

ANNEX 1 to witness statement 410 of Dr Helen Grant

Annex 1

Unique Properties of the scrapie/BSE/CJD Agent, the so-called "prion"

- a. The transmissible organism which causes all the transmissible spongiform encephalopathies (TSEs) – scrapie, BSE, CJD and kuru – is **almost indestructible**, unlike any other virus, bacterium, protozoon, fungus or parasite. For example, it still transmits scrapie after being ‘fixed’ in formaldehyde for ten years. Heating it to a very high temperature, exposing it to enormous doses of ultraviolet light, or to ionising radiation, do not affect it. Incineration is the only way of destroying it and even then the temperature must be very high indeed.
- b. It **proliferates only in the brain**, eyes, spinal cord, pituitary and, in some mammals, the placenta. The transmission of these diseases is dose-related and although the virus usually enters the bloodstream from the stomach, and then visits all tissues for a few hours, it lingers and proliferates only in the brain etc. **The red meat (muscle) of BSE-infected cattle has never transmitted the disease** in the laboratory and we have not had any trouble from eating scrapie-infected muscle over the centuries.
- c. It lurks **for years** in an outwardly completely healthy individual
- d. During this long ‘incubation period’ the brain etc is **infective** which is why it was necessary to ban the brains etc of **all** cattle from human foods.
- e. It raises **no antibodies** – which might then be tested for – in the infected host.
- f. There is officially **no live test** to reveal infected individuals. "Officially" because a live (urine) test has recently been devised and has been used successfully in 15 out of 15 humans who were subsequently shown to have suffered CJD. MAFF’s vets refuse to make use of this live test and denigrate it whenever they are asked about it. It could also be used to screen blood donors.
- g. Individuals’ susceptibility to this organism is **genetically determined**. Not all types of sheep develop scrapie; not all types of cattle develop BSE and only some