INTERIM REPORT

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Oak Ridge National Laboratory
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INTERIM REPORT

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ORNL

FOREIGN TRIP REPORT

ORNL/FTR-823

DATE: April 28, 1980

SUBJECT: Report of Foreign Travel of M. B. Herskovitz, Staff Member, and N. D. McCollough, Engineering Associate, Advanced Instrumentation for Reflood Studies Program at ORNL

TO: Herman Postma

FROM: M. B. Herskovitz and N. D. McCollough

PURPOSE: To participate in a Design Review of the Slab Core Test Facility I (SCTF I) and the Cylindrical Core Test Facility II (CCTF II) at the Japanese Atomic Energy Research Institute (JAERI). An ORNL supplied in-core sensor was installed in the SCTF I Core at Iwaoka, Japan. This work is a part of the German-Japanese-U.S. 2D/3D Program.

SITES VISITED: April 7-8 Okazaki Manufacturing Company (OMC), Iwaoka, Japan

April 10-11 Japanese Atomic Energy Research Institute

ABSTRACT: The travelers installed the first of ten ORNL-furnished in-core sensors for the SCTF I at Iwaoka, Japan.

The travelers also participated in Design Review Meetings at JAERI on April 10th and 11th. Design Requirements for SCTF I and CCTF II were discussed.

REPORT

The travelers participated in the installation of an in-core flag probe in Bundle #5 for the SCTF I on April 7 and 8. The work was performed at Iwaoka, Japan at the Okazaki Manufacturing Company which is responsible for manufacture of the core assembly. The installation was extremely successful, due in part to the excellent work of Okazaki in alignment of the grid spacers, and also due to the planning that preceded the installation. The electrical and mechanical measurements of the sensors were correct and as expected. The sensor required only approximately two pounds of force for installation through the grid spacers indicating excellent fitup of the sensor and the core assembly.

In meetings at JAERI in Tokai on April 10 and 11, mutual requirements for the SCTF I and the CCTF II were discussed. These include:

SCTF I

1. A data resolution rate of 1600 bits per inch was agreeable to both parties. Software delivery in October 1980 was requested.
2. The testing schedule given by JAERI is:

   November 1980 - Acceptance Testing
   March 1981 - First Test
   Early April 1981 - Second Test
   Late April 1981 - Third Test

   JAERI requested an ORNL man on-site at these dates.
3. JAERI agreed to supply pressure taps at the mid-core and upper plenum elevations to sense pressure for the control system which will maintain the sensor internal pressure. ORNL will supply a suitable 3/8" isolation valve for each location.
4. ORNL agreed to modify the design for each downcomer string probe to include a thermocouple on each. Amplifiers will be supplied in the electronic cabinet for these 3 devices.

CCTF II

5. IHI proposed an alternate in-core impedance configuration which ORNL agreed to consider. (We later agreed in principle to the proposal by phone on April 17, 1980.) The preliminary design drawings will be discussed with JAERI in a May 14-15, 1980 meeting in Tokai.
6. The present CCTF II schedule was given by JAERI:
   (a) In-core guide tube sensors on site (February 15, 1981). Original date was November 1980.
   (b) Bundle assembly from 3/15/81 to 5/1/81.
   (c) CCTF II assembly from May 1, 1981 to August 1, 1981.
7. A design review meeting at Tokai is planned for May 14 and 15, 1980.

APPENDIX A

The following is a list of those contacted at the Okazaki Manufacturing plant at Iwaoka on April 7 and 8, 1980.

T. Kobayashi (IHI)
N. Suzuki (JAERI)
E. Nakagawa (OMC)
Y. Ohnisni (OMC)
C. K. Lewe (NUS)

At the JAERI meetings at Tokai on April 10th and 11th, the following were participants:

JAERI	IHI	U. S.
M. Sobajima	K. Harada	M. B. Herskovitz
T. Iwamura	T. Nishibe	C. K. Lewe (NUS)
K. Hirano		N. D. McCollough
T. Wakabayashi		
T. Iguchi		
Y. Murao		

APPENDIX B

Itinerary

April 7 and 8, 1980	Sensor installation Okazaki Manufacturing Plant, Iwaoka, Japan	M. B. Herskovitz N. D. McCollough
April 10 - 11, 1980	SCTF I and CCTF II Design Review Meetings at Japanese Atomic Energy Research Institute, Tokai, Japan	M. B. Herskovitz N. D. McCollough

APPENDIX C

The following documents were received and are on file:

1. SCTF I Revised Data Format
2. CCTF II Proposed In-Core Sensor Installation (IHI sketch)

DISTRIBUTION

1-2. Assistant Administrator for International Affairs, DOE, Washington
3. Thomas E. Murley, Director, Division of Reactor Safety Research, NRC, Washington
4. Director, Division of Safeguards and Security, DOE, Washington
5-6. Director, Division of International Security Affairs, DOE, Washington
7. L. S. Tong, Assistant Director, Division of Reactor Safety Research, NRC, Washington
8. W. S. Farmer, Project Engineer, NRC, Washington
9. Y. Y. Hsu, NRC, Washington
10-11. Division of Technical Information and Document Control, NRC, Washington
12-13. Technical Information Center, P. O. Box 62, Oak Ridge, TN 37830
14. J. A. Lenhard, DOE-ORO
15. J. S. Denton, DOE-ORO
16. H. Postma, Director, ORNL
17. B. G. Eads
18. I. T. Dudley
19. J. E. Hardy
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35. H. R. Payne
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38. H. E. Trammell
39. D. B. Trauger
40. P. S. Damerell, MPR Associates, Inc.
41-42. Laboratory Records Department
43. Laboratory Records Department-RC
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