

ORNL/FTR--3002

DE89 014055

COVER SHEET
FOR TRIP REPORTS SUBMITTED TO THE
OFFICE OF ENERGY RESEARCH

Destination(s) and Dates for
Which Trip Report Being Submitted: Greenland, July 13-29, 1988

Name of Traveler: Lorene L. Sigal

Joint Trip Report Yes
 No

If so, Name of Other Traveler(s): K. J. Brown, G. K. Eddlemon, D. B. Hunsaker,
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ORNL

FOREIGN TRIP REPORT

ORNL/FTR-3002

DATE: August 22, 1988

SUBJECT: Report of Foreign Travel of the ORNL Environmental Compliance and Management Program (ECAMP) Team

TO: Alexander Zucker

FROM: G. K. Eddlemon and L. L. Sigal (Environmental Sciences Division); K. J. Brown (Health and Safety Research Division); R. L. Jolley and S. P. Singh (Chemical Technology Division); D. B. Hunsaker (Energy Division); and W. P. Tiechert (Lee Wan Associates)

PURPOSE: To conduct an ECAMP assessment of compliance with environmental regulations at Sondrestrom and Thule Air Bases, Greenland

21-29 July 1988 Thule AB Col. William Pine,
Base Commander
Mr. Kurt Larsen,
Base Civil Engineer

ABSTRACT: Seven members of an ORNL team visited Sondrestrom and Thule Air Bases to conduct ECAMP assessments for Headquarters Air Force Space Command. Reports were written evaluating compliance with federal, Air Force, and local environmental regulations in the following areas: air emissions; wastewater discharges, solid waste management; hazardous waste management; pesticides management; polychlorinated biphenyl (PCB) management, drinking water; petroleum, oils, and lubricants (POL) management; hazardous materials management; and natural and historic resources.

In addition, site management plans were evaluated, and information was gathered for revision of the plans, if need be, by staff in the Environmental Sciences Division, ORNL.

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COMPREHENSIVE REPORT

As part of an existing Work-for-Others Program, the sponsor, Mr. Gary Maher, Chief, Environmental Planning Division of Headquarters Air Force Space Command, requested that ORNL conduct Environmental Compliance Assessment and Management Program (ECAMP) assessments at Sondrestrom and Thule Air Force Bases in Greenland. In addition, staff in the ORNL Environmental Sciences Division were requested to evaluate and revise various management plans as needed, based on information collected during the ECAMP site visits. The ORNL work is conducted under Interagency Agreement Number 1910-A117-A1 for the Support Contractor Office of the Hazardous Waste Remedial Actions Program.

The seven members of the ECAMP team and their affiliations and responsibilities were as follows:

- o K. J. Brown (Health and Safety Research Division) - natural and historic resources, land management plans, spill response plans;
- o G. K. Eddlemon (Environmental Sciences Division) - solid waste, pesticides, Sondrestrom report;
- o D. B. Hunsaker (Energy Division) - POL, petroleum recovery plans, spill response plans;
- o R. L. Jolley (Chemical Technology Division) - hazardous materials, PCBs;
- o L. L. Sigal (Environmental Sciences Division) - air emissions, spill response plans, Thule report, team leader;
- o S. P. Singh (Chemical Technology Division) - wastewater, drinking water; and
- o W. P. Tiechert (Lee Wan Associates) - hazardous waste, hazardous waste management and minimization plans.

As a result of deficiencies in compliance with environmental regulations, mostly stemming from a general lack of awareness of the many and varied requirements, the Air Force (AF) has initiated the ECAMP policy for all of its installations. The initial assessments are to be completed by January 31, 1990. The program is based on the premise that compliance can be achieved by changing procedures, increasing education and training, and devoting resources to the difficult and expensive items. Other services are in the process of developing similar programs, but the AF is in the forefront of the movement.

The ECAMP guidance manual was developed by a contractor in 1985 based on assessments at 18 AF facilities. A training program and field testing of the guidance manual were conducted in 1986. ORNL participated in this

initial part of the program and also contributed to the revision of the guidance manual. Subsequently, we conducted ECAMP assessments at four AF bases for Tactical Air Command (TAC) and supervised contractor assessments of ten other TAC bases. So far this year we have completed one assessment for Air Training Command and five assessments for AF Space Command.

Success of the effort depends on team members who are objective and possess a good working knowledge of the various environmental pollution control statutes and regulations; they must understand management structure and operations at AF installations; and they must understand appropriate techniques for collecting information and interviewing personnel. Before the team arrives on site, five key activities are completed:

- o evaluation of a previsit questionnaire which familiarizes the team with the installation and its operations,
- o determination of the scope of the assessment and the team assignments,
- o acquisition of state and local regulations and comparison with the federal and AF regulations,
- o integration of state and local regulations into the ECAMP protocols, and
- o development of a daily schedule for the site visit.

The site visit includes an in-brief and out-brief with the base commander, base civil engineer, base environmental coordinator, bio-environmental engineer, and other members of the environmental protection committee. The assessment includes a records search for information on permits, manifests, inventories, notices of violation, required reports, etc.; interviews with installation personnel responsible for the various operations; and site surveys. During the visit, the team provides daily feedback to the base environmental coordinator and also prepares a preliminary summary of findings for the out-brief. A Preliminary Environmental Findings report is due 14 days after the site visit, and a Candidate Environmental Findings report is due 14 days after receiving base and Headquarters comments on the Preliminary Environmental Findings report. For bases the size of Sondrestrom and Thule, the reports usually are 50 to 60 pages in length. They include an executive summary, background and scope, environmental compliance status, and observations and comments. The results of our assessments of the Greenland bases are internal working documents and are not available for public release until the AF develops an action plan and completes the Final Environmental Evaluation Report.

As a result of our participation in the AF ECAMP, the ORNL team has enhanced understanding of the federal and state environmental regulations and their application, honed interview skills, and the ability to produce comprehensive reports quickly. Such expertise can be applied to developing guidance and preparing and conducting environmental assessments for DOE facilities and other agencies that must comply with Executive Order 12088 (Federal Compliance with Pollution Control Standards).

For instance, based on our expertise acquired by performing environmental compliance work for the AF, some of us in the Environmental Sciences Division were asked to assist with the development of the DOE Environmental Survey Manual. Our understanding of the environmental regulations has also proven valuable in analysis and evaluation of DOE's responsibilities for removal and disposal of asbestos at the Oak Ridge facilities. In addition, we were asked to develop compliance protocols for asbestos, hazardous materials, PCBs, lead, and low-level radioactive waste for the Navy Inactive Fleet Detachment.

We feel that our work in environmental compliance has enhanced not only our personal reputations but also reflects well on ORNL and DOE. Two papers based on our assessment work have been presented at national meetings (Sigal and Eddlemon 1987; Eddlemon and Sigal 1988). We anticipate continued work in the area of compliance with environmental regulations, particularly as agencies realize the benefits of a proactive approach to environmental management. These benefits include

- o fewer impacts to the well-being of personnel, the public, and the environment;
- o better understanding of the environmental regulations and the reasons for compliance, which results in fewer notices of violation;
- o enhanced environmental management, which anticipates and prevents future environmental problems;
- o better information for use in identifying, programming, and budgeting environmental requirements;
- o less potential for civil and criminal law suits by the public;
- o enhanced public confidence in federal agencies; and
- o accurate and complete information on the status of facility environmental compliance programs.

REFERENCES

Sigal, L. L., and G. K. Eddlemon. 1987. Environmental audits: What they are and why they are needed. In Proceedings for the 15th Environmental Symposium "Waste Minimization and Environmental Programs Within DOD." American Defense Preparedness Association, April 28-30, 1987. Long Beach, California.

Eddlemon, G. K., and L. L. Sigal. 1988. Auditing hazardous waste management at DOD facilities: Lessons learned and recommendations. Presented at the Annual Conference of the National Association of Environmental Professionals on Toxics in the Environment: Management Options and Solutions. April 19-22, 1988. Orlando, Florida.

CONTACTS

The following people were interviewed in regard to the ECAMP assessments at the Greenland bases.

Air Force Space Command (HQ AFSPACECOM), Peterson AFB, CO

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Sondrestrom Air Force Base

1015th Air Base Group (1015th ABG), Sondrestrom

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Erik Albrektsen, Supervisor Electrical and Auxiliary Power

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Erik Buckhard, Base Fuels Management

George Mitchell, Disaster Preparedness Officer

Torpen Sonne, Supervisor, Recreation Services

Henrik Jorgensen, Superintendent, Heating Plant and Drinking Water Treatment

Lisbeth Stein, Drinking Water Analysis

K. P. Jensen, Supervisor, Aircraft Ground Equipment

Thora Funder, Safety Engineer

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Mr. Kirkegal, Dry Cleaning

Steffen Lydach, Director, Clinic

Karsten Nielsen, Supervisor, Maintenance, Controls, Analyzer

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