

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

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Comments of Louis A. Zeller and Janet Marsh Zeller

Re: Mixed Oxide Fuel Fabrication Facility Environmental Report, Revision 1 & 2, NRC Docket No. 070-03098, prepared by Duke COGEMA Stone & Webster under DOE contract DE-AC02-99-CH10888

The Environmental Report (ER) underestimates cancer and non-cancer radiological risks to public health.

The role of ionizing radiation as a cause of cancer is well established, but the effects of low levels of radiation as a contributing factor to cancer deaths is vastly underestimated by Duke COGEMA Stone & Webster, the Nuclear Regulatory Commission and the Department of Energy. Also, the lethal non-cancer effects of radiation are now known to include coronary heart disease. Even at medically acceptable levels (previously though to be safe), ionizing radiation in the form of X-rays causes at least half of the fatal heart disease and cancer death in the United States. A monograph published in 1999 by Dr. John Gofman details the impacts of ionizing radiation on mortality in the United States:

“The evidence presented in this book strongly indicates that over 50% of the death-rate from cancer today, and over 60% of the death rate from ischemic heart disease today, are xray-induced.”¹

Dr. Gofman is a doctor of nuclear chemistry and doctor of medicine. Dr. Gofman’s early research contributed to atomic weapons development; he is the holder of two patents for the separation of plutonium from irradiated fuel. As a physician, Dr. Gofman’s work includes groundbreaking research on lipoproteins and coronary heart disease. His recent findings on the effects of ionizing radiation are based on a prospective study of the mortality rates of entire US population from 1940 to 1990. The study challenges the conventional wisdom regarding the impacts of medical X-rays.

“We are well aware of the belief that medical radiation causes only a very low percentage of cancer mortality. That belief rests on a few estimates whose input-data are highly unreliable and sometimes inherently irrelevant. . . . In approximately 50 years of biomedical research, we have rarely seen support for an hypothesis, and an indication for a new hypothesis, ‘fall out of the data’ so strongly as they do in this monograph.”¹

Routine exposures to radiation caused by atomic power plants and related facilities are often compared to the risk from chest X-rays. **The Gofman study requires us to re-examine the assumptions made by regulatory bodies regarding the effects of radiation on the general public caused by nuclear power stations, fuel factories, and the plutonium fuel factory proposed for SRS.**

The Environmental Report Downplays Radiation Increases

The ER estimates the overall dose increases expected to be generated by the plutonium fuel facilities at SRS. It compares the additional impact of the new facilities to the existing impact from the entire SRS facility.

“The surplus plutonium disposition facilities would cause the cumulative dose to the public from all Savannah River Site activities to increase by about 2.6%. ... The cumulative dose [to the public]...associated with mixed oxide fuel shipments...is estimated to be 9.98 person-rem.”² (ER p.ES-6)

DCS should not be permitted to assert that an increase in radiation dose of 2.6% is “small” and “acceptable.” A small percentage increase in a very large number is another large number.

The Environmental Report Relies On False Assumptions

The ER falsely minimizes these impacts by saying that “the environmental impacts are outweighed by the benefit of enhancing nuclear weapons reductions.”² (ER p.ES-7) But in May the US Department of Energy announced it would resume production of new plutonium pits for weapons. Rocky Flats, the former pit production site, was closed down in 1989. On September 13th DOE announced plans to build a new pit production facility, perhaps at the Savannah River Site. **The so-called benefit of nuclear weapons reductions is a fiction.**

The ER proceeds from its false premise of weapons reduction and subsequently dismisses the effects of radiation exposure on the people living within a ten mile radius of the plutonium fuel factory (MFFF).

“This analysis shows that no radiological fatalities are likely to result from implementation of the proposed action.”² (ER page C-2, Analysis of Environmental Justice)

The ER also concludes incorrectly that since there are no health effects there can be no disproportionate effects based on racial, ethnic, or economic factors.

Death Rates in Aiken and Barnwell Exceed State Average, Heart Disease Largest Factor

Annual health statistics compiled by the state of South Carolina reveal above average mortality rates in the two counties within the ten mile radius of SRS. The overall statewide death rate in 1998 was 9.1 per 1000 population.³ Aiken County’s death rate was 9.2 per thousand and Barnwell County’s was 10.9 per thousand; **the Barnwell death rate is 19.8% higher than the statewide rate.**³ The two highest mortality rates by a large margin in each county are for heart disease and cancer. The leading cause of death in Aiken and Barnwell counties is heart disease: 243 per 100,000 population. The second highest cause of mortality is cancer: 216 and 209 per 100,000 in Aiken and Barnwell, respectively.⁴ In Aiken County annual heart disease death rates are greater than all deaths combined for stroke, chronic lung disease, accidents, diabetes, alzheimers disease, and pneumonia. In the same

period Barnwell County heart disease mortality exceeded the combined deaths from stroke, accidents, kidney disease, and pneumonia.

Conclusion

The heart disease and cancer rates in the communities surrounding SRS may be just the tip of the iceberg; additional contributors to morbidity and mortality must not be permitted. The legacy of a half century of radioactive contamination is certainly contributing to this epidemic. The cumulative impact of past contamination from plutonium facilities at Barnwell is not small and amounts to devastating consequences on the people of this area. Moreover, it cannot be “outweighed by a benefit” which does not exist. We support the No Action Alternative.

footnotes

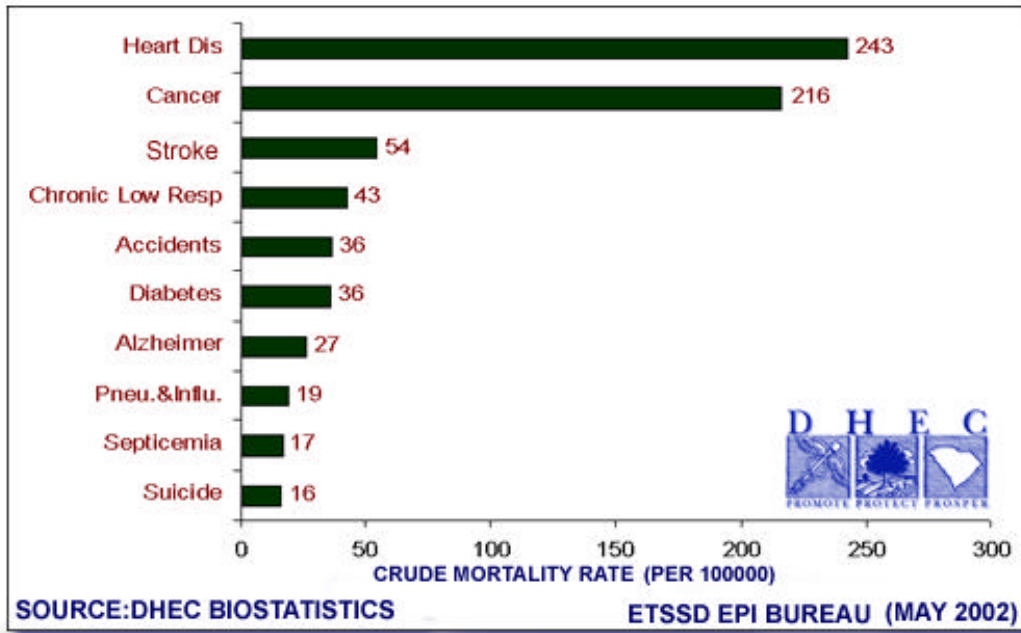
1. *Introduction Radiation from Medical Procedures in the Pathogenesis of Cancer and Ischemic Heart Disease*, John W. Gofman, MD, PhD, 1999

2. *Mixed Oxide Fuel Fabrication Environmental Report, Revision 1 & 2*, Duke COGEMA Stone & Webster, 11 July 2002, (p.ES-6)

3. *South Carolina Vital And Morbidity Statistics 1998*, Volume I, Division of Biostatistics, SC Department of Health and Environmental Control, December 1998

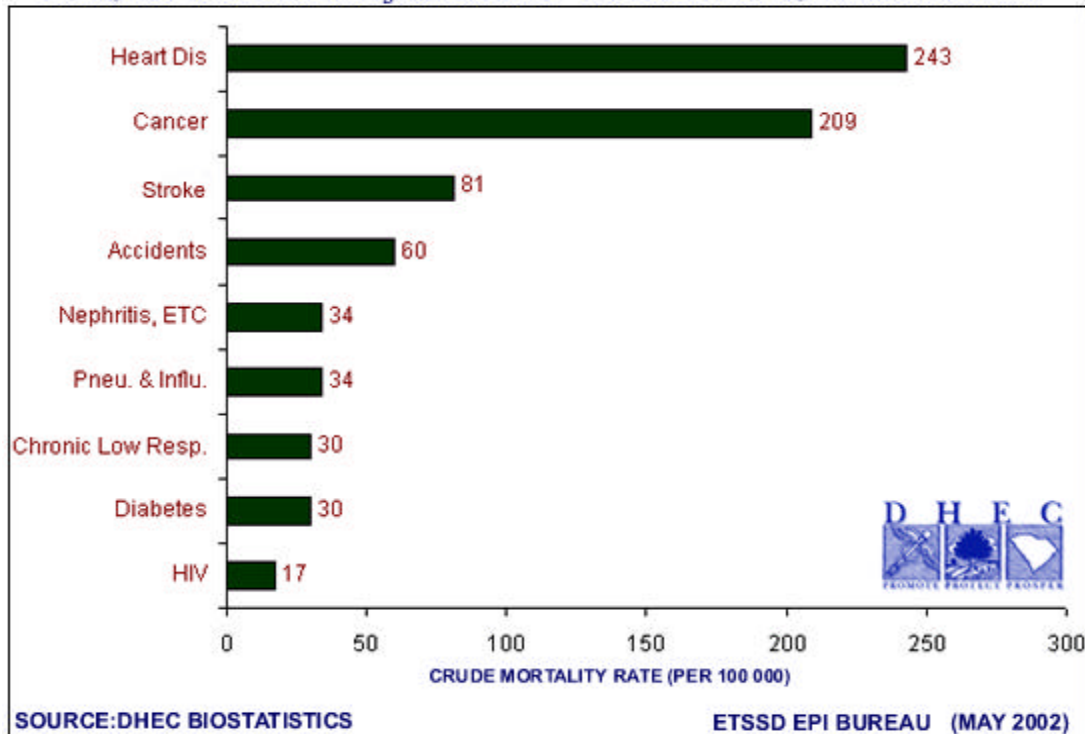
4. Bureau of Epidemiology website, SC Department of Health and Environmental Control
http://www.scdhec.net/HS/epi/county_reports.htm

YEAR 2000 TEN LEADING CAUSES OF DEATH IN AIKEN COUNTY

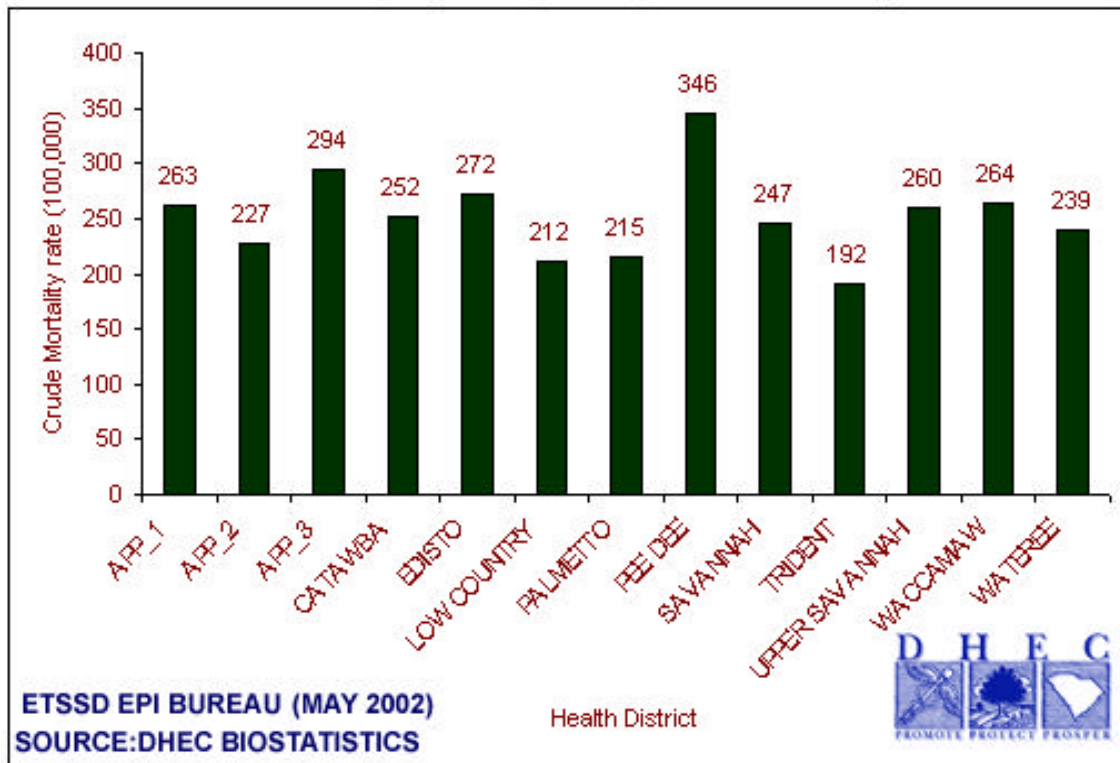


http://www.scdhec.net/HS/epi/county_reports.htm

YEAR 2000 TEN LEADING CAUSES OF DEATH IN BARNWELL COUNTY



YEAR 2000 HEART DISEASE MORTALITY RATE IN SOUTH CAROLINA HEALTH DISTRICTS



http://www.scdhec.net/HS/epi/county_reports.htm

