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ORNL

FOREIGN TRIP REPORT

ORNL/FTR-3802

DATE: October 25, 1990

SUBJECT: Report of Foreign Travel of Martin A. Broders, Group Leader, Efficiency and Renewables Research Section, Energy Division.

TO: Alvin W. Trivelpiece

FROM: Martin A. Broders

PURPOSE: To participate in the activities of the International Energy Agency's Center for the Analysis and Dissemination of Demonstrated Energy Technology (IEA-CADDET) annual CADDET Working Team meeting.

SITES VISITED:

10/15-16/1990 Kasteel Elsloo, Elsloo, The Netherlands. Principal Contact: Cees Hoedemakers, Chairman of the IEA-CADDET Working Team.

10/17/1990 NOVEM, Sittard, The Netherlands. Principal Contacts: Lucinda Maclagan, CADDET Chief Editor and Ron Ongenae, CADDET Senior Technologist.

ABSTRACT: The traveler serving as Delegate from the United States CADDET National Team, participated in the activities of the annual IEA-CADDET Working Team meeting. Highlights of this meeting included progress/status presentations by 12 of 13 CADDET National Teams, development of future CADDET work plans including a prioritization of activities, and discussions of long range expectations for CADDET. Follow-up discussions were held with CADDET staff members which focused on U. S. CADDET National Team contributions to the CADDET Newsletter, brochures and register of demonstrated energy technologies.

DISCLAIMER

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BACKGROUND

The United States in one of thirteen member countries that participate in the activities of the IEA-CADDET, a center responsible for collecting, analyzing and disseminating information on demonstrated energy-efficient technologies. The goal of IEA-CADDET is better informed decision making and increased adoption of successful energy-efficient technologies.

The Netherlands Agency for Energy and the Environment (NOVEM) located in Sittard, The Netherlands, is both headquarters and operating agent for IEA-CADDET. United States participation is sponsored and funded by the U.S. Department of Energy, Office of Conservation and Renewable Energy. The United States is represented on the IEA-CADDET Executive Committee by John P. Millhone, Deputy Assistant Secretary, DOE Office of Building Technologies; and Frank M. Stewart, Deputy Assistant Secretary, DOE Office of Technical and Financial Assistance. The Oak Ridge National Laboratory serves as the lead laboratory providing direct technical support to DOE for IEA-CADDET activities. The traveler, representing the U. S. CADDET National Team, serves as Delegate to the CADDET Working Team.

SUMMARY OF ACTIVITIES

The IEA-CADDET annual Working Team Meeting was held at Kasteel Elsloo in Elsloo, The Netherlands on October 15 and 16, 1990. Martin Broders, representing the U.S. CADDET National Team, served as the United States Delegate to this meeting. Andre VanRest, representing the U.S. Department of Energy Office of Technical Assistance, also participated in the activities of this meeting. The Working Team Meeting was attended by twelve of the thirteen IEA-CADDET member countries (Australia, Canada, Denmark, Finland, Italy, Japan, Norway, Sweden, Switzerland, The Netherlands, United Kingdom and the United States). Representatives from New Zealand were not able to attend this meeting. Outlined below are highlights of this meeting:

- During his introductory remarks, Chairman Cees Hoedemakers challenged the Working Team to carefully assess the various CADDET information products and services. He stressed the need for careful selection of future CADDET analysis topics, taking into consideration compatibility with member country National programs and availability of information to perform these analyses. Mr. Hoedemakers asked the Working Team to look ahead ten years and try to envision CADDET's posture and accomplishments in the year 2000. Other issues to be addressed at this meeting included CADDET's proposed scope extension into renewable energy technologies, involvement of non IEA member countries in CADDET activities and language problems being experienced by member countries. Finally a very important question is: who is responsible for ensuring the quality of CADDET products and services?

- A delegate from each participating member country gave a short (5 minute) presentation highlighting National Team activities during the past year and giving insights into the future. A few important highlights from these presentations include:

  - Finland: The CADDET Register (database) is the most important of CADDET's informational products and will receive Finland National Team emphasis and priority.

  - Switzerland: The CADDET Newsletter is currently the most effective means of communicating information about demonstrated energy technology within Switzerland.

- Denmark distributes over 500 CADDET Newsletters and distributes several hundred of each CADDET brochure selectively by end-use sector. Denmark plans a Special Issue of the CADDET Newsletter, similar to Norway's Special Issue.

- Norway has prepared a general CADDET brochure in the Norwegian language which is a special adaptation of the English language version.

- Australia has opted for a "national network" structure for their CADDET National Team comprised of local teams in each capital city that make contact directly with end-users, and a central Australia National Team that undertakes strategic planning and is made up of representatives from the various local teams.

- Canada has reorganized its National Team and selects members from six major groups; i.e. government, energy suppliers, energy associations, trade and professional associations, private companies and research institutions. In addition, members from within these major groups represent the agro-food, transportation, energy production, renewable, building, and industry end-use sectors.

- United Kingdom has adapted a "Best Practice" program which has as its goal to advance and spread good practice in energy efficiency. The results of "Best Practice" will be contributed to CADDET and integrated appropriately into their products and services.

- Japan, who just recently joined CADDET, is developing a complex National Team structure that will involve a large number of member organizations. By the end of 1991 Japan plans to contribute 270 register entries and complete 35 brochures.

- The Netherlands: The "Information Service for Energy Conservation" (SVEN) has been organizationally integrated with NOVEM.

- Martin Broders, U. S. Delegate to the CADDET Working Team, presented "An Update on U. S. National Team Organization and Activities." This presentation emphasized continued U. S. CADDET National Team growth. The results of the first U. S. CADDET National Team Meeting were summarized. A campaign that is currently underway to interview all U. S. CADDET National Team members was described and the initial results of this endeavor, which include contributions of over 100 new U. S. demonstration projects, were highlighted. United States contributions to the CADDET Newsletter and CADDET brochures were also identified and discussed.

- The United States also prepared a second presentation entitled "A Glimpse at Some Current Energy RD&D Programs in the United States." The presentation highlighted selected public and private sector energy efficiency and conservation RD&D programs in the United States, and emphasized their diversity and interrelationships. Specific energy RD&D programs described in this presentation included the USDOE, California Energy Commission, Oak Ridge National Laboratory, Electric Power Research Institute, Pacific Gas and Electric, and ASHRAE. Because of Working Team meeting scheduling difficulties this presentation was not actually given. A copy of the presentation will, however, be included with the meeting minutes.

- The Working Team divided up into four subgroups to discuss the role of the various CADDET information products in meeting the needs of CADDET National Teams. After over an hour of discussion each subgroup reported back and summarized the results of their deliberations; i.e.:

- The CADDET register and brochures should receive more emphasis and priority. To compensate for this new emphasis, the CADDET staff should devote less of their fixed resource to CADDET analyses. Note: The CADDET operating agent estimates that the CADDET staff in Sittard currently devotes between 35 and 40% of its total effort to CADDET analyses. This does not include the added CASU effort in support of analyses.

- The CADDET register is an important information product, but the current published version is of limited value. Note: Over 300 records of demonstrated energy technology have been contributed as input but have not yet been incorporated into the CADDET register.

- The quality of input to the CADDET register is important. The content of each register input record should be reasonably complete, should be relevant to the scope of CADDET, and should be categorized for efficient information retrieval.

- Each CADDET National Team has a responsibility to contribute their "fair share" of records of demonstrated energy technology to the CADDET register. Record quality is a responsibility of each National Team in cooperation with the CADDET staff.

- A mature CADDET register will greatly enhance CADDET's ability to produce CADDET analyses in a timely manner. It will provide the information resources on demonstrated energy technologies worldwide that will enhance both the selection and preparation of CADDET analyses.

- CADDET analyses in several member countries are not very popular. The fact that CADDET analyses are only published in the English language is a problem. Perhaps new analyses topics should be more narrowly focused, and concentrate on a specific end-use sector.

- If the records of demonstrated energy technology in the CADDET register were reasonably complete and balanced then many of the problems currently experienced during preparation of CADDET analyses would be minimized.

- A reference group should be established from amongst CADDET National Team members to aid the principal investigator during the preparation and review of each CADDET analysis. Members of the reference group would be chosen on the basis of their expertise on the topic covered in each analysis.

- Assuming a fixed CADDET staff resource, and in view of the increased emphasis being given to the CADDET register, annual production goals for CADDET analyses should be reduced from six to three.

- The CADDET staff should play a major role in the selection of CADDET brochures for publication. This selection activity must be done in concert with the National Teams in order to prevent wasted time and effort.

- There is an apparent need for the CADDET staff to prepare standard guidelines for CADDET brochure publication. This need was later expanded to include other CADDET information products. As an end result of these discussions it was further recommended that the CADDET staff prepare a handbook that provides general guidelines for CADDET Newsletter article, brochure, analyses and register input. A future training session based on these general guidelines was also suggested.

- CADDET brochure dissemination to the National Teams should vary depending upon the applicable end-use sector. In order to implement this suggestion, each member country will need to establish its own unique distribution requirements.

- CADDET analyses topics should be straight forward and well defined. These topics must be relevant to the broad interests of the 13 member countries of CADDET. Before an analyses is undertaken there must be an adequate information base (a mature register) upon which to perform the analyses.

- At the termination of these discussions about the various CADDET information products, the United States made the following motion:

  > The CADDET Working Team wishes to establish as a priority the update of the CADDET register, and furthermore that the CADDET staff aim to process the 300+ records currently available for incorporation in the next issue of the CADDET register.

  The CADDET Working Team unanimously approved this motion. Note: Subsequent discussions with CADDET staff members indicate that they will attempt to process the 300+ records currently available, and incorporate them into an updated CADDET register to be issued prior to the next Executive Committee Meeting.

- The CADDET staff gave a series of presentation concerning the various CADDET information products. Highlights of these presentations are:

  - The CADDET Newsletter has shown steady growth, with a total worldwide mailing to approximately 7,000 subscribers.

  - The CADDET staff proposed that topics or themes be selected for future CADDET Newsletters. The IEA-Heat Pump Center is experiencing success with this method. CADDET Newsletter themes could focus on analyses study topics, or could emphasize specific end-use sectors. The CADDET Working Team generally supported this concept of preselecting a topic for each future CADDET Newsletter.

  - Seventy-one (71) CADDET brochures have been published to date. An additional 44 brochures need to be published in the near future to meet Executive Committee expectations.

  - A total of four (4) CADDET Analyses have been published to date, two (2) of which were published during 1990.

  - Mailing of CADDET information products has been a significant problem in Europe and overseas (Canada, United States, Japan, etc.).

  - The current CADDET register (version 1.3) includes 1,064 records of demonstrated energy technology. CADDET staff has an additional 304 records on the shelf to input to the CADDET register.

- The CADDET Analyses Support Unit (CASU) gave a progress/status report on CADDET Analyses that are currently planned or underway.

- *Experience of Process Integration Using Pinch Technology.* CASU proposed that an expert meeting on this topic be held and that the proceedings of this meeting serve as the final CADDET analysis report. The CADDET Working Team endorsed this proposal.

- *Gas Turbine Based CHP in Industry.* An expert meeting on this topic is scheduled for November 1990. The results of this meeting will provide input to this proposed analysis.

- *Heat Recovery in the Food and Beverage Industry.* An analysis prestudy indicates that an in-depth analyses study on this topic should not be conducted. A copy of this prestudy will be sent to each National Team.

- *Heat Recovery in the Non-Metallic (Mineral) Industry.* An analysis prestudy concludes that an in-depth CADDET analysis should be performed on this topic. This analysis will focus on heat exchanger technology. A copy of the prestudy will be sent to each National Team.

- *Energy Efficient Lighting in Commercial Building.* A draft analysis report will be issued during October 1990.

- *Control Systems to Manage Electric Loads in Non-Residential Buildings.* A draft analysis report will be issued in October 1990.

- *Retrofitting of Commercial Buildings.* A draft analysis report will be issued during the summer of 1991.

- Seven (7) new CADDET Analyses topics were proposed for 1991-1992. The CADDET Working Team prioritized and voted on these topics. The results of this exercise are as follows:

Priority	Proposed Topic
1	Industrial Ventilation
2	Monitoring of Buildings
3	Energy Consumption Guide
3	Energy Efficiency in the Ceramics Industry
4	HVAC Systems in Commercial Buildings
5	Energy Management Systems in Industrial Plants
6	Traffic Management

It was decided at this CADDET Working Team meeting that only the 1st four (4) priorities would be proposed to the CADDET Executive Committee.

- The final item on the agenda were group discussions of what the National Team expectations were for CADDET between now and the year 2000. Many interesting concepts and ideas emerged. Because of time limitations, this exercise did not, in the opinion of the United States, yield any conclusive expectations for CADDET.

- On Wednesday, October 17, the traveler participated in in-depth discussions with CADDET staff members at CADDET Headquarters (NOVEM) concerning the U. S. CADDET National Team interface with CADDET information products. The CADDET organization structure and specific responsibilities of IEA-CADDET and Heat Pump Center personnel were discussed. A few interesting highlights emerging out of these in-depth discussions are:

- The U. S. CADDET National Team should submit a list of suggested CADDET Newsletter topics to the CADDET staff by November 15th.

- CADDET information products cannot officially address renewables and environmental issues until the CADDET Executive Committee meets and approves these scope extensions.

- Guidelines for IEA-CADDET and Heat Pump Center Newsletter articles are not necessarily the same. CADDET guidelines are, in general, less structured.

- If the U. S. has excess copies of CADDET Newsletter, brochures, etc., they can be returned to NOVEM at no extra cost to the United States.

- United States quotas for CADDET Newsletters, brochures and other information product should be carefully evaluated. Rather than the United States accepting its full quota, only those number of information products actually needed could be ordered, and the remaining stock maintained at CADDET for distribution on an as needed basis.

- The CADDET staff is establishing as an unofficial goal, the update of the CADDET register before the next CADDET Executive Committee meeting, including the input of 300+ new records of demonstrated energy technology.

- An improved version of the CADDET register database management system is being produced. This new version was stimulated by the need to expand data fields to conform with CADDET register guidelines, to address specific changes suggested by National Teams, to allow direct National Team input of data, and to facilitate future multi-user and on-line operations.

APPENDIX 1 - FULL ITINERARY

10/12/90	Departed from Oak Ridge, Tennessee.
10/13/90	Arrived in Elsloo, The Netherlands.
10/14/90	Day of Rest, Elsloo, The Netherlands.
10/15/90 to 10/16/90	Participated in the activities of the CADDET Working Team Meeting in Elsloo, The Netherlands.
10/17/90	Participated in in-depth discussions with CADDET staff members at CADDET Headquarters in Sittard, The Netherlands.
10/18/90	Departed from Sittard, The Netherlands, and arrived in Knoxville, Tennessee.

APPENDIX 2 - PERSONS CONTACTED

• Cees Hoedemakers	Head of Sector International Activities NOVEM/CADDET Sittard, The Netherlands
• Lucinda Maclagan	Chief Editor CADDET Staff Sittard, The Netherlands
• Ron Ongenae	Senior Technologist CADDET Staff Sittard, The Netherlands
• Theo J. VanRossum	International Liaison Officer NOVEM Sittard, The Netherlands

APPENDIX 3 - LITERATURE ACQUIRED

Result 54 *The LAREL Electric Car* (Switzerland), undated.

Result 55 *Raccoon Mountain Pumped-Storage Plant* (United States), undated.

Result 56 *Pair of Regenerative Ceramic Burners* (United Kingdom), undated.

Result 57 *Heat Pump Heats and Cools Löwenberg Training Center* (Switzerland), undated.

Result Brochure: *Format for CADDET Project Brochures*, October, 1990.

END

DATE FILMED

12/03/90