

MEMORANDUM

**TO: MEMBERS OF THE
ADVISORY COMMITTEE ON HUMAN RADIATION EXPERIMENTS**

FROM: ADVISORY COMMITTEE STAFF

DATE: May 12, 1994

RE: DOCUMENTS RELATED TO THE "GREEN RUN" RELEASE

BACKGROUND AND METHOD

What follows is a brief description of documentation related to the intentional release of radioisotopes at Hanford, Washington, on December 2-3, 1949.

The release remained classified until the 1980s. In 1986 and 1987 the Department of Energy released thousands of pages of documents in response to public concern over possible health effects of environmental releases at Hanford. In 1987, the federal government agreed to fund, through the Center for Disease Control of HHS, the Hanford Environmental Dose Reconstruction Project. The project is directed by an independent Technical Steering Panel.

References to "Green Run" in released documents led to Freedom of Information requests for additional documentation. The 1950 test report was largely declassified in 1989. Some materials related to the purpose and planning of the release remain classified.

To gather materials for the case study, the Committee's staff contacted all the agencies in the Interagency Working Group, the office of Senator Glenn, the General Accounting Office and the Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project. Staff met at some length with representatives of the GAO to discuss, among other items, their investigation into Green Run. Documents were received from four separate sources: the Department of Energy, the Department of Defense, the office of Senator Glenn, and the Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project. Additional public documents illustrating the broader historical context of the work were retrieved by staff.

Documents included in the briefing book are marked with an asterisk. If you wish to review documents that are not attached, please contact Anna Mastroianni.

DOCUMENTS RECEIVED

I. Secondary Documents Providing an Overview

A. From Hanford Dose Reconstruction Project

- * 1. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project. "The Green Run". Fact Sheet 12. March 1992.
- * 2. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project. "Gaining Public Access to Hanford Documents", Fact Sheet 14. August 1992.
- * 3. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project. "Information Sources / Declassification of Hanford Historical Documents", undated. 1 p.

B. From the Office of Senator Glenn

- 1. General Accounting Office. *Nuclear Health and Safety: Examples of Post World War II Radiation Releases at U.S. Nuclear Sites*, GAO/RCED-94-51FS, November 1993. 19 pp. (Included in Briefing Book for first meeting, tab 7)
- * 2. "Early Health Problems of the U.S. Nuclear Weapons Industry and Their Implications for Today," Report of the Majority Staff of the Committee on Governmental Affairs, U.S. Senate, S. Prt. 101-63, December 1989. 16 pp. Pp. 8-9 discuss Green Run.

II. Primary Documents Providing Context

A. From Staff Research

- * 1. CIA, Memorandum for the President, July 6, 1948. (CIA estimates 1953 as the most probable date for Soviet completion of an atomic bomb)
- * 2. CIA, Memorandum, September 9, 1949. (CIA reports air samples indicate a possible atomic explosion in the Soviet Union)
- * 3. Robert D. Little, *A History of the Air Force Atomic Energy Program, 1943-1953*, Vol. III, Part II. Section III. Chapter VII: "Atomic Intelligence", pp. 253-254, 276, 281. (Reevaluation of the long range detection program follows conclusion of review group that evidence is conclusive the Russians carried out an atomic detonation. Much material omitted due to classification.)

- * 4. Statement by the President on Announcing the First Atomic Explosion in the USSR, September 30, 1949.

III. Primary Documents Associated with the Test Itself

A. From the Department of Energy

- * 1. "Memorandum Report - The Evolution of Iodide During Metal Dissolution." HW-3-3003. 18 pp. Pp. 1-2 included. Note recognition in Introduction that release of radioactive iodine and xenon posed a "physiological hazard."
- 2. Phil E. Church and C.A. Goslin, Jr., "Characteristics of Mixing and the Dilution of Waste Stack Gases in the Atmosphere." HW-7-4086, undated. 16 pp.
- 3. H.M. Parker, "Hazards of Waste Storage at Hanford Works, Part I", HW-14058, August 2, 1949. 60 pp.
- * 4. "Dissolving of Twenty Day Metal at Hanford - Notes". HW-17381-Notes [Document number assigned at time of discovery in January 1993]. 65 pp. Handwritten notes apparently related to the planning of the test. Pp. 1-3, 9, 15, 18, 22, 29, 56-61 are attached as samples of the material.
- * 5. H.M. Parker. "Health Instrument Divisions: Report for Month of December, 1949", HW-15550-E DEL. January 6, 1950. 29 pp.. Pp. 1-3, 19 are attached. Note the remark on page 3 that "H.I. Divisions would resist a proposed repetition of the test."
- * 6. W. Singlevich. "H.I. Environs Report for the Month of December 1949", HW-15593, January 9, 1950. 31 pp. . Pp. 1-5 are attached.
- 7. M.B. Leboeuf, "Analysis of Vegetation for I-131", HW-15743, January 27, 1950. 11 pp.
- * 8. H.J. Pass and W. Singlevich, "Radioactive Contamination in the Environs of the Hanford Works for the Period October, November, December, 1949," HW-17003, March 2, 1950. 67 pp. Pp. 1-4, 53-56 are attached.
- 9. R.C. Thorburn. "Health Monitoring of Samples for P-10 Oxide", HW-17257, March 20, 1950. 15 pp.
- * 10. "Dissolving of Twenty Day Metal at Hanford", HW 17381. The Committee received two copies of this document: "HW 17381 DEL" and "HW 17381 DEL"

REV". The two copies differ only in the amount of material deleted for security reasons. Pp. 1-8, 11-13, 30-32, 63-71 are included from HW 17381 DEL. Copies of pp. 8, 12, 13, 66, and 71 from HW 17381 DEL REV are also included since they contain material deleted from the first version but later declassified.

11. J.W. Healy, L.C. Schwendiman, and P.C. Thorburn, "Counter Calibrations in the Health Instruments Methods Group", HW-18258, July 1, 1950". 53 pp.
12. C. W. Thomas and Dan M. Polinsky, "A Tabulation of Counting Correction Factors and Decay Schemes", HW-18258-APP, November 16, 1956. 74 pp.

IV. Documents Written Several years After the Test

A. From the Department of Energy

1. "History of Airborne Contamination and Control - 200 Areas," HW-55569 RD, April 1, 1958. 7 pp.
2. J.D. Anderson. "Emitted and Decayed Values of Radionuclides in Gaseous Wastes Discharged to the Atmosphere from the Separation Facilities Through Calendar year 1972." ARH-3026. March 1. 1974. 9 pp.
3. Maurice A. Robkin. "Experimental Release of 131-I: The Green Run." *Health Physics* 62 (June 1992): 487-495.

B. From the Department of Defense

1. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project, " Hanford Dose Reconstruction Project: Finding the Facts About People at Risk." Fact Sheet 5, February 1990. 2 pp.
2. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project, "Preliminary Dose Estimates," press release, July 12, 1990. 3 pp.
3. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project, "The Green Run", Fact Sheet 12, March 1992. 4 pp.
4. Technical Steering Panel of the Hanford Environmental Dose Reconstruction Project, " Initial Hanford Radiation Dose Estimates," undated. 20 pp.

STAFF SUGGESTIONS FOR ADDITIONAL DOCUMENTATION

1. Technical details. The Hanford Environmental Dose Reconstruction Project is already embarked upon a major effort to reconstruct the amounts of radioactivity released and their distribution.
2. Historical context. Documents relating to the specific purpose of the test run are still classified. The Committee could request declassification of these files.
3. Ethical review. Documents relating to the planning and review of the test are still classified. None of the documents received to date relate to the procedures followed in planning and approving the test. The comment in the 1949 report by Parker that "'H.I. Divisions would resist a proposed repetition of the test'" suggests that there was some prior discussion of the potential hazards of such releases. The Committee could request declassification of these documents.
4. Interagency Co-operation. As indicated by the Air Force history, a wide range of agencies were involved in the aerial surveillance program which underlay the Green Run test. Following trails across agency lines will be necessary to obtain the most complete picture possible of the process which led to the test.
5. A keyword search for the word "experiment" will not always uncover relevant material. Green Run documents, such as the handwritten lab notes, clearly indicate the test was a carefully designed experiment. However, the applicability of the term "experiment" to such a test has changed over the years. In 1992, the Dose Reconstruction Project explicitly refers to Green Run as "the experiment" (Fact Sheet 12, p. 1). But the 1949-1950 reports are more circumspect, referring to it as a "specially requested dissolving", "the dissolving of the green metal" or the "green run." This may have been for security reasons or be indicative of a different mindset from today. In any case, the methodological lesson is that scanning documents for the word "experiment" would not have unearthed these reports. More importantly, close examination of how such terms were used may help reconstruct the intellectual framework within which such tests were designed and approved.