

[REDACTED]

**Minutes of the Nineteenth Meeting of the
Depleted Uranium Firing Environmental Review Committee
held at [REDACTED] on Thursday 24 June 1999**

Present

- | | |
|------------|-----------------------------|
| [REDACTED] | DERA Boscombe (Chairman) |
| [REDACTED] | DERA Eskmeals (Secretary) |
| [REDACTED] | DRPS Alverstoke |
| [REDACTED] | DRPS Alverstoke |
| [REDACTED] | DERA Farnborough |
| [REDACTED] | DERA Fraser |
| [REDACTED] | Kirkcudbright Training Area |
| [REDACTED] | DERA Farnborough |
| [REDACTED] | MoD St.Giles Court |
| [REDACTED] | MoD Abbey Wood |
| [REDACTED] | HQ QMG Andover |

Item 1: Apologies for Absence

1. Apologies for their absence were received from [REDACTED] and [REDACTED]

Item 2: Minutes of the 18th Meeting

2. The minutes of the meeting held on 4 March 1999 were approved as an accurate record of the proceedings.

Item 3: Matters Arising

3. Actions from the 18th and previous meetings were discussed:
- a) Action 17/4. There is an apparent anomaly in some of the results from Kirkcudbright environmental sampling. [REDACTED] said that low concentrations of DU have been found in areas where this would not be expected. However the gross amounts detected are at environmental levels and not enhanced as would normally be the case. He confirmed that they do not represent a hazard and that there are no health implications. Considering the high level of media interest in Kirkcudbright there are, however, certain 'presentational' problems. Possible causes were discussed and the most likely considered to be cross-contamination of samples during either collection or analysis. The situation would continue to be monitored. Action **complete**.

Action 19/1: Eskmeals to nominate specific staff to carry out environmental monitoring collections and ensure that they are properly trained, with refresher training at appropriate intervals, and made aware of the reasons for and importance of the work.

[REDACTED]

Action 19/2: Eskmeals and DRPS to review the collection and analysis processes to look for possible cross-contamination pathways and/or improvements in technique.

- b) Action 17/9. Concerning proposals to establish an interim storage facility at Eskmeals, [REDACTED] confirmed that he had once again put forward the proposals but that the Sector Board was not willing to consider them further. **Action closed.**
- c) Action 17/6. The transit containers for recovered DU projectiles have been completed and one is in use (see Item 4). [REDACTED] said that a procedural guide/flowchart has been prepared in draft form but there are continuing difficulties in establishing the EOD reporting and action chain. A meeting is being arranged to discuss this with them. **Action continuing.**
- d) Action 17/7. The Eskmeals Duty Officer system has been reviewed and there is no longer a formal callout system or specific group of staff who would be required to respond to incidents; this has led to difficulties in establishing who should receive training. **Action continuing.**

Action 19/3: [REDACTED] to speak with [REDACTED] in connection with delegation of Terms of Reference.

- e) Action 18/1. The Radiological Safety Assessment covering the potential dose to a member of staff recovering a DU penetrator discovered by a member of the public has been prepared (copy attached). **Action complete.** It was noted that this assessment considered only an external dose and did not include a possible injection dose.

Action 19/4: DRPS to carry out a further assessment to consider any possible injection dose from a recovered DU penetrator.

- f) Action 18/2. See paragraph 3.d) above. **Action continuing.**
- g) Action 18/3. Specific funding for VJ Battery and associated DU-related work had effectively been discontinued at the end of FY 97/98. Although it was accepted that responsibility for remedial action rested with the original project sponsors it was proving extremely difficult to secure funding. It was suggested that a representative from DOR(Land) should be invited to sit on the Committee, which [REDACTED] said he would investigate. **Action continuing.**

Action 19/5: [REDACTED] to speak with DG(Nuc) regarding the ownership of DU.

- h) Action 18/4. [REDACTED] report on the options for a scoping exercise to establish a realistic estimate of the DU contamination present at VJ Battery had been circulated. [REDACTED] pointed out that the estimated cost of approximately £100k included monitoring and sample analysis but not large scale scoping and cleanup. [REDACTED] said that such a proposal would

[REDACTED]

have to be included in the next budget round. [REDACTED] said that there was a possible future requirement for a vehicle decontamination facility and that VJ could be utilised for this, but that no funds would be available to keep it in care and maintenance.

Action 19/6: [REDACTED] to forward a copy of EA correspondence requesting further information on the extent of contamination at VJ to [REDACTED] and [REDACTED] to assist in a budgeting proposal.

- i) Action 18/5. The possibility of an over water recovery of a DU projectile had been investigated further. There was no requirement from the customer for such an exercise and no finance available from within the Sector. Action completed. [REDACTED] said that during her visit to America, Yuma Proving Ground had said that they might be able to fire a CHARM3 projectile for recovery on our behalf. Although this would be a 'hard' recovery on land, it was considered worthy of further investigation.

Action 19/7: [REDACTED] to obtain fuller information and further investigate the possibility.

- j) Action 17/13. The details received from [REDACTED] concerning the isotopic composition of DU projectiles was inconclusive in that there was no definitive statement to the effect that reactor cycle materials were or were not present. A letter from BNFL some years ago had suggested that there was scope for DU to meet ANSI standards and yet still contain quantities of these materials.

Action 19/8: [REDACTED] to forward a copy of the BNFL letter to [REDACTED] who will speak with [REDACTED] regarding the isotopic content.

Item 4: Incident at Kirkcudbright

4. [REDACTED] outlined the details of the incident at Kirkcudbright in which some malfunction or error caused a DU penetrator to impact on the hill below Little India target. A trench approximately 3m long, 0.5m wide and 0.5m deep was cut in the surface of the hill, where the projectile apparently broke up and the pieces buried themselves in the hill. The impact area is entirely within the fenced compound surrounding the target gantry. Initial actions were to survey the area and take a number of soil samples before covering the trench to prevent mobilisation of the DU pending decontamination. Surface contamination was easily detected and the soil samples confirmed the presence of DU below the top layer of soil. Some DU fragments have already been recovered. Outside of DERA and Kirkcudbright management, the SEPA was also informed of the incident.
5. It is proposed to send a small team to Kirkcudbright during week commencing 5 July to carry out decontamination by removing the top layer of contaminated soil and placing it in 210-litre drums for transport to Eskmeals and subsequent disposal to BNFL Drigg. The soil will be graded in an attempt to segregate and

[REDACTED]

recover any of the larger fragments of DU that may be present. No decision has yet been made on whether to excavate further in an attempt to find any other DU that may be buried, but the feeling is that in that case it is probably better to leave it where it is but recorded for future recovery if necessary.

6. [REDACTED] agreed that leaving the buried fragments where they are is probably the best option, so long as an accurate record is maintained. [REDACTED] concurred but added that any decision to [attempt to] recover buried fragments should be guided by SEPA's reaction and comments. [REDACTED] asked whether there was any estimate of how deeply the projectile might have penetrated – there was none. He then suggested that if information on the angle of impact, estimate of velocity and type of soil could be provided, it might be possible to use computer modelling techniques to estimate the depth of penetration.
7. [REDACTED] asked if the cause was known. [REDACTED] replied that as far as he knew an investigation was being carried out but that he did not know the outcome. A request that documentary evidence should be available if required was noted.

Item 5: Draft Q&A Brief

8. The draft Q&A Brief (defensive press brief) covering the possible future recovery of a DU penetrator by a member of the public had been circulated. There were only a few minor amendments suggested, which [REDACTED] agreed to incorporate before circulating it to the Press Office and including an information copy in the recovery boxes.

Item 6: Establishment of DU Gardens

9. [REDACTED] briefed the Committee on her progress to date in establishing the DU gardens at Eskmeals and Kirkcudbright. A total of 144 DU pellets have been placed in the terrestrial gardens at the two sites, with the intention that they will be recovered from each site at the rate of 6 per quarter. Soil samples have been taken to establish baselines for the project. The first retrieval is scheduled for week commencing 16 August 1999. The marine garden at Kirkcudbright has not yet been established; the original plan was to use divers but they are not now available. Alternative methods for placing and retrieving the pellets are being investigated and all practical suggestions would be welcome.
10. [REDACTED] also reported briefly on her recent visit to the US where she met with [REDACTED] and some of his colleagues and was able to visit three of the American DU facilities. American experience suggests that the projectiles have a 7-year lifespan in the soil, during which period the corrosion products 'expand' to approximately 5 times the original volume of the projectile. [REDACTED] commented that, given the differing conditions between the US and UK sites, we would expect to see lower rates of corrosion.
11. Finally, [REDACTED] said that [REDACTED] was hopeful that he would be able to visit the UK and work with DERA for his sabbatical year in early 2000. There

[REDACTED]

were no proposals as yet for collaborative work that the [REDACTED] could carry out, but possible areas of interest include bio-remediation, computer modelling and the action of DU in the environment.

Action 19/9: [REDACTED] to liaise with [REDACTED] seek his ideas on possible areas of collaboration and combine them with other suggestions.

Action 19/10: [REDACTED] to investigate the possibility of using alternative areas for establishing the marine DU garden.

Action 19/11: [REDACTED] to investigate using computer modelling to examine the impact of a DU projectile with water and soil.

Item 7: Any Other Business

12. [REDACTED] informed the DUFERC that he would be relocating from Andover to Wilton with effect from 1 August 1999.
13. [REDACTED] said that uranium was being detected on some of the high volume air samples from Eskmeals, and suggested that α spectrometry should be carried out on 10% of the samples. [REDACTED] requested that costs should be provided and agreed before proceeding.
14. [REDACTED] informed the Committee that the Radioactive Waste Management Advisory Committee (RWMAC) were reviewing their report of some years ago and were likely to include a visit to Eskmeals as part of that process.
15. [REDACTED] also said that he had received a number of enquiries from [REDACTED] on a number of matters, including the ROSM fire at Featherstone, which he would be responding to. There had also been enquiries from other quarters regarding the use of DU in Kosovo. He confirmed that we [the British] had not used DU, but that the Americans had.
16. [REDACTED] also drew attention to the recently published Rand Report and circulated a copy of a press report and the preface and summary of the report. A copy is available from [REDACTED] on request and the full report can be accessed on the internet at:

<http://www.gulflink.osd.mil/library/randrep/du/cover.html>
17. [REDACTED] briefly updated the DUFERC on the DU firing programme at Kirkcudbright.
18. A letter had been received from Dumfries and Galloway Council, in which the possibility of beryllium contamination was raised. Although some members of the Committee were reasonably certain that some work in this area had been carried out a number of years ago, it was agreed that an investigation should be conducted.

[REDACTED]

Action 19/12: Eskmeals to look at the possibility of sampling for beryllium contamination from DU firings at Kirkcudbright.

19. As it appeared that there had been delays in some members receiving the calling notice for this meeting, [REDACTED] asked if there were any objections to sending documents electronically where this was possible. There were no objections.

Item 7: Date of Next Meeting

20. It was agreed that the next meeting would be held at [REDACTED] commencing at 1230 on Thursday 7 October 1999.

There being no further business, the Chairman thanked everyone for attending and the meeting was closed at 1310.