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MINUTES OF THE FIFTEENTH DEPLETED URANIUM OVERSIGHT BOARD MEETING ON MAY 5TH 2004

Present:			
Board:	Professor David Coggon	MRC	Chair
	Surg Cdre Nick Baldock	RN	
	Mr Ron Brown	DRPS	
	Dr Chris Busby	LLRC	
	Mr Ivor Connolly	NGV&FA	
	Maj Gen (Retd.) R P Craig	RBL	
	Dr George Etherington	NRPB	
	Dr Gideon Henderson	Ox Uni	
	Professor Malcolm Hooper	GVA	
	Dr David Lewis	INM	
	Dr Gordon Paterson	BRC	
	Dr Margaret Spittle	MH	
	Professor Brian Spratt	RS	
	(Miss Rosie Wane	*VPU*	*Acting Secretary)*
Observers:	Air Cdre Simon Dougherty	DMSD	
	Wg Cdr John Aitken	DMSD	
	Mrs Brigid Rodgers	VPU	
	Dr Chris Morgan	VPU	
	Ms Akua Agyei	VPU	
In attendance:	Professor Hari Sharma *and colleagues*		*Afternoon session*
Apologies:	Professor Ian Gilmore	RCP	
	Dr Len Levy	MRC IEH	
	(Charles Williams	*VPU*	*Project manager)*
	(Dan King	*VPU*	*Secretary)*

Item	Discussion and decisions	Action by
1.	**Introduction** a) The chairman opened the meeting by explaining some changes. Mr Alan Duncan was no longer working for Hodge Jones and Alan (HJA), and HJA would no longer be represented by an observer on the Board. A nomination for a representative from the NGV&FA to replace Mr Glennon had not been received at the time of the meeting. *[Post meeting note – nomination subsequently received: Dr Derek Hall]* b) The chairman also explained that the new secretary to the Board, Mr Dan King, was presently engaged in duties related to his prior post and was unable to minute this meeting, which would be done by Miss Wane. Mr Williams, the previous secretary, was also unable to attend due to other duties, but would continue to be the project manager to the Board. c) Dr Hari Sharma had been invited to present his work to the Board and would speak after lunch. d) Mrs Rodgers introduced Dr Chris Morgan, who would be taking over the Depleted Uranium (DU) issues policy management from her in the Veterans Policy Unit (VPU). Dr Morgan informed the Board that his background was in chemistry and his previous experience included decontamination of nuclear sites, commissioning the second NRPB study into the health of Nuclear Test Veterans, and acting as secretary to the Defence Scientific Advisory Council (DSAC).	
2.	**Minutes of last meeting** a) Minor changes were agreed at the request of Mr Brown **Action 15.1 Secretary to finalise and circulate minutes of the 14th DUOB meeting**	Secretary *(completed 13.05.04)*
3.	**Matters arising from the last meeting** i) Kuwaiti Cancer registry data The chairman stated that he now had the Kuwaiti Cancer registry data. Dr Paterson also had a copy which he had passed to Dr Busby. ii) Review of laboratories' Quality Assurance arrangements a) Dr Lewis stated that he had not yet reported back to the Board as there was still work to do. He said he was happy that the routine quality control was being handled correctly, but had concerns in the matter of data interpretation. Dr Lewis stated that it was important for all errors and uncertainties to be covered in the expression of results. He said that when his report was complete he would forward it to the chairman, and this would be in the next few days. The chairman suggested that it might prove useful for Dr Lewis to visit the laboratories. Mr Brown asked if laboratory representatives would be present when the Board was interpreting the results. The chairman replied that the first step would be to see how well the results agreed. If there were significant disparities they should be discussed with the laboratories. However if the agreement was good this would not be necessary. b) There was some discussion about the cut-point in isotope ratios above which excretion of DU could be inferred. The chairman, Dr Lewis and Dr Henderson explained that the findings of the earlier pilot study indicated that the proposed cut-point was conservative. Mr Brown was concerned that the day to day variation in analysis might not be fully accounted for. Dr Lewis said that his paper would address this issue. iii) World Health Organisation The chairman said he had written twice to Mike Repacholi of the WHO offering to brief him about the Board's experience of measuring uranium isotopes in urine, but had not had any reply.	

4.	**Progress in pilot testing of veterans** a) The chairman gave an update. Unfortunately there were no results as yet. Out of the 60 people invited to take part in the pilot testing, only 32 had participated. The questionnaires had been checked for any obvious problems at VPU and then sent to Southampton, where the data were being input onto computer. There were some small problems with sample bottles – the tamper-evident seal had been omitted from the collection protocol, but would be included in the main programme. In some cases the parafilm provided by the laboratory with the bottle for sealing the outside of the screwcap had been placed inside the screwcap, and this had caused some leakage. Dr Henderson stated that the parafilm would prevent contamination getting inside the thread of the screwcap. The correct use of parafilm would be clarified in the instructions for the main programme. Some bottles had been received marked with names instead of just a code number. All anomalies had been noted by the labs for later reference. b) The volumes of the spot samples had varied quite considerably, with a small number less than 50 ml but some up to 225 ml. Most were over 100 ml. Before analysis can be performed, a 10 ml sub-sample must be taken for creatinine analysis, and a further 5 ml for density analysis. This meant that a change had had to be made to the allocation of samples, since laboratory B's method ideallyrequires at least 100 ml. The laboratories had been instructed to distribute the samples in such a way as to maximise data, which meant that the smallest spot samples would be analysed by laboratory A and the larger samples by both laboratories. For the 24 hour samples, laboratory A would take its sub-sample and forward the balance to laboratory B, as previously planned. **Action 15.2 Project manager to contact laboratories and confirm documentation of sample split** c) There had been staff changes at laboratory A which were a matter of concern, as both the principal technical consultant and his immediate junior had left. However, the laboratory had been working closely with laboratory B and was in regular contact with Mr Williams. The principal technical consultant was still available for consultation. The chairman said the Board should be reassured that matters were being closely monitored. These staff changes underlined the benefit of having contracts with two laboratories. d) There was some discussion about the low participation rate. No reasons had been given and it was not known why some people had failed to attend their appointments. Direct contact to confirm willingness to participate had not been made in all cases prior to sending the kits, as most of the names had been put forward by organisations, and it was believed that all sixty individuals had requested the test. No information was available at the meeting on the distribution of non-attenders between the different lists, and it was felt that this information might in any case not be releasable due to the low numbers and consequent risk of making possible the identification of individuals. There was discussion about following up volunteers, but the chairman explained this was a voluntary testing programme not a research study, and therefore the onus was not on the Board to follow up people if they were unwilling to participate for any reason. Dr Spittle said it was disappointing that the willingness of the pilot participants had not been confirmed in all cases. Mrs Rodgers said the lists were accepted in good faith, but that it was a valuable lesson and "block bookings" from organisations would not be taken in the main testing programme. e) As no results had come through in time for the meeting, it was agreed that they should be circulated anonymously to DUOB members before the next meeting. The format for feeding them back to participants could then be agreed at the earliest opportunity, and people would not have to wait any longer than necessary to get their results. The chairman placed great emphasis on the medical confidentiality of the data.. It was absolutely imperative that the results were not leaked. If this were to occur, it would reflect extremely poorly on the Board and its members. **Advice Sheets** f) A number of changes were agreed to the wording of the advisory sheets. There was discussion about the technical level of the documents, and it was felt that the information should be kept accessible to lay people. There would be a more detailed document available on the internet	Project manager

	and through the programme for those who wanted more information about the methods, the differences between absorbed and equivalent doses, and how the estimated maximum intakes and doses were calculated. This would also serve for those who wanted to take their results elsewhere for a third party interpretation. Dr Etherington agreed to draft a technical paper on the methods and definitions. Dr Spittle said patients preferred to see a normal range defined alongside test results. Dr Paterson and Mr Brown suggested that where a test indicated only very low exposure to DU, it would be helpful to say on the result sheet that there was no need for specialist medical follow-up, as the patient would be unlikely to suffer any adverse health consequences. After some debate on the estimation of dose-risk relationship, Dr Etherington and Professor Spratt agreed to draft a paper which would relate a range of exposures to risks. Both papers would be circulated to the Board for comment. **Action 15.3 Dr Etherington to draft technical document on dose calculations** **Action 15.4 Dr Etherington and Professor Spratt to draft a paper relating exposures to risks** **Action 15.5 Chairman to amend advisory sheets for positive and negative results** g) There was further discussion about the weighting of the minority view in the advisory sheets. The majority opinion of the Board was that any new work published in the peer reviewed literature should be taken into account. Professor Spratt said that when the Committee Examining the Radiation Risks from Internal Emitters (CERRIE) had completed its deliberations it would be useful for the Chair to be invited to give the Board an update. Professor Spratt felt that the estimates made in the Royal Society reports on DU had been extremely conservative; and even if the dose calculations were too small by a factor of one hundred, there would still not be any significant risk to health. Dr Busby asked that the phrase "a small minority of scientists believe" be changed to "however, a minority of scientists believe". This was agreed. h) A final decision on what cut-point to distinguish between a positive and negative result for detection of DU was deferred to the next meeting. It was also agreed that any individuals whose urine had a high natural or depleted uranium content would be dealt with on an individual basis and not given generic advice.	Dr Etherington Dr Etherington & Professor Spratt Chairman
5.	**<u>Update on testing programme contracts</u>** i) <u>Laboratories</u> a) The contracts were in place and running for 800 tests up to November 30th 2004; thereafter they would have to be renewed. Bottle purchase was to be agreed specifically in the contracts. A Statement of Requirements (SOR) had been drafted for the healthcare administration contract. The NHS occupational health departments were still being scoped – but two had already declined. b) Two companies had expressed an interest in tendering for the healthcare administration role. The secretariat undertook to draft separate SORs so that either sampling method (spot/24 hr) could be pursued depending on the spot sample results. The administration contract should also include provision for co-ordinating the courier service. **Action 15.5 Project manager to draft two versions of administration SOR** ii) <u>Medical advisor</u> a) There was some discussion about possible candidates for the medical advisory role in the testing programme. This was a difficult post to fill owing to the specialised requirements. The individual concerned should be medically qualified with a good understanding of both radiation medicine and toxicology. Several names were mentioned and the chairman undertook to approach them. The possibility of a conflict of interests was raised, since some of those named already had specialist advisory roles with the military. The chairman said that he would make enquiries within the Faculty of Occupational Medicine, and asked other Board members to think about possible candidates **Action 15.6 Chairman to approach possible candidates for the medical advisory role**	Project manager Chairman

	b) The arrangements for contacting veterans were discussed. The veterans organisations would advertise internally. Ex-service papers such as "Navy News" were suggested by Surg Cdr Baldock. The chairman said that a press release and advertisements in the newspapers would also be effective. Mrs Rodgers confirmed that MOD could advertise in the national press. **Action 15.7 Secretariat to draft advertisement/announcement for national press** c) The chairman listed the other documentation. The questionnaire seemed satisfactory, but the pilot testing should reveal any problems. The urine collection instructions were ready for the administrator. The expenses claim was prepared. The application form was drafted and would be sent out by VPU. The factsheet on DU was drafted and would accompany the application form. The factsheet on the test needed further work following the pilot testing. The chairman commended the project manager (Mr Williams) for his resourcefulness.	VPU
6.	**Information to GPs & veterans** **Action 15.8 Secretary to circulate DU factsheet**	Secretary
7.	**Civilian normative values preliminary study** a) The chairman provided an update. The main issue was the allocation of samples between the laboratories. It had previously been decided that the 24 hour samples would be analysed by both, and that if the Institute of Occupational Medicine (IOM) considered it acceptable, the spot samples might be aggregated to create sufficient volume for duplicate testing; if not, half the spot samples would be analysed by one laboratory and half by the other. IOM had since made clear that it did not wish to aggregate spot samples and would prefer to be comparing samples all analysed by a single laboratory so as not to introduce an additional variable. Some of the spot samples would certainly be too small for analysis at both laboratories. One aim of the study was to determine whether spot samples could be used reliably as a proxy for 24 hour samples. It was therefore considered more valid scientifically to use the laboratory with the less precise analytical method to test the worst case situation. Laboratory A would therefore be analysing all the 24 hour samples and spot samples, whilst laboratory B would be analysing only the 24 hour samples in the normative values study. Both laboratories were content with this arrangement. If the results of the 24 hour versus spot comparison were inconclusive, 24 hr samples would be taken by default in the main testing programme.	
8.	**Timescales** a) Dr Paterson enquired about the earliest projected start date for the programme. The chairman said this was September. *[Post-meeting note: The project manager is aiming to make the test available from July 19th]* b) The chairman stated that the immediate priority was to get results back to the participants in the pilot testing. A meeting of the DUOB would be held on Thursday 10th June to discuss the results, which would be circulated in strict confidence beforehand. Dr Henderson said it was important for the laboratories to report the data in a standardised spreadsheet format. **Action 15.9 Secretariat to discuss results format with the laboratories**	VPU
9.	**DU Background and Scientific issues** a) Professor Hooper asked for papers by Wright *et al* (Oncogene (2003) 22, 7058-7069) and Baverstock *et al* ("Radiological toxicity of DU") to be circulated to the Board. **Action 15.9 Secretary to circulate Baverstock report and Wright paper to the Board** b) From 14:00 Professor Hari Sharma gave a presentation on the results of his urine testing work using Neutron Activation Analysis (NAA). It was generally felt that the results were difficult to interpret due to large margins of uncertainty. Later work in which his samples were analysed by NAA, TIMS, and ICP-MS (the last being the more sensitive method used in the DUOB test) seemed to indicate that the samples were negative for DU.	Secretary *(Completed 12.05.04)*

10.	**Dates of next meetings** a) There would be a meeting to discuss the pilot exercise results on June 10th. The primary aim would be to agree the advice to participants. Also high on the agenda would be the comparison of spot with 24 hour samples, as this had implications for the main programme. In the event that results would still not be available for 10 June, a fall-back date for the the next meeting was set for Tuesday July 6th. **Action 15.10 Secretary to arrange a venue** b) The subsequent meeting was fixed for Monday September 6th.	Secretary
11.	**Any other business** a) Dr Henderson said that the laboratories should not compare results from the main programme before they were communicated to the Board. b) Dr Lewis asked about statistical advice to the Board. The chairman said that he was acting as statistical advisor for the time being, but also had access to statisticians at Southampton should the need arise. c) Mr Connolly asked about further results from the biological monitoring for Op TELIC. Mr Brown provided an update. The graph supplied at the previous meeting remained essentially unchanged. Just under 300 people had now been tested: as before, with the exception of a small number injured in "friendly fire" incidents who were excreting DU in their urine due to DU shrapnel injuries, all results were negative for DU. Dr Busby requested the raw data for the graph Mr Brown had supplied at the previous meeting. Mr Brown said he could not comply: working for a registered dosimetry service, he was not permitted to give out individual results. Dr Busby said that he saw no reason why anonomised data could not be provided. The chairman ruled that the graph was sufficient information for the Board, which did not need to know the individual results. The DUOB was satisfied with knowing how many tests had been made, approximately what uranium levels were found, and how many individuals showed high levels. Mr Brown said that demand for the test had fallen. Professor Hooper asked about the positive DU results seen in Dr McDiarmid's cohort in the USA, for which inhalational exposures had been postulated. Mr Brown said it was not appropriate to compare US exposures with those among UK forces due to the very different nature of the vehicles – UK tanks stored DU ammunition in different positions and did not have DU armour. d) Professor Hooper asked if people showing high uranium levels were being followed up over time to examine changing excretion rates. Mr Brown said that unfortunately all personnel had declined follow-up testing, although it would have been interesting. The quality control methods of laboratory A, which was carrying out the biological monitoring using the same method as in the DUOB test, were discussed. Mr Brown was unaware of whether the QC methods were the same. Since the laboratory was quality assured, the detailed procedures did not need to be given to the dosimetry service. Dr Lewis said he would look into the methods as part of his continuing investigation. **Action 15.11 Dr Lewis to investigate the quality control methods of the biological monitoring test**	Dr Lewis

Distribution:

All members

All observers