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Item	Discussion and Decisions	Actions (Action date)
1.	<u>Introduction</u> a) The Chairman stated that George Etherington and Gideon Henderson had been formally invited to join the DUOB by US of S, Dr Moonie. b) The Chairman informed the DUOB that Beverley Green would no longer be attending due to a change in job. A replacement would be nominated by the British Legion. The Chairman undertook to write to Beverley Green to thank her for her contribution to the Board. <u>Action 10.1. Chairman to write to Beverley Green</u> c) The Chairman drew attention to the fact that a decision of the DUOB had been published on a website before the minutes documenting that decision had been published. He reiterated that, while individual members were free to express their own opinions publicly on matters relating to DU, they should not claim to speak on behalf of the Board. The business of the DUOB should be reported through official minutes and through the Chairman.	Chairman (13/6/03)
2.	<u>Minutes of Last Meeting</u> a) Minor changes to the minutes of the last meeting were agreed by all Board members. <u>Action 10.2. Secretary to amend minutes of 9th DUOB and circulate</u>	Secretary (13/6/03)
3.	<u>Matters arising from last meeting</u> <u>Comments on Documents</u> a) The Secretary stated that he had received approximately 5 responses from Board members to the draft Statements of Requirements (SORs) that he had recently sent out. The Chairman reiterated that it would be helpful if DUOB members would indicate a nil response if they had no comments to make. b) A number of Board members indicated that they would prefer to receive a hard-copy of documents sent out by the Secretary. The Secretary agreed to do this. c) Jim Glennon asked if the MOD would provide remuneration for the paper he used in printing out DUOB documents. The Secretary stated that he would send out hard copies of documents as required. <u>Re-test Policy</u> d) The Secretary had circulated a paper by Gordon Paterson regarding the right to a second opinion or re-test within the NHS. Gordon Paterson summarised the report by stating that there was no legal right to a second opinion although there was an unwritten understanding that a second opinion would not be unreasonably withheld. <u>Re-labelling of Pilot Study Samples</u> e) The Secretary confirmed that this exercise had been carried out 7th April at	

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Gideon Henderson's laboratory in Oxford and had been witnessed by Ivor Connolly and the Secretary. <u>Analysis of Pilot Exercise Results</u> f) The Chairman stated that no comments had been received on his proposed method of analysing the pilot study reports. <u>Treatment of Samples</u> g) David Lewis reported that he had carried out some testing on urine samples that had been frozen for 18 months and the creatinine levels had not altered significantly. h) David Lewis stated that it was standard to acidify urine samples to 1% HNO₃. i) There was a brief discussion about the cooling or freezing of urine samples between collection and analysis. It was decided that procedures would be agreed with the laboratories involved in the main contract. <u>Expressions of Interest in Main Testing Contract</u> j) The Secretary stated that Gideon Henderson and David Lewis had examined the seven expressions of interest in the main testing contract. It was decided that all seven organisations should be invited to tender for the main testing contract. <u>Information to Veterans/GPs</u> k) Muir Gray stated that he had been talking to three organisations with experience in the preparation of resources for clinicians and 'patients'. He had eliminated one of these organisations and would prepare a paper on this topic within three weeks. He believed that the work could be carried out by the end of July. <u>Action 10.3. Muir Gray to provide paper on organisations to prepare information for GPs etc.</u> l) Jim Glennon asked if the Gulf Veteran information pack that is currently supplied to GPs took account of the Biological Monitoring policy. Brigid Rodgers stated that the GP information pack would be reissued shortly and would take account of the biological monitoring arrangements. The Chairman said that it would be helpful if the DUOB could receive copies of the revised GP info pack. <u>Action 10.4. Secretary to distribute copies of the GP information pack (when available).</u> <u>Safety Instructions</u> m) The Secretary stated that the safety instructions issued to troops in the recent gulf conflict had been placed on the MOD website and he had sent out the URL by email. Some members had had trouble opening this link. The Secretary undertook to send hard-copies of the safety reports to the board. <u>Action 10.5. Secretary distribute safety instructions to DUOB.</u> <u>Biological Half-life of Uranium</u> n) Malcolm Hooper provided extracts from the following papers on the above topic:	Gray (6/6/03) Secretary (when avail.) Secretary (13/6/03)
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	• Durakovic: Internal Contamination with Uranium. Croatian Medicine J 1999;40:49-66 • Depleted Uranium Case Narrative o) There was a brief discussion regarding these papers. George Etherington undertook to provide a short note on them. <u>Action 10.6. George Etherington to provide a short paper on the solubility of inhaled uranium and its effect on urine excretion</u> <u>Military Health Research Advisory Group (MHRAG)</u> p) Malcolm Hooper asked for further clarification of the role and membership of the MHRAG. The Secretary undertook to provide this information. <u>Action 10.7. Secretary to provide details on MHRAG.</u> <u>Questionnaire</u> q) Malcolm Hooper circulated the latest drafts of his questionnaires for those undergoing voluntary testing. The Chairman noted that these did not take account of his suggestions which had been sent out by email. The Secretary undertook to circulate the new drafts of the questionnaires along with the Chairman's suggestions. <u>Action 10.8. Secretary to circulate new draft of questionnaire and Chairman's comments.</u> <u>Interactions</u> r) Malcolm Hooper took an action to provide any literature that exists regarding the possible effects of interaction between DU and other material <u>Action 10.9. Malcolm Hooper to provide information on interactions</u>	Etherington (13/6/03) Secretary (20/6/03) Secretary (20/6/03) Hooper (20/6/03)
4.	<u>Extended Pilot Exercise Results</u> a) The Chairman noted that one of the laboratories had measured the DU-D (spiking solution) as having a concentration 30% different from that expected. Gideon Henderson commented that, while it was important to establish the reasons for this, it would not compromise the pilot study as the main comparison was between the measurements obtained by the three laboratories for each urine sample. b) The Chairman said that one of the laboratories had been concerned about the tight timescale attached to the pilot study. The Secretary responded that he had reassured the laboratory that, while the pilot exercise needed to be completed to schedule if possible, getting the correct result was more important. c) Chris Busby pointed out that he was unable to interpret the results that had been sent out as there was no key relating the expected sample content to the code number. The Secretary stated that he had deliberately not circulated the key at this stage as the results from the laboratories were preliminary. The key would be made available when all final reports had been received. d) It was pointed out a possible discrepancy between two tables in one of the laboratory reports. The Secretary undertook to check this. <u>Action 10.10. Secretary to check possible discrepancy in lab report</u>	Secretary (20/6/03)

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	e) There was some discussion regarding the results of the spiked sample analysis. The decision of the DUOB was that the results gave them sufficient confidence to proceed with tenders for the main contract. The seven laboratories that had expressed an interest in the main contract would be invited to tender once the Statement of Requirement was complete. The results of the analysis for U236 did not appear to be entirely reliable from the preliminary results, and at one laboratory there appeared to have been a problem of U236 contamination. It was agreed that the Statement of Requirement would be based principally on the U238/U235 ratio and that the SOR would not specify an accuracy for U236 measurement. <u>Action 10.11. Secretary to proceed with main testing contract.</u> f) Jim Glennon asked what scope there would be for correcting any problems that occurred once the main contracts were let. The Chairman pointed out that quality procedures would be put in place as part of the contract. This would include duplicating samples to ensure repeatability of results and also the testing of spiked samples as in the pilot exercise. The Chairman stated that the SOR for the main contract stipulated that the laboratories would establish QC procedures in conjunction with the DUOB. The subject of how the measured uranium level would relate to dose was discussed. George Etherington undertook to produce a paper on this. <u>Action 10.12. George Etherington to produce a paper on relationship between dose and measured level of DU.</u> g) It was agreed that the Chairman, Gideon Henderson and David Lewis would write a summary paper to collate findings from the pilot study once all the final reports had been received. This paper would summarise the whole pilot exercise and results and would be published on the web. It was agreed that a meeting of the pilot exercise laboratories should be held to discuss the results but there was concern that there might be difficulties with this due to sensitivities regarding their bids for the main contract. Malcolm Hooper asked about the differences in methods used by the laboratories and noted that one laboratory did not seem to have the same accuracy as the other laboratories. This will be covered in the pilot study report. Post meeting note: MOD Contracts Branch advise that there are no problems with holding a ‘wash-up’ meeting with the laboratories as long as the discussions only concern the pilot exercise. <u>Action 10.13. Produce a final report on the pilot exercise</u> h) Jim Glennon expressed concern that results of one of the laboratories did not appear to be as good as for the others. He asked if this laboratory should be allowed to tender for the main contract. The secretary explained that the main contract was a separate requirement from the pilot study and had been advertised separately. The seven organisations who had expressed an interest in the contract had all been assessed (by David Lewis and Gideon Henderson) as suitable to bid for the contract. The decision about which laboratories would get the main contract would be taken by the DUOB based on the responses to the Invitation to Tender. i) The Chairman pointed out that the results of the pilot exercise were confidential and should not be discussed outside of the DUOB.	Secretary (ASAP) Etherington (20/6/03) Chairman, Lewis, Henderson (ASAP)
5.	<u>Draft Statement of Requirement for Main Testing Contract</u> a) Draft 11 of this Statement of Requirement was discussed. A large number of	

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	minor amendments were recorded by the Secretary and would be incorporated into the next draft. b) There was some discussion regarding whom the anonymised results of the voluntary testing should be sent to. It was agreed that results should be distributed to GVIU, the Chairman of the DUOB and an independent third party (to be decided). The subsequent handling of such data was also discussed. The Chairman stated that any publication resulting from the analysis of such data should go through the DUOB. c) There was also discussion regarding Section 7 of the SOR which deals with the Method of Analysis. Gideon Henderson and David Lewis undertook to aid the Secretary in redrafting this section. <u>Action 10.14. Gideon Henderson and David Lewis to aid in redrafting Section 7 of Main Contract SOR.</u> <u>Action 10.15. Secretary to redraft SOR for Main Contract</u>	Lewis, Henderson (30/5/03) Secretary (30/5/03)
6.	<u>Statement of Requirement for Health Provider Contract</u> a) Minor changes to this SOR were agreed and noted by the Secretary. <u>Action 10.16. Secretary to revise SOR for Health Provider contract</u> b) The Secretary stated that only two expressions of interest in this contract had been received following advertisement of the requirement. MOD contracts branch was trying to contact other organisations who could carry out this work.	Secretary (13/6/03)
7.	<u>SOR for Normative Value Study</u> a) Minor amendments to this SOR were agreed and noted by the Secretary <u>Action 10.17. Secretary to revise SOR for Normative Value Study and commence contract action.</u>	Secretary (30/5/03)
8.	<u>Information to Veterans/GPs</u> a) This was covered by Muir Gray under Matters Arising.	
9.	<u>Timescales</u> a) The Secretary stated that all contracts could now proceed as soon as the SORs were finished. This should mean that the main testing contract would be placed at the end of August. As before, the Health Provider contract remained the rate-limiting step.	
10.	<u>DU Background and Scientific Issues</u> a) A paper from Gordon Paterson on Disease Registers was circulated. b) Chris Busby mentioned the Committee Examining Radiation Risks from Internal Emitters (CERRIE) of which he is a member. DU has been suggested as a topic for discussion by CERRIE and Chris Busby believed there was a potential advantage in communicating with this committee with regard to the interpretation of the DU test results. Chris Busby asked if the Chairman would write to CERRIE to facilitate communication with the DUOB.	

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	<u>Action 10.18. Chairman to write to CERRIE</u>	Chairman (13/6/03)
11.	<u>Date of next meeting</u> a) The date for the next meeting was set for 1 st July 2003.	
12.	<u>MOD Biological Monitoring Policy</u> a) Several members of the DUOB had emailed the secretariat asking for further information about the implications of the biological monitoring policy. The Chairman had advised that such requests should go to him. Brigid Rodgers pointed out that members could also write to the MOD as private individuals. b) The Chairman stated that according to the terms of reference, the DUOB had been invited to comment on the development of MOD biological monitoring tests. He expressed surprise that recent press articles, highlighting the fact that all troops returning from the recent Gulf Conflict would be offered a test for either total uranium or uranium isotopes, as determined by the level of their presumed exposure in theatre, were being interpreted as a new development. The DUOB had been given sight of the MOD Biological Monitoring policy in August 02, then at the meeting in October, and what had been announced was what the Chairman had expected. c) Brigid Rodgers reiterated the MOD policy that troops classified to exposure levels 1 or 2 would be encouraged to undergo a test which would analyse for uranium isotopes. Those classified as level 3 would be given information which would enable them to decide if they wanted a voluntary test. The Level 3 test would be for total uranium concentration, and would be followed by an isotope test if the concentration showed a significantly high level. This had been set out in the first public draft of the Biological Monitoring policy (Aug 02) and in all subsequent versions. d) Brigid Rodgers confirmed that 1.9 tonnes of DU had been used by the UK in the recent Gulf conflict. No information on US usage had yet been received. e) There was some debate about why the test being developed by the DUOB was not being used for the biological monitoring. The Chairman explained that the test for those returning from the recent Gulf conflict did not need to be as sensitive as the retrospective test for veterans of the 90/91 Gulf conflict, since for a given level of exposure, rates of excretion would be much higher. Ron Brown asked the Board if anyone could give him a reason why a total uranium test, coupled with the assumption that all uranium found was DU, was anything other than an overestimate of intake and hence risk. None of those present answered this question. f) Brigid Rodgers stated that a system had been put in place to brief personnel on these issues prior to deployment. Further guidance had been issued in theatre and also appeared in the 'Sandy Times' newsletter in an effort to reinforce the message. A 'credit card' was issued on departure from theatre advising troops that they may apply for a test and how to go about it. [Copy attached to these minutes at Annex A]. Consideration is being given to carrying out a survey post-operation to assess the effectiveness of pre-deployment preparation procedures which could include a question on the briefings. The mechanics of the survey had not yet been determined. g) Brigid Rodgers stated that a small number of UK troops had been identified who may have received level 1 exposures to DU. The incidents of concern were subject to Boards of Inquiry and the outcome of these must be awaited before the circumstances could be confirmed. In the meantime the MOD was assuming that	

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	exposures could have been at this level, and those involved were being offered the relevant test. h) Some members asked for further details about the tests and which laboratories would be carrying them out. Brigid Rodgers said they would not be giving details on the laboratories at this stage but David Lewis could provide a brief on testing that the Institute of Naval Medicine would be able to provide. Ron Brown explained that the Approved Dosimetry Service at DRPS decided which laboratory to use, that only a small number of tests had been carried out so far, and that the location of testing was not yet being revealed. i) Brigid Rodgers stated that the MOD would not be providing any detail about individual results. The results of the biological monitoring would form part of overall medical surveillance and would be subject to medical confidentiality. However, grouped data would be published if a sufficient number of results were obtained and consent was given. j) There was discussion about which laboratories would be involved in the biological monitoring testing. Brigid Rodgers stated that the laboratories would be fully UK accredited for the work. The number of laboratories used would depend on demand. MOD would prefer to use in-house testing but wished to use an accredited laboratory. INM is UKAS accredited and was expected to gain accreditation for its method in June 2003. Jim Glennon asked if there was conflict of interest in INM carrying out the testing. Nick Baldock stated that it was merely the case of an employer fulfilling a duty of care towards its employees. INM had decades of experience in carrying out testing servicemen for lead and thallium. k) The Chairman noted that the MOD did not appear to be very forthcoming with regard to the testing that had already been carried out. l) Ivor Connolly expressed his disappointment that the MOD would not be paying for contractors to take the DU test. m) Gordon Paterson stated his view that the MOD had been remarkably receptive to comments made at the DUOB concerning the biological monitoring policy.	
13.	<u>A.O.B.</u> a) There was no other business.	

Distribution:

All members

All observers

Devolved Health Administrations

Annex A – Safety Instruction Credit Card

DU Information Card

F Med 1018

You have been deployed to a theatre where Depleted Uranium (DU) munitions have been used.

DU is a weakly radioactive heavy metal, which has the potential to cause ill health.

You may have been exposed to dust containing DU during your deployment.

Further Information

You are eligible for a urine test to measure uranium. If you wish to know more about having this test, you should consult your unit medical officer on return to your home base.

Your medical officer can provide information about the health effects of DU.

Information is also available on the MOD web site: www.mod.uk/issues/depleted_uranium/index.htm