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

Destination(s) and Dates for Which Trip Report Being Submitted: 10/23/87 - 10/31/87 Osaka, Japan

Name of Traveler: C. C. Travis

Joint Trip Report ☐ Yes
☒ No

If so, Name of Other Traveler(s): _____

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FOREIGN TRIP REPORT

ORNL/FTR-2750

DATE: November 13, 1987

SUBJECT: Report of Foreign Travel of Curtis C. Travis, Director, Office of Risk Analysis, Health and Safety Research Division

TO: Herman Postma

FROM: C. C. Travis

PURPOSE: To participate in the 2nd U.S. - Japan Workshop on Risk Assessment and Risk Management.

SITES VISITED:

10/23-31/1987	Osaka University	Osaka, Japan	Kazuhiko Kawamura Tomitaro Sueishi

ABSTRACT: The traveler attended the 2nd U.S. - Japan Workshop on Risk Assessment and Risk Management and presented a paper entitled "Risk Assessment Techniques." The objective of the workshop was to investigate differences and similarities between the U.S. and Japan in approaches to environmental risk management.

It became apparent that differences exist between the two nations. In Japan, the approach to environmental risk management is essentially a closed system based on personal networks and principles of confidentiality. This system discourages wide interest-group participation. In contrast, the U.S. approach is essentially an open system based on explicit procedures and principles of law. This system encourages wide interest-group participation. Government officials in Japan generally place little emphasis on the use of formal, quantitative risk assessments and cost-benefit analyses; instead, higher priority is given to qualitative data and analyses. U.S. government officials generally place great emphasis on the conduct and use of formal, quantitative risk assessments and cost-benefit analyses.

REPORT OF FOREIGN TRAVEL OF CURTIS C. TRAVIS TO OSAKA, JAPAN:

On October 23-31, 1987, the traveler participated in a "U.S.-Japan Workshop on Risk Assessment and Risk Management" in Osaka, Japan. The meeting was a follow-on to a 1984 workshop in Japan on the same topic which the traveler also attended. In the present workshop, the traveler was asked to provide one of four plenary presentations summarizing new directions for methodologies in risk assessment. The intent of the workshop was (1) to review the state-of-the-art of risk assessment and risk management in the U.S. and Japan and (2) to provide a cross-national analysis of the ways the two nations manage environmental risks. The conference proceedings will be published as a book which is intended to reflect the consensus of participants and to guide in the future development of risk assessment and risk management techniques in the two nations.

The development of rational procedures for risk assessment and risk management is of interest to the Department of Energy (DOE). One example is in the area of DOE's hazardous waste treatment and remedial action programs. Several Oak Ridge National Laboratory (ORNL) divisions are performing research on the use of technologies to aid in the clean-up of contaminated soil and groundwater at DOE facilities. It is in DOE's interest to ensure that questions regarding the potential environmental risks associated with present and past clean-up levels of contamination be answered in a way that satisfies both regulatory agencies and the public at large. The objective of my participation in this workshop was to aid in this process by (1) becoming more familiar with regulatory viewpoints on risk assessment and risk management, (2) obtaining insights into Japanese approaches to risk management, and (3) participating in the case studies during the workshop.

Japan and the U.S. have substantially different approaches to environmental risk management. A brief discussion of these differences follows.

The Japanese Approach. The Japanese approach to environmental risk management is based largely on a "cooperative model" of risk management. The central characteristics of this model include: negotiation, consensus-building, flexibility, bargaining, persuasion, compromise, accommodation, peer pressure, close cooperation between government and industry, and voluntary agreements based on principles of reasonableness, practicality, and economic and technical feasibility. The Japanese approach places substantially greater emphasis on voluntary control than on government intervention. A basic premise of the approach is that the primary function of government is to persuade and encourage voluntary compliance.

The Japanese government implements this approach largely through private, confidential negotiations with industry. The results of

such negotiations (e.g., the establishment of exposure limits for toxic substances) are frequently incorporated into voluntary "codes of practice" or guidelines, although they can also be made binding through government regulation and standards. The government's right to establish regulations and standards is, however, seldom exercised since negotiations usually lead to an acceptable compromise.

Japan's cooperative model of environmental risk management is rooted in several characteristics of its social, cultural, and political systems. These include (1) a strong cultural bias toward consensus building in organizational decision making. (2) paternalistic values that discourage public participation in the decision making process, (3) a highly respected civil service, (4) mutual respect between government and industry officials, and (5) high levels of public trust and confidence in officials in government and industry.

Interestingly, many of the characteristics of the Japanese approach to environmental risk management bear a strong resemblance to the British approach. For example, the British also stress negotiations and cooperation among interested parties. However, one important difference between Japan and Great Britain is that environmental negotiations in Great Britain are, for the most part, tripartite, involving representatives from government, industry, and labor unions. By contrast, Japanese environmental negotiations are, for the most part, bipartite, involving representatives from only government and industry. Representatives from labor unions are generally excluded from environmental negotiations. Part of the reason labor unions are excluded is that they are formed largely on the basis of employment rather than occupation. As a result, each company has its own union, which almost invariably supports the company on environmental and other policy matters.

The U.S. Approach. In contrast to the Japanese (and British) approach to environmental risk management, the United States bases its approach chiefly on a "confrontational model" of risk management. Its basic characteristics include: (1) adversarial relations between interested parties (e.g., government agencies, unions, corporations, trade associations, and environmental groups), (2) wide participation by interest groups in the decision making process, (3) high levels of interest-group loyalty, (4) intensive lobbying by interest groups in support of their position; open and extensive peer review of technical analyses, and (5) extensive use of the legal system by interest groups to achieve their goals.

The U.S. approach to environmental risk management results in environmental policies and standards that are explicit, coercive, and inflexible. The government has generally pursued a consistent environmental policy that places it in direct conflict with industry. In carrying out this policy, government officials have

relied heavily on written rules, precise regulatory standards, legal coercion, and sanctions.

The general characteristics of the Japanese and U.S. approaches to environmental risk management results in different uses of data and analysis.

The Japanese Approach. Japan places little emphasis on formal risk assessments and cost-benefit analyses. The commissioning and use of formal quantitative risk assessments and cost-benefit analyses are more the exception than the rule in environmental risk management decision making.

The decision making system generates little pressure for formal quantitative risk assessments or cost-benefit analyses. As already noted, the Japanese place great emphasis on cooperation, negotiation, consensus-building, and voluntary agreements. Accustomed to negotiating with each other, neither the government nor industry requires the other to describe their position in formal, quantitative terms. Furthermore, the importance assigned to negotiation largely vitiates the need for formal, explicit principles of decision making. Although documents relating to major regulatory actions often include a discussion of risks, costs, and benefits--and frequently cite relevant U.S. data--the analyses are typically more qualitative than quantitative. Moreover, the evaluation and implications of available data for environmental policy is determined through negotiation.

Negotiations are conducted largely within the confines of environmental advisory committees appointed by the government. Advisory committee meetings are typically confidential and closed to the public. No requirements are placed on environmental advisory committees to maintain public records of their deliberations or to explain publicly the reasons for their decisions. In most cases, the public is provided no formal opportunity to review or criticize the decisions and recommendations of environmental advisory committees.

The U.S. Approach. The United States places great emphasis on formal risk assessments and cost-benefit analyses--the careful, rigorous, quantitative evaluation of the risks, costs, and benefits of alternative environmental policies. Under President Reagan's Executive Order 12291 issued in 1981, such analyses must be carried out before major environmental regulations can be adopted.

The extensive use of formal quantitative risk assessments and cost-benefit analyses is based on two widely held beliefs: (1) that government officials need a consistent, objective, open, nonarbitrary way for comparing, ranking, and choosing among competing environmental policies, and (2) that comparing, ranking, and choosing among competing environmental policies is aided by the rigorous, explicit quantitative analysis of risks, costs, and benefits.

Quantitative risk assessments and cost-benefits analyses, are, for the most part, prepared by agency staff or by consultants hired by the agency. These studies are often reviewed by external scientific advisory committees composed principally of academic scientists. Meetings of the advisory committees are generally open to the public.

The question of which nation's approach is preferable cannot be answered easily or directly; each approach has distinct strengths and weaknesses. For example, the U.S. approach allows wide opportunities for public participation and representation. It includes (1) rigorous scientific analyses to support decision making, (2) open, full, and public discussion and debate of scientific uncertainties and disagreements, and (3) uniformity in agency rules, standards and procedures. The U.S. approach also has several weaknesses, including (1) open confrontations between interest groups, (2) high levels of public conflict and controversy, (3) lack of public trust in government and industry, (4) frequent and extensive use of coercion and sanctions, (5) high economic costs to industry, and (6) long and costly delays caused by litigation.

By contrast, Japan has a different set of characteristics that can be considered strengths, including (1) an emphasis on consensus building, negotiation, economic incentives, and voluntary agreements, (2) high levels of public trust in government and industry, (3) lack of open conflict and confrontation, and (4) a practical and flexible system. The Japanese approach also has its weaknesses, including (1) a high level of secrecy in the decision making process, (2) a strong paternalistic character, (3) lack of external peer review, (4) exclusion of environmental citizen groups and public interest groups from direct participation in the decision making process, (5) an extremely close relationship between government and industry bordering on conflict of interest, and (6) environmental policies that appear to favor economic and industrial productivity over environmental quality and protection.

APPENDIX A

Itinerary

10/23-24/87	Travel from Knoxville, Tennessee to Osaka, Japan
10/24-30	Osaka University
10/30-31	Travel from Osaka, Japan to Knoxville, Tennessee

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See Appendix B for listing of workshop participants.

Literature Acquired

Pre-prints of papers to appear in workshop proceedings.

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