Minutes of the Forty First Depleted Uranium Environmental Review Committee (DUFERC) Meeting held at MOD Netheravon on the 5th October 2005

Present:

[redacted] (Acting Chairman and Secretary)
[redacted] SO2 RAD (CESO A)
[redacted] DSTL QQ RPA
[redacted] DSTL Research Scientist

Apologies; [redacted]

1. Introduction

1.1 [redacted] welcomed the committee to Netheravon. He then presented an update from [redacted] regarding the changes at the MOD VPU and the issues likely to be discussed at the DUWG, which had now been subsumed by the Heavy Metals Working Group (HMWG). These changes included the fact the [redacted] was to retire shortly and the post of Dept. Director VPU would disappear. In addition, it was stated that that future of the DUWG was to be considered at the next meeting of the HMWG. MB commented that Dr Morgan's was of the opinion that interest in DU issues had waned following the publication of scientific evidence that DU was not the health hazard that it had once been considered.

1.2 [redacted] pointed out that, although there were a great many papers on the subject, public opinion tended to be media driven, rather than informed by scientific research and, as such, could easily be re kindled by newspaper or television activity.

1.3 [redacted] stated that from a QQ corporate point of view, the insurance companies that underwrote QQ were now far less concerned about QQ involvement with DU.

1.4 [redacted] added that DSTL's experience was that individual members of HM armed forces had expressed less interest in DU of late.

1.5 [redacted] asked if the chair could obtain a copy of the HMWG minutes for her.

Action 41/1 [redacted] to pass a copy of HMWG minutes to [redacted] at DSTL Alverstoke

2. Previous minutes and Matters arising

2.1 Actions

40/1 [redacted] **to Report on Kirkcudbright Marine Survey**
[redacted] asked if this could be addressed as part of a full presentation latter in the meeting. [redacted] The chair agreed

40/2 [redacted] **to report on current position of the DU research programme.**
[redacted] stated that she had had insufficient time to address this, as she was not a member of the DUFERC and had therefore not received a copy of the previous minute. [redacted] as the secretary, apologised for this oversight.
[redacted] reported that the reports were not published as yet but, as far as she knew, there was nothing of note to report.

Action 41/2 on [redacted] to include [redacted] on circulation of DUFERC Minutes

2.2 [redacted] asked if DSTL could clarify what was meant by DESD. [redacted] answered that it is what used to DRPS but, as they had been known as DRPS for so long, it was acceptable, for correspondence purposes, to prefix mail addressed to them as DSTL Alverstoke. [redacted] added that, strictly, it was DSTL (ESD).

3. Kirkcudbright Report. ([redacted] written submission) Presented by [redacted]

3.1 [redacted] reported that there had been no firings of DU at KTA since the last DUFERC. However, following on from the discussions about future firings at the previous meetings, [redacted] had sought clarification from [redacted] (SO2ISS) at MOD Abbey Wood. He had confirmed that the MOD planned to fire 320 DU rounds from KTA over the next ten years. These would be in two batches of 160The first batch was to be fired in September 06.

3.2 [redacted] stated that he was a little surprised by the number of rounds and that he could not understand the rational behind proof firing what is, in effect, solid shot when a visual inspection would suffice.

3.3 [redacted] stated that public perception would need to be considered and that it would be difficult to defend the firings, unless the level of environmental/safety considerations were similar to those that were previously in place.

3.4 [redacted] raised the issue of environmental sampling of batteries where DU is to be used.

3.5 [redacted] suggested that if the batteries to be used were the same as used previously, it should have no impact on long term sampling. [redacted] advised the committee that the current protocol had been based on a model used for nuclear sites and was more relevant to an even spread of radioactive contamination in the environment, rather than the patchy contamination seen

at KTA. [redacted] stated that the protocol had been kept in place more from the point of view of public perception than for the scientific assessment of the mobility of DU in the environment. As such, particularly with regard to firing points that were no longer in use for firing DU, it had probably accrued as much information as it is likely to.

3.6 [redacted] asked what firing points are likely to be used for the proof firing. [redacted] replied that Chapman and Balig, in conjunction with India target, were the most likely.

3.7 [redacted] stated that [redacted], as the Commandant of KTA, will need to ensure that [redacted] is made aware of the broader issues surrounding the firing of DU and also to ensure that the [redacted] is aware that he should liaise with MOD VPU.

Action 41/3 [redacted]s and [redacted] to ensure that PR, Radiation Safety and Environmental issues are discussed and addressed during the planning stage for the proof firing.

3.8 [redacted] had left a request that any presentation material would be sent on to him. [redacted] passed a copy of her environmental presentation to the chair for forwarding to [redacted]

Action 41/4. [redacted] to ensure that the environmental presentation is passed to [redacted]

3.9 There was some further discussion surrounding environmental sampling at the KTA. [redacted] asked [redacted] who the NERC team was and what was their relationship with the MOD/DSTL. [redacted] replied that NERC was a consortium of academics from various universities that were working within the DSTL DU research programme. Their research included investigation into the effects of micro-organisms on the breakdown and mobilisation of DU in the environment. [redacted] went on to ask if it was likely that this was to be usable in future land remediation and if she knew the timescale for the completion of their research work. [redacted] replied that at this time the future use of microbiology for DU contaminated land was not known. [redacted] commented that the timescale for the research was linked to the lifetime of the DU research programme, so it was likely to be 3 years. [redacted] Asked if microbiological action could reduce the radiological half life of DU. [redacted] replied that it would not.

3.10 [redacted] reported that he would, as part of his duties as SO2 RAD visiting KTA, observe the next marine sampling.

4. Eskmeals Report. [redacted]

4.1 [redacted] reported that, currently, there were 6 activities related to DU planned for the VJ facility.

- The Challenger investigation, dismantling and disposal.
- The monitoring and disposal of the contaminated trailer
- The preparation of ammunition for disposal.
- The dismantling and disposal of two light armoured vehicles

- The preparation of MOD sundry DU stock for disposal.

There was also some interest from BAE in using the facility for the decontamination/disposal of DU contaminated gun barrels.

4.2 Expanding on the above points [redacted] gave the committee an update on each point.

4.3 The first stage of the Challenger programme has been completed. The vehicle is within the RUBB building and has had an initial inspection by the MOD investigation team. It has now been made secure and QinetiQ and BAE are awaiting clearance from MOD TSS to proceed with the next stages of the project.

4.4 The contaminated trailer is now within the RUBB building and the decontamination / dismantling is programmed to be carried out concurrently with the work on the main vehicle.

4.5 The ammunition from the main vehicle has been certified free from explosive and has been moved into the VJ active store. When the contract is in place, DSTL staff will prepare the ammunition for decommissioning and dispatch it to an agreed site, where further work is to be carried out. This preparation is to be carried out within the VJ controlled area and will therefore be supported by QinetiQ Health Physics staff.

4.6 It is planned for two light armoured vehicles to be monitored, dismantled and prepared for disposal. The work is scheduled to take place in the VJ facility, though it will not take place until the completion of the Challenger project.

4.7 The MOD holds several tons of DU on two sites operated by QinetiQ. It is planned to centralise this storage at the VJ facility where it will be mustered and made ready for final disposal.

4.8 Interest has been expressed by BAE in using VJ facility for the decommissioning and preparation for disposal of a number of tank barrels that have become contaminated with DU. This work is only at the discussion stage.

5. DSTL ESD Report. [redacted] and [redacted]

5.1 [redacted] updated the committee on the latest developments on DU environmental monitoring and research.

5.2 The final report covering the DU corrosion research is being scrutinised by an independent review board (IRB) and will be published shortly. [redacted] stated that there was nothing contentious in the report and that it broadly confirmed previous findings. However, it had the advantage of being a peer reviewed scientific paper, so it could be regarded as definitive work.

5.3 [redacted] gave the following summary of the findings relating to the life expectancy of DU metal in various environments:-

- Kirkcudbright soil 14 years

- Eskmeals soil 103 years
- Solway sea water 3 years
- Solway sediment 3 -4 years

5.4 [redacted] asked if the oxide was mobile. [redacted] replied that the mobility would depend on the environment that the material was in and that this formed part of the CERN and British Geological Surveys (BGS) research results, rather than the corrosion report. However it had been observed that, in the Kirkcudbright environment, there were fissures in the rock and soil and material was carried into these, from where it could possibly be transferred further afield. The full results from the Eskmeals part of the research were not yet available, but it had been noted that the DU in that particular environment appeared to be fairly immobile. However, the particle sizes of the oxides were small and therefore respirable, so could, under the right circumstances, become airborne and thus wind blown.

5.5 [redacted] gave his report regarding issues related the DSTL

5.6 [redacted] reported that a recent trial had been carried out by SERCO regarding the effectiveness of various instruments in detecting buried DU. The trial had concluded the following.

- Alpha Probes were ineffective for environmental monitoring
- Beta Probes were effective for finding surface contamination only.
- At below surface depths of up to a few tens of centimetres, the DSTL large Area Probe, the Exploranium GR135 and the Mini XP110 were effective
- At depths greater than 50cm, DU could not be detected with any of the equipment used in the trial.

5.7 [redacted] reported that the BGS report on DU migration was with the IRB but he could say that they had completed a desk top study of the existing Kirkcudbright environmental reports and concluded that the evidence showed that the dose attributable to DU at the firing points was < 1mSV/year.

5.8 The DU data base was now available but was not, as yet populated.

5.9 [redacted] added that the date for the DU workshop was now set for 06/03/06

5.10 The plan to carry out a radiochemical analysis for transuranics and fission products in DU used in UK penetrators had been dropped.

5.11 [redacted] expressed the view that [redacted] of DSTL Fort Halstead should be invited to attend the DUFERC, as he was the Project Manager for the DU research programme. He should be in a good position to provide the committee with an in-depth, up-to-date report on progress and the findings to date.

Action 41/5. [redacted] to invite [redacted] to the next DUFERC

5.12 [redacted] asked [redacted] if he could update him on the latest situation regarding the DSTL Environmental reports for Eskmeals and Kirkcudbright. [redacted] stated that the Kirkcudbright Terrestrial report for 2003 was about to be published and that the two marine reports for 2004 were to be produced as one report. However the Eskmeals reports from 2000 were still backlogged.

Action 41/6. [redacted] to ensure that the backlog of environmental reports for Eskmeals is cleared ASAP

6. Presentation By [redacted]

6.1 [redacted] gave a PowerPoint presentation relating to DSTL's recommendations for the future environmental sampling at KTA. The changes that they are suggesting are based on a strategy of sampling sediments in the watercourses on and possibly off the site. This approach is based on learning from the information previously gained to form a methodology for monitoring the mobility of DU mobility within the environment. As opposed to the current system which had its basis in monitoring the direct contaminating effects of firing DU by sampling soil and vegetation.

6.2 [redacted] asked if [redacted] had concluded that the current programme had simply become repetition. [redacted] replied that she considered that this was the case and, as such, it was not an effective protocol for giving any indication of movement of DU contamination from the depositions of DU caused by firing. These, she felt, were already reasonably well documented and were of less importance than the question of mobility.

6.3 [redacted] asked [redacted] if she had any ideas regarding how the samples would be taken from the watercourses- such as building sediment traps. [redacted] replied that the precise methodology had not yet been decided.

6.4 [redacted] suggested that it would be sensible to take some samples well upstream of the firing points to establish a baseline. [redacted] agreed but pointed out that this and all other aspects of the methodology would have to be formulated into a plan to be presented to SEPA for agreement before it could be adopted as the new sampling protocol.

6.5 [redacted] raised the issue of what actions that would need to be taken if positive results (i.e. ones clearly displaying DU contamination) were found. There was some discussion concerning this, but it was generally agreed that such an occurrence was always possible when carrying out sampling in any situation and that any remedial actions would be depend on the specific situation. However what was clear is that any such results would require further investigation so that action levels and the appropriate actions could be set and agreed with SEPA.

6.6 [redacted] suggested that it might be wise to run the existing protocol in tandem with the proposed one for a period of time to avoid an apparent sudden change in direction that could be misinterpreted by the public. Having obtained the additional data, a review of sampling could be carried out and the most effective methods adopted. [redacted] agreed and added that cost should not be allowed to be the main consideration in this matter. [redacted] asked if it would be acceptable to reduce soil sampling on non-firing areas that continuously give negative results. This would "fee up" existing resources that could then be redeployed more effectively. [redacted] agreed that this would be sensible.

6.7 [redacted] warned that any reductions in the current programme would need to be agreed by SEPA before any action was taken. [redacted] agreed and also pointed out that reductions in the existing sampling programme may also require

ministerial approval. However, it was certainly the case that MoD could not be criticised for carrying out more than the basic requirements, so it would make sense, in the short term, to operate both regimes in tandem, as suggested by [redacted]. [redacted] pointed out that this approach should be included in the reports, to give the reasons for the change better visibility. It was agreed that this was a sound approach.

6.8 [redacted] stated (to clarify) that the primary reason for sampling was to monitor likely radiation exposure to members of the public. In previous discussions with MoD, SEPA had expressed the view that, as the MOD is exempt from RSA93, SEPA had no power to regulate DU firings or to prescribe the monitoring for these activities. However, SEPA did express the wish to be assured that MOD activities did not give rise to radiation exposure to the public. It would therefore be politic to include a summary of results and add future recommendations into the outstanding reports.

6.9 [redacted] asked if it would be sensible to use an independent consultant to make the initial assessment. He added the Army was already using NTEC and there might be some spare capacity on this contract. [redacted] asked that [redacted] could discuss this matter with [redacted] (the DSTL lead on environmental sampling).

6.10 [redacted] stated that it would be much more manageable if the work were to be carried out in-house. [redacted] asked [redacted] that, if it were to be carried out in-house, could he give an indication of cost. [redacted] replied that he could not give a precise figure, but it could be targeted to be [redacted]. [redacted] added that if the funds were available, she considered that it would be possible to carry out the scoping survey in November 05.

6.11 [redacted] suggested that it may be possible to obtain funding through the VPU. He added that this approach had been successful for the additional marine sampling carried out in December 04

Action 41/7. [redacted] and [redacted] took an action to try and obtain funding for the scoping survey from the MOD VPU.

6.12 [redacted] gave an update on the marine sampling and proposed that, as a result of the latest information on past and future firings, the sampling points be adjusted in line with the December 04 additional marine survey. [redacted] asked if this would mean any increase in the number of samples. [redacted] replied that although it would mean 5 more sampling points, the number of samples could remain the same, so it would be cost neutral. This proposal was considered by the committee and it was decided that this was within the remit of the DUFERC and was therefore agreed.

7. Any other business

None.

8. Date of next meeting

[redacted] pointed out that the DUFERC normally preceded the DUWG, but the future of the DUWG was uncertain.

N.B. The DUWG has since been dissolved. The next DUFERC meeting will therefore be held at 10:30, on Wednesday, 8th February 2006, at Alverstoke.

Summary of outstanding actions

Action 41/1. [redacted] to forward Heavy Metals Working Group minutes to [redacted]

Action 41/2. [redacted] to include [redacted] on DUREC minutes circulation.

Action 41/3. [redacted] and [redacted] to ensure that radiation safety, public perception and environmental issues are included in the planning for future DU firings at KTA.

Action 41/4. [redacted] to pass CD of Environmental Presentation to [redacted]

Action 41/5. [redacted] to invite [redacted] of DSTL Fort Halstead to the next DUFERC meeting.

Action 41/6. [redacted] to ensure that the backlog of Eskmeals environmental reports is cleared ASAP.

Action 41/7. [redacted] and [redacted] to carry request for funding of KTA scoping survey to the Heavy Metals Working Group.

Distribution:

All present+

[redacted]

File ESK/327/001

[redacted]

03/11/05