could be fan driven towers, which would be smaller, but would require a constant supply of energy and could generate low frequency noise. So there will be a considerable visual impact and possibly low frequency noise.

The pressurised water design over the years, has given us both the Three Mile Island reactor meltdown, admittedly by another manufacturer (Babcock & Wilcox), and many problems with corrosion and metallurgy. Lessons will have been learned from these incidents and we have an independent nuclear regulation and inspection system, but can the risk of a disaster be eliminated entirely over a sixty-year plant life?

2. Privatisation, Expansion and Secrecy

Our nuclear infrastructure is not only moving out of government hands into the private sector, it is also rapidly moving into the hands of foreign corporations who are far distant from the risks it might pose. This raises serious questions about the extent to which they can be either held accountable or responsible for the safety of these facilities. The globalisation of the energy industry means that the people who are at risk from nuclear technology neither profit from its generation nor have democratic control over the corporations who are responsible for it.

To encourage foreign companies to buy nuclear sites, Minister for Energy and Climate Change Ed Miliband has made clear that he is prepared to offer them exemption from

our Freedom of Information Act. The private consortium Sellafield Ltd, that is buying and will manage the site in Cumbria, will be able to keep its operation secret. It has also been told that UK citizens will have to pay for the insurance to keep the site running.²

Because the old site will be in a state of decommissioning for the next century, development at Oldbury will be on adjoining land. In April 2009, Horizon Nuclear Power bought 150 hectares of land at Shepperdine, next to the existing Magnox station and close to the village of Oldbury. This land was included in the Government's draft list of sites deemed strategically suitable for new nuclear development. Horizon Nuclear Power successfully acquired land here through a Nuclear Decommissioning Authority (NDA) auction in April 2009, and in Autumn last year completed preliminary ground investigation works to get a better understanding of the site.

Horizon is a consortium made up of the companies E.ON UK and RWE npower, both based in Germany. They have big plans to profit from the expansion of nuclear power that the UK government is enabling, aiming to invest £15bn. by 2025. This is a private consortium, guided by the interests of its shareholders, and the driving motive of the business running our local nuclear power station will be profit rather than concerns with safety. It also seems anomalous that a German company will profit from UK inhabitants facing the risks of nuclear power, when Germany itself has pledged to be nuclear free by 2030.

There is significant opposition to the plans locally, especially to the plans for three or four huge cooling towers, including from every local council. In a House of Lords debate Lord Cope of Berkeley, who as John Cope was the Conservative MP for South Gloucestershire and later Northavon for more than 20 years, spoke against the plans. He identified himself as a supporter of nuclear power and of redevelopment of the Oldbury site, but made a strong case against the current proposals and particularly to the cooling towers:

It is proposed to have up to four cooling towers, which will be up to 200 metres high with plumes rising well above that. Big Ben's Clock Tower is 96 metres to the top of its golden finial; the cooling towers would be more than twice that height. Big Ben, of course, also comes to an elegant point, whereas the towers would be vastly bulky at the top. There would be no golden decoration there. Can you imagine what that will do to the views over this splendid estuary from miles away, including from both the Cotswold and Wye Valley areas of outstanding natural beauty? The cooling towers will not only dominate a vast area of estuarial beauty but stick up above the surrounding hills. They will actually be seen for 30 miles.³

He also drew attention to the potentially serious consequences for local wildlife and habitats.

Because of these sorts of local objections, the government has introduced a fast-track planning process for developments of importance for national security. According to its website it 'decides applications for nationally significant infrastructure projects. These are the large projects that support the economy and vital public services, including railways, large wind farms, power stations, reservoirs, harbours, airports and sewage

treatment works.’ The Infrastructure Planning Commission is a quango made up of non-elected people which is designed to sideline the structures of local decision-making in the case of these major developments. The Commission was launched in October 2009 and its website advertised that it is ‘switched on’ and waiting to receive applications.

In a report released last month (March 2010), the Commons Energy and Climate Change Select Committee was strongly critical of this process and the speed with which the Commission has been established. They considered that energy companies such as EDF, Centrica, RWE npower and E.ON ‘could push through projects for energy companies without giving due weight to local objections’, a criticism that they applied especially to the building of new nuclear stations.⁴

So it is clear that the proponents of nuclear power do not want the citizens of the Five Valleys to know about their plans for reviving the industry and, if we do find out, they do not want our views to be able to influence these plans. There will not be democratic control over the decision to expand Oldbury.

3. The Health Risks

Low-level radiation is an inevitable part of the generation of electricity from radioactive materials. This is accepted by government, by the Health and Safety Executive, and by the nuclear industry itself. The only argument is about the number of extra cancers that will be caused, the number of deaths.

There is a considerable degree of disagreement amongst scientists about the vulnerability of human cells to ionising radiation, such as that emitted by the routine operation of nuclear power-stations. There is evidence of an increased risk of cancer in children living near to the Sellafield reprocessing facility in Cumbria and the Dounreay plant in Caithness which has been accepted by the government’s advisory body on sustainable development.⁵ Concerns amongst workers at Sellafield were so severe, according to a former director of the plant, that staff discussed the possibility of not having children because their contamination might lead to genetic defects or leukaemia.⁶ A recent study of 16 German nuclear sites confirms the link between nuclear generation and leukaemia in children.⁷

Clearly the risks from radioactive pollution are more dangerous for the vulnerable, especially children and those who have a particular genetic susceptibility to contracting cancer. It is also worth noting that the radioactive particles that are emitted are likely to concentrate in river silt, and so those who live closest to the River Severn and especially those who come into contact with river silt are more likely to be at risk than those living further away, as in the Stroud Valleys.

In 2002 the German Radiation Protection Agency (*Bundesamt für Strahlenschutz, BfS*) commissioned a case-control study to investigate childhood cancers near nuclear power plants. This so called KiKK study (*Kinderkrebs um Kernkraftwerke*) was conducted by the

German Childhood Registry (*Deutsches Kinderkrebsregister, DKKR*) in Mainz.

The results of the KiKK study were presented in a technical report in December 2007. At the same time, the results were published in two scientific journals.⁸ The results of the longtime study shows higher (blood) cancer rates of children living within 5km radius of German atomic power plants. The results, were made public on December 10th 2007 in Germany, by the Federal Agency for radiation protection (BfS.de).⁹

A study specifically commissioned to assess the health risks from Oldbury, whose results were published in 2001, found that there was no excess risk of most cancers on the English side of the Severn, although it did identify a significant cluster of leukaemia cases in children in Chepstow that it associated with the Oldbury plant. It also found that there was a statistically significant increased risk of cancer in the river valleys downwind of Oldbury, including the river Frome that flows through Stroud. This is hypothesised to be the result of the radioactive particles being emitted into the air, and washed into the rivers by rainfall. They are thus concentrated in the river valleys and those living there receive a higher than average dose of radiation.¹⁰ The health risks to local wildlife have not been measured, but, given what has already been noted about the concentration of radioactive particles in river silt, it seems clear that the many rare bird species who nest along the River Severn are at risk.

4. The Legacy of Radioactive Waste

Once the fuel-cycle within the nuclear station is complete, there remains a large quantity of what is referred to as ‘spent fuel’ or sometimes ‘depleted’ fuel. This is a misnomer, since the radioactive materials that remain are considerably more active and therefore dangerous than they were when they were brought to the station. So what happens to this material? This is the big unanswered question facing the global nuclear industry. There is already a vast stockpile of waste at the UK’s radioactive dump—Sellafield in Cumbria—from the first round of nuclear power. There is no plan for disposing of it; it is just accumulating.

The existing reactor operating at Oldbury is one of the oldest still producing electricity in the UK, having been running since 1967. It will be closed within the year, and other risks will then be posed by the experimental and risky process of decommissioning. Magnox North’s website states that ‘The current preferred strategy for decommissioning Oldbury . . . is deferred site clearance, allowing for total site clearance around 85 years after cessation of generation.’ In other words, for the next 100 years, whether there is an expansion of the nuclear programme or not, there will be a legacy of radioactive contamination on the site of the Oldbury nuclear station.

The safety case made by the industry is always based on the reliability of technology and staff, but the history of Oldbury indicates that both these are highly vulnerable. Oldbury has been called by the regulator of the nuclear industry the ‘most defective’ reactor in the UK, with severe corrosion in the two reactor cores, which has reached 35% in the

worst affected areas, resulting in the development of cracks. A report from Manchester University found that the level of corrosion meant that the reactor could only support 12% of the weight it was designed to maintain. Following this adverse safety report there was a five-year period of shutdown while the possibility of a fire was explored. Two years ago there was actually an explosion and fire at Oldbury, although not involving the reactor, following an attempt to restart one of the reactors. The cause was a direct result of poor maintenance—the omission of an important procedure of keeping the generator turned regularly during the period of shutdown.¹¹

Those seeking to revive the ailing nuclear industry in the UK will argue that we have new technology and higher safety standard now. But the reality is that this case has been made throughout the history of civilian nuclear power and yet the accidents have continued. The new generation of reactors remain with a risk of disaster, and although based on previous PWR models, have different and still untested control and safety systems. And the issue of nuclear waste—the issue of overwhelming importance that is just ignored when future developments are discussed—has not be addressed at all. It is simply irresponsible to create a vast amount more highly contaminated radioactive material that we have no means of disposing of and that we can only leave as a legacy to our children and to future generations.

And what about the management structure? Here things are even more serious. As part of the move towards privatisation, many of the UK's nuclear sites have been sold off to private companies. These companies have been issued special licences and so, within the industry, they are known as site-licence companies. Although the final arbiter of safety is the government's Nuclear Installations Inspectorate, the complex structure of pseudo-privatisation greatly increases the risk of an accident, since lines of liability are blurred, as is responsibility for enforcing safety standards and inspecting the sites to ensure that the rules are being followed. The future development of nuclear power at Oldbury and the other preferred sites will be undertaken by private-sector companies. For them, there will be a direct trade-off between safety procedures and profits. From the Hatfield Rail Disaster to the tragedy of BSE it is clear to see how safety culture is undermined when companies are under pressure to make profits for shareholders.

5. The Risk of a Catastrophic Accident

As in the case of health risks, there is no argument about the potentially devastating consequences of an accident at a nuclear power-station. The fuel is highly radioactive and must be closely monitored and cooled at all times to prevent it overheating and exploding. Again the argument comes down to one about the size of the risk. The government and nuclear industry claim that the risks are very small.⁵ The Green Party argues that, however small the risk is, the potential consequences of an accident are so great that it is simply not worth taking. It is, quite literally, gambling with our lives.

The world has three historical cases of significant nuclear accidents that we can consider when making the judgement about whether to make ourselves vulnerable to risk on this scale.

Windscale Fire, 1957

The village of Windscale, near Cumbria, and its nuclear installation which has since been renamed Sellafield was the site of one of the world's worst nuclear accidents in October 1957, when the graphite core of a military plutonium production reactor spontaneously ignited and burned for three days. There was significant release of radiation both by the fire itself and by the attempts to extinguish it. According to a retrospective report by *New Scientist*, 'Nobody was killed directly by the Windscale fire, but the release of 700 terabequerels of radioactivity led to it being ranked the world's worst nuclear disaster, later followed by the Three Mile Island accident in 1979. The military reactor involved, known as Pile 1, was never repaired, and neighbouring Pile 2 was closed down as a precaution.' The radioactivity plume travelled across much of northern Europe, with isotopes from the plant being detected in Belgium, Norway and Germany. It caused an estimated 200 cancers in the UK, half of which resulted in death.¹²

Three Mile Island, 1979

The Three Mile Island nuclear plant on the Susquehanna River in Pennsylvania was the site of the nuclear accident that overtook the Windscale Fire as the most serious up to that time. The crisis began 30 years ago in the early morning of March 28 1979, only three months after the reactor had begun operation. Nuclear reactors require constant cooling and the pump that sent water to the TMI reactor failed, for reasons that are still not understood. As the plant overheated a series of automatic safety responses occurred, but none of them succeeded in stopping the heat from increasing. The situation was exacerbated by the failure of a relief valve, probably because the valves had been closed for routine maintenance, in contravention of strict safety guidelines. As the temperature increased and the pressure of cooling water fell, staff began to panic. In the words of a source from the Nuclear Regulatory Commission, in the control room, 'bells were ringing, lights were flashing, and everybody was grabbing and scratching'.¹³ In this atmosphere of panic, a control room operator made a critical mistake: turning off the two pumps that drove the emergency cooling system, leading to a partial core meltdown. There was a large release of radiation which required the evacuation of 140,000 local people, particularly pregnant women and young children. The precise number of additional cancer caused by the radioactive pollution resulting from the accident is the subject of continuing controversy.

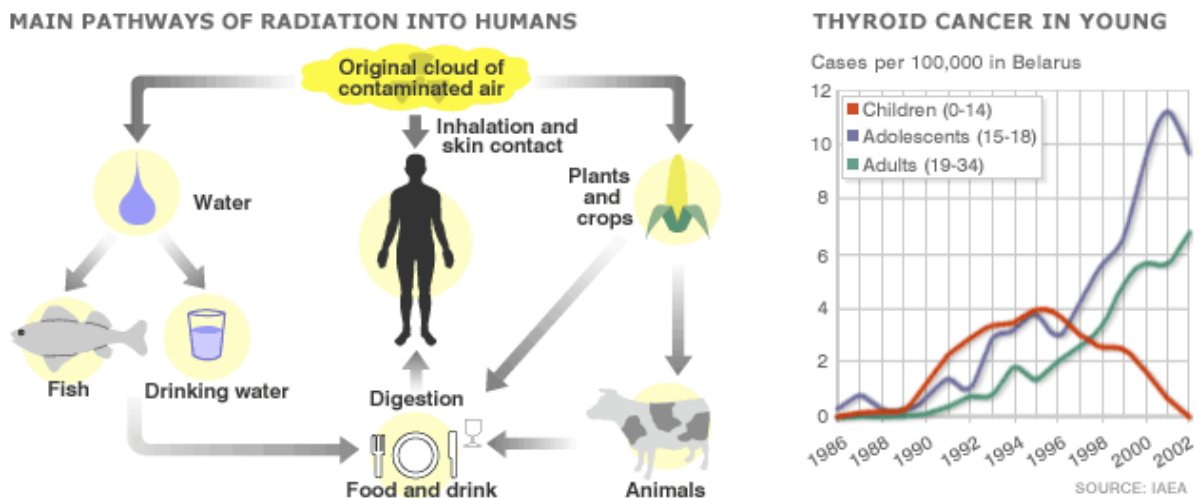
Chernobyl, 1986

The Chernobyl accident began when, in April 1986, safety engineers began an experiment to see whether the cooling pump system would still function if it only had an auxiliary

power supply. This required them to remove some of the control rods that control the energy in the nuclear pile and later to disable the automatic shutdown system. The reactor overheated, turning its cooling water into steam and leading to a series of explosions. An even larger catastrophe was only averted by the extreme courage of some nuclear workers who became known as ‘liquidators’. In contrast to the image of cool, white-coated nuclear scientists these men donned wellington boots and tied their trouser-legs with string to run onto the roof and push the molten radioactive fuel back into the pile using shovels.¹⁴

The Chernobyl accident resulted in a huge level of radioactive contamination across northern Europe. More than 350,000 people had to leave their homes in the most polluted area, but around 5.5 million remain living in areas of high contamination. Again, the precise number of deaths caused by the accident is contested. The UN-led Chernobyl Forum expects 9,000 deaths from cancer, whereas Greenpeace puts the figure at 93,000, with other illness increase the death toll to 200,000. Much UK land was also subject to a significant radiation dose and, because the radioactivity lasts in the environment for tens of thousands of years, it is still affecting life in the UK, 24 years on. Restrictions are still in place on 300 Welsh farms, which cannot use their grazing land because it is contaminated with radioactive caesium; 53,000 hectares of Welsh farmland are still too polluted to be used.¹⁵

Figure 3. How radioactive pollution is absorbed into the human body and the consequences of such contamination following the Chernobyl accident



Here is a history of the three most serious accidents in the history of civilian nuclear power. What they have in common is a combination of unpredictable technological flaws and human error. Neither of these can be ruled out in the case of a nuclear plant at Oldbury. Perhaps more importantly, the series is one of increasing seriousness, with each accident having more catastrophic consequences than the previous one. Who can guarantee that the proposed nuclear power-stations in the UK will be immune from an accident in future? The Green Party believes that, no matter how small the probability, the consequences of an accident could be so catastrophic that it is too great a risk to expose ourselves to.

The likelihood of an accident occurring is determined by the safety culture and management systems of the nuclear industry. Although the industry will claim that the level of safety has increased, there are a new generation of reactors which have not been fully tested. The weakest link in the chain, as in all three of the accidents discussed here, is human error. The safety culture of the UK nuclear industry has given continuous cause for concern, most notably at Sellafield, which has left its staff vulnerable to radiation through poor safety procedures, and has falsified records.¹⁶ As previously noted, the responsibility for safety is now passing to the private sector, with weak lines of accountability and a pressure to cut corners to increase profits both increasing the risk of an accident for the next generation of nuclear power-stations.

A catastrophic accident could spread radioactive contamination over a vast distance – as particles are carried on high altitude air flows and deposited thousands of miles away – as with Chernobyl fall-out in rainfall on parts of Wales and the Lake District. However the immediate vicinity is likely to be most rapidly affected and most heavily contaminated. The prevailing wind is westerly and South-westerly with an average speed of 5-6 metres/second.¹⁷ Table 1 below shows the direction and time taken for contamination from an accident to reach key population centres on the wind. For most of these populations there would not be time to get a warning to them, let alone enable them to evacuate the houses, schools and hospitals. The same information is illustrated graphically in the figure.

Table 1. Main population centres, distances and direction from Oldbury Power Station

Population centre	Distance from Oldbury (miles)	Distance (km)	Wind direction from reactor accident	Time for radioactive contamination at average windspeed of 5.5m/s
Berkeley	4	7	SW	21 minutes
Lydney	6	9	S	27 minutes
Wooton-under Edge	9	15	W	45 minutes
Cam & Dursley	10	16	WSW	48 minutes
Frampton	12	19	SW	57 minutes
Stonehouse	14	23	WSW	1 hour 9 minutes
Nailsworth	16	25	WSW	1 hour 15 minutes
Stroud	17	26	WSW	1 hour 18 minutes
Bussage	18	29	WSW	1 hour 27 minutes
Chalford	19	30	WSW	1½ hours
Painswick	19	30	SW	1½ hours
Bisley	20	32	WSW	1 hour 36 minutes
Gloucester	20	32	SW	1 hour 36 minutes
Cirencester	28	45	WSW	2 hours 15 minutes
Cheltenham	28	45	SW	2 hours 15 minutes
Tewkesbury	30	48	SW	2 hours 24 minutes

Map 1. Time taken for radioactive contamination to spread from an accident resulting in air-release at Oldbury with prevailing wind direction and the mean wind speed of 5.5m/s



6. Nuclear Power means Net Job Losses!

Although the construction phase of a nuclear power station involved a significant number of temporary jobs – many of these are likely to be from outside the local area. The number of permanent locally based jobs generated by the new power station is likely to be quite limited. Overall the number of jobs supported by generating electricity by nuclear power is much less than through other technologies: these figures are compared in Table 2. This is because nuclear power requires a massive capital investment, including large amounts of steel and concrete, but very low labour intensity. Therefore a nuclear power station represents a net loss of jobs compared to generating the same amount of electricity by other means. The proposed new 3,300MW station at Oldbury may generate at full throttle 29 Terawatt-hours of electricity per year.¹⁷

Table 2. Number of jobs created by different types of generation

Energy source	Jobs per year per TWh	Jobs for 28.9TWh	Jobs forgone compared to 918 for wind estimate
Wind	918-2400	27,000-69,000	0
Coal	370	10,700	16,000
Gas and oil	250-265	7,200-7,700	19,000-20,000
Nuclear	75	2,200	25,000

Source: Goldemberg, J., 2004, The Case for Renewable Energies, International Conference for Renewable Energies, Bonn, and DG Internal Policies of the Union, Economic and Scientific Policy Dept, Briefing Note on the employment potential of renewable forms of energy and increased efficiency of energy use, p13, referencing European Commission, 2005, Doing More With Less – Green Paper on energy efficiency.

It is worth remembering that Oldbury currently only employs 480 people. The introduction of energy-efficient measures such as home insulation will also create employment in this time of Recession. It has been estimated that an energy efficiency increase of 1% per year would create 200,000 additional jobs in the EU over a ten-year period. It is our policy to begin a massive programme of development of windpower paid for by government investment: spending £20bn. over the five years of a parliament would enable us to create 80,000 jobs in the manufacture and installation of this equipment.

7. Conclusion: Not Safe and There are Better Alternatives

This report identifies why the Green Party opposes the building of nuclear power-stations and in particular the expansion of the Oldbury site. We are not convinced that the industry can ever reach high enough safety standards, and given the potentially catastrophic consequences of an accident, that we cannot run the risk of human error causing an unstoppable chain of events leading to a release of radioactivity. While the health effects of radiation are still the subject of scientific controversy, there is no argument about the fact that radioactive materials are more deadly to human health than practically any other known chemicals and that they cause cancers, especially in young children and pregnant mothers.

So how would the Green Party deal with the need to generate energy now that we recognise the destructive impact of power-stations that burn fossil fuels? Our policies focus on reducing demand and securing supply and revolve around the new 3 Rs: Remove, Reduce, Replace. First, remove demand altogether where possible, especially by reducing unnecessary consumption and finding ways to make products last longer rather than being thrown away; secondly, reduce demand, such as by increasing energy efficiency; and thirdly, switch to renewable sources for the remaining energy demand.

Nuclear power is not the answer to climate change: the Sustainable Development Commission has established that even if we doubled our nuclear power capacity it would only reduce CO₂ emissions by 8% by 2035 and no reduction before 2020.⁵ We are not simply opposing the expansion of Oldbury because it is in our backyard; we are arguing for a different way of life, with lower demand for energy, warmer and better-insulated homes, and a flourishing industry producing the equipment for the renewable industry and generating our own electricity through wind, tides, waves and water-power turbines in our fast-flowing rivers.

Notes

1. With thanks to Sheperdine against nuclear Energy
<http://shepperdineagainstnuclearenergy.blogspot.com/> Impression made with the help of a photograph of cooling towers by Christopher Peterson, www.christopherpeterson.com, and power stations by Martin Burns (<http://www.flickr.com/photos/martinb/>) and maniacyak (<http://www.flickr.com/photos/maniacyak/>).
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