



## **UKAEA RESPONSE TO DECEMBER 2005/JANUARY 2006 PARTICLES STAKEHOLDER ENGAGEMENT**

In January 2006 stakeholder engagement was carried out to obtain the views and perceptions from the public on radioactive particles in the marine environment. The feedback received, ongoing research and independent reports due in the autumn of this year will all help to shape the consultation on the options to allow UKAEA to develop the best practical environmental option for dealing with this legacy. This has also helped UKAEA to better understand the issues which affect the community, the completeness of the long list of options and the criteria with which the options will be assessed.

Independent facilitators, Entec UK Ltd, provided a report analysing the feedback received from public exhibitions, questionnaire feedback forms, written submissions and a series of outreach meetings which were held to seek views from stakeholders as to the completeness of the list of options and the assessment criteria. This early engagement, along with independent reports and on-going research, will help UKAEA and its consultants to shape full consultation on the options later in the year.

In addition Entec UK Ltd provided a report on the outreach meetings which is available on UKAEA's website as well as copies of all questionnaires and submissions returned during the engagement period.

The reports were produced by Entec UK Ltd who acted as independent facilitators throughout the engagement process and recommendations cover:

- Information
- Vision
- Stakeholder engagement
- Options
- Criteria

The Independent External Particles Consultation Steering Group, established in 2003, was set up to oversee the transparency of the consultation. A meeting held in April discussed the output of the front end consultation and the members were satisfied that the feedback received has been progressed. Minutes of meetings held with the Steering Group can be found on the website [www.ukaea.org.uk](http://www.ukaea.org.uk).

*UKAEA's response to the recommendations is outlined below.*

### **Information**

- Consider how UKAEA can work with stakeholders to provide better information to explain what is being done about managing particles.
- Incorporate into such information, information regarding the absolute and comparative hazards, risks and health implications from particles to enable stakeholders to understand the risk in context.
- Regularly update information provided;



- Consider making information available through a number of routes using a variety of techniques
- Consider integrating information provision as part of any option pursued.

*UKAEA will consider all aspects of providing information and will ensure that information is widely available, using a variety of techniques, such as:*

- *via Dounreay fortnightly bulletin*
- *via the UKAEA website, including an interactive vehicle to post questions*
- *via proactive consultation during the winter of 2006/7.*
- *local drop in sessions and public exhibitions*
- *literature placed in local libraries*
- *literature placed in local high school/college libraries*

*UKAEA will propose an action plan to take these and any further suggestions forward in a manner which is factual and easily understood.*

### **Vision**

- Consider stakeholders' visions for the area as a required outcome of the management strategy;
- Review the BPEO criteria to ascertain whether or not they provide the ability to evaluate option performance against stakeholders' visions;
- Integrate relevant criteria to facilitate such performance evaluation;

*UKAEA notes the above and will capture the vision under the socio-economic criteria when assessment of the options takes place.*

### **Stakeholder engagement**

- Continue its commitment to involve stakeholders in the development of a management strategy for particles to meet stakeholders' expectations.

*UKAEA is pleased that the majority of respondents indicated that the consultation is valuable and worthwhile. UKAEA believes that to arrive at a sensible and acceptable management strategy it is imperative that all stakeholders with an interest are included and have the opportunity to express their views and that where appropriate views are taken into account.*

### **Options**

- Assess whether the additional options suggested are covered by those already identified to date;
- Where options are not already identified, assess whether or not such options should be taken forward for further consideration and if not taken forward, provides reasons for their exclusion;
- Consider how to integrate the 'non engineering options' into management strategy development.

*The list of additional options suggested is reproduced in Appendix 1, along with the UKAEA response as to whether these options will be carried forward or excluded; an explanation of the decision is given in each case.*



### **Criteria**

- Assess whether or not the additional criteria suggested are already covered by those identified;
- Where criteria are not already identified, assess whether or not such criteria should be taken forward for further consideration and if not taken forward, provides reasons for their exclusion; and
- Considers the preferences that stakeholders have expressed regarding the groups of criteria when developing criteria weighting for the BPEO.

*The list of additional criteria suggested is reproduced in Appendix 2 along with the UKAEA response as to whether these criteria will be carried forward or excluded; an explanation of the decision is given in each case. Any criteria carried forward will be subject to approval by the scoring panel, hence there may be changes to the attribute list at a later date.*

### **Weighting**

From questionnaires and outreach meetings the importance attached by stakeholders to each of the criteria identified is represented by the following weightings:

Health and Safety	54
Environmental	37
Cost	23
Social and economic	18
Technical	13

*UKAEA notes the importance placed on BPEO criteria. The weighting of criteria will play an important part in the next stage of the consultation process following the assessment of the list of feasible options after the screening process is complete. Stakeholders will play an important role in the weighting and UKAEA will be mindful of the views given above.*

### **Next steps**

UKAEA recognise that the consultation on the feasible options cannot begin until the Dounreay Particles Advisory Group (DPAG) produces their 3<sup>rd</sup> interim report. This is likely to be available in September 06 and UKAEA will start consultation of the short-listed options as soon as possible after that.

In the meantime the following work will be undertaken:

- An action plan for the information provision as outlined in the stakeholders' feedback report will be proposed.
- A Scoring panel including independent representatives will be established to carry out the scoring of all feasible options.
- A programme for consultation will be developed and made public.

All information associated with the work will be made available on UKAEA's website ([www.ukaea.org.uk/sites/dounreay\\_particles\\_in\\_the\\_marine\\_environment.htm](http://www.ukaea.org.uk/sites/dounreay_particles_in_the_marine_environment.htm)) to ensure an auditable, transparent explanation of how decisions are arrived at.



UKAEA, Dounreay  
12<sup>th</sup> June 2006



Appendix 1 – Additional options (engineering and non engineering) suggested.

Suggested options	Carried forward	Reason for decision
<i>Engineering options</i>		
When decommissioning the diffuser, construction of a coffer dam around the diffuser and removal of any concentration of particles.	Will be considered but not within the scope of this BPEO.	This suggestion is outwith the scope of the BPEO for the management of particles. A project team is considering options for the old diffusion chamber and this suggestion has been passed to them to consider.
Passive dredging using angled groins	Yes	This will be carried forward to the long list of options for screening.
Passive dredging using trenches on the seabed	Yes	This will be carried forward to the long list of options for screening but may be combined with the option above.
Hoovering the seabed	Variation of existing option	This will be included as a variation of option 14 – bulk removal of all marine sediments.
Pump seawater to Dounreay for testing	No	UKAEA regularly carries out testing under the RSA (Radioactive Substances Act 1993) authorisation and environmental monitoring programme. This in itself does not constitute a management strategy.
In-situ immobilisation of the particles	Variation of existing option	This will be included within options 5 and 16 – onshore immobilisation/ isolation of sediments and immobilisation/isolation of marine sediments.
Recover small areas of sand from Sandside Bay (as part of a pilot project) where concentrations of particles have been found.	Variation of existing option	This will be captured as a variation of option 4 – bulk removal of beach sediments. With regard to the ‘pilot’, an exercise to recover sand was completed on the Dounreay foreshore hence experience of this option has already been gained.
Target large particles offshore by identifying them with the remotely operated vehicle and divers then retrieve.	Variation of existing option	This will be captured as a variation of option 13 – targeted recovery of individual particles offshore.



<b>Suggested options</b>	<b>Carried forward</b>	<b>Reason for decision</b>
Take core samples of sand as part of any monitoring programme.	Yes – but not a BPEO option.	Core samples have been taken when deemed appropriate to gain a better understanding. Consideration to further coring work will be given. However, this is not, in itself, a management strategy option. Monitoring is considered within options 1, 2, 10 and 11.
Remove sand in layers from Sandside over a period of time, monitor sand, remove any particles and re-utilise any sand in construction or return to the sea.	Variation of existing option	This will be captured as a variation of option 4 – bulk removal of beach sediments.
Use marine friendly lasers to breakdown the particles found in the sea.	Yes	This option will be taken forward, however initial feasibility assessment indicates it is likely to be screened out at an early stage.
Train dolphins to find and retrieve particles	Yes	This option will be taken forward, however initial feasibility assessment indicates it is likely to be screened out at an early stage.
<i>Non engineering options</i>		
Provision of better information, signage and involvement with the community	Yes but not as a BPEO option.	These issues will develop and progress throughout the lifespan of the particles project. It is not an option per se but it is recognised that it will play an important part in ensuring transparency and factual information and will form part of the information action plan.
Purchase Sandside Bay	Not relevant to BPEO.	The purchase of Sandside Bay is not a particles management strategy in its own right and hence will not be taken forward for further consideration within the current BPEO.
Variable levels of monitoring to suit scale of issue	Already identified	The strategy of monitoring is covered within options 1, 2, 10 and 11. The detail will be covered within a BPM (Best Practical Means) assessment if any of these options are selected.
Monitoring of more beaches	Already identified	The strategy of monitoring is covered within options 1, 2, 10 and 11. The detail will be covered within a BPM (Best Practical Means) assessment if any of these options are selected.
Enhanced monitoring (increased frequency and number of locations)	Already identified	The strategy of monitoring is covered within options 1, 2, 10 and 11. The detail will be covered within a BPM (Best Practical Means)



Suggested options	Carried forward	Reason for decision
		assessment if any of these options are selected.
Offshore particle removal close to land	Variation of existing option	This will be captured as a variation of option 13 – targeted recovery of individual particles offshore.
More partnership working	Yes but not as a BPEO option.	UKAEA recognises the importance of working with all stakeholders including Scottish Executive, SEPA, COMARE, Highland Council, the local community, affected landowners and members of the public and this will continue.
Delay decision until further information available	Yes but not as a BPEO option	Consultation on the options will not take place until DPAG (Dounreay Particles Advisory Group) publishes its 3rd report and the ROV has helped to delineate the extent of the contamination offshore.
Provide shower and cleaning facilities at the beaches for surfers and other sea users at local beaches, which incorporates a sand trap, the contents of which UKAEA would monitor as part of the monitoring programme.	Yes but not as a BPEO option.	This will not be carried forward as a management strategy option. However, UKAEA recognises that there are many social activities carried out on the local beaches which could benefit from the installation of shower facilities. UKAEA will consider this with other interested parties in the context of its Corporate Social Responsibilities.
Recovery of all offshore particles	Already identified	This is captured in options 12 and 14. However, both of these options have been identified as potentially having feasibility issues associated with the uncertainty of the number of particles and very small particles not detectable.
Reviewing options frequently in case better solutions present themselves over the course of time.	Yes but not as a BPEO option.	UKAEA recognises the importance of keeping abreast of latest technology. The BPEO will be reviewed at intervals. Dependent on the option identified there may be a need to review the BPEO in the future. UKAEA will continue to keep this under review at all times.



**APPENDIX 2 – ADDITIONAL CRITERIA SUGGESTED**

<b>Suggested criteria</b>	<b>Carried forward</b>	<b>Reason for decision</b>
<b>ENVIRONMENT</b>		
- <b>Waste minimisation</b>	Yes but not as a criteria.	UKAEA recognises that the implementation of waste minimisation techniques is best practice and would therefore minimise waste no matter what option is identified. Radioactive Waste and Non-Radioactive Waste are proposed sub criteria under the Physical Environment criteria to allow the predicted waste arising for each option to be considered.
- <b>Air quality</b>	Already identified	Identified as a sub criterion under Physical Environment
- <b>Water quality</b>	Already identified	Identified as a sub criterion under Physical Environment
- <b>The clean up of beaches</b>	Yes	Under the Physical Environment a sub criterion (Land Quality) has been identified, in addition a new sub criterion (Particle Contamination Onshore) has been identified. The use of these two sub criteria will allow detrimental impacts on land associated with some particle recovery techniques to be captured.
- <b>Pollution risks (eg oils spills from machinery involved)</b>	Yes	This will be taken forward for further consideration to the Scoring Panel as a new sub criterion (Environmental Hazards) under Physical Environment. This will allow the potential for environmental impacts under fault circumstances to be captured. UKAEA routinely implements environmental risk management techniques to control hazards, however avoidance of the hazard is recognised as the most appropriate technique, and therefore warrants inclusion as a criterion.
- <b>Waste disposal</b>	Already captured	Identified as a sub criteria (Radioactive Waste and Non-Radioactive Waste) under the Waste Arisings criterion.



Suggested criteria	Carried forward	Reason for decision
- Effect on natural resources (eg shingle, shell sand, seaweed).	Already captured	Identified as a criterion (Resource Usage). In addition, impacts on natural resources such as Land, Sea Floor and Water are captured as sub criteria within the Physical Environment criterion (Land Quality, Seafloor Quality and Water Quality).
<b>HEALTH AND SAFETY</b>		
- Effect on food and livestock health	Already captured	Identified as sub criteria (Onshore Flora and Fauna and Offshore Flora & Fauna) under Flora and Fauna. Any human impacts associated with the food chain will be captured within Public Health and Safety criteria. Economic Impacts sub criterion will include any detrimental impacts on farming associated with livestock health.
<b>TECHNICAL PERFORMANCE</b>		
- Ability to add new methods	Yes	A new sub criterion (Compatibility with Other Options) is proposed.
- That particles do not disperse further than 5 km from Dounreay	No	There is evidence that particles have already dispersed further than 5 km from Dounreay; hence, this is not possible.
- That particles are not accessible to the public	Already captured	This is captured within Public Health and Safety criteria. If the public cannot come into contact with a particle then an option will score well under this criterion.
- Permanence of the solution	Yes	This suggestion will be taken forward for further consideration by the Scoring Panel for inclusion as a sub criterion (Permanence of the Solution).
<b>SOCIAL AND ECONOMIC</b>		
- Ability to use beaches	Yes	A new sub criterion (Quality of Life) will be proposed to the Scoring Panel under Socio Economic impact.
- Effect on tourism	Yes	A new sub criterion (Tourism) will be proposed to the Scoring Panel under Socio Economic impact.
- Public confidence/public perception	Yes	This will be proposed to the Scoring Panel under new sub criteria (Quality of Life and Tourism).



<b>Suggested criteria</b>	<b>Carried forward</b>	<b>Reason for decision</b>
- <b>Ability to provide information and to educate</b>	Yes but not as a criterion	UKAEA acknowledges that this is crucial and will continue to provide information hence this is not a distinguishing factor between options.
- <b>Performance in a cost-benefit analysis (ie incorporating externalities such as deaths avoided and not purely operational costs).</b>	Already captured	The BPEO methodology includes consideration of externalities such as health and safety benefits as well as costs.
- <b>Provision of local employment</b>	Already captured	This is covered within the sub criterion (Economic Impacts) under Socio Economic Impact criteria.
- <b>Provision of long term employment</b>	Already captured	This is covered within the sub criterion (Economic Impacts) under Socio Economic Impact criteria.
- <b>Effect on Dunnet Bay as a key asset for the area</b>	Yes	This will be proposed to the Scoring Panel as additional sub criterion identified above (Quality of Life and Tourism).
- <b>Effect on trust of UKAEA</b>	No	UKAEA appreciates that this could be an issue but this needs to be managed outwith the scope of the BPEO and in the generation of a sound communication strategy and in continued commitment to open, honest and transparent working.
- <b>Cost of the options versus the benefits of spending the money locally elsewhere.</b>	No	This is outwith the scope of the BPEO. It is outwith our capability to spend the money on other social/economic issues.
- <b>Bad publicity for the nuclear industry</b>	No	UKAEA appreciates that trust is important but this needs to be managed outwith the scope of the BPEO.
- <b>Impact on local employment</b>	Already captured	This is covered within the sub criterion (Economic Impacts) under Socio Economic Impact criterion.
- <b>Impact on value of property and landowner estates</b>	Already captured	It is believed to be inappropriate that this is taken forward as a specific sub criterion. However, impacts that effect property price will be covered within Economic Impact sub criterion under Social Economic criterion.
- <b>Impact on local farming businesses</b>	Already captured	Farming is recognised as an essential part of the Caithness economy and as such is considered within the economic impacts sub criterion.



Suggested criteria	Carried forward	Reason for decision
<ul style="list-style-type: none"> <li>- <b>Impact on local business investments (eg holiday cottages, wave energy).</b></li> </ul>	Yes	<p>This will be proposed to the Scoring Panel as a new sub criterion (Tourism) under the criteria for Social Economics. In addition other economic impacts such as investment in renewable energy will be captured under Economic Impacts sub criteria.</p>
<b>COST</b>		
<ul style="list-style-type: none"> <li>- <b>value for money/cost benefit analysis</b></li> </ul>	No	<p>Cost-benefit analysis is a decision making tool as is the BPEO methodology. UKAEA's established process adopts the BPEO methodology which includes consideration of externalities such as health and safety benefits as well as costs.</p>
<b>Identified criteria which should not be considered</b>		
<p>Timescale within the decommissioning programme should not be considered.</p>	Yes	<p>Two sub criteria - Timescale within the Dounreay Site Clean-up Programme and Ability to Cope with Changes in the Timescale had been included in the list of attributes that was made public. Following views received it has been agreed to delete these from the list of attributes so that scoring of the options does not take account of the decommissioning programme.</p> <p>UKAEA acknowledges that particle remediation may be required beyond the clean up programme and the decision to continue with any management strategy would need to be taken in light of the NDA's Strategy and Scottish Executive policy at the time.</p>