



Our Reference:

D/GVIU/7/1/8/2

Date:

30th October 2002

Present:			
Board:	Professor David Coggon Surg. Cdre Nick Baldock Mr Ron Brown Dr Chris Busby Mr Ivor Connolly Dr George Etherington Professor Malcolm Hooper Miss Beverley Green Dr David Lewis Dr Margaret Spittle Professor Brian Spratt Mr Shaun Emery	MRC INM DRPS LLRC NGV&FA NRPB GVA RBL INM MH RS GVIU	Chair
Guest speaker	Mr Andrew Taylor	NEQAS	Secretary
Observers:	Air Cdre Simon Dougherty Mr Alan Duncan Dr Steven Laitner Mrs Brigid Rodgers Mrs Janie Walker	SGD HJA NSC GVIU GVIU	
Apologies:	Mr Ray Bristow Professor Nick Day Miss Frances Fry Professor Ian Gilmore Dr Muir Gray Mr Neville Higham Dr Len Levy Dr Gordon Paterson Dr Hilary Walker	NGV&FA IPH NRPB RBL NSC HSE MRC IEH BRC DH	

Item	Discussion and Decisions	Actions (Action date)
1.	Introduction	

	a) The Chairman welcomed Andrew Taylor from NEQAS who was attending to discuss the results of the DU pilot exercise. b) The Chairman informed the Board that he had asked Peter van Calsteren not to attend this meeting. Peter had written to him indicating that his laboratory was going to bid for the main testing contract. It was therefore inappropriate for Peter to take part in this meeting and discuss the results of potential competitors. There was a short discussion regarding Peter's future role on the DUOB. It was agreed that his expertise was an asset to the Board and that he could be involved in future meetings. He should not, however, be involved in any discussions that would compromise the integrity of the screening programme.	
2.	<u>Pilot Exercise Results</u> a) Andrew Taylor gave an introduction to the DU pilot exercise. He said that five laboratories had each been sent a set of coded, spiked samples. This set consisted of seven 100mL samples and seven 1L samples. Of the seven 100mL samples, one was unspiked urine, four were urine spiked with varying amounts of DU or natural uranium, and two were aqueous samples spiked with DU or natural uranium. The 1L samples contained the same material as the 100mL samples. One laboratory had not produced any results. The results of the other four laboratories were summarised in an interim report which was distributed at the meeting. It was agreed that the full protocol for the preparation of the samples (giving details of the spiking regime) could now be distributed to all DUOB members. <u>Action 6.1. Secretary to distribute full protocol to DUOB</u> Post meeting note: Protocol distributed on 26/7/02 by email. b) Andrew Taylor answered a number of questions on the preparation of the spiked samples. He confirmed the following: • That the 100mL and 1L samples came from the same flask, and hence should have been identical. • That the preparation and mixing of the samples took place in a single day. • That the samples were labelled with the pool number, sent off for irradiation over the weekend and then labelled individually on their return. • That the samples were in plastic bottles and were sent out by mail. • That the samples had been kept in a secure place and would have been very difficult to tamper with. • That the laboratories had reported on uncertainties but, because of the short time available before this meeting, that information had not been included in the interim report. • That NEQAS was not used to preparing solutions in the ng/L range- microg/L was the usual range they dealt with c) Andrew Taylor also stated that the uranium concentrations in the individuals' urine that had contributed to the pool had been tested and were in the range 10-20ng/l. This had been tested by a second laboratory using a very simple method with no reference. Chris Busby asked why 5ng/L had been taken as the natural level in the interim report. The Chairman stated that 5ng/L had been used as this was the average of the laboratories' results for the unspiked urine sample.	Secretary (2/8/02)

	d) A detailed discussion of the results was held. It was agreed that one laboratory was consistently out of line with the others. There was some consistency between the results of the other three laboratories although these did not accord with the results that had been expected. Malcolm Hooper stated that the pilot study had been designed to see if a test could discriminate between ratios as close as 139 and 141 and that from the evidence on display that was not the case. The Chairman stated that this was an important point and, while the results were disappointing, they supported the DUOB decision to run the pilot exercise. e) Ron Brown pointed out that all the isotope ratio results tended to be on the high side i.e. indicating a greater DU content in the samples than expected. f) George Etherington asked if the volunteers who provided the urine had ever been occupationally exposed to uranium. Andrew Taylor confirmed that they had not. The volunteers were people from the laboratory but were not involved in this work. g) Brain Spratt pointed out that the aqueous samples indicated a very high level of uranium in the water, with a concentration approx. 8 times higher than expected. This led to a discussion about whether the samples could have been contaminated. Andrew Taylor stated that he did not see how this could have happened. Chris Busby expressed concern over the de-ionisation of the water and considered this to be a possible factor. Andrew Taylor stated that tests had been carried out on the de-ionised water, though not on the same batch that had been used to make the samples. The Chairman stated that Peter van Calsteren had been involved in putting together the spiking protocol and had seen no problem with using de-ionised water. Post meeting note: Peter van Calsteren has confirmed that he uses de-ionised water in his laboratory and has never had any problems with it. h) The Chairman suggested that by working back from the reported results it would be possible to calculate what levels of natural and depleted uranium were present in the samples over and above what was expected, to see if there was evidence of contamination from a single source. Andrew Taylor confirmed that there were still 3-4 sets of the samples available if further tests were required. i) It was agreed that a meeting should be held bringing together representatives from the 5 pilot exercise laboratories and the technical experts from the DUOB. The discussion would cover the methods used and possible explanations for the results obtained. Andrew Taylor undertook to complete his report prior to this meeting and to do the calculations of how much DU/NU would have to be present in the samples to get the results obtained. Post meeting note: Pilot exercise meeting arranged for 13th August 2002. <u>Action 6.2. Andrew Taylor to provide full report on pilot study</u> j) Chris Busby suggested that the laboratory who had offered the AMS method at the pilot exercise bid stage should now be considered. The Chairman proposed that the meeting of pilot study laboratories should take place before this was considered. k) It was agreed that it was not possible to proceed with the main testing contract at this time and that a way ahead would be formulated following the meeting with the pilot exercise laboratories. It was likely that the pilot exercise would need to be extended in some form.	Taylor (9/8/02)
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	(Andrew Taylor left the meeting at this point)	
3.	<u>Minutes of last meeting</u> a) One change was required to the minutes of the last meeting. These were then accepted as a true record. <u>Action 6.3. Secretary to amend minutes of 5th DUOB and circulate</u>	Secretary (23/08/02)
4.	<u>Matters arising from last meeting</u> a) A full list of actions arising from previous meetings and their current status is attached at Annex A. b) The McDiarmid article comparing spot samples to 24 hour samples had now been circulated. The article showed the level of correlation between the two types of sample. Malcolm Hooper pointed out that the correlation was not so great for lower uranium levels. c) The Secretary stated that he had not yet had time to collate the correspondence regarding the Italian peacekeeper data. Chris Busby had produced a brief introduction to the topic. This will be an agenda item for the next meeting. d) The Secretary stated that he had talked to Professor Harry Lee of the Gulf Veterans' Medical Assessment Programme (MAP) who had confirmed that two instances of renal cancer had been detected at the MAP using ultrasound. Steven Laitner provided the Secretary with a paper entitled ' Incidence and Properties of Renal Masses and Asymptomatic Renal Cell Carcinoma Detected by Abdominal Ultrasonography' for circulation to the Board. e) The Secretary stated that he had not yet had time to produce the next draft of the Statement of Requirement for the main testing contract. f) Chris Busby had produced a short paper on the security of samples. This is discussed under Section 8. g) The Chairman stated that he was still working on the latest drafts of the Information to GPs and Information to Veteran papers. h) Malcolm Hooper had produced a draft questionnaire for the screening programme. This is discussed under Section 7. i) The issue of chromosome aberration testing was raised. Brigid Rodgers stated she had talked to Professor Schott but he had not yet provided a protocol for his proposed study. The Chairman stressed that the protocol should be seen by the DUOB. Ron Brown wondered whether there could be confusion as to what should be included in a protocol. The Chairman stated that production of a protocol was a standard part of any research study and any good scientist would be familiar with the requirements. Brian Spratt stated that he had been unable to track down any peer-reviewed publications by Professor Schott and asked Malcolm Hooper if he had any details of these. Malcolm Hooper said he would see what he could establish. <u>Action 6.4. Malcolm Hooper to provide list of Professor Schott's relevant publications.</u> j) The Secretary confirmed that the advert for expressions of interest in the main testing contract had been placed in the MOD Contract Bulletin and the OJEC with a close date of 12th August. This would now have to be reconsidered in light of the pilot exercise results.	Hooper (21/10/02)

	Post meeting note: The closing date has been extended to 16 September.	
5.	<u>Spot Samples</u> a) Ivor Connolly stressed the need to check for diurnal variation in urinary uranium excretion. He stated that most veterans have a preference for 24 hour samples as this is what previous tests had been done on. The Secretary said that he had talked to Ray Bristow on the day prior to the meeting who had asked him to stress the veterans' desire for 24 hour samples. Beverley Green pointed out that not all veterans felt that way and she would prefer the decision to be made on scientific grounds.	
6.	<u>Arrangements For Testing</u> a) The Chairman stated that in previous discussions regarding who could offer the collection and advice services, there had been no mention of NHS Plus, an occupational health provider within the NHS. They should also be considered. Nick Baldock asked if they covered Scotland. Simon Dougherty suggested that information about geographical coverage might be available from their website. b) There was a short discussion about whether the sample collection could be carried out by mail rather than through attendance at a clinic. David Lewis was against the idea of postal collection, pointing out that even low level contamination of samples would cause problems. The Chairman suggested that there was an advantage in the veterans coming to a clinic where they could talk to someone. It was generally agreed that collection of urine should be achieved by veterans attending regional clinics. c) The Chairman outlined a plan for the process as follows: • The veteran would apply to a central co-ordinating office • The veteran would be sent information on the testing process and an application form • After applying the veteran would be given an appointment at a regional centre (if eligible) • Veteran would attend centre, give a sample and fill in a questionnaire • The coded sample would be sent to the testing laboratory • The questionnaire would be sent to the co-ordinating office • The laboratory would carry out the analysis of the sample • The laboratory would send the result to the co-ordinating office • The co-ordinating office would then provide feedback to the patient and the GP along with a helpdesk phone number. d) There was a short discussion regarding the acidification of the urine samples. Chris Busby was concerned that 2% nitric acid would not dissolve all uranium particles in the urine, hence there was a possibility that not all of the uranium in the sample would be measured. There was a short discussion about the maximum size particle that could pass through the kidney. Chris Busby believed this to be 100nm to 1 micron. George Etherington said that a colleague at NRPB had done some work on this in the 1970s and undertook to check on this. <u>Action 6.5. George Etherington to investigate NRPB work on maximum size particle that can pass through the kidney.</u>	Etherington (30/9/02)
7.	<u>Questionnaire</u>	

	a) Malcolm Hooper presented a draft questionnaire to be completed by the veterans who come forward for urine tests. He explained that he had designed the questionnaire to be as simple as possible while still eliciting information that could be used for subsequent epidemiological analysis. The questions covered a history of military service and health status. The main points from a lengthy discussion are summarised below. b) Beverley Green felt that, for an initial questionnaire, it was very detailed. She wondered whether there were any data protection issues. The Chairman said that the exercise would need to be registered under the Data Protection Act and use of the form would imply consent from an individual to his/her data being used. c) On the issue of whether the data could be used for studies of health effects, the Chairman said that the voluntary urine tests were not part of a research project but part of a clinical service. The voluntary nature of participation meant that it was unlikely to provide useful information on associations between health outcomes and exposure. That was the role of the epidemiological studies which were to be established. The programme could, however, provide useful information about determinants of exposure to DU. d) Chris Busby and Malcolm Hooper thought data from the voluntary testing would be useful to gain a first impression of links between exposure and health – Chris Busby felt the more information, the better. However, the Chairman and Brian Spratt were emphatic that this would not be appropriate, given that the veteran volunteers might not be typical of veterans as a group and there would be no control group. e) The Chairman suggested the following should be included in the questionnaire • Serial number (to provide link with sample) • Permission to contact GP • Date of sample collection • Military service (This could be a “stem” question leading to different parts of the form depending on the answer) • Operational service by non-military • Other potential sources of exposure to uranium eg residence in the vicinity of nuclear facilities/work with radio-active materials • A health section (using a few open questions rather than a long list of closed questions about specific illnesses). f) Other suggestions were to ask whether: • Veterans had undertaken sightseeing on the battlefield (MH) • Veterans had entered a vehicle hit by a DU round (DC) • Veterans suffered from renal disease that might affect their excretion of uranium(DC) • There was anything further they wanted to add (IC). g) Nick Baldock stated that some service personnel would not know their NHS number, so the utility of that question was doubtful. Malcolm Hooper pointed out that that question was included on the MAP questionnaire. h) It was agreed that Malcolm Hooper would redraft the questionnaire in the light of the discussion and that members would send him any further comments in writing. <u>Action 6.6. DUOB members to send Malcolm Hooper suggestions for any further amendments to the questionnaire</u>	All (20/9/02)
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	<u>Action 6.7. Malcolm Hooper to produce 2nd draft of questionnaire</u>	Hooper (11/10/02)
8.	<u>Security of Samples and Associated Information</u> a) Chris Busby tabled a paper on this topic, but as members had not had an opportunity to read it in advance of the meeting, they were asked to consider it out of committee and send any comments to the Secretariat. There was a discussion over whether the samples needed to be anonymised and, if so, how this should be done. Chris Busby said that, in his view, which reflected that of several veterans, pseudonymised copies of the results for each individual should be passed to a third party. There was much discussion over who this should be; it was agreed that both MOD and veterans' groups needed to be happy with the repository. Ron Brown suggested that information could be copied to the veteran and to a repository such as a solicitor. <u>Action 6.8. Members to send comments on Busby "Security" paper to Secretary</u> b) There was a further discussion over what information the co-ordinating centre would need apart from the name of the veteran, the serial number and the result. The Chairman pointed out that they would need to see the whole questionnaire in order to formulate the correct advice for the veteran. c) Some concern was expressed about the possible introduction of errors in transcribing information into a database. David Lewis suggested building in an audit process, for example by checking 10% of entries. d) David Lewis said that the security and chain of custody of the sample itself needed to be considered. Both MOD and the veterans would need to be satisfied that it had not been tampered with.	All (9/9/02)
9.	<u>Information to GPs</u> a) Covered at 4 g).	
10.	<u>Information to Subjects</u> a) The Chairman stated that feedback to veterans should preferably be provided by a doctor with expertise in radiation medicine and toxicology. The person providing feedback would need to explain the significance of the result for the veteran. This should be part of the contract with the health provider who was going to co-ordinate the collection of samples and reporting of results. b) Brian Spratt expressed concern as to how the significance of the result would be explained, particularly because there was not a consensus view. He suggested that the expert would need to explain that some people thought the result might mean one thing, some another. Chris Busby and Malcolm Hooper felt it would be acceptable to say that there were different interpretations of the result, whereas Ron Brown felt this would be unsatisfactory and he personally would like an unambiguous explanation. Ivor Connolly said that he believed most ill Gulf veterans thought there was a "cocktail" of reasons for their illness. He stressed that this issue must be resolved so that the programme could proceed. Brian Spratt suggested that a table could be produced giving risks by level of exposure to DU. c) The Secretary was actioned to provide a Statement of Requirement for the health service provider. This should include a requirement to state what expertise would be provided to communicate test results to veterans. <u>Action 6.9. Secretary to provide Statement of Requirement for Health</u>	Secretary

	<u>Service Provider for urine testing programme</u>	(30/9/02)
11.	<u>Background Levels of Uranium and DU in urine</u> a) The Chairman suggested that the study to determine background levels of uranium excretion in the UK population should include 6-8 centres with repeated samples taken at at varying times of day from 20-30 volunteers at each centre. Participants should be given a short questionnaire including questions on factors which might influence uranium exposure such as residence near a nuclear facility. A small contract would be required to produce a protocol for the study, collect samples, and a produce a report. (Analysis of the urine samples would be by the laboratory(ies) who won the main contract, and would also need to be costed.) The Institute of Occupational Medicine in Edinburgh was one possible contractor. Members should send other suggestions to the Secretary. Ron Brown pointed out that the British Geological Survey paper which had been distributed to the DUOB had indicated marked variation in environmental levels of uranium in the UK. This included measurements in drinking water. b) Brian Spratt said the participants in the “Background” study should be aged 18- 39 to correspond to the ages of most veterans. Nick Baldock suggested that recruitment depots might be a good source of volunteers, although it was pointed out that this would not meet the age requirement. <u>Action 6.10. DUOB members to write to Secretary with suggestions for a body to carry out the “Background” study.</u> <u>Action 6.11. Secretary to provide Statement of Requirement for “Background” study.</u>	All (16/9/02) Secretary (30/9/02)
12.	<u>Epidemiological Studies</u> a) The Chairman said he would write to the Medical Research Council to let them know that the epidemiological studies would necessarily be delayed as a result of the problems with the pilot study. <u>Action 6.12. Chairman to inform Medical Research Council of delays in establishment of screening programme</u>	Chairman (31/7/02)
13.	<u>Timescales</u> a) The programme was likely to be delayed by at least two months. The final extent of delay would depend on whether it was decided that further pilot work should be carried out, and if so, what. b) Ivor Connolly asked what he should say to the veterans. The Chairman advised him to explain that it was probable that further pilot work would be needed, with a consequent delay.	

14.	<u>Laboratory Methods</u> a) Chris Busby again stated that he believed the laboratory who had offered the AMS method at the pilot exercise bid stage should now be considered. He was supported by Malcolm Hooper and Ron Brown. It was agreed that the Secretary should contact the AMS laboratory to see whether they would be prepared to carry out 4-5 assays and how much this would cost. He should also investigate whether funding would be available. <u>Action 6.13 Secretary to ascertain whether a limited AMS study was feasible in terms of laboratory availability and cost</u>	Secretary (6/9/02)
15.	<u>Date of next meetings</u> a) The date of the next full DUOB meeting is 21st October 2002 at 09:45 (venue to be advised). b) Post meeting note: The date of the extraordinary technical meeting with the pilot study laboratories is 13 August 2002 at 1100 in the Royal British Legion, 48 Pall Mall, London.	
16.	<u>A.O.B.</u> None.	

Distribution:

All members

All observers

Devolved Health Administrations

Annex A - DUOB Action List

<u>Action</u>	<u>Date placed</u>	<u>Action Date</u>	<u>Detail</u>	<u>Owner</u>	<u>Comments</u>
1.1	27/9/01	16/11/01	'Definitions of Terms' appendix to be drafted and circulated for comment	Lewis/ Calsteren	COMPLETE – Definitions attached to draft protocol distributed at 2 nd meeting
1.2	27/9/01	16/11/01	Nominations for toxicologist and radiation medicine experts to be sent to GVIU	All OB Members	COMPLETE – See actions 2.2, 2.3
1.3	27/9/01	26/10/01	CVs and declarations of interest to be sent to GVIU	All OB Members	Still awaiting Hooper (short)
1.4	27/9/01	12/10/01	Secretary to establish if payments can be made for Board members to attend meeting	Secretary	COMPLETE – Payments will be considered on an individual basis. Written justification must be forwarded by Board member to GVIU for consideration.
1.5	27/9/01	12/10/01	Secretary to create a claim form for expenses	Secretary	COMPLETE - Form distributed on 23/10/01
1.6	27/9/01	26/10/01	Secretary to distribute a copy of the press release to board members	Secretary	COMPLETE – Press release distributed on 23/10/01
1.7	27/9/01	Ongoing	Board members to write to GVIU with suggestions for further background reading	All OB Members	Ongoing
1.8	27/9/01	26/10/01	GVIU to obtain permission and distribute responses to the 2 nd consultation paper to Board Members	Secretary	COMPLETE – distributed by email on 13/11/01
1.9	27/9/01	26/10/01	GVIU to distribute list of email addresses	Secretary	COMPLETE – Distributed on 23/10/01
1.10	27/9/01	26/10/01	Board members to suggest suitable laboratories to GVIU	ALL OB Members	COMPLETE – 30/11/01
1.11	27/9/01	26/10/01	Secretary to arrange for invitation to express an interest in the 'pilot study' to be advertised in the relevant journals	Secretary	COMPLETE - Advert in MOD Contracts Bulletin on 21/11 and OJEC on 13/11/01
1.12	27/9/01	16/11/01	Produce and circulate draft protocol prior to next meeting	Lewis/ Calsteren	COMPLETE – 30/11/01
2.1	30/11/01	4/1/02	GVIU to send TOR to Minister for comment	Secretary	COMPLETE - Sent on 11/1/02. Minister has approved the TOR.
2.2	30/11/01	8/1/02	CVs for toxicologist to be sent to GVIU. GVIU to forward to Minister	Secretary	COMPLETE – Sent on 15/1/02
2.3	30/11/01	8/1/02	Suggestions for radiation medicine experts to be sent to GVIU	All	COMPLETE
2.4	30/11/01	8/1/02	GVIU to consult Royal College of Radiologists	Secretary	COMPLETE – RCR recommendation received on 24/1/02
2.5	30/11/01	12/12/01	GVIU to notify members of expressions of interest	Secretary	COMPLETE – emailed on 13/12/01
2.6	30/11/01	7/12/01	Draw up Statement Of Requirement for the sample preparation	Van Calsteren	COMPLETE – 1 st draft discussed at meeting with NEQAS on 18/12/01. Will be revised in discussion between LEWIS, van Calsteren and NEQAS
2.7	30/11/01	10/12/01	David Lewis to contact the preferred supplier of spiked samples (and other suppliers if required) to assess interest and costs	Lewis	COMPLETE
2.8	30/11/01	13/12/01	Arrange meeting with supplier of spiked samples	Lewis	COMPLETE – see 2.9 below

2.9	30/11/01	20/12/01	Subgroup to visit supplier	Coggon/ Lewis/ van C/ GVIU	COMPLETE – lab visited on 18/12/01
2.10	30/11/01	28/1/02	Nick Day to review protocol and proposed statistical methods	Day	Ongoing
2.11	30/11/01	21/12/01	David Lewis to redraft protocol for pilot study of analytical methods	Lewis	COMPLETE
2.12	30/11/01	21/12/01	David Lewis to draft the SOR for the urine testing in the pilot study, to be distributed to the OB by 21/12/01	Lewis	COMPLETE – ITT sent to NEQAS on 14/1/02
2.13	30/11/01	10/1/02	OB to comment on the SOR for urine testing by 12.00, 10 Jan 02	All	COMPLETE
2.14	30/11/01	28/1/02	Chairman to appraise MRC of the planned timetable for the development of the testing method	Chair	COMPLETE – Chairman talked to Catherine Moody of MRC
2.15	30/11/01	21/1/02	Chairman to produce paper for next meeting summarising the different types of epidemiological study that might be relevant	Chair	COMPLETE – Paper circulated on 11/1/02
2.16	30/11/01	21/1/02	GVIU to produce a paper on the options for a chain of custody of urine samples	Secretary	COMPLETE – Paper circulated on 25/1/02
2.17	30/11/01	28/1/02	GVIU to identify the position of MOD funding of regional centres	Secretary	COMPLETE – MOD will fund regional centres but the details of this need to be decided
2.18	30/11/01	28/1/02	NRPB to obtain advice on the feasibility of testing for DU in tissue samples obtained at autopsy	NRPB	COMPLETE – paper distributed on
2.19	30/11/01	14/1/01	GVIU to circulate Annexes A and D (on the current ICRP models and Organ Doses from intakes) from the Royal Society report	Secretary	COMPLETE – Circulated on 11/1/02
2.20	30/11/01	21/1/02	GVIU to provide Contracts Branch with the draft protocol in time for ITT issue on 31 Jan 02	Secretary	COMPLETE – ITT issued 26 th Feb 2002. Response date = 9 th April.
2.21	30/11/01	21/1/02	David Lewis/ van Calsteren to prepare a paper on laboratory methods	Lewis/ van Calsteren	Ongoing
2.22	30/11/01	7/12/01	GVIU to arrange a meeting between Chairman and US of S	Secretary	COMPLETE – Chairman met with US of S on 16/1/02
3.1	28/1/02	15/2/02	GVIU to distribute NRPB presentation	Secretary	COMPLETE – Sent out on 19/2/02
3.2	28/1/02	15/2/02	GVIU to seek permission and distribute Durakovic presentation to RS	Secretary	Ongoing – Durakovic is seeking publication of his findings. Will allow us to distribute slides when this happens
3.3	28/1/02	15/2/02	Brian Spratt to investigate if advance copies of urine excretion section of RS report can be made available to members of the Board	Spratt	COMPLETE – RS report published 12/3/02
3.4	28/1/02	N/A	GVIU to distribute part 2 of the RS report when available	Secretary	COMPLETE – Distributed by the RS
3.5	28/1/02	15/2/02	GVIU to contact proposed specialist in radiation medicine	Secretary	COMPLETE – Dr Spittle appointed to the OB
3.6	28/1/02	15/3/02	GVIU to produce a paper on requirements for main testing programme contract	Secretary	COMPLETE – Discussed at 4 th DUOB meeting

3.7	28/1/02	15/3/02	David Lewis to produce a paper on how laboratories can be judged against each other	Lewis	Ongoing
3.8	28/1/02	15/2/02	GVIU to circulate the McDiarmid paper	Secretary	COMPLETE – Distributed on 19/2/02
4.1	18/4/02	17/6/02	Secretary to improve content and presentation of DUOB website	Secretary	COMPLETE
4.2	18/4/02	7/6/02	OB Members to provide comments on DUOB website to Secretary	All	COMPLETE
4.3	18/4/02	17/5/02	Secretary to contact RS re. distribution of RS paper	Secretary	COMPLETE – Missing reports distributed
4.4	18/4/02	16/4/02	Secretary to circulate the MOD research proposals	Secretary	COMPLETE – Sent 26/4/02
4.5		17/5/02	Secretary to edit and distribute protocol document	Secretary	COMPLETE – sent by email 20/5/02
4.6	18/4/02	ASAP	Secretary to arrange for the two bidders to requote for pilot exercise	Secretary	COMPLETE
4.7	18/4/02	26/4/02	Secretary to arrange for pilot study contracts to be placed	Secretary	COMPLETE - 5 contracts placed on 29/4/02
4.8	18/4/02	26/4/02	PvC to visit NEQAS in the week beginning 22/4	Van Calsteren	COMPLETE - Overtaken by events
4.9	18/4/02	17/6/02	Secretary to draft advert for main testing contract for approval for the DUOB	Secretary	COMPLETE – Draft circulated prior to 5 th DUOB meeting
4.10	18/4/02	11/6/02	Muir Gray to produce a paper on sample collection/provision of advice	Muir Gray	COMPLETE - Papers distributed on 17/6/02
4.11	18/4/02	17/5/02	Chairman to produce a draft of information to be given to GPs	Chair	COMPLETE – Circulated by email on 24/4/02
4.12	18/4/02	17/5/02	RBL reps to produce a draft of advance advice to veterans and advice once results are known	Green/Gilmore	COMPLETE – Circulated by email on 20/5/02
4.13	18/4/02	17/5/02	Secretary to circulate the McDiarmid paper on spot samples	Secretary	COMPLETE – circulated by post 16/7/02
4.14	18/4/02	17/5/02	Suggestions for ways of communicating the availability of voluntary testing	All	COMPLETE
4.15	18/4/02	17/5/02	Chairman to write to MRC re. epidemiological studies	Chair	COMPLETE – letter sent on 24/5/02
4.16	18/4/02	17/5/02	Chairman to discuss research with LSHTM	Chair	COMPLETE – discussed following 4 th meeting
4.17	18/4/02	17/5/02	GVIU to report on MOD research into health effects of DU	GVIU	COMPLETE – post meeting note in minutes of 4 th meeting
4.18	18/4/02	17/5/02	Secretary to distribute new schedule	Secretary	COMPLETE – circulated by email on 22/5/02
4.19	18/4/02	17/6/02	Muir Gray to produce report on the potential for screening for myeloma ...	Muir Gray	COMPLETE – tabled at meeting on 17/6/02
4.20	18/4/02	17/5/02	GVIU to check if abdominal ultrasound is a standard procedure at the MAP	GVIU	COMPLETE – post meeting note in minutes of 4 th mtg.
4.21	18/4/02	17/5/02	Secretary to circulate web address of the UNEP report	Secretary	COMPLETE – post meeting note in minutes of 4 th mtg
5.1	17/6/02	24/7/02	Secretary to collate and distribute all information regarding Italian peacekeepers discussion	Secretary	ONGOING - postponed to next meeting 21/10/02
5.2	17/6/02	24/7/02	Secretary to check on ultrasound checks for renal cancer at MAP	Secretary	COMPLETE
5.3	17/6/02	24/7/02	Peter van Calsteren to obtain total uranium and zinc concentration data from NEQAS	Van Calsteren	COMPLETE
5.4	17/6/02	24/7/02	Secretary to contact NEQAS w.r.t. delivery of report	Secretary	COMPLETE

5.5	17/6/02	28/5/02	Secretary to revise and distribute draft advertisement	Secretary	COMPLETE
5.6	17/6/02	24/7/02	Secretary to redraft SOR and distribute	Secretary	ONGOING
5.7	17/6/02	24/7/02	Len Levy to investigate if creatinine can be identified in acidified urine	Levy	COMPLETE – for discussion at October meeting
5.8	17/6/02	24/7/02	Muir Gray to produce pathway for screening process	Muir Gray	ONGOING
5.9	17/6/02	24/7/02	Chris Busby to write paper on sample security	Busby	COMPLETE
5.10	17/6/02	24/7/02	Chairman to provide detailed information to GPs	Chairman	ONGOING
5.11	17/6/02	24/7/02	Chairman to produce next draft of ‘information to veterans’ paper	Chairman	ONGOING
5.12	17/6/02	24/7/02	Secretary to obtain a copy of the MAP questions	Secretary	COMPLETE
5.13	17/6/02	24/7/02	Malcolm Hooper to draft screening programme questionnaire	Hooper	COMPLETE