



**WILKINSON
ENVIRONMENTAL
CONSULTING
LIMITED**

Note on a meeting between the Office of Nuclear Regulation (ONR) and invited Non-governmental Organisations (NGOs) at the Grand Connaught Rooms, London, on the 17th November 2011

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Attendees

NGOs

David Lowry	Nuclear Waste Advisory Associates
Douglas Parr	Greenpeace UK
Jill Sutcliffe	Low Level Radiation Health Conferences
John Busby	Adviser to Stop Hinkley
Lydia Meryll	Socialist Environment and Resources Association
Jo Brown	Parents Concerned about Hinkley
Michael Taylor	Communities Against Nuclear Expansion
Peter Burt	Nuclear Information Service
Peter Lanyon	Shut Down Sizewell Campaign
Phil Davies	Science Policy Research Unit/Nuclear Waste Advisory Associates
Andrew Blowers	Blackwater Against New Nuclear Group
Sean Morris	Nuclear Free Local Authorities
Frank Boulton	Medact
Wilf Mound	Bristol Group of Greenpeace
Val Mainwood	Bradwell for Renewable Energy

ONR personnel

Mike Weightman	HM Chief Inspector
Nick Baldwin	Chair of ONR Board
Geoff Grint	HM Principal Inspector
Graeme Thomas	HM Superintending Inspector
Stephen Bray	ONR Communications
Euan Cragg-James	ONR Communications
Pete Wilkinson	Wilkinson Environmental Consulting Ltd (Chair and rapporteur)

Apologies

Ruth Balough	West Cumbria and North Lakes Friends of the Earth
Reg Illingworth	Shepperdine Against Nuclear Development
Carl Clowes	Welsh Anti-nuclear Group
Paul Dorfman	Nuclear Consultation Group
Barrie Botley	Kent Against Radioactive Environment

Did not attend

Angela Paine	Stroud Green Party
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Welcome and objectives

The meeting began on time at 1100 and participants were welcomed by the Chairman and thanked for taking the time and interest to attend the meeting, some travelling long distances to be here. The Chairman reminded participants that the genesis of these meetings was a desire expressed by ONR to know how it could meet expectations of its widely expressed desire to pursue a policy of openness and transparency, issues identified as being pertinent to new nuclear build, the ONR's performance and matters attendant on the work of the ONR. The Chairman outlined the papers

available, including action points from the previous meeting in July and a paper written as advice for ONR on improving openness and transparency. The Chairman noted apologies for absence.

ONR attendees

Attention was drawn to the presence of both the Chief Inspector, Mike Weightman, and the Chair of the ONR Board, Nick Baldwin who were, along with other ONR staff, thanked for organising the meeting. The agenda was reviewed and adopted without amendment.

Reporting

It was noted that the report of the meeting would not follow the example of the minutes from the previous meeting which were found to be too detailed and onerous to record, but would, instead, record only the salient features of the debate. The draft report written by the rapporteur would be sent to all participants for comment as soon as possible after the meeting.

Mike Weightman's introduction to the final Fukushima report

The Chairman handed over to Mike Weightman who made a brief presentation showing slides of the tragic events in Fukushima and relating these images to the final ONR report on 'lessons learned' and its relevance to the agenda before the meeting. He pointed out that ONR provided advice for UK nationals in Japan on radiological protection. Faced with criticism that it was too early for ONR to be drawing lessons from the incident, MW made no apology, pointing out that it was important to ensure that for the benefit of safety, lessons learned were implemented as soon as possible and that continuous improvement and mitigation of risk were seen to be undertaken.

Future facilitation and chairing of this forum

Before the first plenary could begin, it was necessary for the meeting to discuss an item which had been raised before the meeting by Paul Dorfman with support from Doug Parr and Sean Morris about the independence of the Chairman and the process by which this appointment is made.

Three participants felt that, as there was a financial arrangement between ONR and the Chairman for performing his tasks helping to organise the meeting, chairing it and writing the report of it, the possibility of bias and a loss of 'independence' might be a concern. PW informed the group that he was paid for the organisation of the NGO meetings, that his work on MW's advisory committee was unpaid and that he received occasional travel expenses. It was suggested that the identity of the person fulfilling the role of Chair is irrelevant, that their independence during the meeting was the central, determining issue. Confidence in PW as Chair to act impartially was expressed. It was emphasised that this was not about PW, but about concerns that the Chair should be independent from both ONR and the NGOs and that the neutral running of the meeting was important. It was also felt important that the Chair was seen not to represent anyone. There was an acceptance that whoever chaired the meetings would be paid. What was necessary was clarity of distinction about who was doing what, and why. It was observed that complete independence was impossible, and it was suggested that it was about the conduct of the meetings, a point agreed to when a participant questioned why independence was being sought, suggesting that facilitation could get in the way of what is essentially a conversation between NGOs and ONR while ensuring that recording has to be fair and accurate. It was suggested that the practicalities of both chairing and reporting would be difficult to deal with and that facilitation could help in this regard or that the model being used at the DECC / NGO meetings of co-chairing might be relevant, a process which everyone hoped would work well. It was questioned whether there was a budget or a need for facilitation while one participant proposed that, although Paul Dorfman's comments stemmed from desire for good

practice, PW should chair for a fixed period– for example, a year – after which time the situation would be reviewed. NGOs broadly agreed. ONR advised that it was happy to go with this emerging consensus and the Chairman drew the discussion to a close. A view was expressed that the matter was largely a distraction and that the meeting should proceed. The opportunity for dissent to this course of action was offered but it was overwhelmingly agreed that the incumbent should continue in the role pro tem and that the important thing was to get on with the business in hand. Sean Morris and Doug Parr were asked if they were happy to proceed and both gave an affirmative answer.

First plenary – views on the Fukushima Final report

Scope of the report and the need for a public inquiry

Some participants commented that the report was not wide enough in scope and that there should have been a public enquiry into the Japanese tragedy's impact on the UK situation and observed that the report did not include any reference to costs, ethical or social issues, but instead was focussed on engineering/technical issues. Other views raised concerns about reports of increasing radiation, how these reports impacted on nuclear developments in the UK and the perceived lack of information, remarking that the Japanese authorities were still not open with their information and data, so learning from their experience was made more difficult for application in the UK.

Others commented on the difference between the interim and final reports, expressing concerns about the media and political reporting of the events and requesting from ONR more regular updates on the uptake of their recommendations, rather than having to wait for an implementation report 12 months later.

There was a request for an update from ONR on imposition of exclusion zones at Fukushima and the permanency or otherwise of contamination levels which resulted from the accident. ONR was asked to comment on reports that a melting core had come into contact with ground water, causing steam to rise from ground fissures.

A major criticism was the tone of complacency and 'business as usual' in the first report. The second report was a rather different and required effort to draw out conclusions. It was more difficult to comprehend and the question was asked why certain elements had been omitted from the interim report, for example the lack of reference to the siting strategy when the interim report had identified no reason why it should be abandoned.

Others remarked that 'show stopping' issues do not 'leap off the pages' of the report and the issue of flooding at Sizewell, for example, was raised. It was suggested that, while agreeing with this view, it may be too early to draw conclusions: the Science Journal reported that radiation – possibly caesium from the spent fuel – was detected around the site before the tsunami, highlighting the dangers of multiple ways of working on one site.

The scope of the report was commented on and it was noted that Japanese women had been reduced to accessing reports from BBC to find out what was going on and that the health community had been shocked at the lack of information available for weeks after the incident.

For the ONR, Mike Weightman pointed out that ONR is the regulator. Impacting policy is not the responsibility or domain of ONR. It was only asked to look at the lessons arising from Fukushima, where safety can be improved and where improvement can be subject to continuity of achieving higher standards. The wider policy debate is for others to pursue. Costs are likewise not ONR's responsibility. Such issues are for government, not the independent regulator. A public inquiry was

not within the remit of the request made of ONR, nor would it have had competence, as a nuclear safety regulator, to run a public inquiry.

NGOs argued that given these constraints, the purpose of the report should have been made clearer, a view which the ONR accepted but suggested that the scope of the report and what was required of ONR could have been made clearer in terms of reference.

Reports of increasing radiation

Continuing incidences of the detection of radioactivity, including the detection of xenon, indicate continued fission activity due to disruption of the core, but ONR assured the participants that these were at 'very low levels'.

Provision of information from the Japanese

ONR struggled to obtain information in the early days of the accident, and had to make very conservative and pessimistic calculations, judgements and calls. Lots of information has since been provided. The IAEA website published a 700 page document in June with recommendations. There was also an update in September.

Regarding information provision in the UK, ONR has been trying to do more, publishing regulatory decisions, GDA documentation and taking part in the stress test programme. These are new areas for ONR which has experienced teething problems which it is learning from. The over-riding concern is to maximise openness and transparency.

This issue was challenged in that the culture of secrecy hampered the Japanese authorities in dealing with the situation. That culture exists in the UK as well and is very dangerous.

ONR indicated that the results of the stress tests will be published early in 2012 with a full report to follow in early June. Peer review will take place in the New Year and there will be a meeting of the Convention on Nuclear Safety (IAEA) in June at a special meeting of the convention on nuclear safety involving all countries reporting on their response including stress tests.

It was noted that Greenpeace International has produced a comparative analysis (of each of stress test report submitted to the IAEA by national governments) and asked whether ONR is in receipt of this paper¹ and if it is reviewing it, to which ONR committed to appoint someone at ONR to undertake such an examination.

ONR was asked about the timescales for stress tests for facilities undergoing decommissioning to which ONR responded that if a plant was still fuelled, then it fell under the scope prescribed by the European Council. ONR was also asked if personnel visited the stations themselves in connection with the stress tests to which the reply was in the negative as the process was self-regulatory. De-fuelled nuclear power plants have been given a longer timescale in respect to stress testing. The EC tests are only for fuelled nuclear power plants, but in the UK, ONR has gone further and insisted that all facilities will be tested. The longer timescale is due to of availability of resourcing, but the intention is still to look at everything.

Asked if there is a prescribed format for the stress tests, ONR responded that there is a consistent basis for the tests which looks at how external hazards, loss of cooling, seismic risk are coped with. In Japan, their safety systems were thought to be robust against extreme events, but not for a

¹ <http://www.greenpeace.org/eu-unit/en/stress-tests-map/>

tsunami. It was an inconsistent approach. In the UK, ONR looks at preparing for 1:10,000-year events.

One participant said that the report said nothing about the grid power being lost due to damage which is a key issue for Sizewell. ONR was asked if changes to the grid supply are required to make it less vulnerable to which the response from ONR was an apology if the issue was not immediately evident in the report, but that it is there as well as a recommendation about interaction with the national grid.

ONR was asked about its relationship with the Geological Society and to what extent ONR works with the Society, with particular reference to the impact of flooding or drought, for example, on infrastructure and roads. ONR responded that it has a technical advice panel, including experts on flooding and seismic activity. ONR takes into account the best technical expertise available, for example through the Environment Agency.

Summing this section up, the Chair noted that the apparent impenetrability of the report was at the root of many questions and this still causes problems.

A more frequent, more regular update on implementation of recommendations

ONR agreed that if it was the general consensus that more frequent updates on the implementation of its recommendations is required, it is something ONR should respond to, but only in respect of periodic updates when something of significance changes. NGOs agreed that this would be useful and asked how DECC has received the report. ONR responded that an official response is due in the next few weeks and it is hoped that the response will be fulsome.

Exclusion zones and contamination at Fukushima

Remediation of the contaminated land at Fukushima was raised as an issue of on-going concern and ONR informed the meeting that information about a recent IAEA report on remediation and information is on the IAEA website. There are tens of millions of cubic metres of contaminated soil to deal with prompting the question, to what level should the remediation process be taken and how much should be left to decay? It was noted that added that four petitions have been delivered to the Japanese Government in connection with the exposure of young people to potentially unsafe levels of radiation and the question was raised about the lack of activity in this critical area. ONR commented that no information on groundwater contamination was made available to it.

Melted cores and steam

ONR advised that it had no further information to substantiate the suggestion that steam had been issuing from fissures, but added that some steam will still be coming from the cooling reactors.

Readability/comprehension of second report

ONR argued that it had not sought to bury anything in the report: there was no update on the siting strategy issue and the current advice remains unchanged. Neither had there been any recommendations regarding development around sites as this is left to the more formal planning processes.

NGOs commented that there had been much misinformation about the health effects from the releases of radiation from the crippled Fukushima plants and the most comprehensive report had been published by Greenpeace with the only rational explanation for the disaster being published by

David Richardson of the University of North Carolina. The view was expressed that no-one is giving the right sort of relevant information with most official commentators denying or minimising the health effects. It was accepted, however, that this area is not within ONR's remit. In response, ONR advised that the IAEA mission told the Japanese government to establish a health monitoring body and that the experience Japan is now going through will provide an opportunity for future evidence baselining.

It was noted that the results from the Layfield Sizewell B Inquiry in respect of the effects of discharges and releases in such cases should have been kept and been made freely available, but the health effects data around nuclear sites are not publicly available. It was also pointed out that the real issue which seems to evade discussion is the ability or otherwise of companies to provide insurance liability against such events and that the size of the insurance premiums would simply be too prohibitive.

One participant remarked that all the statistics for health impacts around Hinkley are available yet the HPA does nothing. There are three items for regulation which are not being addressed

1. vents in reactor vessel roofs,
2. waste vaults being opened and
3. the cores of two AGRs on the verge of collapse.

Charts for Southwest Health Observatory indicate an increase in pre-natal mortality since 1996. Burnham on Sea has a small enough population to be able to notice deaths and the question was asked, why are the regulators not regulating this site? ONR offered to speak to PCAH about the specific issues raised in a separate forum, but responded at this point by suggesting that many of these issues had relevance to the openness and transparency session.

It was noted that the ONR 'vision and strategy' document is supportive of the issues of accessibility and accuracy of information and that the important issue is for ONR to acknowledge the uncertainties, to look at the polarised debate and to help the NGOs bring the debate together.

The Chairman brought participants' attention to the paper by John Busby resulting from his meeting with ONR on GDA issues and to one by Phil Davies which was introduced late but which raised important inter-generational issues relating to the translation of IAEA principle into ONR SAPS.

It was requested that a more even distribution of ONR staff around the room should take place and that conversations be managed well to ensure that people hear each other. Greater distribution of ONR staff around the room would happen during the breakout sessions.

Break out sessions

Participants were asked to divide themselves into four groups to discuss:

- Matters arising from the first NGO/ONR meeting
- Technical Issues – GDA/Stress Tests
- Openness and Transparency
- Fukushima Final Report/Stress Tests

In the event, only three groups were attended: participants felt that the 'matters arising' group was not one of great importance in the context of the three other subjects up for discussion and the meeting went ahead with only three breakout groups. Each breakout group was attended by at least one ONR members to act as a resource for answering question. Each group appointed a rapporteur to feed back to the plenary later in the day.

Given this situation, it was proposed by the Chairman and adopted by the meeting that the 'issues arising' paper from the first meeting should be appended to the minutes of the meeting and carried forward so as not to lose the record of matters which still needed to be addressed and which would, at some future date, be subject to scrutiny and review (see Appendix B).

Reports back from the breakout groups to the 2nd plenary

Technical Issues – GDA/Stress Tests

Flip chart notations:

- Small breaks detection issue
- Agree that core cooling is an essential question
- Is there enough emergency cooling capacity?
- What pressure will create a problem for the EPR?
- GDA – interim permit by end 2013
- Also competent operator tests. (*GDA is only a part of the overall process, and as well as being assured on the safety analysis issues, ONR will need to be convinced that the potential operator is capable of carrying out all of the functions and responsibilities of a Nuclear Licensee*).
- Specifics on EPR and AP1000 to be submitted.

Discussion

NB Italicised text = ONR comments and responses

The question about EPR technical failings was raised. Small breaks or cracks in the cooling system are difficult to deal with and the automatic top up system means that leaks continue. Core cooling is essential as any loss of cooling results in problems. In this respect, it was asked if the existing EPR design provided sufficient power in an accident scenario to ensure cooling capacity was not lost.

ONR has looked in great detail at loss of cooling accidents including consideration of support system (e.g. electrical) requirements.

The GDA breakout group could not arrive at an agreement as to whether the safety injection systems could overcome this problem of coolant loss.

ONR said that the GDA assessment has covered these issues in detail and the Step 4 assessment reports would be published soon.

The GDA process is expected to provide an interim certificate of authorisation to the EPR design by the end of 2013 but the end of the GDA process does not signal final licensing as further work is required.

Greenpeace will send to ONR critiques of the EPR and AP1000 from their own research together with comments from the French regulator.

Emergency core cooling processes have to begin with depressurisation of the system and it is this process which, in the view of some, can lead to a hydrogen explosion.

ONR do not dispute that certain accident sequences in LWRs (including EPR and AP1000) can ultimately lead to hydrogen production if the core becomes uncovered. However ONR considers that the occurrence of a LOCA will not lead directly to such a situation. As well as the initial accident, the reactor would have to suffer a series of additional, independent failures of systems designed specifically to prevent the uncovering of the core. ONR's GDA assessment work has looked at all of these eventualities, including instances of postulated cooling failure and the need to manage and contain any hydrogen production. The risks associated with failure of all of the engineered protection following an accident have also been assessed.

NGOs argued that the stand-by systems to provide emergency cooling and power were also inadequate. 40MW of power was needed to shut the reactor down in a safe manner.

As with the hydrogen issue noted above, ONR said they have paid careful attention to all of the support system requirements, including the electrical systems and back up systems. If ONR had concerns over any of these we would require improvements or the plant would not operate.

It was noted that EdF have taken no final decision on the type of reactor to build in China and that any change in design would require that a new GDA process took place. In addition, the GDA process was only one aspect of the licensing process. Other site-specific issues would be required to be taken into account.

ONR advised that they meet the French regulator, ASN, regularly and discuss these and other issues.

In response to the question, what should ONR do, it was proposed that they invigilate the GDA process to ensure its results are robust and not subject to speculation about the adequacy of the process. It was noted that the current safety dispute between EdF and ASN in France has led to a situation where nineteen reactors have been taken off line for three months.

Phil Davies spoke to his paper (attached at Appendix C)

It was suggested that the elapse of 75 – 90 years before new build spent fuel could be encapsulated for disposal represents a significant moral problem. The IAEA principle 7 states that future generations should not need to take 'significant protective actions' where the effects of radioactive waste management span generations. The concern was that the application of this principle by ONR, as it is translated in its safety assessment principles (SAPs) does not offer the sort of protection called for in the IAEA principle in that, unlike the IAEA, it does not specify and, therefore, it does not carry the same force or weight. Phil Davies then quoted the recommendation from his paper:

In the light of the claim to "consistency with IAEA expectations" (SAPs, paragraph 21), and the fact I have established in this Paper, that in the matter of the intent and application of IAEA Principle 7, that this is not in fact the case in the UK, that the ONR takes steps to rectify the situation, by importing the IAEA supporting text for IAEA Principle 7 into corresponding SAP Fundamental Principle 8, and then move immediately to discuss its application to the current GDA, with particular reference to the Joint Regulators' judgements about the disposability of spent-fuel.

The question was asked, to what extent does ONR operate to a set of guiding principles and are these principles, if they exist, implicit or explicit, particularly with respect to information on the ethics of intergenerational matters. Do we have those principles to examine? If so, they should be

discussed. If not, we should discuss the issue further, despite the fact that they may be open to interpretation.

It was agreed that Andy Blowers, Phil Davies and John Busby would liaise with ONR on this issue through Mike Weightman and that the issue should be taken forward to the next meeting as an issue of substantive concern. ONR is reviewing Phil Davies' paper and hopes to respond soon.

Openness and transparency

Flip chart notations:

- Insufficient flow of information
- ONR should, push for more information from site operators
- There is an opportunity for an 'energy act' statute to reflect an ONR duty to ensure operators act in an open and transparent manner
- Is the ONR too sensitive to security considerations (compared to the USA)?
- There is a tendency to 'report to industry'. What about other publics, e.g. health professionals, to whom there is also a need to write?
- There is a breakdown in communication between industry/regulators and the health community, e.g. local cancer registry.
- Health has a high profile in the community and this needs to be recognised by ONR.
- Local Liaison Committees do not
- operate as they should - reform and improve representation.
- Is ONR responsible for health effects in the local community?
- Is there a problem with the way regulators present the data (reference ICRP)?
- Use of inaccessible language is a concern.
- How can the public critically appraise implementation of security measures?
- Issue with 'security sensitive' information being kept private.
- How can ONR facilitate this critical dialogue?

Discussion

It was proposed that the paper by Pete Wilkinson (demonstrations of independence) should be adopted by the meeting as practical ways in which ONR could enhance and improve its O and T performance (attached at Appendix D).

O and T is a firm focus for the new independent corporation into which the existing ONR is seeking to transform. It wishes to widen and embrace specific issues relating to it.

Concerns were expressed about the venting of radioactivity at Hinkley A. *ONR agreed to provide clarification on the management of the facility with reference to authorisations and discharge limits.*

Licencees should provide more information to make the regulatory process more visible. *ONR has a programme which it is developing on this issue to which ONR spoke. This will be made clearer to participants as the programme is constructed.*

Security around information is a primary concern and a main consideration for NGOs: the situation in the USA, despite its experience of the 9/11 terrorist attacks, is far more liberal.

The old 'OCNS' (now the security branch of ONR) is operating on a more 'goal setting' basis and seeks to provide more clarity to the public.

The ONR is seeking to appoint a security expert to the board. ONR reports to industry not to the HPA or to the public.

The LCLCs are open to the press and to others and allow the demonstration of best practice. During the transition process, the requirement for openness and transparency should be captured in enabling legislation.

ONR should liaise with the EA and HPA to join up the thread of responsibilities to ensure the health of communities.

Is ICRP sufficiently robust in that it relates to the industry overall rather than specific incidences and occasions?

The language used and acronyms increase the impenetrability of the dialogue.

How can the public have confidence in the proper implementation of security measures when the ONR imposes so many restrictions?

A biannual report on the state of affairs in respect of security issues (an OCNS report under ONR branding) will be published next week and will be available on ONR's website.

Members of the public should be seconded to a security panel. The issues could be better informed by deciding which concerns are really important and which are not to the security of the plant or to nuclear materials in transport. The public and local knowledge could contribute to the job locally, particularly with language. O and T is a means to an end, not an end in itself. A broader set of people should be encouraged to participate and be engaged in evaluation of data and situations rather than merely being told by industry or regulatory experts. Local expertise is available at site level. It should be used in a mutual exchange of information using feed-back loops. The current set-up of LCLCs or SSGs is that they are seen as 'panels' of people which is not an ideal situation and one which requires safeguards to ensure that business is conducted in an open and transparent way.

ONR is a public service organisation and its personnel are public servants and the public has a right to know what it and its staff are doing. The underlying philosophy is to ensure that stakeholders across the spectrum value the work of the ONR. Should ONR perhaps hold a press conference in order to give wider exposure to its report?

If things go wrong, where will stakeholders find the details and the means of understanding what occurred?

All details material to the ONR's work and in reference to accident situations is carried on the ONR website and the ONR will email to this group with a weblink through which this detail can be viewed.

The important issue is for ONR to recognise that involvement with those outside the regulatory organisations, especially from the nuclear communities, can help to deliver better decisions through embracing proactivity and values which exist outside the regulators – i.e. external values.

Can the ONR structure ever be considered sufficient for the task or appropriate to the need? Who regulates the regulator?

The buck stops with the Chief Inspector. Further layers of assessment and review would add to the bureaucracy and could potentially stifle ONR and make it impotent.

The current role of the LCLCs and of the SSGs are characterised by antagonism and those who regularly use the forum as a place to 'moan' and express their own frustrations. This means that a large tranche of those present switch off from the proceedings of the meeting. Given that public meetings don't generally work in the task of providing balanced debate and information, should there be a different approach to the way in which SSGs are managed?

ONR is well aware of these concerns and has for some time been looking at developing a different approach to SSG methods of operating. It is ONR's intention to establish a pilot whereby the SSG and the public will be invited to question ONR on aspects of its work in order to find a better and more satisfactory way of imparting information and having it assessed and understood by the community. Watch this space.

Fukushima final report and stress tests

Flip chart notations:

- Japanese imports and radiation contamination, e.g. Felixstowe
- Concern expressed over:
 - coastal locations
 - DPZs and emergency planning
 - societal implications relating to incidents
 - availability of (cooling) water in a major incident
- Fukushima was required to use seawater for emergency cooling
- Sizewell requires large amounts of town (fresh) water
- Flooding – real need to know much more about flooding risks, climate change implications and new reactors.
- Off-shore dredging and effects on coastal erosion/flood risk/storm surge
- ONR – Periodic Safety Reviews seek to make realistic assessments of flooding, storm surge and climate change implications.
- Concern expressed over spent fuel left on site. ONR recommend there is a need to look at spent fuel strategy and policy.
- The creation of dry stores was noted.
- Concerns over intergenerational equity.
- Flooding risks can be addressed technically but potentially at a substantial cost.
- Need two-sentence responses to NGO concerns – ONR should reply to them on its website or pass them to other agencies.
- Need to consider semi-urban siting criteria in reference to evacuations and the DEPZ.
- Concerns expressed about major sites 'just outside DEPZ'.
- Cultural differences between Japan and UK in respect of evacuation and emergency planning were remarked upon.
- Need for emergency exercises on extendibility (of DEPZ).
- Concerns over ways to influence the wider national nuclear emergency planning review.
- How are we looking at severe accident scenarios?

Discussion

The need for access to clean town water either for routine or emergency operation of new plant may be interpreted as a constraint on new build.

It was agreed to find out the volumes of water required for cooling the new reactors either through the GDA process or perhaps the Environment Agency.

It was noted that the volumes of sea water required at some sites could also be an issue.

Flooding:

All potential eight new build sites in the UK have a flood risk level set at 3.

Questions were asked about how it is possible to protect against inundation and tidal surges.

Protection must be integral to the design of the reactor. Beyond 100 years, predictions are imprecise.

The periodic safety review which takes place every ten years influences strategies for spent fuel, for example.

This does not, however, provide a long term answer as it does not allow the adoption of alternative strategies. Furthermore, it was pointed out that, if the periodic safety reviews demonstrated a need to move the waste due to changes in local circumstances, there would be nowhere to send it. The central issue is the safe management of spent nuclear fuel at coastal sites. If the recommendations from the ONR are strenuous enough, there will be cost implications for operators and technical and social issues to implement as a consequence. Impacts are also likely to neighbouring communities as defences are put in place and recommendations against flooding are implemented through impacts from diversion of flood waters, for example.

The issue of flooding seems to have fallen between the responsibilities of two agencies – ONR and EA – and this has created an unacceptable situation.

ONR recommends the need to look at a spent fuel strategy and policy, bearing in mind the move towards dry stores.

The final Fukushima report is humble and does not express its conclusion with clarity. NGOs want answers, better communication of the issues and an assurance that these matters are passed on to the appropriate agencies.

DEPZs vary due to local conditions but are too tightly defined in their geographical limits. The cultural differences between how the Japanese react in an emergency and how the British might deal with the need to evacuate quickly are real and important to consider. The Japanese would be more quiescent in the face of adversity whereas the British might object and take their own actions.

ONR should give due emphasis to this issue of DEPZs and emergency planning and evacuation.

Where is the policy on DEPZs heading? How does the issue affect other nuclear facilities such as AWE?

A reconsideration of planning controls around licensed sites is underway designed to give more weight to planning control systems. Technical and social questions also arise from this review. ONR deals with emergency planning issues in the most effective way it can given that it is a

planning issue, not a regulatory or GDA matter, and therefore largely outside the brief of the Final Report and because the application of emergency planning principles in the UK is non-statutory.

It was recommended that ONR should recruit more social expertise as these issues impinge on their work in direct and indirect ways.

The session ended with a question about the closeness of control rooms to the reactors and it was reiterated that emergency control rooms should be sited away from potential accident areas to ensure functionality in emergency situations.

General discussion and identification of key issues arising/Way forward

Before moving on to identifying the issues and the way forward, a further general discussion took place. It was suggested that:

The next meeting should be organised within the next six months. Later discussion and suggestions proposed a meeting in February 2012.

At the suggestion of the Chair, it was agreed that ‘key issues’ and matters relating to the ‘way forward’ would be identified within the text of this note and recorded separately so as to provide a list of actions for future attention and deliberation. This list follows the brief notes below referring to the winding up of the meeting (see Appendix A).

Between this meeting and the next meeting, ONR would consider how the security issue can be widened and more carefully examined in terms of community and stakeholder engagement. It was noted that at Port Hope in Canada, members of the community were able to read through all (amended) reports and the Mayor is invited to sign off reports and papers on behalf of the community.

In terms of using a common language and thereby bringing regulators and communities closer together, the issue of knowledge transfer was raised and it was suggested that NERC should be approached to fund such an initiative.

The stress tests were mentioned again and their definition was questioned insofar as they should not be seen simply as technical reviews but with an eye on the way they drive organisational fragmentation and continuity.

MW agreed to explain this issue in a short paper. An appropriate expert from the EA would be invited to the next meeting.

It was noted that Westinghouse’s AP 1000 design will not subject to resolving the outstanding GDA issues until an order is forthcoming for its design.

ONR noted that Siemen’s have pulled out of the operating consortium developing Horizon’s project but this will have no impact on the GDA process associated with the EPR.

Closure

Mike Weightman thanked all those who had attended the meeting for their time and energy and wished them a safe homeward journey. Nick Baldwin expressed his gratitude for participants having made sometimes long journeys and said he had been particularly interested in the openness and transparency debate.

The meeting closed at 1645.

Appendix A

Salient Issues and questions arising from the meeting and the way forward

General issues

- Pete Wilkinson should remain as chairperson for the foreseeable future.
- The next meeting should take place within six months but perhaps as early as February 2012.
- The scope of the final Fukushima report should have been wider, used to impact domestic policy and perhaps prompt a public inquiry.
- While there is a lot of information on the IAEA and Japanese websites about the events in Japan and its aftermath, its transfer to the UK is poor.
- The GDA process has to respond to the events in Japan.
- ONR will provide regular updates to NGO participants and try to make the periods between updates on recommendations and their implementation shorter.
- It would be useful for NGOs to be informed about how the final report was received by HMG.
- What is the level of remediation at the Fukushima site to deal with what must be the 10s of millions of tonnes of cubic metres of soil?
- What are the insurance implications and the liability issues arising from the Japanese disaster with particular reference to exposure of the young to relatively high levels of radiation?
- The health effects of radiation are subject to misinformation and rational explanation. There is no suggestion that monitoring has been 'proper'. Much of the advice on this came from ONR.
- The HPA should be more active on radiation issues. Decommissioned MX stations are not sealed and two AGRs are on the verge of 'core collapse'.
- ONR to keep all informed of how operators are implementing the recommendations from the final report.
- The next meeting should be planned for within the next six months but possibly as early as February to maintain momentum.
- One participant expressed the view that the previous style of minute-taking – i.e. abandoning Chatham House rules – was preferable as it allowed the carrying of more evidential weight and discrimination between NGO views.

Technical Issues – GDA/Stress Tests

- Is the simulation work on the issue of high pressure coolant feed sufficient to guarantee that the loss of coolant accident and the possibility of a resulting hydrogen explosion can be overcome?
- The GDA process is expected to provide an interim certificate of authorisation to the EPR design by the end of 2013.
- Greenpeace will send to ONR critiques of the EPR and AP1000 from their own research together with comments from the French regulator.
- Is there sufficient power available to provide stand-by systems for the provision of emergency cooling water and to shut down the reactor safely?
- Any change in design (that EdF may be contemplating) would require that a new GDA process took place.
- ONR should invigilate the GDA process to ensure its results are robust and not subject to speculation about the adequacy of the process.
- Andy Blowers, Phil Davies and John Busby would liaise with ONR on the issue of transgenerational equity as highlighted by Phil Davies' paper on the translation of the relevant IAEA principle into its own SAPs and the issue should be taken forward to the next meeting as one of substantive concern.

Openness and transparency

- Pete Wilkinson's paper (demonstrations of independence) should be adopted by the meeting as practical ways in which ONR could enhance and improve its O and T performance (attached at Appendix C).
- ONR to provide clarification on the management of the Hinkley A facility with reference to authorisations and discharge limits.
- The ONR's programme to seek greater provision of information and visibility of the regulatory process will be made clearer to participants as the programme is constructed.
- The ONR is seeking to appoint a security expert to the board.
- The requirement for openness and transparency should be captured in enabling legislation during ONR's transition process.
- ONR should liaise with the EA and HPA to join up the thread of responsibilities to ensure the health of communities. .
- ONR should take greater cognoscence of local knowledge and the role local people could take in providing local knowledge and advice.
- ONR will email a weblink through which details which are material to its work in accident situations to the group.
- SSG management and structure should be reviewed: ONR is examining ways to improve information transfer with SSGs and nuclear communities.
- ONR would consider how the security issue can be widened and more carefully examined in terms of community and stakeholder engagement.
- NERC should be approached to fund a 'knowledge transfer' project to ensure commonality of language used in discussing nuclear matters with affected communities.
- MW agreed to explain this issue of the stress tests and how they relate to organisational fragmentation and continuity in a short paper.
- An appropriate expert from the EA would be invited to the next meeting.

Fukushima final report and stress tests

- ONR to appoint someone to review the Greenpeace 'comparative analysis' relating to stress tests.
- It was agreed to find out the volumes of water required for cooling the new reactors either through the GDA process or perhaps the Environment Agency.
- The adequacy of the periodic safety review to offer alternatives for spent fuel management in the event of inundation was questioned due to the imprecision of predictions about climate change.
- Flooding is an issue which appears to be the responsibility of both ONR and the EA but no-one appears to be taking the lead.
- ONR recommends a spent fuel management strategy review, bearing in mind dry store construction.
- In respect of the Fukushima report, NGOs want answers, better communication of the issues and an assurance that these matters are passed on to the appropriate agencies.
- ONR should give due emphasis to the issue of DEPZs and emergency planning and evacuation.
- A reconsideration of planning controls around licensed sites in underway.
- ONR should recruit more social expertise as these issues impinge on their work in direct and indirect ways.
- ONR to discuss with PCAH her concerns about Hinkley A and regulatory matters impact health outside the meeting forum.

Appendix B



Issues arising from the NGO/ONR forum meeting on the 5th July 2011 at the Connaught Rooms in London

**Pete Wilkinson
20 September 2011**

1. Institutionalisation of a 'rolling review' to be established in the ONR's final report on Fukushima.
2. 'Confidence' and (the ability to) 'challenge' should be added to the three 'C's in a post-accident scenario.
3. The degree to which the final report addresses the terrorism issue and the transparency it provides in that task should be reviewed.
4. There should be emphasis on the desirability of passivity in design to ensure demonstrably adequate attention to the three (or five) 'C's.
5. ONR should initiate and hold meetings with nuclear communities to discuss co-ordination of emergency services in the event of a post-accident release of radioactivity.
6. ONR should review the adequacy of the ten year periodic safety review in the task of acknowledging and pointing out to investors the inability to guarantee societal stability possibly due to climate change over the next 100 – 150 years, especially when the reviews are not open to public scrutiny and when ten years in the life of an aging plant is a long time.
7. The complexion of the expert panel needs to be addressed and the issue of broader input with contributions from non-industry experts needs to be resolved with particular reference to the civil service rules which constrain payments.
8. Report on the EA response to the request to review flooding risks and lessons learned covering long term planning in respect of infrastructure.
9. Inherent 'complacency' in the interim report particularly around emergency evacuation must be addressed more directly to acknowledge the problems involved in evacuating large numbers of people for a 'possibly indefinite period'.

10. Involvement of ethicists and social scientists in planning for emergency evacuations is proposed.
11. Government needs to review how cultural and planning aspects of the Fukushima situation worked well and learn from the experience.
12. ONR to ask DNSR for details of the evacuation plans for MOD sites to be put in the public domain.
13. Conclusions from the presentation by John Busby regarding the propensity for the onset of a LOCA and subsequent flash steam incident between the fuel rods preventing cooling would be taken to a technical forum (to be held between Kevin Allars et al and John Busby at Bootle on the 30th September).
14. ONR to check the issue of demand for town water for reactor cooling and to ensure that the GDA covers this issue in the event of grid and sea water supplies becoming unavailable.
15. ONR to take up the issues of the complexion of the SSGs and the openness and transparency concerns expressed.
16. ONR to check that the corporation status sought by ONR is still subject to FoI and to check the remit and scope of criminal environmental law and how it impacts the corporate entity.
17. ONR to encourage EdF to be more open in its dealings with the community.
18. ONR to ensure that inspectors' reports are 'fit for purpose' and to incorporate openness and transparency and inclusivity in its interface with local communities.
19. ONR to 'do what it can' to address NGO strong concerns about GDA process, in particular the exclusivity of discussions between regulators and operators only. Other more general areas of concern expressed which ONR would review were emergency planning, spent fuel issues, the lack of public involvement especially at some MoD sites, the review of REPPiR as well as the complexion of the SSGs themselves.
20. The adequacy of the PARs (Project Assessment Reports) to address some of these issues needs to be determined.
21. ONR to address its recognition that there needs to be more bilateral interface with the public to 'open up the issue' of how it arrives at its judgements and to address the need to be more forthright in its language and acknowledge the potential for accidents and their nature.
22. ONR to move forward on its proposal to arrange national and local level advisory groups to this end.
23. ONR to check if the EA has 'blindly accepted' NDA's assurances about the disposability of new build spent fuel.
24. ONR to revisit the issues of the licence sign off procedure, the role of the ONR in this 'flawed process', encapsulation and spent fuel disposability and provide the group with greater clarity.

25. ONR to confirm that Joe McHugh countersigns for the EA.
26. A technical session should be held, possibly including John Large and others to enhance openness and transparency and to ensure that influence can be exercised before decisions are made.

ENDS

Appendix C

Generic Design Assessment (GDA): Does the Office of Nuclear Regulation Ignore the Significance of IAEA Fundamental Principle 7?

— “Where effects could span generations, subsequent generations have to be adequately protected without any need for them to take significant protective actions.”

text to IAEA Fundamental Principle 7

Supporting

At the July 5th meeting between NGOs and Nuclear Regulators at Grand Connaught Rooms, I asked the following written question, to which the Regulators replied as follows:

Question 4

Does the EA, or the NII, consider itself bound to take account of any issues of “Intergenerational Justice” before issuing the nuclear site licence. If so, which regulatory principles would it be upholding? (Davies: 5 July 2011)

Reply

ONR is responsible for decisions about issuing a nuclear site licence. The ONR's Technical Assessment Guide TAG04 on Fundamental Principles, states that the possible consequences, now and in the future, of current actions have to be taken into account in judging the adequacy of measures taken to control radiation risks.

Similarly, Fundamental Principle A (Sustainability) of the Environment Agency's Radioactive Substances Regulation Environmental Principles (REPS) states, ‘Radioactive substances should be managed to avoid placing a burden on future generations and their environment such that it compromises their ability to meet their needs’. (Weightman (ONR) and Bennett (EA) 31 August 2011)

The question was asked because of the facts that newbuild spent-fuel will take up to a hundred years to cool² (75 years minimum³) before it is ready to be encapsulated. This is of great concern because it is well beyond a single human lifespan, and therefore one generation of decision-makers is imposing work on people two or more future generations ahead without their consent. Philosophers discuss whether unborn people have any identity⁴, or if they can have rights. In any event, no one alive today can give any kind of assurance that the work will be done, and therefore it would be quite wrong to issue a licence for a reactor today based on any such non-reassurance. On the other hand, it might in certain circumstances be legitimate to licence construction of a plant based round on-site deep-borehole disposal after maybe 25-30 years of spent-fuel storage.

Such illustrations of the significance of intergenerational justice led me to ask the regulators what provisions they had to which would allow the latter and forbid the former. An ethical distinction has to be made between existing practices which have produced “legacy waste”, which though it may indeed take generations to “dispose of” effectively, is nevertheless in the last resort **finite**, and new-build waste, which is **indefinite**, and which should be therefore be treated differently, ie in such a way that each generation can take care of its responsibilities. It's not clear to me that this distinction is upheld by the regulators. Currently the Regulators are claiming “universal respect”. They cannot hope to achieve this if they do not have a viable concept of intergenerational justice.

² Potential Waste Volumes arising from Newbuild, Dr. Paul Gilchrist , NDA Oct 2006

³ Generic Design Assessment: Summary of Disposability Assessment for Wastes and Spent Fuel arising from Operation of the Westinghouse AP1000, NDA, October 2009

⁴ Particularly Derek Parfit, Reasons and Persons.(1984)

The rest of this paper provides evidence that, possibly through oversight, that the necessary provisions seem to be absent in UK Safety Regulations, and that although certain provisions to this end have been enacted by the IAEA, they are not upheld by UK Regulators.

The evidence for this is in the Appendix

Appendix

1) Relationship between IAEA and UK Regulators

The International Atomic Energy Agency (IAEA) publishes the Fundamental Safety Principles (IAEA SF1), a set of ten interacting principles, aimed at delivering the single Safety Objective.

The UK Office of Nuclear Regulation (ONR) (formerly Nuclear Installations Inspectorate) publishes the Safety Assessment Principles (SAPs), the basis for the licensing of nuclear power stations in the UK, under the Nuclear Installations Act 1965. Of these, the first eight are “Fundamental Principles” and are “grounded in UK Law and international good practice”⁵. This refers principally to the IAEA Safety Principles.

The IAEA Principles are not directly legally applicable in the UK. However our national legislation is bound to pay “due regard” to them⁶. The ONR claims to “respect” them⁷, and our regulations are said to be “consistent with their expectations”⁸. The SAPs are said to be “benchmarked” against the IAEA Principles⁹, while the related REPs (see list of Acronyms) are “based on their structure”¹⁰

I have established through correspondence with the Regulators¹¹ and careful study of the relevant documents, that the IAEA Principle 7 (Protection of present and future generations), the basis for UK SAP FP8, has been significantly divested of its original force in the course of its transposition into UK regulation. In the Fundamental Principles of the IAEA (SF1), each headline Principle is followed by several paragraphs of supporting text, whose role is “to describe the intent and application of each principle” (para 1.11 “Structure”). In the UK SAPs, by contrast, there is no supporting text to this equivalent “Fundamental Principle” (although there is copious supporting text for other fundamental principles such as FP3 (“leadership for safety”)). The result is that this principle (*FP8 “People, present and future must be protected against radiation risks”*) appears without any statement of its “intent and application”, and is therefore virtually devoid of normative force by comparison. Unlike the original, no meaningful quantitative entailment¹² can be drawn from the UK version.

To demonstrate this, it is necessary to consider the two documents side by side:

⁵ SAPs, para 41

⁶ “to provide for effective protection of individuals, society and the environment by applying at the national level suitable protective methods as approved by the regulatory body, in the framework of its national legislation which has due regard to internationally endorsed criteria and standards”. (Joint Convention on Safety of Spent Fuel Management and Safety of Radioactive Waste Management, Chapter 2, Article 4, (iv))

⁷ “21 The UK is a member state of the International Atomic Energy Agency (IAEA) and contributes to the development of safety standards that the IAEA publishes. The UK respects these Safety Standards and ensures that its own regulations and regulatory requirements are consistent with the expectations of the IAEA. NII leads on behalf of the UK Government in assisting the IAEA in developing their standards.” (Safety Assessment Principles, paragraph 21)

⁸ ditto

⁹ SAPs p2

¹⁰ REPs, p7

¹¹ See above reply from Weightman (ONR) and Bennett (EA)

¹² I am responsible for suggesting this criterion. I haven't seen it used elsewhere.

IAEA Relevant texts:

1.7..... “decision-makers must also make informed judgements and determine how best to balance the benefits of an action or an activity against the associated radiation risks and other risks, and any other detrimental impacts to which it gives rise.”

Structure

1.11 “Section 2 states the fundamental safety objective. Section 3 presents the ten principles to be applied in order to achieve this objective and describes the intent and application of each principle”

....

2.11 “The safety principles form a set that is applicable in its entirety; although in practice different principles may be more or less important in relation to particular circumstances the appropriate application of all relevant principles is required.”

Principle 7

People and the environment, present and future, must be protected against radiation risks.

3.27. Radiation risks may transcend national borders and may persist for long periods of time. The possible consequences, now and in the future, of current actions have to be taken into account in judging the adequacy of measures to control radiation risks. In particular:

—Safety standards apply not only to local populations but also to populations remote from facilities and activities.

—Where effects could span generations, subsequent generations have to be adequately protected without any need for them to take significant protective actions.

(emphasis added)

3.28 (here omitted)

3.29. Radioactive waste must be managed in such a way as to avoid imposing an undue burden on future generations; that is, the generations that produce the waste have to seek and apply safe, practicable and environmentally acceptable solutions for its long term management. The generation of radioactive waste must be kept to the minimum practicable level by means of appropriate design measures and procedures, such as the recycling and reuse of material. (emphasis added)

8 In particular, assumptions have to be made owing to uncertainties concerning the health effects of radiation exposure at low doses and low dose rates.

ONR Relevant Texts

FUNDAMENTAL PRINCIPLES

41 The following fundamental principles are considered to be the foundation for the subsequent safety and radioactive waste principles in this document and are based in UK law and international good practice.

Fundamental principles	Protection of present and future generations	FP.8
People, present and future, must be protected against radiation risks.		

The IAEA fundamental principles were adopted by the IAEA board in September 2006. Of the ten IAEA fundamental principles, the three which are not covered above relate to the role of Government, justification of facilities and activities, and radiation risks in situations outside the NIA which are addressed by the UK under its regulatory

framework. The SAPs also have a fundamental principle on safety assessment, rather than considering this as a subset of preventing accidents

(Compare the following ONR text to the previous IAEA one. Note that it is not in the same publication, and the absence of any words resembling the emphasized text)

3.9 FP.8, 'Protection of present and future generations', recognises that the hazard from radioactivity may be long-lived and widespread. This means that the possible consequences, now and in the future, of current actions have to be taken into account in judging the adequacy of measures taken to control radiation risks. In addition it recognises that there may be risk of genetic, detriment to future generations, as well as somatic, detriment to the exposed individual, harm. (Technical Assessment Guide 04. (Commentary on Fundamental Principles))

Discussion.

Comparison of texts shows clearly that they are not identical, or even similar, in meaning, and that TAG04, 3.9, does not reproduce either the paragraph about “significant protective actions”, nor the paragraph about “undue burdens” and the duties of “generations that produce the waste”.

The claim that the SAPs are “consistent with IAEA expectations”(reference 6) is unlikely to be true in this particular case, since IAEA presumably supports its own Fundamental Safety Principles. Whatever protection might have been provided to UK citizens from paragraphs 3.27 and 3.29 (which, particularly the clause about “significant protective actions” is considerable) is denied to them because of the fact that the IAEA supporting text is not reproduced in the UK SAPs. In this respect, therefore UK standards are inferior to, not consistent with, International Standards, and offer a lower standard of protection, and one with disturbing ethical implications. It effectively leaves the Regulators without any concept of Intergenerational Justice with any quantitative implications.

Recommendation

In the light of the claim to “consistency with IAEA expectations” (SAPs, paragraph 21), and the fact I have established in this Paper, that in the matter of the intent and application of IAEA Principle 7, that this is not in fact the case in the UK, that the ONR takes steps to rectify the situation, by importing the IAEA supporting text for IAEA Principle 7 into corresponding SAP Fundamental Principle 8¹³, and then move immediately to discuss its application to the current GDA, with particular reference to the Joint Regulators’ judgements about the disposability of spent-fuel.

Phil Davies 13 November 2011

Biog: I am a member of Nuclear Waste Advisory Associates and a doctoral student at the Sussex Policy Research Unit (SPRU), University of Sussex. This paper is written in a personal capacity.

Acronyms

EA Environment Agency
GDA Generic Design Assessment, of newbuild reactor designs, by ONR and EA
IAEA International Atomic Energy Agency
ONR Office of Nuclear Regulation (formerly NII - Nuclear Installations Inspectorate)
REPs Radioactive Substances Regulation Environmental Principles, issued by EA

¹³ I am aware there is an additional complication here, the division of the principle into “people” (ONR) and “the environment” (EA). Here the regulators should note that the entire IAEA supporting text applies both to “people” and “the environment”, even though paragraph 3.28 applies mainly to the environment.

SAPs Safety Assessment Principles, 2006 of ONR
SF1 Safety Fundamentals: Fundamental Safety Principles, 2006 of IAEA
TAG Technical Assessment Guides, produced by ONR

Appendix D



INDEPENDENCE AND HOW ONR MIGHT CONSIDER DEMONSTRATING IT TO ITS STAKEHOLDERS – A NOTE BY PETE WILKINSON

ONR could more readily demonstrate its independence if it began:

- using the language of new nuclear design assessment not enablement
- using the language which more routinely acknowledges uncertainties and which avoids assertiveness where doubt exists
- ensuring consistency of application of prosecutions and/or providing rationales for non-prosecutions
- explaining the GDA process in lay language and making it more accessible
- more broadly basing its recruitment and training regime
- putting effort into greater visibility and transparency within site based communities
- being more outspoken on GDA issues in a manner which communities and stakeholders can grasp (i.e. being more robust on 'exclusions' and letting communities and stakeholders know more clearly that some potentially 'show stopping' issues need to be resolved, what they are, why they are important, when they will be addressed and what the outcome is)
- demonstrating that 'protecting people and the workforce from the hazards of the nuclear industry' is given primacy over the protection of private profit by contesting matters of 'commercial confidentiality' where health issues are at stake and are clearly subject to controversy
- introducing and publicising the fact that there is a presumption of disclosure
- changing the culture of 'we know best'
- making routine the provision of rationales for its decisions particularly on GDA
- bringing in more external scrutiny and sharing GDA issues more widely with the nuclear fraternity
- re-instating its quarterly newsletter and seeking contributions to it from outside the agency (including NGOs)

Pete Wilkinson

Autumn 2011