Case Nos.

(1) CAF/3059/2013 ENT 00176/2010
(2) CAF/2055/2013 ENT 00088/2010

IN THE FIRST TIER TRIBUNAL
WAR PENSIONS AND ARMED FORCES COMPENSATION CHAMBER

B E T W E E N:

(1) Mr Donald Battersby (Dec'd) NINO: ZM 29 03 08D
(Ms Kay Battersby)

(2) Mrs Anna Smith widow of Barry Smith (Dec'd) NINO: ZS 23 06 67 B

Appellants

-and-

SECRETARY OF STATE FOR DEFENCE

Respondent

Skeleton Argument

Christopher Busby

Andrew Ades

Preamble

1.1 These appeals and the evidence and arguments presented have implications beyond the immediate question of causation following exposure of the appellants, both the Battersby and Smith appellants and those represented by Hogan Lovells to radioactivity at the test sites. As the late Judge Stubbs observed, the decision of the Tribunal will affect future war pension awards for other UK test veterans, and will also affect considerations of those exposed to Depleted Uranium weapon residues as well as the many Australian test veterans. In short, whilst we accept fully that this Tribunal is not a public enquiry in any way and thus that its remit is limited strictly to the cases before it, we observe that those affected by the decision are more than those concerned with Hillsborough, Birmingham and Deepcut combined.

1.2 Sadly, we note that neither the SSD nor his experts have responded to the assertions and evidence presented by us, despite having been ordered to do so by the Tribunal. This has made our case more difficult than it need be. Hence, we hope that the Tribunal will not object overly to our asking that it consider the position of the expert witnesses commissioned by the SDD, where we most respectfully draw attention to *Sara Lind Eggertsdottir v. Iceland ECHR Application no. 31930/04* 5 Jul 2007 **[1]** in which the ECHR upheld the principle of the 'equality of arms' in Article 6.1 of the ECHR and commented that the lack of neutrality of an expert may in certain circumstances give rise to a breach of that principle which is inherent in the concept of a fair trial.

1.3 Here, we draw the Tribunal's attention to the fact that the SSD's experts (now and before) are employed or remunerated by the SSD and have long-standing connections with the SSD or nuclear industry. We submit that in such circumstances, it is entirely natural for such experts to, shall we say, incline to the SSD's view (or to what might be termed conventional thinking in the nuclear industry), whether consciously or unconsciously, rather than consider evidence in the round and address counter arguments to what they believe (we say erroneously) to be the sole scientific position. We seek the Tribunal's permission for us to address such important points throughout the hearing and shall refer to *Edwards* **[2]** and *Eggertsdottir*, not least in seeking to understand the SSD's instructions to his experts in order to illuminate why these eminent scientists have failed to respond to the Tribunal's instructions.

The essence of our Appellants' cases

2.1 We seek to demonstrate and shall show on the evidence and at the very least to the standard determined by Charles J in the UT: (1) that Don Battersby (Maralinga) and Barry Smith (Kiribati) were exposed to ionizing radiation during their service, and (2) that such exposure was sufficient to be a causal factor in the development of their illnesses and consequent deaths.

2.2 In so doing, we shall produce expert opinion to show that the current model of 'risk' as used by the MoD and the nuclear industry, namely, the ICRP, is inadequate in that it cannot and does not sufficiently include the effects of internal exposure. Further, we shall show that even on the basis of the ICRP model, there is no 'safe' level of exposure and thus

that our Appellants' illnesses are attributable to exposure even when such risk is assessed using the MoD's model.

2.3 A table of key points is attached at **Annex 1** to aid the Tribunal.

The ICRP risk model

3.1 The standard of proof has now been more precisely defined by the Upper Tier and might be most easily written down as the "reverse criminal standard of proof", per, for example, paragraph 22 of MR v the SSD [**3**] *'the Secretary of State for Defence has not satisfied me beyond reasonable doubt that there was no causal connection…'*. The evidence we provide and the arguments we advance below should therefore be interpreted on the basis of this approach, one which we hold follows Charles J. in §118-122 of the UTRD [**4**].

3.2 We shall show that the radiation risk model employed by the SSD's experts in this and previous cases, that of the International Commission for Radiological Protection (ICRP), is demonstrably unsafe for the purpose of evaluating genetic and genomic harm, including both cancer in the individuals and congenital disease in offspring. There is overwhelming and persuasive evidence of this from many epidemiological studies published in the peer review literature and presented in the expert reports of the BS experts.

3.3 Our experts will testify that the level of error in the ICRP model is very large for the element Uranium and its isotopes, which were the principal radioactive components by mass (95% or more) of the great majority of the tests. This is shown by epidemiological studies in the peer review literature, from chromosome aberration tests of those exposed (including Uranium miners, test veterans, New Zealand veterans, Gulf War veterans, and Uranium process workers) from theoretical considerations and from animal and cell studies, evidence presented by the BS expert witnesses.

3.4 The evidence shows that very significant quantities of Uranium (several tons) were exploded and the residues distributed over the test sites as a result of fallout and rainout. The form of this contamination was as long lived alpha emitting nanoparticles which were accumulated at the test sites and were re-suspended and inhaled by the veterans, whether

there at a test, or between or after tests since the material accumulated as residual contamination.

3.5 Likewise, Uranium was rarely mentioned as a potential hazard, neither was it included in disclosed environmental assessments and contamination was not measured, or if it was, no details have been released by the SSD in response to disclosure requests. Primary concerns were the most active Gamma emitting isotopes and Alpha emitters though considerably more hazardous were rarely mentioned. Uranium being an alpha emitter cannot be measured by the devices employed in the contemporary surveys of the test sites and was entirely overlooked as a vector of genomic harm.

3.6 A limited number of survey reports have shown the presence of Uranium, and Radium-226, which latter isotope however cannot be distinguished from Uranium-235 by the methods employed by the authors of the reports. One report shows anomalously high Uranium in a fish sample, whilst another found high levels of Uranium in guano.

3.7 The apparent failure of the Ministry of Defence to assess, at the time or subsequently, potential hazards from Uranium is surprising since it was warned about the dangers from Uranium residues on Test sites by Dr Karl Z Morgan, the head of safety or the US Atomic Energy Commission in 1953.

The Hiroshima study and other epidemiological bases of the ICRP risk factors for cancer

4.1 We will show that the Lifespan studies of the survivors of the Hiroshima and Nagasaki bombs (which were tiny compared with the British Tests) were unsafe for examining the effects of internal exposures because their epidemiological protocols were invalid. We shall show that there were two main reasons: first, all the dose groups, low, medium and high, were all exposed to fallout and rainout (the black rain) which fell at the cities after the bombs as a result of the incorporation of moist maritime air into the rising mushroom cloud and its condensation at altitude around the weapon debris particles. The Uranium in the black rain was later measured in soil samples. Second, and in an extraordinary and questionable move, the original control group, those who were not in the

city at the time of the bomb, were discarded when it was discovered that their inclusion would result in excessively high rates of cancer for the study group.

4.2 All other epidemiological studies are largely defined by external exposure assessments and assume a linear no threshold response. We shall show that the evidence in the most powerful nuclear worker studies is that the significant risk appears to be in the lowest dose groups, and thus that the risk from cancer is not linearly related to dose as assessed by the studies.

4.3 For congenital disease in offspring, we will show that the evidence is also that the linear no threshold model is incorrect and that the congenital effects increase sharply from zero dose but then saturate or even fall due to loss of viability of the foetus.

The genetic effects of exposure to internal radioactive material, particularly Uranium

5.1 Published studies of those who were exposed to internal or other radioactivity after Chernobyl, as a result of workplace exposures, Depleted Uranium weapons, and other exposure scenarios show serious genetic effects expressed as increased rates of congenital diseases and conditions in children and grandchildren of those exposed and sex-ratio effects in offspring.

5.2 We shall show that these effects are seen in published studies of British and New Zealand veterans and in chromosome tests of the New Zealand veterans.

5.3 Likewise, these effects are indicated in the Dundee questionnaire data of the British Nuclear Test Veterans Association obtained as a result of the 3rd Party Disclosure Order of the Tribunal as analysed by Prof Howard.

Rainfall, rainout and fallout

6.1 A reassessment of the meteorology at the time of the Christmas Island tests has shown that the previous claims by the SSD's experts that there was no rain after the tests are wrong. Witness statements and reports by the meteorologists in the previous First Tier confirm that there was rain after several tests and furthermore that the mushroom clouds moved in

different directions at different altitudes so that the island was potentially subject to fallout from blowback.

6.2 A memo from Maj MacDougall shows that the sticky paper system for recording contamination was unsuitable for rainout because the material intended to be collected would have been washed off and so the sticky papers had to be protected from rain. This completely compromises the AWRE sampling relied on in the SSD's case relating to the levels of contamination on the island.

6.3 Witness statements suggest that seawater, marine and terrestrial materiel was sucked into the mushroom clouds which would have greatly contributed to contamination and local fallout yet this is not reflected in disclosed records.

6.4 Contemporary literature indicates that rainout produced hotspots of contamination. Since rain concentrates local fallout, the residual material these hotspots will contain provides short and long term sources of radiation risk, including to ground crew, plant and animal life and as re-suspended dust over long periods.

The argument from probability

7.1 Four of the 13 appellants died from Pancreatic cancer, a relatively rare cancer which represents about 2% of all cancers. Since these are independent events, the cumulative probability of these 4 events occurring in 13 cancer cases is vanishingly small, less than 1 million to 1. This in itself shows that these men must have shared an experience which involved exposure to a cancer causing substance.

Exposure

8.1 We will show that Don Battersby was exposed internally to radioactivity through inhalation and ingestion as well as externally, and will have been exposed to Uranium isotopes and particles from attending 4 tests, his work roles and forward area location. He cleaned down contaminated aircraft without respiratory protection. Don Battersby's wife gave birth to severely deformed twins, with one still born and the other dying 48-hours later, three years after Mr Battersby attended the Buffalo test series.

8.2 We note here that we have requested details of the decision by the SSD (i.e., the SPVA) to award a war pension for Mr Battersby's further condition of pancreatic cancer but have been denied access to the relevant file on the grounds that it contains legally privileged material. Nonetheless, we argue that this decision is important because it appears that in so deciding the SSD has effectively agreed that Mr Battersby was exposed to ionizing radiation sufficient to cause his pancreatic cancer and that pancreatic cancer is radiogenic. If that is the case (and the SSD has not denied that it is), then the sole point of difference remaining between us and the SSD for Mr Battersby's appeal is whether or not Chronic Lymphocytic Leukemia (CLL) could possibly be caused by that same exposure accepted by the SSD. If, on the other hand, the SSD does not accept that Mr Battersby was exposed to ionizing radiation, he will have to show why a WP was awarded for Mr Battersby's pancreatic cancer.

8.3 Likewise, we will show that by the time that Barry Smith was deployed to Christmas Island for 12-months service, the Island had suffered nuclear fallout from 8 UK tests and many USA tests in the region. The evidence shows that Mr Smith cut the hair of individuals who themselves could have visited radioactive zones, and therefore will have inhaled the dust containing the particles. There were other routes of contamination.

Radiogenicity

9.1 Don Battersby's claim is that his CLL is likely to be attributable to his service. Whilst CLL is not elevated in studies of external radiation exposures, it was found to be high in studies of those exposed to internal radiation. Following more recent evidence, the US Centre for Disease Control and the National Institute of Occupational Health have agreed that the disease is radiogenic. This must raise sufficient doubt about the issue to pass the 'reverse criminal standard' of proof.

9.2 Despite the SSD's expert in the previous 1st Tier's belief that pancreatic cancer is not radiogenic, all studies show that there is a positive excess risk associated with external exposures, and the disease is accepted to be radiogenic by the USA authorities. That now appears to be the SSD's position as outlined in paragraph 8.2 above. Here, we note that Mr Battersby's health history suggests that his overall health was compromised, possibly because of chromosome damage attributable to exposure to ionising radiation.

The SSD's expert reports

10.1 These are all predicated on the ICRP risk model and if there is sufficient doubt raised by all the considerations above, then all the dose calculations and subsequent arguments are unsafe.

Conclusion

11.1 The evidence we will present o the Tribunal and our statement of case for our 2 Appellants makes much of the errors in the ICRP model, especially as such apply to delayed onset stochastic radio-genicity from internal exposure to alpha-emitting radio-nuclide nano-particles.

11.2 As that is a scientific point, we think it appropriate to mention that we are not asking and do not ask the Tribunal to make a determination on the science of the matter, whether for the benefit of the world scientific or for any other reason.

11.3 On the contrary, all we do invite the Tribunal to do is to consider that matter, as an essential ingredient of their administrative duty to determine whether or not they can be certain, so that they are sure, that our Appellants' diseases and ultimate deaths were **not** attributable to (caused by) (or even substantially hastened by), their exposure to IR in the course of their service at the test sites. And thus that they were entitled to their pensions all along.

Christopher Busby
Andrew Ades 6th June 2016

Referenced precedents

1. *Sara Lind Eggertsdottir v. Iceland ECHR Application no. 31930/04* 5 Jul 2007
2. *R v. the Department of Social Security Ex Parte Edwards CO228190*
3. [2009] UKUT 31 (AAC) (05 February 2009)
4. *Abdale v Secretary of State for Defence (WP)* [2014] UKUT 477 (AAC); [2015] AACR 20. [38]–[57]
5. [2015] AACR 20 (LA and others v SSD (WP) [2014] UKUT 477 (AAC))

Annex:

1.Table of Key Issues