

## PARTICLES RETRIEVAL ADVISORY GROUP (DOUNREAY)

### SUMMARY OF DISCUSSION and RECORD OF RECOMMENDATIONS and ACTIONS

#### 12<sup>th</sup> MEETING OF THE PARTICLES RETRIEVAL ADVISORY GROUP (DOUNREAY) – 18<sup>th</sup> December 2012

#### Members Present:

Prof Alex Elliott (Member) – **AE (Chairman)**  
 Dr George Hunter (Member) - **GH**  
 Prof Marian Scott (Member) – **MS**  
 Dr Andrew Tyler (Member) - **AT**

Dr Paul Dale (Technical Secretary) - **PD**

#### Apologies:

Prof Tim Atkinson (Member) - **TA**  
 Dr Jim Gemmill (Observer, SEPA) – **JG**  
 Ms Anna MacConnell (Observer, NDA)- **AM**  
 Mr Martin Macdonald (Observer, SG) - **MM**  
 Observer, DSG

#### In Attendance:

Ms Joanne Brown (Observer, HPA) - **JB**  
 Mr Phil Cartwright (Observer, DSRL) - **PC**  
 Mr Hugh Fearn (Observer, SEPA) - **HF**  
 Mr Bill Thomson (Observer, DSRL) – **BT**  
 Mr Mark Toner (SEPA) - **MT**

Mrs June Moore (Administration) – **JM**

Agenda Item	Summary of Discussion	Recommendation	Action	Status	Target Date
<b>1</b> <b>Chairman's Introduction</b>	<p>The Chairman welcomed all present to the 12<sup>th</sup> PRAG meeting. He advised the meeting that apologies had been received from Prof Tim Atkinson (Member), Dr Jim Gemmill (SEPA), Ms Anna MacConnell (NDA) and Mr Martin Macdonald (SG).</p> <p>AE informed the Group that TA was available for telephone consultation during the meeting, if required.</p>				

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<p><b>1</b> <b>Chairman's Introduction</b> <i>(continued)</i></p>	<p>AE informed the meeting that, for reasons which PC would clarify, this is the last meeting Phil Cartwright would attend on behalf of DSRL. PC confirmed that he was moving on to a new position and that he would no longer be involved in the work on particles.</p> <p>Following discussion, the Chairman expressed the Members' disappointment that PC was being withdrawn from the Group. AE said he wished to record the Members' appreciation of PC's contribution to the Group over the past years and stressed that the significant help and co-operation provided by PC and BT has proved vital to DPAG's and PRAG(D)'s work.</p> <p>The Chairman informed the meeting that PRAG's written response to the SEPA Consultation on the Dounreay Authorisation had been completed and sent on behalf of the Group by the due deadline.</p>	<p>The Members requested a copy of the document submitted to SEPA on behalf of the Group.</p>	<p>AE <b>agreed</b> to distribute a copy of the Consultation response submitted on behalf of PRAG, as prepared by AE and PD at the November meeting. <b>AE</b></p>	<p><b>Open</b></p>	<p><b>ASAP</b></p>
<p><b>2</b> <b>Minutes</b> <b>2.1</b> <b>Record of Previous Meeting(s)</b> <i>Paper M12/01</i></p>	<p>The draft Summary of Discussion and Record of Recommendations and Actions from the two-day meeting held on 13<sup>th</sup> and 14<sup>th</sup> November 2012, M12/01, was accepted with minor amendment to name of attendee.</p>	<p>.</p>	<p>November meeting minute to be published on the Website. <b>JM</b></p>	<p><b>Open</b></p>	<p><b>ASAP</b></p>

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<p><b>2.2</b> <b>Actions Arising</b> <i>Paper M12/02</i></p>	<p>The Chairman invited the Tec Sec to lead the Group through the actions outstanding from the previous meetings.</p> <p>The Tec Sec informed the meeting that Members' contracts would be renewed until the end of the FY to enable the Group to continue working to produce its final report to SEPA and DSRL by the end of March 2013 and he requested that all outstanding actions are completed to achieve this timeline. PD added that SEPA's current plan is for this Group to come to a close at the end of the FY. However, a final decision has not yet been taken and SEPA will consider all the variables before determining any future role for a group of independent experts.</p> <p>PC and BT provided a verbal summary update of various actions on DSRL, as detailed in Papers M12/01 and M12/02, in respect of outstanding information or data for the Group's report.</p> <p>BT informed the meeting that he had received a draft report from Nuvia, which he handed to AT.</p>	<p>The outstanding action points in Paper M12/02 were considered and <b>noted</b> as closed, superseded or carried forward as ongoing actions.</p> <p>The Chairman wished to <b>note</b> the outstanding assistance provided to the Group by Jason Bonniface at DSRL.</p>	<p>Actions carried forward or deferred from previous meetings to be recorded as an appendix to this document. <b>PD &amp; JM</b></p>	<p><b>Open</b></p>	<p><b>For next meeting</b></p>

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<p><b>3 Surveys Update – Beaches</b></p> <p><b>3.1 Sandside Beach</b></p> <p><b>3.2 Dounreay Foreshore</b></p> <p><b>3.3 Dunnett Beach</b></p> <p><b>3.4 Others</b></p>	<p>The Chairman invited DSRL to provide an update on beach monitoring.</p> <p>BT reported that three particles had been retrieved from Sandside Beach; all were of <i>minor</i> activity.</p> <p>BT reported that one <i>minor</i> particle had been retrieved from the Dounreay Foreshore.</p>				
<p><b>4 Investigation of Sr-Rich Particle</b></p>	<p>The Chairman invited DSRL to update the meeting on the further analysis of the ‘unusual’ particle.</p> <p>PC reported that the results from the Laboratory analysis were available, but that he and BT were concerned at the accuracy of these results. PC explained their concerns and informed the Group that procedures had been checked and the Lab had re-embarked on a much closer re-examination of the methodology used, in an attempt to address their concerns.</p> <p>The details of the results were considered and discussed at length. PC provided extensive information and answered all questions arising.</p>	<p>It was <b>noted</b> that DSRL still has half of the solution available for further analysis, if necessary.</p>			

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<p><b>4</b> <b>Investigation of Sr-Rich Particle</b> <i>(continued)</i></p>	<p>In response to the Chairman's request, PC also provided information on the metallurgist's opinion, which had been circulated to the Group earlier via e-mail. Further possible explanations for the origin of the 'unusual' particle were discussed and the impact this might have on the potential abundance of more particles of this type considered.</p> <p>A possible process which could have produced such particles was suggested. The potential for a new population of Sr-Rich particles in the area, not previously considered by DPAG or PRAG, was discussed.</p> <p>The Group considered whether this type of particle would require a new type of hazard classification. It was noted that the DPAG classification scheme was based on hazard rather than origin and it was unlikely that a new classification would be needed. However, JB offered to provide confirmation of this.</p> <p>The Group considered the probability of detection for this type of particle and following discussion, it was suggested</p>	<p>It was <b>noted</b> that the advice from PRAG(D) to SEPA is to request DSRL</p>	<p>It was agreed that JB would check the HPA report on the hazard posed by Dounreay particle to determine the potential classification of such a Sr-90 rich particle.</p>	<p><b>Open</b></p>	<p><b>ASAP</b></p>

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<p><b>4</b>  <b>Investigation of Sr-Rich Particle</b>  <i>(continued)</i></p>	<p>that the Group should recommend that SEPA should write to DSRL on this issue.</p>	<p>to implement proposed modifications to its existing detection system and software. Also, that further work be undertaken to establish the depth detection characteristics of this type of particle.</p>	<p>It was <b>agreed</b> that SEPA would submit a written request to DSRL.  <b>HF &amp; PD</b></p>	<p><b>Open</b></p>	<p><b>ASAP</b></p>
<p><b>5</b>  <b>Final Report to SEPA and DSRL</b></p> <p><b>5.1 Chapter on Sr-Rich Particle</b></p>	<p>The Chairman advised the Group that the meeting would consider the draft sections of the report currently available for consideration on-screen and that 'live-edit' would be executed by MT to incorporate any amendments or additions to the text agreed by consensus during the meeting. This immediacy would assist the authors of the various sections with the work required to complete the report by the due deadline.</p> <p>AE invited GH to lead the Group through his draft chapter on the Sr-rich particle. GH tabled a paper on-screen and the meeting discussed the content. AE suggested that the chapter's parameters had been expanded by the discussion under agenda item 4.</p> <p>Various additions and changes were considered and the draft document was duly amended on-screen.</p>	<p>It was <b>noted</b> that a separate chapter may be required on this particle, because of its importance. It was <b>suggested</b> that this chapter could follow after the "monitoring" section.</p>	<p>It was <b>agreed</b> that this section now has an increased importance and GH will provide a new draft of a separate chapter.  <b>GH</b></p>	<p><b>Open</b></p>	<p><b>Before next mtg</b></p>

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<p><b>5</b> <b>Final Report to SEPA and DSRL</b> <i>(continued)</i></p> <p><b>5.2 Chapter on Offshore Retrieval Operation</b>  <i>Paper M12/04</i></p>	<p>In TA's absence, the Chairman said he would lead the Group through the draft text provided by TA, in Paper M12/04. AE spoke to the paper and the various comments attached to the text by TA were addressed.</p> <p>PC informed the meeting that DSRL had prepared an animated PowerPoint presentation showing the build up over time of particle finds, one for <i>relevant</i> and <i>minor</i> and a separate animation showing the accumulated detection of <i>significant</i> particles. The presentation was shown to the Group and various individual slides and maps considered.</p> <p>AE led the Group through TA's paper and various additions and changes were considered. The draft document was amended on-screen and relevant annotations added accordingly.</p> <p>As a point of clarification for chapter referencing of historic papers and reports (raised by GH) PC advised that all DSRL's papers relating to this issue are retained. PD confirmed that, since 2005, JM has maintained a fully comprehensive archive of all papers considered by DPAG and PRAG.</p>	<p>It was requested that DSRL provide some images between 2007 and 2012 which showed the outer boundaries of all offshore monitoring undertaken, rather than each individual area, not shown in the animation.</p> <p>During the Group's deliberations, AE requested that BT address TA's comment in the 3<sup>rd</sup> paragraph of his draft text paper</p>	<p>Jason Bonniface to add data and send images to TA. <b>DSRL</b></p> <p><b>DSRL BT agreed</b> to check the figure required by TA. <b>DSRL</b></p> <p>It was <b>agreed</b> that further work is required to incorporate the suggested amendments and various additions to the draft text and to address the comments annotated to this chapter. <b>TA</b></p>	<p><b>Open</b></p> <p><b>Open</b></p> <p><b>Open</b></p>	<p><b>ASAP</b></p> <p><b>ASAP</b></p> <p><b>Before next mtg</b></p>

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<p><b>5</b> <b>Final Report to SEPA and DSRL</b> <i>(continued)</i></p> <p><b>5.3 Chapter on Beach Monitoring</b></p> <p><b>5.4 Introduction and Summary Sections</b></p> <p><i>Paper M12/03</i></p>	<p>The Chairman invited AT and MS to present their draft chapter on beach monitoring. The document was tabled on-screen and the Group were led through the draft text. Various additions and changes were suggested and considered by the Group. The draft document was amended on-screen accordingly.</p> <p>AE spoke to his paper M12/03 and the draft text for the introduction chapter was considered.</p> <p>It was suggested that some data are subject to verification from DSRL.</p> <p>AE led the Group through each section of the chapter and the content was considered.</p>	<p>.</p> <p>It was <b>suggested</b> that a schematic diagram could be inserted into this section.</p>	<p>It was <b>agreed</b> that maps of Sandside beach showing enhanced monitoring would be provided. <b>DSRL</b></p> <p><b>MS</b> and <b>AT</b> agreed to undertake further work on this chapter. <b>MS &amp; AT</b></p> <p>It was <b>agreed</b> that Fig. 2.4 and/or Fig 2.12 from the DPAG Fourth Report would be incorporated into this chapter. <b>PD</b></p> <p>DSRL to check and provide verification on some points in this chapter. AE to liaise with BT. <b>AE &amp; BT</b></p>	<p><b>Open</b></p> <p><b>Open</b></p> <p><b>Open</b></p> <p><b>Open</b></p>	<p><b>ASAP</b></p> <p><b>ASAP</b></p> <p><b>Before next mtg</b></p> <p><b>Before next mtg</b></p>



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<p><b>5</b> <b>Final Report to SEPA and DSRL 5.4 (continued)</b></p>	<p>Amendments were incorporated into the text and annotations added to the document during live-edit.</p>		<p>It was <b>agreed</b> that the final slide from DSRL's animated presentation on Activity Breakdown be inserted for Fig.3 in section 1.6 - Plume. <b>PD &amp; AE</b></p>	<p><b>Open</b></p>	<p><b>Before next mtg</b></p>
<p><b>6</b> <b>Future PRAG(D) Work Programme</b></p>	<p>PD stated that the completion of the Group's report to meet the now extended deadline may require two further meetings in the New Year. PD suggested that, bearing in mind time constraints and other commitments, a meeting held during the first half of February would provide a full month after the holidays for the chapter authors to revise their text and present it ready for formatting and a full run-through of the whole report in mid-February.</p> <p>A further meeting in the second half of March would be for final editing and proofing.</p> <p>PD informed the meeting that BT had confirmed that he will be the Members' lead contact at DSRL, for the moment.</p>	<p>It was <b>suggested</b> that two further meetings of the Group should be held on the following dates:</p> <p><b>Wednesday 13 February</b></p> <p><i>and a <b>final</b> meeting on</i></p> <p><b>Tuesday 26 March</b></p> <p>GH <b>requested</b> that the assessment of health effects should be provided by 3<sup>rd</sup> February.</p>	<p>It was <b>agreed</b> that two further meetings be arranged for the proposed dates. <b>JM</b></p> <p>HPA <b>agreed</b> to provide the health assessment on the Sr-rich particle to GH by 1<sup>st</sup> February. <b>HPA/JB</b></p> <p>It was <b>agreed</b> that all requests for information and data will be channelled through BT at DSRL. <b>All Members</b></p>	<p><b>Open</b></p> <p><b>Open (as in Item 4)</b></p> <p><b>Open</b></p>	<p><b>ASAP</b></p> <p><b>By 1<sup>st</sup> February</b></p> <p><b>Ongoing</b></p>

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<b>7</b> <b>Any Other Business</b>	Letters of extension to contracts were distributed to the Members of the Group by JM.				
<b>8</b> <b>Chairman's Closing Summary</b>	<b>AE</b> thanked those present for their attendance and contributions to the meeting.				

**Acronyms**

DPAG	Dounreay Particles Advisory Group
DSG	Dounreay Stakeholders Group
DSRL	Dounreay Site Restoration Limited
FY	(SEPA) Financial Year: 1 <sup>st</sup> April 2012 to 31 <sup>st</sup> March 2013
HPA	Health Protection Agency
NDA	Nuclear Decommissioning Authority
PRAG(D)	Particles Retrieval Advisory Group (Dounreay)
SG	(The) Scottish Government
SEPA	Scottish Environment Protection Agency
Sr-Rich	A particle of irradiated nuclear fuel which has significantly greater activity of Sr <sup>90</sup> than Cs <sup>137</sup>