

PARTICLES RETRIEVAL ADVISORY GROUP (DOUNREAY)

SUMMARY OF DISCUSSION and RECORD OF RECOMMENDATIONS and ACTIONS

8th MEETING OF THE PARTICLES RETRIEVAL ADVISORY GROUP (DOUNREAY) – 2nd February 2012

Members Present:

Prof Alex Elliott (Member) – **AE (Acting Chairman)**
 Prof Tim Atkinson (Member) - **TA**
 Dr George Hunter (Member) - **GH**
 Prof Marian Scott (Member) – **MS** (*during morning only*)
 Dr Andrew Tyler (Member) - **AT**
 Dr Paul Dale (Technical Secretary) - **PD**

In Attendance:

Ms Joanne Brown (Observer, HPA) - **JB**
 Mr Phil Cartwright (Observer, DSRL) - **PC**
 Mr Stuart Chalmers (Observer, NDA) - **SC**
 Mr Hugh Fearn (Observer, SEPA) - **HF**
 Mr Jim Gemmill (Observer, SEPA) – **JG** (*during afternoon only*)
 Mr Bill Thomson (Observer, DSRL) - **BT**
 Mr Mark Toner (Observer, SEPA) - **MT**

Apologies:

Mr Stuart Hudson (Observer, SG) - **SH**
 Observer, DSG

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

Agenda Item	Summary of Discussion	Recommendation	Action	Status	Target Date
1 Acting Chairman's Introduction	<p>The Acting Chairman welcomed all present to the 8th PRAG meeting.</p> <p>AE advised that MS would attend for a brief period of the meeting only, due to her teaching commitments today, and that JG had conveyed his apologies for his unexpected absence due to an urgent matter arising which required his immediate attention. JG had indicated that he hoped to join the meeting later.</p>	<p>The Acting Chairman noted and accepted the apologies conveyed by SH on behalf of the SG.</p>			

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1 Acting Chairman's Introduction <i>(continued)</i>	<p>PC raised the matter of the Acting Chairman's position in the Group and requested that consideration be given to confirming AE's appointment as Chairman of PRAG(D), following what DSRL believed to be a successful period served as Acting Chairman.</p>	<p>The Group agreed unanimously that it was deemed appropriate that Professor Elliott should be appointed to the position of Chairman of PRAG(D), with immediate effect.</p> <p>AE thanked the Group for its support for his appointment as Chair, which he said he regarded as a vote of confidence.</p>	<p>PD stated that SEPA is wholly content with this appointment and that written confirmation would be issued by SEPA to AE in due course.</p> <p>Tec Sec</p>	<p>Open</p>	<p>ASAP</p>
2 Minutes	<p>AE informed the meeting that the Minutes outstanding from previous meetings were unavailable and will be considered at the next full meeting of the Group.</p>		<p>Draft documents to be prepared.</p> <p>PD/MT/JM</p>	<p>Open</p>	<p>For next meeting</p>
2.1 Record of Previous Meeting(s) <i>Paper 001 (to follow)</i>	<p>The Acting Chairman stated that the draft Summary of Discussion from the meeting held on 12th December 2011, paper M8/001, will be considered by the Group at the next meeting.</p>	<p>Due to the demands of MT's work on another site, and JM's absence last year, it was noted that the Minute from the December meeting would be carried forward for consideration at the next meeting.</p>	<p>Note on the August Workshop and Minute of December meeting to be prepared by MT and JM for Members' consideration at the next meeting.</p> <p>Tec Sec/MT/JM</p>	<p>Open</p>	<p>For next meeting</p>
2.2 Actions Arising <i>Paper 002 (to follow)</i>	<p>AE informed the Group that the Record of Recommendations and Actions arising from the December 2011 meeting would be brought forward to the next PRAG meeting.</p>	<p>It was noted that the record of outstanding action points arising from M7 had been delayed and would be included in the papers for M9.</p>	<p>Paper M8/002; a note of actions arising/outstanding at the December 2011 meeting will be submitted for consideration at the next meeting.</p> <p>Tec Sec/MT/JM</p>	<p>Open</p>	<p>For next meeting</p>

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<p>3 Surveys Update – Beaches <i>Paper 003 (circulated by e-mail from PC)</i></p> <p>3.1 Sandside Beach</p>	<p>The Acting Chairman invited DSRL to speak to Paper M8/003, “Beach Data”, a report circulated electronically to the Group by PC on 18th January.</p> <p>PC presented the results of the continuous period of monitoring carried out on Sandside Beach during the period October 2010 to December 2011, as recorded monthly, together with the summary information for Sandside surveys during the whole period (Table 4, Paper M8/003).</p> <p>PC advised the meeting that, although the legal process in respect of Sandside Beach has not been formally completed, DSRL continue to have access to the beach for monitoring purposes. He reported that the beach has started to accrete again, after considerable erosion during November and December. PC stated that it would be interesting to note whether there would be a repeat of the last year’s survey results following a build-up of the beach again. He said that the important issue is to continue monitoring to contribute to the data set.</p> <p>In response to AE’s question regarding the impact of recent storms on the beach, PC reported that there is no re-shaping of the beach because there is insufficient sand for redistribution.</p>	<p>The Group again emphasized the value and importance of an extended continuous period of surveying to establish a good data set.</p> <p>It was noted that the local population reported that the severe wind storms experienced in the area during early January were the worst in living memory and that DSRL had taken the unprecedented action of halting the movement of personnel around the site, for safety reasons. PC informed the Group that the storms had caused a significant and costly amount of damage on the Dounreay site. It was noted that the storms could have the potential to cause a substantial amount of disturbance to the sea-bed.</p>			

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<p>3.2 Dounreay Foreshore</p> <p>3.3 Dunnet Beach</p> <p>3.4 Others</p>	<p>PC addressed the summary document, covering the beach surveys carried out on the Dounreay West Foreshore, the East Foreshore and the East-to-West surveys. BT reported that the East Foreshore has been completely stripped of sand and although monitoring is continuing on the West Foreshore, there is very little sand there.</p> <p>The Group was advised that the next Dunnet survey is due in March.</p> <p>BT stated that no monitoring as been possible at Crosskirk Beach for two months; there is no sand on the beach.</p> <p>The Acting Chair thanked PC and BT for providing all the information the Members had requested during the continuous monitoring.</p> <p>AE suggested that this item be re-addressed when MS was present at the meeting.</p>	<p>PD suggested that it would be useful to determine the current depth of the beach, to establish if there is no longer sufficient depth of sand present to mask any significant sources at depth. PC agreed that this would provide some verification.</p> <p>It was noted that the action on DSRL to provide beach data, requested for the preparation of this section of the Group's annual report, has now been completed.</p>	<p>It was agreed that DSRL would carry out test measurements to establish the current depth of sand. DSRL/PC</p> <p>AT confirmed that he has no further requirements on the beach data for inclusion in the calculations for this year's report.</p>	<p>Open</p> <p>Closed</p>	<p>ASAP</p>
<p>4 Offshore Retrieval Operation</p>	<p>SC asked Members to consider their recommendations for future off-shore operations, which the NDA proposed to use as a guide for the scoping criteria within the contract currently being drawn up with the new owners.</p>	<p>AE noted the request and suggested that he address this later in the meeting, after the Group had had an opportunity to discuss paper M8/004 and to consider the presentation from AT.</p>			

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<p>4 Offshore Retrieval Operation <i>(continued)</i></p>	<p>The Acting Chairman invited DSRL to outline their current proposals for the 2012 operation.</p> <p>PC reported that DSRL had met with the NDA and agreed to plan for mobilisation of the equipment for the next operational season in May 2012. He informed the meeting that the first priority of the season would be to finish coverage of the main plume.</p> <p>PC advised the Group that DSRL had written to local fishermen, requesting their support to work just outside the plume, in order to obtain a 'quick result' on the survey of that area, if possible, then to move back down into the plume. He said that an area of 36 hectares is proposed in terms of total survey coverage and the NDA has agreed to that. PC added that, following initial discussions with the new owners of the site, it was in agreement with the programme of work proposed.</p> <p>PC requested that PRAG Members provide feedback to DSRL during this season's retrieval operation. He said that a meeting to obtain advice and opinions from the Group would be very important through this phase of the operation. PC said that it would take approximately two weeks to complete the initial area; allowing for setting up the equipment and training the operators sufficiently to work up to optimum speed.</p>	<p>The Members agreed that a meeting to deliberate the implications of the data would be beneficial while the work is in process.</p> <p>It was agreed that a PRAG meeting would be held in June/July, at DSRL's request.</p>			

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<p>4 Offshore Retrieval Operation <i>(continued)</i></p>	<p>PC said that, ideally, DSRL would like a meeting of PRAG(D) during the two weeks of mid-to-end of June, to provide feedback and relevant guidance on the survey areas part-way through the operation.</p> <p>BT stated that the current plan was for “setting up” equipment during the first or second week of May, weather permitting. He informed the Group that, once retrieval work has commenced, DSRL will forward data to the Group on a weekly-report basis during the operational period and provision of regular, on-going comment from the Members would be valuable throughout the retrieval operation.</p> <p>Following discussion and consideration of maps detailing a proposed 42 hectare area of coverage (total area depending on retrieval rate; contractor has 36 hectares planned) PC concluded by stating that the programme for 2012 will be challenging but, with good weather, he considered it to be achievable. He added that it had already been agreed with the contractor that work will be stopped if there is evidence of deterioration in performance. PC reminded the Group that last year the operating performance level consistently ran at 95% but dropped considerably towards the end of the programme.</p>	<p>The meeting noted that, due to the existing diary commitments of several members of the Group during June, it might be necessary to hold the proposed meeting during July. PC agreed that this would be acceptable.</p> <p>AE proposed and Members agreed that, in addition to meeting during the retrieval operation, if DSRL circulate the operational data on a weekly basis, Members will provide regular feedback and comment on the survey.</p> <p>It was noted that the NDA are content with the outline plan.</p>	<p>AE requested that JM seek Members’ availability and arrange a meeting for a mutually-suitable date during the second half of June or as early as possible in July. JM</p> <p>Members to provide on-going comment and feedback to DSRL on the operational results, which will be circulated on a weekly-report basis. All</p>	<p>Open</p> <p>Open</p>	<p>ASAP</p> <p>Weekly, during retrieval operation</p>

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<p>4 Offshore Retrieval Operation <i>(continued)</i></p>	<p>PD said that SEPA welcomed the fact that DRSL have a plan for this year's retrieval operation and that it has been approved by the NDA. He added that this commitment to continue with the recovery and beach monitoring regimes has resulted in SEPA considering that there is no immediate need to press ahead with any RCLR assessment.</p> <p>SC stated that the new owner cannot formally commit to anything at this time, until the take-over becomes effective, on 1st April. It also did not yet have a definitive piece of work. He said that the NDA are looking to this Group to provide guidance on the exact scope of further work required, to enable these criteria to be specified and defined within the contract currently being prepared.</p> <p>PD confirmed that, given the new owner's commitment and with adequate management arrangements in place, SEPA would not consider it necessary to proceed with the RCLR assessment.</p>	<p>The Group noted that the NDA was asking PRAG(D) to define the scoping criteria of work in respect of the off-shore particle retrieval operation, for inclusion in the contract with the new owner of the site.</p>			
<p>5 SSE Consultation on Undersea Cable from Orkney to Caithness</p>	<p>PD advised the meeting that SEPA had captured advice from this Group before sending its response to the SSE. Discussion ensued regarding subsequent contact from the SSE to TA, which he reported that he had conveyed to AE and PD for a Group response. It was not clear whether SSE is seeking advice from PRAG or from TA.</p>	<p>It was agreed that PC would contact Warren Jones to determine whether he is now seeking advice directly from PRAG(D). If so, it was noted that the remit of this Group does not include provision of advice to SSE. If SSE does require advice directly from this Group,</p>	<p>PC to contact Warren Jones to ascertain whether he is seeking clarification of SEPA's advice directly from the Particles Retrieval Advisory Group (Dounreay), from TA or DSRL. If SSE does wish to obtain the Group's advice by direct contact, a method to</p>		

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<p>5 SSE Consultation on Undersea Cable from Orkney to Caithness <i>(continued)</i></p>	<p>PC informed the Group that he also had been contacted by the SSE, seeking further clarification of the advice it had received.</p> <p>PD said it was not within the remit of the group to undertake work for SSE.</p>	<p>SEPA or DSRL would need to determine how the financial implications would be met. The current charging scheme would not permit cost recovery for work on this issue.</p>	<p>determine how any work incurred by PRAG(D) is to be funded would need to be agreed beforehand. PC/DSRL/SEPA</p>	<p>Open</p>	<p>ASAP</p>
<p>Agenda item re-visited for contribution from MS</p> <p>3 Surveys Update – Beaches <i>Paper 003</i> <i>(circulated by</i> <i>e-mail from</i> <i>PC)</i></p>	<p>AE suggested that the meeting return to agenda Item 3 at this point, upon the arrival of Prof Scott.</p> <p>MS joined the meeting at 11:10 am and was invited by the Acting Chairman to present her contribution to the Group. MS informed the meeting that, having considered the survey data in paper M8/003, she had prepared some ‘raw’ data in PowerPoint format for the Group’s consideration and discussion. The presentation was shown to the Group and the contents discussed. MS advised the Group that she had focussed the assessment on particle activity rather than the numbers of particles and further work is required on these data, as no adjustment had yet been made for particle numbers.</p> <p>MS outlined her initial conclusions but stressed that there were still subtle adjustments to be made before the final data are ready for the Group’s annual report.</p>	<p>Following extensive discussion regarding any potential changes in the numbers of particles present on the beach, identifiable from the full year’s monitoring results now available to the Group, it was agreed by the Members that, although one full year of continuous survey data is extremely valuable, they would be reluctant to base any significant conclusions on one year’s worth of data alone.</p> <p>It was noted that DSRL have provided a list and maps for the total areas monitored.</p>	<p>It was recommended that at least one further year of continuous monitoring is requested, to determine whether it is possible to conclude that there are changes to the numbers of particles estimated to be present on Sandside in a full year.</p> <p>MS and AT agreed to meet to make the necessary refinements and adjustments to these calculations. MS and AT</p>	<p>Open</p> <p>Open</p>	<p>On-going</p> <p>ASAP</p>

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<p>6 Preparation of Group's Report to SEPA</p>	<p>AE suggested that the Group begin by considering the contents of TA's paper, M8/004, (circulated electronically on 1/2/12), and invited TA to speak to his paper, as displayed on-screen.</p> <p>As TA led the Group through his paper, various sections were considered and discussed.</p> <p>During the Group's deliberations on the contents of paper M8/004, the Acting Chairman invited AT to give a PowerPoint presentation he had prepared for the meeting, entitled "Estimating the Theoretical Detection Capability of SeaHog". AT led the Group through his presentation.</p> <p>Returning to paper M8/004, the matter of "Lower Bound Detection Efficiency" was discussed. It was suggested that present text could be substituted with: <i>"From these data we believe it to be in excess of ..."</i></p> <p>TA stated that he would like to introduce the Sandbed Exercise data into the text.</p> <p>MS left the meeting at 12:30 pm.</p> <p>The Group discussed the comparison of ROV actual particle finds with the numbers predicted in DPAG's contour maps. AE referred to Table 5.1 in the DPAG 4th Report.</p>	<p>It was noted that there were several points in the paper which were subject to verification (as highlighted).</p> <p>During the ensuing discussion, it was agreed that Operator Observation appears to be more effective than Signal Alert during 'live' operations.</p> <p>Following further discussion, it was agreed that TA would re-draft his paper to incorporate the various amendments noted and discussed, and submit the revised version to AE for further additions and editing.</p> <p>AE agreed to insert the relevant section into the document.</p>	<p>Amendments were agreed and the requirements for additional text noted and recorded in the draft paper. Document to be revised by TA, then by AE, before circulation of a revised draft to the Members for their further consideration and comments.</p> <p>TA, AE, Other Members</p> <p>AE to add section relating to 'Sandbed' data. AE</p>	<p>Open</p> <p>Open</p>	<p>By 16th February</p> <p>By 16th February</p>

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<p>6 Preparation of Group's Report to SEPA <i>(continued)</i></p>	<p>It was suggested that any apparent discrepancies in the DPAG predications against those established in recent surveys should be addressed in the forthcoming annual report.</p> <p>During the discussion, PD stated that he considered it entirely appropriate for the Group to address any discrepancies in particle predictions between DPAG's estimates and the current data provided by the recent offshore surveys.</p> <p>PC was asked to clarify the method DSRL had used to calculate the kernel density for the meeting and this was provided.</p> <p>JG joined the meeting at 2:30 pm.</p> <p>The meeting considered the 'Implications' section of paper M8/004. During the discussions, the Group considered the value of recommending an ROV survey to the area Northwest of the main plume.</p> <p>Further work required to complete all sections of the annual report was considered and identified.</p>	<p>Following deliberations, AE undertook to discuss with MS the feasibility of using the kernel density model to extrapolate a method of determining particle predictions.</p> <p>It was agreed that the information within paper M8/004 was largely sufficient for the Group's requirements.</p> <p>It was agreed that further data is required on the beach monitoring section for the annual report. AT and MS were asked to produce a draft within the next 3 weeks.</p> <p>It was agreed that AE and PD will produce a draft of the remaining sections of the annual report.</p>	<p>AE and MS to consider 3 different methods of formulating predictions, as discussed during the meeting. AE & MS</p> <p>MS and AT will provide a draft section for circulation to Members. MS AT</p> <p>AE and PD will prepare text for the Introduction and Summary sections of the draft annual report. AE & PD</p>	<p>Open</p> <p>Open</p> <p>Open</p>	<p>By 16th February</p> <p>By 22nd February</p> <p>By 22nd February</p>

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7 Future PRAG Work Programme	<p>The Group's immediate work programme had been fully considered and identified during the meeting.</p>	<p>The outstanding areas of work remaining for all sections had been noted by the Members, to facilitate completion of the annual report by the due deadline.</p>	<p>The Members were requested to provide their revised draft text sections as soon as possible. AE and PD will collate the sections submitted to produce a complete draft report for circulation to the Members thereafter. All Members/Tec Sec</p>	<p>Open (as noted above)</p>	<p>All dates as noted above, to meet due deadline: Produce Annual Report by end of FY</p>
7.1 Future Meetings	<p>The Acting Chairman said it was not in his gift to confirm the continuation of the Group to hold future meetings after current contracts expire.</p>	<p>It was noted, however, that DSRL had requested a meeting of the Group during this year's offshore retrieval operation.</p>	<p>JM to identify Group's availability within dateline specified by DSRL and arrange meeting accordingly, as recorded in item 4 above. JM</p>	<p>Open</p>	<p>ASAP</p>
8 Any Other Business 8.1 Identification of 2012 Off-shore Work Programme	<p>The Acting Chairman invited any other items of competent business.</p> <p>AE suggested that consideration be given to SC's request for the Group's advice on the scoping criteria to be included in the NDA's contract with the new owners, in respect of future off-shore monitoring operation(s).</p> <p>The meeting considered whether the 2012 season could determine whether further work is required. AE said that any <i>significant</i> particle finds out to the northwest area, outwith the current main</p>	<p>Following discussion, an overall recommendation for future work was agreed by the Members. The Members' advice was noted by SC and he thanked the Group for its guidance.</p>			

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8.1 Identification of 2012 Off-shore Work Programme <i>(continued)</i>	<p>plume, would indicate that the Group could be considering a completely different operational scenario. During the discussion, SC suggested that 2013 may, potentially, be the final year of sub-sea monitoring.</p>				
8.2 Beach Monitoring	<p>The meeting considered the matter of continued monitoring of the beaches. Sandside beach and Dounreay foreshore are presently monitored monthly and the Group discussed the potential future requirement and possible end-point for this regime of monitoring. This included consideration of purpose: for public safety or to obtain research data.</p> <p>PC stated that the currently-funded programme was due to be completed in October 2012. GH raised the issue of exploring survey cost-efficiencies rather than programme reduction. The possibility of imposing a less frequent monitoring schedule, but maintaining the same quality of detection equipment, was discussed.</p> <p>The schedule of monitoring of other beaches was also discussed.</p> <p>During the deliberations, PC informed the Group that there was no replacement available for the survey equipment currently in use.</p>	<p>The Group noted that the current schedule of continuous monitoring is providing a substantial amount of very useful data.</p> <p>It was recommended that the current <i>status quo</i> of DSRL's commitment, in terms of frequency, quality and standard of monitoring, should be maintained for the time being.</p> <p>The Group agreed that at least one further year of continuous monitoring of Sandside beach is required.</p> <p>AE said that the Members would consider continuation and frequency of monitoring the beaches and provide recommendations in its annual report.</p>			

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8.2 Beach Monitoring <i>(continued)</i>	During discussions, PC advised that although DSRL continually reviews its surveying practices and operational costs, there are no current plans to source new equipment.	It was agreed that AE and PD would produce a draft section summarising the Members' recommendations on future beach monitoring regimes.	Draft text to be produced by AE and PD for circulation to the Members for their consideration and inclusion in the annual report. AE and PD	Open	By 22nd February
8.3 Information of note from DSRL	<p>PC said that he had several items of information, or interest, for the Group:</p> <ul style="list-style-type: none"> i) He intended to praise the work of PRAG(D) during his presentation of a paper on Dounreay Particles to the forthcoming conference of IChemE; ii) The sub-sea equipment used for the offshore retrieval operation was entered into the MacRobert Trust Prize for innovation; iii) DSRL have, very recently, met with SEPA to discuss the decommissioning of the diffuser. The work will not be undertaken during this year, but SEPA will provide DSRL with advice on the way forward; iv) SEM EDAX analysis: PC informed the meeting that DSRL are losing the capability to do this work because it has lost, or will soon lose, all personnel with the necessary expertise. 				

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9 Acting Chairman's Closing Summary	AE thanked those present for their contributions and support.	AE asked the Members to note the various sections requiring further work for the completion of the PRAG annual report, as requested during the course of this meeting.	Members agreed to provide outstanding draft sections to complete the annual report, as discussed and agreed during the meeting. All Members	Open	As noted above.

Acronyms

DSG	Dounreay Stakeholders Group
DSRL	Dounreay Site Restoration Limited
FY	(SEPA) Financial Year: 1 st April 2010 to 31 st March 2011
HPA	Health Protection Agency
NDA	Nuclear Decommissioning Authority
PRAG(D)	Particles Retrieval Advisory Group (Dounreay)
RCLR	Radioactive Contaminated Land Regulations
ROV	Remotely Operated Vehicle
SG	(The) Scottish Government
SEPA	Scottish Environment Protection Agency
SSE	Scottish and Southern Energy