MINUTES OF THE THIRTEENTH DEPLETED URANIUM SCREENING PROGRAMME OVERSIGHT BOARD MEETING ON 20th NOVEMBER 03

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<th>Present:</th>
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<td>Professor David Coggon</td>
<td>Air Cdre Simon Dougherty</td>
<td>Dr Chris Busby</td>
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<td>Surg. Cdre Nick Baldock</td>
<td>Wg Cdr Charlie Wilcock</td>
<td>Dr Muir Gray</td>
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<td>Mr Ron Brown</td>
<td>Mr Alan Duncan</td>
<td>Dr Gideon Henderson</td>
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<td>Mr Ivor Connolly</td>
<td>Miss Rosie Wane</td>
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<td>Maj Gen (Retd.) R P Craig</td>
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<td>Dr George Etherington</td>
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<td>Mr Jim Glennon</td>
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<td>Professor Malcolm Hooper</td>
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<td>Dr Gordon Paterson</td>
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<td>Dr Margaret Spittle</td>
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<td>Professor Brian Spratt</td>
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Our Reference: D/GVIU/7/1/8/2
Date: 27 November 2003
1. **Introduction**

   a) The chairman opened the meeting. He stated that the main items of business would be the laboratory analysis contracts, arrangements for the healthcare function, the normative values study, the advisory factsheets, and the test questionnaire.

   b) Mr Glennon had requested a closed session of the Board from which observers would be excluded. The chairman said that public sector committees of this kind usually conducted their business quite openly. He asked permission for a closed session from the members present. It was agreed that non-members would be asked to leave at the end of the advertised agenda.

   c) The chairman noted that Mr Brown had circulated an email about the results to date of the Op TELIC biological monitoring, which might have implications for DUOB business. Surg. Cdre. Baldock reminded the meeting that Dr Busby had responded to Mr Brown’s message with the request that the Board make no firm decisions on the subject until he was able to attend. Professor Coggon ruled that the biological monitoring results must nonetheless be discussed.

   d) The chairman apologised to the Board for any delays on his part in completing actions or replying to requests for information. He was dealing with DUOB affairs in addition to his main employment, and thus having to prioritise use of his time.

2. **Minutes of last meeting**

   The chairman asked for sub-headings to be numbered using Roman numerals. Mr Brown requested the addition of some explanatory text to four sections where he had been quoted.

   **Action 13.1 Secretary to finalise and circulate minutes of 12th DUOB**

   Secretary (completed 21.11.03)

3. **Matters arising from last meeting**

   i. **Discrepancy in pilot study reports**

   The secretary reported that he had been unable to identify any discrepancy. It was agreed that this action had been overtaken by events and could be closed.

   ii. **Meeting with the Under Secretary of State for Defence**

   The chairman reported that on November 17th he had met the Minister, who was pleased with the work of the Oversight Board and keen for the main retrospective testing programme to start. Professor Hooper asked whether the chairman had raised Dr Busby’s point, namely that he thought it unacceptable that the DUOB’s remit was not being extended to the second Gulf war. Professor Coggon said he had, and the matter was to be kept under review with an open mind. Mr Glennon pointed out that meant the answer was still no. The chairman confirmed this.

   iii. **Post-TELIC urinary uranium study**

   Professor Coggon reported that a draft protocol for the study was now in existence and had been circulated to the Board. Professor Hooper said he was uneasy about three members of the DUOB collaborating with Professor Coggon on the draft. Mr Glennon suggested...
Professor Wessely, whom he described as a consultant to the MoD. In reply to a query from Mr Brown, Professor Hooper said that Professor Wessely had described himself as such in a television interview. Mr Brown and General Craig said that MoD was funding some studies by Professor Wessely, but that was not the same thing. The chairman said that the post-TELIC study could be discussed in more detail later.

iv. Autopsy information

The chairman said that enquiries had been made in the USA via the GVIU liaison officer in Washington DC, Colonel White. There appeared to have been no relevant American autopsies. There was however one published paper reporting analysis for DU of a Canadian bone sample, which had shown a negative result. Professor Hooper said that there had also been one positive finding of DU from Canada. Mr Brown said that it was unclear whether the study in question had included control data, and the finding was at best speculative. Professor Hooper objected to what he felt was an unwarranted attempt to belittle data from other researchers. Professor Coggon observed that whatever the merits and limitations of the Canadian data, it was clear that there were not enough results in this area for useful conclusions to be drawn.

v. Draft advice on “negative” test results

Professor Coggon said that he had not yet completed the revised draft.

Action 13.2 Chairman to amend the draft advice on “negative” test results

Chairman

vi. Kuwaiti cancer registry

The chairman said that he had received a reply to his enquiry, advising that the best information available could be found in “Cancer Incidence in Five Continents”, published by an agency of the World Health Organisation (WHO). He had requested the latest volume from the British lending library, but it would not be available for several months.

vii. Age data on Gulf war veterans

The secretary had just received the requested information from the Defence Analytical Services Agency (DASA). He reported that the numbers of UK Gulf 1 military personnel in the undermentioned age ranges on April 1st, 1991 were as follows:

- 40-44: 1,968
- 45-49: 752
- 50+: 262

viii. Healthcare provider

The chairman said that Dr Paterson had suggested a research group that might take on this function, but he thought it was unlikely that an academic group would be willing to provide the services required. Dr Paterson explained that the group in question had carried out a study for the Scottish Office involving the collection of urine samples. There had been no other proposals from Board members. Professor Coggon felt that a group of NHS Occupational Health (OH) departments might take on the work, in conjunction with a central co-ordinating organisation. The DUOB itself would probably have to nominate an advisory consultant.

ix. Main test isotope measurements

Professor Hooper asked whether the $^{236}U$ measurement would be retained. Professor Coggon confirmed that it would, as agreed at the wash-up meeting with the pilot study laboratories on September 22nd. Mr Brown commented that only one lab had been able to make the measurement well. Mr Glennon felt that was unimportant, as long as it could be done. The
chairman said that the Board could decide exactly how to use the $^{236}$U aspect in the light of the pilot exercise findings.

x. Advisory consultant

Professor Hooper asked if two advisory experts could be considered: Dr Busby and a medical specialist. The chairman said this could be discussed later. Professor Spratt suggested that it would be wrong to offer advice from a person not bound by medical ethics.

xi. Durakovic paper

The chairman noted that Dr Etherington had circulated a response to the paper. It appeared that Dr Durakovic might have somewhat underestimated the lung burden; though even allowing for this, the overall risk to health was low according to conventional health physics. Dr Etherington added that Dr Durakovic’s claims about the reliability of his method were consistent with the findings of the extended pilot study overseen by the DUOB.

xii. NERC research

a) Professor Coggon asked if there were any messages from the DSTL DU Workshop at Tidworth. Professor Spratt said there was nothing very significant to the DUOB. Mr Connolly said there seemed to be a pool of money available for research, and wondered whether the Board could tap into it before it was all committed. Mr Brown explained that funds for the MoD Corporate Research Programme (CRP) came from the budget of the Chief Scientific Advisor, and were quite separate from the funds used by GVIU. The chairman stressed that commitment of CRP funds would not affect DUOB activities.

b) Dr Paterson expressed his appreciation for the Workshop, and especially for what he considered an excellent summary presentation by Ron Brown. Professor Spratt agreed that there had been some good talks, albeit mainly of little relevance to the Board. Surg. Cdre. Baldock informed the meeting that the classified second day of the Workshop had not involved DU health issues. Mr Glennon thanked him for the report.

xiii. Biological monitoring update

a) Mr Brown reported that 181 tests had now been carried out. A small group with shrapnel injuries were the only personnel whose urine showed detectable levels of DU. The rest, even those claiming “level 1” exposure, exhibited nothing abnormal. Around 800 bottles had been sent out, so more tests were likely. Mr Glennon asked whether the samples were 24-hour collections. Mr Brown said no, they were all spot (single void) samples.

b) Mr Connolly asked about Mr Brown’s aim in making the report: was he seeking approval or guidance from the DUOB? The chairman said that the update was for information only. The results could be borne in mind when advising participants in the retrospective test; and they would also inform the normative values study. The Board might usefully consider whether a full normative values study should be pursued if the results were likely to be all negative. However, no decision was needed until the outcome of the preliminary study was known.

c) Professor Spratt said that it was not possible reliably to extrapolate back from 2003 to 1991. The two wars were different. Test firings of DU munitions, because they are designed to be “worst case”, tend to cause greater aerosolisation than occurs under real battlefield conditions. During Op TELIC the targets were relatively soft and there appears to have been little dispersion of DU dust.

d) Mr Glennon asked exactly how many tests had so far been positive for DU. Mr Brown replied that he was not at liberty to say, other than “a small number”. The chairman said he would expect that to mean fewer than ten.
Since there had been so few DU shrapnel injuries, it might be possible to identify individuals if the precise number were announced. Mr Glennon enquired whether details of the biological monitoring tests would be given to the Board. Mr Brown said that the data would certainly be published in due course. The question was when, as the monitoring had no set end-date. Mr Glennon said he would like to see all the available information straight away.

e) Professor Hooper said that he wanted to have full details, such as the time of day when the urine samples were taken and the volume collected. Mr Brown questioned the relevance of this information, saying that only the isotopic ratio was important. Professor Hooper said it had a bearing on the kinetics. Mr Brown said that none of the personnel tested so far had shown a urinary uranium concentration exceeding the “action level” defined by the Royal Society.

f) Professor Hooper claimed there were indications of the use of munitions made from natural, as opposed to depleted, uranium. Mr Brown stated categorically that the UK did not use natural uranium weapons. Mr Connolly wondered if the DUOB should review its previous advice on biological monitoring. Mr Brown felt that a review was appropriate, since new information was becoming available. The chairman said the Board would take all information into account, noting its limitations; however, he did not think the previous recommendations should be reviewed at this stage. Professor Hooper asked whether any air monitoring had been done during Op TELIC. Professor Spratt replied that air monitoring was carried out at a few DU strike sites several weeks after the conflict.

d) Professor Hooper requested clarification of the chairman’s ‘disturbance’ reported in the minutes of the 12th meeting. Professor Coggon said it had not been correct to state that no research into DU medical effects was planned. Professor Hooper said he had not attended the IPGWP meeting in question. The remarks attributed to him were based on his comments about the MRC report. He had said the Board had “no plans for a coherent research programme”. This was true, since nothing was yet in place.

b) Professor Coggon said there were plans for case-control studies and cross-sectional surveys. No research was yet ongoing, but it was certainly intended. Professor Hooper said he thought the significance of cytogenetic tests was being played down by the Board. The chairman replied that genetic damage was not a reliable marker of DU exposure, since it could also be caused by other types of radiation such as x-rays; Dr Spittle concurred. Professor Spratt said there might be a case for more research in this area if the Doyle study on the reproductive health of Gulf war veterans showed abnormalities. Professor Hooper felt that this UK study was flawed, but strongly supported a critique by Doyle of the Cowan paper on birth defects in US veterans and mentioned several other relevant papers.

4. Update on screening programme contracts

i. Main testing contracts

a) The secretary said that the cost of placing contracts with the three analytical laboratories recommended by the DUOB would have exceeded the available budget by around 70%. To proceed on this basis would have required fresh financial authorisation within MoD, inevitably causing delay. The secretary had therefore arranged for contracts to be let to two laboratories, giving an initial capacity of 800 samples in total. He would seek additional funds to contract with the third organisation (whose tender price was approximately four times that of the least expensive laboratory) if the Board so required.

b) Mr Glennon and Mr Connolly asked how such a restriction could occur
when the MoD was committed to supporting the DUOB. The secretary explained that in its day to day management, the Ministry always operated within defined budgets set at the beginning of the financial year. These had to be based on forward estimates, and the actual requirements might prove to be greater or less. If greater funding were needed, as in this case, it could be requested; but firm contractual commitments could not be made until budgetary authorisation was obtained.

c) Mr Williams said he had been anxious to ensure that at least some analytical capacity would be available to the Board before the end of calendar year 2003. He was conscious that the start of the testing programme had already slipped considerably. Mr Glennon said he felt it was premature to have laboratories on standby when the rest of the practical arrangements were not yet in place. Mr Connolly said that at a meeting of his organisation, veterans had expressed concern about the laboratory that had tendered the lowest price, because of its links with the nuclear industry.

d) The chairman said that the DUOB had two options. It could declare the interim position unsatisfactory and demand contracts with three laboratories, though this would be difficult to justify on scientific grounds alone; or it could accept what had been done, begin the testing, and make a case for a third lab only if a problem arose such as high demand. He felt that the latter course was better since it minimised delay.

e) Mr Connolly said that it was hard on the third laboratory to be denied a contract after its good work and co-operation in the pilot studies. The chairman said the lab had put a very high price on its services. Mr Connolly said he would be concerned if all samples were analysed by the lowest-priced lab. Professor Coggon assured him that the initial samples (those collected in the proposed pilot exercise) would all be split and tested by both laboratories until the Board had gained confidence in the consistency of the measurements. Mr Brown expressed concern on hearing that the third laboratory intended to use new equipment and temporary staff for the main study, as this meant the laboratory was not following the pilot study procedures. Professor Spratt said that the labs had an incentive to work diligently, as their reputations were at stake.

f) Mr Glennon was unhappy at what he saw as the selective nature of the pilot testing being put forward. He said that a free and open test had been promised. Dr Paterson said that the pilot exercise had been proposed only because of the lack of contractors willing to take on the original healthcare provider role. It was designed to ensure that something would be achieved, rather than nothing; the Board had to start somewhere. A pilot exercise in a single geographical area would allow other Occupational Health (OH) departments to gain confidence in the practicality of the procedures.

g) The chairman said that the Board must decide whether to go ahead with two laboratories, or not. The secretary reminded members that sample splitting would be carried out routinely throughout the test programme as part of the Quality Assurance. In reply to a query from Mr Connolly, the chairman said that the samples would have to be split by the laboratories themselves in order to maintain security and avoid the risk of contamination. Mr Glennon said that the programme should not proceed without the third lab, since otherwise analytical capacity would be too limited. Other Board members raised no objection, however, and the chairman ruled that the majority decision was to accept two laboratories for the time being.

ii. Healthcare provider

a) The chairman said that the main issue was the proposed pilot exercise. This would involve approximately 30 veterans in a single region of the UK. They would be supplied with containers, written guidance and questionnaires for self-completion. They would be invited to a clinic to hand over a 24-hour urine sample. This would be accompanied by a questionnaire to be completed at the appointment.
urine collection and provide a spot urine sample. At the same time they would hand in their questionnaires for review of completeness by clinic staff, who would provide any further guidance required. By this means the Board could get a feel for the workability or otherwise of the procedures, the appropriateness of the questionnaire, and the quality of the courier service; it would also discover how well the analytical laboratories agreed, and get an indication of the prevalence of detectable DU (with implications for the advice to be given) and of the reliability of data from spot as compared with 24 hour samples. In short, the exercise would provide useful information, and at least some of the waiting veterans would get their results.

b) Mr Connolly expressed concern about the quality and accuracy of the sample splitting. Professor Coggon said that this had been carried out satisfactorily during the pilot studies. The Board could stipulate exactly how it wanted the splitting done. Mr Glennon wondered if the pilot exercise might entail compromise in relation to the security of the urine samples. Professor Coggon said it would make no difference: tamper-evident seals and coded labelling would still be used. If any problem arose, it would soon be apparent as the split samples would give different results.

c) Professor Hooper said he supported a pilot exercise, but did not think London would be the best location. In many respects the capital was unique. Many of the veterans had misgivings about the big London hospitals. It would also be useful to trial the test procedures provincially.

d) The chairman said he had suggested London for practical reasons. He had had some contact with the OH department at St. Thomas’ hospital, which was well established and experienced. Much of the population of southern England could reach St. Thomas’ by public transport within one hour. The chairman asked for alternative suggestions, but warned of delays if there were a need to repeat the initial approach.

e) Dr Paterson noted that a great many veterans were resident in the west of Scotland, and said he had a contact in an NHS OH service there. Professor Coggon said the capacity existed to run two pilot exercises concurrently. Dr Paterson said that in that case he proposed using London plus a second region outside southeast England. Professor Hooper said this was a good way forward and would address the anxieties of the veterans. Dr Paterson felt there would be no problem in hospitals taking on the work at the level proposed, because handling 30 or so samples would be a minimal addition to what was part of their normal routine.

f) The chairman pointed out that a list of names and addresses was required so that veterans in the chosen regions could be contacted. He said that the pilot exercises would be run in the London and Glasgow areas, and asked for assistance from the NGV&FA. In addition, the secretary should examine the list of veterans who had already contacted GVIU to ask about the test. General Craig said that the Royal British Legion would also like to put forward nominations.

Action 13.3 NGV&FA members and General Craig to assist the secretary in drawing up a list of potential test participants in the London and Glasgow areas

g) The chairman said that a health advisory mechanism had to be set up for the pilot exercises. Dr Spittle had offered her assistance and was willing to take calls on a helpline if necessary, so long as the numbers were small. Dr Spittle’s expertise lay in radiation medicine rather than heavy metal toxicology. Mr Glennon said he would prefer the advisor not to be a member of the DUOB. The chairman said such a restriction would create considerable difficulty, as the UK had very few specialists in that field.

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<th>Action 13.3 NGV&amp;FA members and General Craig to assist the secretary in drawing up a list of potential test participants in the London and Glasgow areas</th>
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h) Professor Hooper asked how the suggested arrangement would work. Professor Coggon replied that people whose test results were negative would receive written advice from the Board, which he thought should initially review all results. The DUOB would decide on the interpretation of “questionable” cases, and participants would be offered follow-up via the helpline if needed. The review process would probably make the feeding back of results a little slower than in the main testing programme.

i) Professor Hooper said he was happy for Dr Spittle to take on the role. He did not consider membership of the DUOB a relevant factor. Professor Coggon pointed out that participants would be free to discuss their results with Dr Busby or anyone else if they wished. Professor Hooper said that the division of opinion on the Board with regard to the health risks of DU exposure must be made clear to veterans. The chairman confirmed that this would be done.

j) Mr Connolly asked if review of individual results by the Board might raise legal issues. Professor Coggon said that no names would be seen – only anonymous data.

k) Dr Paterson said that the advance information on the test should name Dr Spittle in her full professional capacity. Dr Spittle said it was important to have an agreed response for particular levels of DU. The Board must not give mixed messages. The chairman said it would speak with one voice but state that there were two opinions.

l) Mr Brown felt that one of the two analytical laboratories lacked experience with urine samples and ought to be guided on what was ‘normal’. The chairman thought that was not essential at this stage; results from the normative values study were not a prerequisite. Professor Hooper agreed.

m) The chairman wondered whom the Board should approach for the central healthcare role: overall co-ordination, handling of appointments, and the transport of samples. He asked the secretary to make enquiries.

Action 13.4 Secretary to research potential co-ordination contractors with assistance from the chairman

n) The chairman referred to the question of an “independent third party” that had been raised by Dr Busby. He said that he saw no problem in lodging a third copy of the test results with such a party, provided that individual consent was obtained and all statistical analysis of results was carried out through the Board. It was agreed that further discussion would be deferred until Dr Busby was present.

iii. Civilian normative values study

a) The chairman recalled that the initial proposal received from the normative values contractor had been complex and excessively expensive. The work was now being approached in two stages. The first stage would be a preliminary study based at a single hospital in Edinburgh, where each participating patient would be asked to give both a combined 24-hour urine sample and a series of individual spot samples collected over a second 24-hour period. The results obtained would define how well a spot sample could serve as a proxy for a 24-hour sample and how much variation is caused by the time of day of voids. With that information, the Board could decide whether to proceed to the full civilian normative values study; and if so, whether its logistics could be simplified.

b) Professor Hooper asked how many patients would be involved. The secretary replied that the plan was for twenty five. Professor Hooper said he was content for the work to proceed. The chairman pointed out that there was provision in the study protocol for patients to be asked follow-up questions if the need arose. Mr Glennon enquired about the isotopic ratio measurements. Professor Coggon said that the $^{238}\text{U}/^{235}\text{U}$ ratio would be
measurements. Professor Coggon said that the 238U/235U ratio would be recorded, but the 238U/236U ratio could be added if required. Mr Glennon wanted it included.

c) General Craig wondered about the risk of impaired renal function, expressing concern that hospital in-patients on medication might have altered levels of creatinine excretion. Professor Coggon said that such variation should not affect the uranium isotope ratios, though it could alter the overall uranium excretion. General Craig suggested the use of mental health patients, but this was considered too difficult. He said that creatinine levels were elevated for at least three days after surgery. Mr Brown advised that patients fitted with catheters should be excluded from the study, as the plastic tube material could influence the test result. The chairman undertook to convey this instruction to the contractor. Dr Paterson asked for all correspondence with the contractor on technical matters to be copied to the Board. The secretary reported that placement of a contract for the normative values preliminary study was underway.

**Action 13.5 Chairman to warn contractor against use of catheters**

**Action 13.6 Secretary to copy any technical correspondence to the Board**

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<th>5. Information to veterans and GPs</th>
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<td>The chairman asked Dr Spittle, who had to leave the meeting early, for her comments on the factsheets as redrafted by the contractor and the latest draft of the test questionnaire. Dr Spittle felt that a question should be asked specifically about pregnancy, since it was not an illness. Professor Coggon thought this was not essential because there was an existing question on any children’s health problems.</td>
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i. Depleted Uranium Factsheet

a) The chairman said that the contractor had apparently believed the aim of the factsheets was to encourage the highest possible participation in the testing programme, and this was not the case. Professor Hooper noted that the statement DU is “40% less radioactive” than natural uranium is true only for α-particle emissions. If all emissions were considered, DU had 88% of the radioactivity of the natural material. Dr Etherington explained that the phrase “40% less radioactive” referred only to the activity of uranium isotopes present in DU. Mr Brown objected to use of the phrase “natural uranium” in the factsheet on the grounds that it has a very specific meaning which was not intended.

b) The secretary was asked to consult Dr Levy about the toxicity of tungsten.

**Action 13.7 Secretary to enquire about the toxicity of tungsten**

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| c) There was a discussion about the list of sources of further information on the factsheet. Professor Hooper and Mr Glennon wanted Dr Busby’s Low Level Radiation Campaign (LLRC) website included, but the chairman was opposed to this because of some of the site’s non-scientific content. Professor Hooper felt it was important to have a non-orthodox view available to veterans. The chairman suggested a separate heading for “other views”.

d) The Board agreed a number of changes to the factsheet, which were to be implemented by the secretary. |

**Action 13.8 Secretary to modify the DU factsheet as agreed**

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<th>5. Information to veterans and GPs</th>
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<td>i. Information for those seeking a test for DU</td>
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<td>a) The Board discussed the question of “significant” exposure.</td>
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**Chairman**

(completed 21.11.03)

**Secretary**

(completed 25.11.03)

(completed 28.11.03)
Professor Hooper said he thought there was no effective threshold and that all DU exposure was therefore significant for health. The chairman disagreed, stating that there was a wealth of information on relevant health outcomes. Professor Hooper insisted that a firm statement could not be made. Mr Brown felt that the advice should be based on a consensus view, but Professor Hooper pointed out that the majority opinion on the health risks of low-level radioactive sources was in dispute.

b) There was some discussion of bone cancer. Professor Hooper claimed that information on the subject was being suppressed, and said that statements from the Board should not be categorical. Professor Spratt said that the question of reassurance to participating veterans had to be considered. Mr Glennon said that the factsheets should not be about reassurance, but rather about telling the truth as it was understood.

c) Dr Paterson said that the key point of the test was to establish whether a given individual’s urinary uranium concentration was significantly different from that expected in the general population. Mr Brown pointed out that relatively high urinary uranium levels can arise from drinking some mineral waters, so that by itself is not a sufficient indicator. The chairman said that DU content was the key factor.

d) Professor Coggon undertook to modify the draft factsheet in accordance with the Board’s deliberations. The secretary was asked to ascertain the exact starting dates of the UK Balkan operations. Dr Paterson requested a definitive statement from the MoD about whose tests it would pay for; and that other NGO personnel could access the testing programme on the understanding that they or their organisation would bear the cost of the test.

**Action 13.9 Chairman to rewrite the “seeking a test” factsheet**

**Action 13.10 Secretary to ascertain Balkan operation dates**

**Action 13.11 Secretary to provide a definition of the MoD payment policy**

e) Mr Brown pointed out that the test participants must be asked for their permission if the results were to be sent to a third party; this was agreed. The likelihood of compliance with a 24-hour urine collection regime was discussed. General Craig said that it would be difficult to guarantee. It was agreed that the factsheet would stress the importance of completing the collection, but all samples would be analysed even if they were not complete.

f) The secretary reported that the individual chiefly responsible for the revised factsheets was no longer employed by the contractor, but had expressed a personal professional interest in learning the response of the Board to her work. He asked for permission to give her this information. The Board assented and asked the secretary to convey its thanks.

**Action 13.12 Secretary to convey the thanks of the DUOB to the factsheet author**

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**Questionnaire**

a) The chairman said that he had designed the latest draft of the questionnaire to be simple to complete; sections not relevant to an individual could simply be passed over. The operation of the questionnaire could be tested in the planned pilot exercise.

b) The Board considered the questionnaire under its existing page numbering and agreed the following changes:

Page 1: Question on NHS number to be deleted.
Page 2: Question on service start date to be deleted; dates to be recorded as year and month only.
Page 3: Questions 6 and 7 to be deleted.
Pages 4 & 5: Question 8 to read “1990 or 1991”; question 13 to ask “to which unit were you attached?” rather than “where were you based?”; question 14 to include Doha and Thumrait in the list of military sites, and to include Royal Marines; question 21 to read “assist or treat casualties”.
Page 6: The term “Balkans” to be used in place of “Bosnia/Kosovo”.
Page 7: “NGO” to be written in full (Non-Governmental Organisation).
Page 8: Question 45 to read “military or NGO”.
Page 9: Question 53 to be deleted; in question 54, the definition of “close” to be “within 2 miles”.

c) General Craig said that most war pensioners suffered musculoskeletal problems, so question 62 would provide no information about DU. Mr Glennon felt the question was irrelevant. The chairman said it was included for background understanding and awareness, which would be useful when offering advice over the telephone.

d) Mr Glennon enquired about the purpose of question 64 (previous urine test for DU). Professor Coggon said that too was background information that would be useful to have in case of any discrepancy. Dr Paterson commented that it would be of value only if the previous result were known as well. Mr Glennon expressed some concern about the security of copy questionnaires. Dr Paterson said that a serial number must be printed on each page to avoid the possibility of accidental mismatching during the copying process.

e) Professor Coggon undertook to revise the draft questionnaire as agreed. He said it would be piloted with the first groups of veterans tested and then refined again if necessary before the main programme.

**Action 13.13 Chairman to modify and reissue the draft questionnaire**

Chairman (completed 26.11.03)

7. **Timescales**

The chairman said that discussions with the OH departments and the setting up of contractual arrangements with them would take several weeks. A list of veterans to be invited to participate in the pilot exercises could be drawn up concurrently.

8. **DU background and scientific issues**

There was no discussion of this agenda item.

9. **Dates of next meetings**

The secretary reported that provisional venue bookings had been made for January 27th and March 23rd, as these were the dates on which the greatest number of DUOB members had said they were available. It was agreed that the next two meetings would be held on those days.

10. **Any other business**

i. **Post-TELIC DU study**

Professor Coggon had circulated a draft study protocol, and asked for Board members who wished to do so to send him comments on it by email.

*At this point the observers left the meeting, which then continued in members-only session. The secretary departed also, and subsequent minutes were recorded by*
ii. Closed session

a) Mr Glennon reported that he had a number of issues he had been asked to raise by the National Gulf Veterans and Families Association (NGV&FA). The first concerned the involvement of three members of the Board (the chairman, Professor Spratt, and Dr Etherington) in the study to be carried out in collaboration with Professor Simon Wessely on DU exposures among Operation TELIC military personnel. Professor Wessely was perceived by the Association as not being “on the side of veterans”; and members of the Association felt that Board members should not be involved in the study, particularly since it was not under the direct control of the DUOB.

b) In response the chairman pointed out that the DUOB did have involvement in the study to the extent that it had been invited to comment on the draft protocol, and any suggestions would be taken into account when the protocol was finalised. The fact that three members of the Board were taking the leading role in designing the study helped ensure that the thinking of the DUOB was properly taken on board. However, the DUOB did not have ultimate responsibility for the work, and it was recognised that the Board could not be considered to have “authorised” the investigation.

c) Professor Spratt said that he had spent much of the previous two years trying to persuade the MoD of the need to collect better information about the patterns and determinants of exposure to DU when DU weapons are used in military conflicts; and that it was important to capitalise on the opportunity to obtain data in an appropriate time window. Surg. Cdre. Baldock added that in his view the input from DUOB members should improve the quality of the study and enhance its credibility. General Craig agreed, asking who else had the expertise to conduct the study. Dr Paterson noted that there was a perception that health problems related to Gulf War 1 had not been taken seriously early enough. In his view, it was to the credit of MoD that it now wanted to act quickly. Professor Hooper said that there was nevertheless concern that members of the Board would be “tainted by association”.

d) The chairman pointed out that unlike Gulf War 1, Operation TELIC was not of immediate concern to the NGV&FA. Therefore there was no obvious case for its being closely involved in the study. However, it was recognised that the NGV&FA representatives on the DUOB did have a contribution to make, along with other Board members, and the mechanism was in place to achieve this. Professor Hooper agreed that it was important from a scientific point of view to carry out the study at an early stage, but nonetheless remained concerned about what some members of the Board considered secrecy in its development. Dr Paterson said he was sure that relevant issues would be brought to the attention of the DUOB, and the chairman confirmed that this was the case.

e) Mr Glennon said that a second issue of concern was the chairman’s apparent wish to push for the use of spot urine samples rather than 24 hour collections. The chairman responded that if they were shown to provide scientifically valid information, the use of spot samples would be to the advantage of all concerned, including the veterans being tested. There was no question of substituting spot samples for 24-hour collections unless there was good scientific evidence that this was justified. In order that a properly informed decision could be made, it was proposed to collect information on the comparison of results from spot and 24-hour samples as part of the pilot testing of veterans, and also in the civilian normative values study.

f) Mr Glennon said that a third issue for the veterans was the need to ensure that measurements of $^{236}$U were made. The chairman responded that whilst he did not think there was a strong scientific rationale for measuring $^{236}$U,
the marginal cost of doing so was relatively small and it could be done if
that was what the veterans wished.

g) Mr Glennon then asked about the position of the DUOB in relation to
testing for chromosome aberrations. The chairman said he did not believe
that chromosome aberrations provided a specific index of exposure to DU;
but that if urine testing indicated a significant prevalence of exposure to DU
among veterans, a scientific study of the relationship between chromosome
aberrations and DU exposure would be useful and something the Board
could actively promote. Other members of the Board agreed, pointing out
that chromosome aberrations might also arise from exposure to diagnostic
x-rays. It was agreed that this topic would be an agenda item for the next
DUOB meeting.

h) Finally, Mr Glennon asked for clarification on the proposed paper reporting
the results of the pilot study of laboratory methods. Professor Spratt said the
pilot study had been a valuable piece of work, and it was important to share
its findings with the wider scientific community. The chairman added that
this was not only so that others could learn from the work, but also because
it was possible that someone might draw attention to previously
unrecognised limitations in it. The chairman assured Mr Glennon that the
paper would simply report what was done, and would not be used in support
of other aspects of the DU testing programme that were not addressed in the
study. He said it was unlikely that anything would appear in print for at least
a year.

Distribution:
All members
All observers