



BEST PRACTICABLE ENVIRONMENTAL OPTION (BPEO)

Meeting Reference: BPEO, Room 40, D2003, Dounreay

Date Thursday 13th July 2006

Present	Phil Cartwright	UKAEA, Particles Project Manager
	Max Edington	UKAEA, Balance of Site Decommissioning Manager
	Joe Toole	UKAEA, Particles Research
	Bill Thompson	UKAEA, Health Physics
	Douglas Clarke	Arch Henderson (Engineering)
	Gary Watson	Highland Council (regional representative)
	George Reeves	DERC (environmental)
	Jim Walker	Alstec (general health and safety)
	Bill Sheridan	BMT Cordah Ltd (Socio-economics)
		Daren Luscombe
	Iain Baikie	External Consultation Steering Group (Observer)
	Martin Howse	Particles Project (Observer)
	June Love	Consultation Co-ordinator (Observer)
Apologies	John Deighan	UKAEA, Trade Unions

MINUTES

1. WELCOME AND INTRODUCTIONS

Darren L welcomed and thanked all those in attendance for taking part. He explained that the purpose of the meeting was to be clear on all aspects of the BPEO procedure before the scoring process began.

Phil C emphasised to the group that everyone's view was welcome and important during this and subsequent scoring meeting.

2. INTRODUCTION TO PARTICLES

Max E gave a presentation entitled the Dounreay Particles Best Practicable Environment Option, which included a history of the particles at Dounreay. It made reference to the origin and history of the particles. It also stated the number found to date and the four areas where discharged particles have been retrieved; Dounreay foreshore, Sandside beach, Dunnet beach and the seabed around Dounreay.

Douglas C queried how dangerous the particles found were thought to have been? Joe T explained that the Dounreay Particles Advisory Group have researched the particles found on

Sandside beach and believe that the particles found to date there, were low risk when the probability of encountering a particle and the effect of exposure are combined. He went on to explain that DPAG believe the particles offshore which have a higher activity are of a much higher risk but there is a low probability of coming in contact with one.

Phil C made reference to the HPA report which details a breakdown of the particle hazard and risks. This report was made available to everyone during the meeting (Health implications of fragments of irradiated fuel at the beach at Sandside Bay - Module 6: Overall results, (RPD-EA03-2006)).

It was queried whether the pathway of particles reaching the environmental was established yet. Joe T informed the group that research suggests the main source for particles entering the environment was through Low Active Effluent Drainage System and only a very small number were released through other means. He stated that recent Remotely Operated Vehicle (ROV) monitoring had not found any particles beyond 30 meter water depth but particles were found at Brims Ness but closer to shore than predicted by the computer model.

3. INTRODUCTION TO BPEO

The presentation also ran through the purpose of the BPEO. The following statement taken from the presentation outlines this:

“..the outcome of a systematic consultative and decision-making procedure which emphasises the protection and conservation of the environment across land, air and water. For a given set of objectives, the BPEO procedure establishes the option that provides the most benefit or least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term.”

The objectives and options for the BPEO were agreed and set by UKAEA over the last year, they have been recently subject to public consultation where a number of new options were identified and included in the Particles BPEO Complete List of Options (EPD(O6)P263) report produced by UKAEA. As stated by Max E in the presentation a number of the options (both onshore and offshore) have been reviewed and revised.

4. WHAT HAVE WE DONE SO FAR?

An External Consultation Steering Group was established and through this group a number of exhibitions were co-ordinated. These groups were set up to gauge the public perception of the process/options to date. They were able to express their concerns and views over the options and put forward their own suggestions on options and criteria.

5. OPTIONS

With reference to the report, “Particles BPEO Complete List of Options (EPD(O6)P263)”, the group ran through all the options and discussed any issues they believe may cause a problem during the scoring process.

Onshore options were defined as areas which can be monitored using a land based method.:

On-shore Options to be considered:

- Onshore Monitoring Without Recovery – issue being if the particles were not recovered there would be limited understanding of the effects on and offshore. Also, the legal requirements at present state if a particle is found it must be removed so a change of legal requirements would be needed, which the group agreed would be a challenging task.
- Onshore Monitoring With Recovery – this is the current process.
- Recover All Individual Particles At All Depths Onshore – the word ‘all’ would make this option very difficult as it is impossible to know how many particles were released and only the detectable particles could be recovered.
- Bulk Removal of Beach Sediments – it would not be very effective to only clean the beach as the sea could potentially continue to wash particles onto the beach.

The group queried whether there was any evidence that particles are continuing to be released through the old diffuser. Phil C confirmed that particles are unlikely to be released from the old diffuser but they may naturally emerge from the seabed. However, he could confirm that particles are not being release through current effluent discharges.

- Restrict Public Access – access to Sandside is not restricted. The fore-shore is difficult to access.
- Onshore Natural Attenuation - George R mentioned that this process has been used in other areas of the world, he asked whether UKAEA had considered comparing these other cases with Dounreay’s to get an understanding of the outcomes. He was informed that this was not part of the BPEO assessment.

Bill S noted that the Onshore Natural Attenuation was considered as the ‘do nothing’ approach but asked whether the ‘do everything’ option had been considered. He thought by not having a ‘do everything’ option the whole process could be criticised for not evaluating every possible option. A ‘do everything’ option had not been considered but could be discussed during the screening and combining process.

Offshore Options (offshore defined as beyond the mean low water springs (MLWS) mark). Previously the seaward extent of high activity particles was defined as 15km, however, recent information from ROV surveys suggest this could be about 1km.

- Restrict Public access - this is at present taking place offshore, the area around the diffuser zone is restricted through the 2km Food and Environmental Protection Act (FEPA) Zone.
- Offshore Monitoring Without Recovery – current procedure.
- Offshore Monitoring With Recovery – particles used to be recovered offshore by divers but this process has been stopped at present.

Iain B asked about the technical feasibility of the options. The point was that although an option may be feasible it may be relatively expensive, Joe T thought the process considered should be irrespective of cost. The problem with that being “where do you stop?” Also with a number of options there may be technological issues i.e. the technology to carry out the procedure may not be available. It was noted that ‘cost’ was one of the attributes and would form part of the scoring procedure.

- Recover All Individual Particles At All Depths Offshore – the same problems arise as with the onshore option.
- Bulk Removal of All Marine Sediments – this is believed to be technically feasible but ‘bulk’ would need to be defined.

At this point a diagram showing the ROV survey areas and particle finds was produced. The diagram showed that survey's 30m from the shoreline with a depth coverage of about 50-60cm for large particles have taken place and no particles had been found. It was thought that this criteria could be used when defining 'bulk' but Iain B informed the group that as the seabed is constantly moving and dispersion constantly taking place there is no way it can be concluded that particles won't be found at depth.

- Offshore Restrict Access – this is already in place, in a 2km radius from the old diffuser outfall.
- Offshore Natural Attenuation – Bill T queried why this can be a legal method as effectively this could be seen as 'dumping' waste into the sea.

Summary

- Iain B questioned why there wasn't a 'research ongoing' option included, Darren L explained that research has been going on for many years and will continue regardless of this process. This is the first time actual methods and angles to solving a particle problem have been considered in the way of an assessment.

It was agreed that if the group identified another option during the meeting it would be included in the options report.

6. ATTRIBUTES

With reference to the report, "Particles BPEO: Proposed Attributes (EPD(06)P261)". The attributes and calibration criteria and any other potential problems which might be an issue during the scoring process were discussed.

Several issues were addressed with regard to identifying whether long/short term effects were to be measured, the geographical/boundary areas in consideration and the effectiveness of the calibration criteria. Running through each attribute, the above issues were resolved and agreed:

- Environmental Hazard – risks other than particles. The calibration for this sub-attribute is in relation to Tier 1 and 2 of the COMAH Regulations. No-one in the group was very familiar with this set of regulations; Phil C agreed to look into the regulations. It was agreed to amend this criteria as it was not necessary to utilise the COMAH regulations.

NEW ACTION – Phil C to look into finding out more information about the COMAH regulations

Bill S suggested that the Cultural Heritage attribute should go under the Environmental heading and not the 'Social and Economic' one. He believes that the factors under Cultural Heritage relate directly to environmental rather than socio-economics. The group were all in agreement.

NEW ACTION – Move sub-attribute Cultural Heritage to Environmental Attribute (2.2)

When considering the waste attributes, there was uncertainty over the quantities in the calibration section. A number of the members thought that unless accurate quantities were stated it wouldn't be a fair scoring, others thought that the information didn't need to be

quantitative at this stage at all. After much debate it was agreed that the quantities will remain and will be considered on an option by option basis during the scoring process.

The group wanted to retain most of the quantitative calibrations with the exception of ‘energy usage’.

- Energy – the calibration may need to be revised during scoring and it might be useful if a ‘back-up’ is considered.
- Worker Radiological Risks – it was agreed the wording of the calibration needs to be revised.

NEW ACTION – Bill T and Martin H are to revise the wording for 3.2.1 Worker Radiological Risks calibration

- Regulatory and Legal Implications - even when the best option is identified co-operation from the regulators will be required. Iain B asked if the group had sufficient legal expertise to effectively make judgements on legality of options. Phil C commented that UKAEA had access to legal advice. Other members of the group stated that they believed that they had sufficient knowledge of regulation and legislation to comment on the options.

7. METHODOLOGY

Daren L asked everyone’s opinions on how they would like to see the group score the different options.

One example was outlined in report “Screening, Combining and Scoring BPEO Particle Management Options: EPD(06)P252. Variations were considered and debated. After discussion, the methodology for scoring was agreed by all present to be:

- Screen the Individual Options
- Score Individual Options
- Combine the Options
- Screen the Combined options
- Score the Combined Options
- Review

An action was agreed to distribute scoring sheets to all of the Scoring Panel. The panel members agreed to carryout as much of the scoring as they could before the next meeting.

8. ROUND UP

Daren L thanked everyone for the input to the meeting and asked that Phil C confirms that DERC at Janetstown be the venue for the meetings on 25-27 July06.

Daren L noted that people had actions to complete before the next meeting; see Table 1.

Chairman/ Facilitator Daren Luscombe

Secretary Debbie Munro
Telephone x 6011

Date of issue 21 July 2006

TABLE 1: ACTIONS LIST AS AT 13 July 2006

Actions	Description	Date Raised	Who	Status
BPEO-1	Find out more information about the COMAH regulations	13 July 06	Phil C	New
BPEO-2	Move sub-attribute Cultural Heritage to Environmental (2.2)	13 July 06	Martin H	New
BPEO-3	Revise the wording for 3.2.1 Worker Radiological Risks calibration	13 July 06	Martin H and Bill T	New
BPEO-4	Section 2.4.1 may need a different calibration and wording. Review wording of other calibrations	13 July 06	Martin H	New
BPEO-5	Provide all group members with Proforma scoring matrices prior to next meeting so that screening and scoring may be completed in advance	13 July 06	Martin H	New