

Politics of Information

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Recently two US women whose husbands had died of cancer due to radiation exposure filed a suit for damages against the company concerned as well as the United States government. This article, condensed from "Index on Censorship" (14: 5 October, 1985) reports how the US judge assigned to the case subordinated public health and safety to the interests of the government nuclear programmes. Nuclear advocates including scientists and scientific journals have applauded the judgement and have widely circulated it. What is being sought to be overlooked is that the judgement is not only biased but uses false scientific arguments and is full of obvious errors and misstatements.

TWO widows of cancer victims and two survivors of cancer among former employees of the Aircraft Instrument and Development Company (AID Co) brought suit against that company, 23 other companies and the US federal government, which has the ultimate responsibility for regulating industries using radioactive material. This case, cited legally as Johnston vs United States, 597 F. Supp. 374 (D.Kan. 1984), involved a company which purchased instruments with radium-painted dials at salvage for reconditioning. In addition to its regulatory role, the US government was the first owner of the instruments purchased by AID Co. The 23 companies had manufactured and marketed these instruments without warning signs.

The companies involved, after reviewing the plaintiffs' case, the expert testimony and their own defence, decided to settle out of court, jointly awarding \$ 400,000 to each of the four plaintiffs. The federal government however, refused to settle out of court and launched a vigorous case defended by a team of seven US Justice Department lawyers in the US District Court for the District of Kansas. The judge was Patrick F. Kelly and there was no jury. After 42 days of testimony (5,509 pages of transcript), Judge Kelly closed the case of Johnston versus US government with a 150-page opinion issued on 15 November 1984, ruling against the plaintiffs and for the government.

The extraordinary aspect of this ruling concerns the use of this case to vilify three expert witnesses called to testify for the workers: Dr Karl Z. Morgan, Dr Carl Johnson and Dr John Gofman. To quote from Judge Kelly's written opinion:

The paramount and obvious everiding interest (of this case) has been to 'put to rest once and for all, the likes of Drs Gofman, Morgan and Johnson'.

The plaintiffs' claims are simply secondary to the interest of the United States.

He expressed the hope that his views of Drs Gofman, Morgan and Johnson would influence other courts in which they are scheduled to appear. On the other hand, Judge Kelly finds the US government's expert witnesses, Drs Maletskos and Auxier's methods 'wholly objective, honest and reliable'. Judge Kelly declared that he believed nothing of plaintiff's expert testimony and *all* of the government's expert testimony. He praised the government's witnesses as 'superb', 'eminent', 'the court's favourite witness', 'a refreshing and wholly qualified witness', 'wholly effective, honest and reliable', 'brilliant', 'realistic and sound', 'impressive' and 'most convincing'. The opposite remarks were made about Dr Karl Morgan, Dr John Gofman and Dr Carl Johnson.

Judge Kelly's conclusions do not merely pose a question of unrestrained character defamation. They also represent a break with previous US court cases dealing with exposure to ionising radiation. Judge Kelly failed to quote or append to his ruling any previous court rulings, even the recent Colorado, Utah and Pennsylvania court decisions in which radiation injury settlements were awarded. In these cases the expert witnesses produced by the government failed to convince the court that exposure to ionising radiation at low levels was harmless.

Nuclear advocates have widely distributed Judge Kelly's

conclusions. Both Cliff Goff and Dr Michael Fox, workers at the Hanford nuclear facility (a US weapon factory complex), have used it as the basis for letters-to-the-editor attacks on reporters who have quoted Dr John Gofman. Dr Sidney Marks of Battelle Northwest Laboratories—a former Atomic Energy Commission official who has tried to suppress the findings of excess cancer among Hanford workers as reported by Drs Thomas Mancuso, Alice Stewart and George Kneale—has handed reporter Karen Dorn Steele an underlined copy of the Kelly opinion. The February 1985 issue of *Nuclear News* contained an uncritical summary of the judge's opinion with no reference to the underlying scientific debate or issues in question. The magazine has never carried stories on the praise given these same scientists in other court cases.

The April 1985 *Newsletter* of the Health Physics Society contained the first article of a four part series called: 'Highlights from the Decision of Judge Patrick F. Kelly in the case of Johnson vs United States', by John R. Horan, former Chief of Radiological Safety, International Atomic Energy Commission (retired 1983). This lead article gives some background to the Kansas event mentioning the case previously lost by the US government, the more than 4,000 lawsuits pending against the United States alone, and the 1979 decision of the US Department of Justice to devote 'the necessary time and effort' to developing a team of specialised lawyers with the requisite scientific background and expertise. It was this specially developed team which the US government used to fight the two widows and two surviving cancer victims and 'discredit' their expert witnesses in the Kansas courtroom.

This is an extraordinary way to conduct science. The first three pages of the Health Physics *Newsletter* contain nothing but excerpts from the Kelly opinion, without allusion to even one piece of scientific evidence or interpretation disputed before his court. Unless the readers had access to the 5,409 pages of trial transcripts they would have no way to test Judge Kelly's opinion on the health effects of radiation against their own opinions. Similar excerpted vignettes from the Kelly opinion have been duplicated by General Public Utilities, the company responsible for the Three Mile Island reactor accident, on 20 x 20 inch posters and sent all over the world.

What Is 'Safe'?

This extraordinary personal attack on three US scientists calls us to a serious study of its motivation. It requires, at the very least, a reflection on the basic scientific issues 'settled' by the court. The passing off of a judge's opinion which apparently endorses the nuclear industry and censures its critics, without issue discussion is unprofessional, to say the least. Never before have scientists appeared so needy of praise from a non-scientist as the nuclear community exhibits in this instance.

First let us look at Judge Kelly's logic. He repeatedly extols the Biological Effects of Ionising Radiation Committee (BEIR) of the US National Academy of Science as the 'world's irrefutable experts'. Although the BEIR committee states that

a 0.5 rem radiation dose to the general public yearly will result in 6 per cent cancer increase, 0.6 per cent increase in birth defects and a 15 per cent increase in ill health, Judge Kelly concludes to the contrary that there is no evidence leading one to expect radiation injury at exposures less than 50 rads (this is comparable to 50 rem). He states that even 72 rads may be safe. This conclusion of the court was not quoted in the Health Physics Newsletter or the other nuclear public relations material. The judge's notion of 'safe' is not clear, but certainly most persons in the Health Physics community would find even 0.5 rem per year to the general public 'not safe'. Judge Kelly's opinion (that allowing such high exposures carries no risk, is the 'international consensus among experts') is quite false.

Judge Kelly's preferred experts pronounced 40,000 picocuries of plutonium and americium a 'safe' body burden for atomic workers. In contrast, a US Department of Energy study showed a 33 per cent increase in chromosome damage among workers receiving 400 to 4,000 picocuries body burden. These studies of workers have also shown excess brain, lung, central nervous system and digestive system cancers, and leukemia (see *New Scientist*, 11 October 1984). Judge Kelly wrote: 'The four plaintiffs in this case have had numerous whole body counts (of radioactivity), each reported as negative, and which conclusively prove that they have no radium in their bodies! This is in direct contradiction of the trial Exhibit No 12, 148, showing that the plaintiffs had whole body counts, performed by Helgerson

Nuclear Services, which were between 132 and 330 times normal. The judge apparently confused the radium dial painters' exposure and the exposure of the plaintiffs to the hardened, flaked radium dust 10 to 20 years later. The GI tract uptake for the water soluble radium paint would have been much higher, and incorporation of radium in bone for dial painters was detectable with whole body scans. Three of the four plaintiffs were exposed primarily to inhaled radon gases and its decay products, not to radium. One plaintiff had cancer of the colon. For these types of exposure there is no expectation of finding radium, the precursor of radon gas, in bone. These facts were not conveyed to the Health Physics audiences.

The company at which the plaintiffs worked had dubious radiation safety practices. A letter from Mr Gaughan, Radiation Officer to Mr Fulks, Manager of Aircraft Instruments Development (AID Co) was also submitted to the court as evidence. The four workers with cancer had never been warned of the hazards of radium dials and pointers of the instruments they were re-conditioning or the dubious safety record of the plant. A US Occupational Safety and Health Administration inspection of the AID Co reported readings up to 100 mR/hr (a reading which would be normal for a year but not an hour) and over 2 million counts per minute (2 to 25 counts would be considered normal). It was only after the plant had operated for over 15 years that it first purchased an instrument capable

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of measuring the beta and gamma radiation to which workers were exposed. It never possessed instruments for measuring the radon gas released continuously from the radium which was the principal hazard in the plant. The plant had received numerous complaints from the Kansas Department of Health and Environment because of its lack of radiation protection and the high levels of contamination throughout the plant. None of this worried Judge Kelly. None of this was reported to the Health Physics or nuclear establishment audiences.

The risk coefficients for cancer were another point of contention in the trial. Dr Karl Morgan was criticised for 'inflating' the predicted number of cancers. Dr Morgan had doubled the BEIR III estimates, a practice now accepted by Seymore Jablon, US National Research Council, and Dr Edward Radford currently correcting the atomic bomb survivor data on which the BEIR III estimates are based. On the other hand, Judge Kelly accepted the dose estimates for the plaintiffs calculated by Dr John Auxier, the person most responsible for the errors of dose calculation in the atomic bomb data (*Science* Vol 12, 22 May 1981). Since Dr Morgan made only a correction of 2 on the BEIR II cancer risk estimates, and did not use the added correction factor of 2 to 3 for conversion from absolute to relative risk, his cancer estimates would be generally considered conservative, i.e. too low, by most radiobiologists.

Justified Lying

The 'court's favourite witness', Dr Lauriston Taylor, perhaps gives us the best clue to understanding why the US specially prepared legal team was sent to Kansas to defend an obviously poorly run second-hand aviation instrument factory against the cancer death claims of two widows. He helps to situate the verbal attacks on the three scientists who tried to assist the court in coming to a verdict within the overall US predicament. Dr Taylor was quoted on Seattle television in February 1985, by Dr Richard Rappaport, president of the Seattle Physicians for Social Responsibility, as having said that lying to the public about nuclear matters is sometimes justified. As reported in the recently released minutes of the US National Advisory Committee on Radiation, 10 November 1958, Dr Taylor participated in the cover-up of a fall-out episode in Los Angeles caused by a nuclear test at the Nevada Test Site. The accident was described by Dr Edward B. Lewis of the California Institute of Technology as a 'really serious episode. We measured hot spots of about 2 mR/hr on the roof of our building and 2 mR/hr on our shoes... The real hazard is the inhalation of these in the lungs'. These exposures were much lower than those experienced by the deceased workers: In spite of the danger to the public, Dr Lauriston Taylor urged that the public be assured that all was well. In the 1958 minutes, Dr Taylor was quoted as having said that in order to actually protect the public from genetic damage 'you will have to talk about values set down by one hundredth or more'. He stressed that 'if you ever let these numbers get out to the public you have had it'. Birth defect rates have doubled in the US over the past 25 years according to a recent *New York Times* special report, but Judge Kelly wrote:

This court finds that sincere and eminent scientists, like Dr Taylor, who have constituted the radiation protection community for over a half a century, have carefully studied all known literature on the carcinogenic potential of radiation and have set safety standards that were not expected to cause bodily injury during the lifetime of exposed individuals. Just as Lauriston Taylor avoided public disclosure in the Los Angeles fall-out episode to safeguard the US nuclear weapon testing programme, so perhaps Judge Kelly found similar reasons

to cause him to conclude that 'the plaintiffs' claims are simply secondary to the interests of the United States'. Those interests are the same in 1985 as they were in 1958, namely to convince people (however wrongly) that exposure to low level radiation causes no harm. Thus the American people will be willing to handle the uranium, run the nuclear reactors, separate out the plutonium, fabricate and test the bombs, and tolerate the radioactive debris from each part of the weapon cycle. The victims of this deception must be ignored because of the greater 'good' of national security in a nuclear age.

Although the Judge made many obvious errors and mis-statements, these were not reported either in Donald Jose's letter, the *Health Physics Newsletter*, or the nuclear public relations material. The Judge referred to autoradiographs as audiographs; called the inverse square law the immense square law; thought MeV was a unit of power whereas it is a unit of energy; described alpha rays as bombarding tissues in millicuries per second; and said that electrons gave off daughter products. In a still more serious error, he claimed that there were no epidemiological studies or findings to support occurrence of cancer at radiation exposure levels below 50 rad.

The government lawyers used some rather crude tricks to convince the Judge that the radium handled by AID Co employees was harmless. They brought the dials into court and had Dr Robley Evans explain radiation threshold theory which was scientifically discredited in the late 1960s. This false theory led to an estimated 1100 excess lung cancer deaths among US uranium miners. They also brought into court a camping mantle whose beta emissions caused impressive clicks on a geiger counter. They failed to make available to the Judge the US Nuclear Regulatory Report No NU REG/GR-1910, ORNL-5815, 1981, 'An Assessment of Radiation Doses from Incandescent Gas Mantles that Contain Thorium', which assessed the hazards of occasional use of such mantles. These two court-room demonstrations were used to minimise the years of work by the plaintiffs under unsafe radiological conditions at the AID Co plant. A special committee has been appointed to develop cancer risk assessment tables to estimate the probability that a particular cancer is attributable to radiation given the victim's age, sex, cancer type and radiation exposure dose.

The six-person committee is composed of three of the government's expert witnesses who testified against the plaintiffs who had lived downwind of the Nevada nuclear test site and who had contracted cancer. The government lost this lawsuit in Utah. None of the experts who testified on behalf of the persons exposed to fallout were asked to be on the Risk Assessment committee. None of the scientists who have published research papers on the cancer effects of low-level radiation were invited to sit on the committee. It is expected that the government will settle the 'scientific dispute' its own way—by legislative decree. This new tool will add to the effectiveness of the legal team with its scientific disinformation.

FORTHCOMING ISSUES

- June 1986: Volume III No 1: Health care in post-revolutionary societies
- September 1986: Volume III No 2: Primary Health Care
- December 1986: Volume III No 3: State Sector in Health Care
- March 1987: Volume III No 4: Medical Technology