

## UK Strategy for Radioactive Discharges Stakeholder Workshop 19<sup>th</sup> April 2007

The workshop was held at DEFRA's Innovation Centre in Reading. Delegates represented nuclear and non-nuclear industries, regulators, and representatives from Ireland, Norway, the Isle of Man and Iceland. NGOs were invited but none were able to send representatives.

For the first hour there were three presentations by DEFRA. The rest of the day was taken up by work in one of four breakout groups, with a plenary session to close.

**Brian Oliver** outlined why we need to have a discharge strategy. He stated that it is government policy to progressively reduce discharges and this led the UK to sign up to the OSPAR agreement for the protection of the NE Atlantic marine environment in 1998. He pointed out that the OSPAR objectives of reducing concentrations of NORM to near background and of artificial radioactive substances to close to zero, did not specify a timescale for achievement. However the Commission does state that "discharges, emissions and losses of radioactive substances are reduced to levels where the additional concentrations in the marine environment above historic levels, resulting from such discharges, emissions and losses, are close to zero" by the year 2020. There has been no definition of historic levels or of close to zero and it doesn't sound like there will be one in the near future. However, baseline values for concentrations, discharges and doses have been defined, being derived from average values over the years 1995-2001. The 2006 Evaluation report (see OSPAR website) indicates how well we are doing in relation to baseline values and looks at trends for total alpha, total beta and tritium. For the nuclear industry, whilst some results are above baseline, others are showing statistically significant reductions, and for some the reductions are substantial. For non-nuclear sectors there is no evidence of whether the strategy is being delivered, but some signs exist that appropriate actions are being taken. Note that no targets have been applied to the non-nuclear sector.

**Martin Hum** looked back to the 2002 Strategy, which set out to achieve progressive and substantial reductions in discharges, progressive reduction in critical group doses (the 20 $\mu$ Sv by 2020 is an expectation, not a target or a limit), and progressive reduction in concentrations. He then showed what targets had been set for fuel production/uranium enrichment, energy production, reprocessing, research (including reactors and Dounreay) and defence, and how each sector was progressing toward achieving them. He also displayed total beta discharges per year for each sector up to 2005. The 2002 Strategy did not set targets for the non-nuclear sector, but expected tight control from the regulators and discharge reduction where practical.

The lessons to be taken forward are

- reduction is not a straightforward exercise (though closure of facilities has helped);
- close liaison with stakeholders is essential;
- assumptions and discharge projections are uncertain;
- not all discharges are equal (in terms of impact on environment); and
- there is a need to look at the bigger picture (but when questioned, seemed to reveal that DEFRA's bigger picture isn't that large – it doesn't look at impact of non-radioactive agents on the environment, and is not justifying new build)

**Yvette Bosworth** covered the strategy review, which has come about for several reasons: a change in the nuclear landscape; a need to prepare for the next OSPAR report, to broaden the scope of the current strategy, and to update assumptions and projections. With regards broadening the scope, the current strategy deals with liquid discharges from nuclear installations only, and DEFRA want to include aerial discharges and non-nuclear industry sectors. Including aerial discharges will provide the "bigger picture" and will indicate whether

the good work reducing liquid discharges has been at the expense of increased gaseous releases. The non-nuclear sectors to be included are grouped into oil & gas, medical, radioisotope production, pharmaceuticals, universities & research institutes, and waste treatment/disposal facilities. The new 2006-2030 Strategy will be out to consultation towards the end of this year prior to publication in summer 2008. Initial meetings and surveys in preparation for the revision have been going well with the nuclear industry, but the non-nuclear sector is finding it difficult to predict future discharges. Also the sector usage is very diverse. The key challenges are:

- reliability of discharge projections;
- addressing non-nuclear sector (not sure if they can set targets);
- assessing cost/benefit and proportionality (and how to include social and economic factors);
- achieving a balanced strategy; and
- the potential impact of a new build policy.

DEFRA plan to set up an industry liaison group, with which it can continue dialogue (probably by email) as the strategy development progresses.

DEFRA stressed that they had no inside knowledge regarding a potential nuclear new build, but are making the prudent assumption that their discharge strategy should assume a new build programme will happen.

The four break-out sessions were presented with a series of questions to which delegates were asked to give their own answers. The questions for each session were:

**Session 1: Regulatory Impact Assessment and Proportionality**

- What is proportionality and should the 2002 approach be changed?
- How should the various factors (eg dose, environmental impact, cost, national/international pressures) be weighted?
- How to quantify costs and benefits, and by how much should the cost exceed the benefit before it becomes grossly disproportionate?
- Is BPM/BPEO the best approach for reducing discharges?
- What else needs to be taken into account?

**Session 2: Potential nuclear new build**

- How should the revised strategy address new build?
- Should discharges from new build be included in strategy projections? If so, how?
- How can we be sure that new build discharges won't be higher than the best current elsewhere?
- What other industries will be needed to support new build, and what significance will these have on the strategy?
- What other factors need to be taken into account?
- What will the impacts on industry be, and what else would change?

**Session 3: Key environmental principles underpinning the strategy**

- Should there be a change in approach from the 2002 strategy?
- Is there any analysis of impact of liquid vs aerial discharges?
- Have reductions in public doses caused increases in worker doses?
- Concentrate & contain or dilute & disperse?
- What other principles or factors need to be taken into account?
- Should the current approach in applying the principles be changed?
- What else needs to be understood re environmental principles?

**Session 4: Non-nuclear discharges**

- How should the progressive reduction policy be applied to the non nuclear sector?
- What criteria should regulators use to implement the strategy?

- Should non-nuclear sector discharges be regulated in a different way from nuclear? If so how?
- How do non-nuclear sector public and worker doses compare to the nuclear sector?
- Can the same approach be taken for all non-nuclear sectors?
- What other factors need to be taken into account?
- What will the impacts of the strategy be on non-nuclear industry?

Individual responses were then collated and condensed to produce one or two key messages per question. These were then used to fill in the blanks on generic statements “The strategy must/should/could..... because..... Furthermore..... However.....”. These statements should be made available to delegates shortly.

The final session allowed time for each breakout session to deliver key messages to the whole workshop. These were:

**Session 1: Regulatory Impact Assessment and Proportionality**

- The strategy needs to be flexible for long-term needs;
- Discharge levels should also be flexible;
- Move away from reliance on closure of facilities;
- Make discharge targets proportional to the scale of the site;
- Don't rely on absolutes – use productivity/efficiency indicators; and
- There needs to be scientific justification of targets.

**Session 2: Potential nuclear new build**

- Recognise the new build programme exists and needs flexibility;
- There is no major step-change in technology for discharge reduction;
- Need to explain risks to the public;
- Recognise the political landscape has changed since 2002 – this is not a declining industry any more;
- Have a discharge trading market (cf carbon trading scheme); and
- Don't forget medical expansions.

**Session 3: Key environmental principles underpinning the strategy**

- Suggestions/proposals need to be practical and achievable;
- Strategy needs to fit with other government strategies;
- Enforcement vs guidance vs incentives;
- Consistency across countries; and
- Consistency with other environmental risks/hazards.

**Session 4: Non-nuclear discharges**

- Diversity makes it hard to group the non-nuclear industries;
- Potential conflict with other government strategies (eg cancer treatment);
- No further reductions over 2002;
- Need to consider public perception/awareness;
- Use exemption orders wherever possible; and
- Take a risk-informed approach.

DEFRA are encouraging continued dialogue and hope to have a draft strategy for formal consultation before the end of 2007.