

ACTION SHEET 33

between

**The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC)
and
The United States Department of Energy (DOE)
for
Remote Monitoring System for Nuclear Nonproliferation**

1. Introduction

Under Article II (Area of Cooperation) of the Agreement between PNC and DOE for Cooperation in Research and Development Concerning Nuclear Material Control and Accounting Measures for Safeguards and Nonproliferation (herein called the "Agreement"), dated September 15, 1993, DOE and PNC undertake to carry out a cooperative effort in nonproliferation with the continued development of a Remote Monitoring System (RMS) for nuclear nonproliferation.

2. Scope of Work

This Action Sheet provides for enhancement and expansion of the Remote Monitoring System (RMS) located at PNC's Joyo Facility. The existing Spent Fuel Storage Pond #3 RMS, initially installed under Action Sheet #20, will be upgraded with improved sensor software, enhanced video monitoring, and a new gamma sensor. Additionally, an unattended computerized monitoring system will be installed at the Fresh Fuel Storage Area #1. Data from these systems will be collected by a new Data Acquisition System (DAS) to be located at the Joyo facility, and remotely monitored at another Japanese Facility, as well as at Sandia National Laboratories. The work performed under this Action Sheet shall be performed at both Sandia National Laboratories (SNL) and the PNC Joyo Facility in accordance with the terms and conditions of the Agreement.

3. Program Management

SNL is responsible for installation of a system that will permit remote monitoring of both spent fuel and fresh fuel stored at the Joyo Facility. Work to be done is identified in Appendix I. PNC is responsible for providing facility design information, operating data, and other information required for completion of this work. Appendix II identifies key personnel working on this project.

DOE and SNL shall work directly with PNC in planning tasks and resolving programmatic and technical questions. SNL shall start by developing and circulating work plans with projected milestones for each task and update the work plans with PNC concurrence as work progresses.

SNL and PNC shall prepare progress reports at appropriate milestones in the work, and present written and oral reports at meetings of the Permanent Coordinating Group (PCG).

This Action Sheet may be supported by the assignment of an expert to PNC under the PNC International Fellowship Program.

4. Fiscal Management

PNC shall make cash contributions totaling \$155,000 (US dollars) to support this Action Sheet in the following manner:

- a.) A contribution of \$137,000 (US dollars) shall be due and payable upon receipt of an invoice to be issued in Japanese Fiscal Year (JFY) 1997, following the date of signatures on this Action Sheet.

- a. A contribution of \$18,000 (US Dollars) shall be due and payable upon receipt of an invoice to be issued in July 1998. This payment is subject to approval and appropriation of necessary funding by the Japanese Government for the JFY 1998.

All contributions by PNC shall be due and payable within thirty days of receipt by PNC of an invoice from DOE subject to availability of appropriated funds to PNC.

DOE shall be responsible for the budget planning and financial management and shall make best efforts to complete the activities in the Appendix I satisfactorily and within the funding for this Action Sheet. DOE costs are determined in accordance with DOE's policy for costing work it performs for others as set forth in 10 CFR Part 1009. The total cost to PNC for DOE's performance of work under this Action Sheet shall not, without PNC's prior consent, exceed the contributions set forth above.

Throughout the duration of PNC funded portion of the work under this Action Sheet, PNC shall provide sufficient funds in advance to reimburse DOE for causing SNL to perform the work described in this Action Sheet, and DOE shall have no obligation to perform in the absence of adequate advance funds. Payment in advance from PNC shall be sufficient to cover the expected obligation and cash requirements of the work until a

subsequent request for payment in advance can be made, collected, and recorded. In this regard, sufficient advance funds shall be provided to maintain, at a minimum, a continuous 90-days advance of funds for expected DOE fund requirements during the life of this Action Sheet. Advances shall be sufficient to cover expected termination costs that DOE would incur on behalf of PNC.

5. Duration and Termination

This Action Sheet shall enter into force upon the later date of signature and shall continue in force for an 18 month period. In the case all the activities under this Action Sheet are not completed in the designated period above, the Action Sheet can be extended by consent of both parties.

For the Department of Energy:

For the Power Reactor and Nuclear Fuel
Development Corporation:

Signature: 

Signature: 

Printed
Name: Kenneth E. Sanders

Printed
Name: Yoshiaki Himeno

Title: Director,
International Safeguards
Division

Title: Director,
International Division

Date: 3 March 1998

Date: March 18, 1998

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APPENDIX I

Remote Monitoring System for Nuclear Nonproliferation

1. Project Outline

This project involves an upgrade to the existing Remote Monitoring System (RMS) for the Spent Fuel Pond # 3, and installation of a new RMS at the Fresh Fuel Area #1 at the Joyo Facility. In this project, SNL and PNC will:

- A. Study the unique aspects of the contributions of Remote Monitoring to nuclear non-proliferation.

- B. Enhance and expand the Remote Monitoring System located at the PNC Joyo Facility. The existing Spent Fuel Storage Pond #3 RMS will be upgraded with improved sensor software, enhanced video monitoring, and a new gamma sensor. Additionally, an unattended computerized monitoring system will be installed at the Fresh Fuel Storage Area #1 . Data from these systems will be collected by a new Data Acquisition System (DAS) to be located at the Joyo facility, and will be remotely monitored at another Japanese Facility, as well as at Sandia National Laboratories

2. Sites

This work will be conducted at the Sandia National Laboratories facilities in Albuquerque, New Mexico, USA, and at the PNC Joyo Facility near O-arai, Japan.

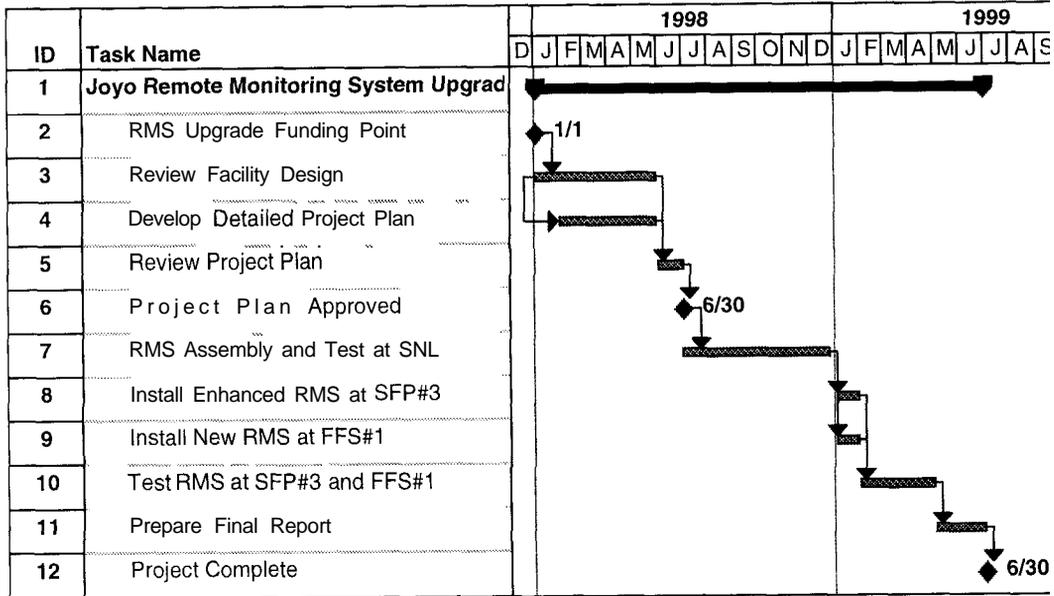
3. Programmatic Responsibilities

- A. SNL will be responsible for providing best efforts within the funding and schedule for the RMS work. Any tests or technical assistance shall be provided on a non-interference basis with existing SNL programs.

- B. PNC will be responsible for providing information about the Joyo Facility Fresh Fuel Storage area design and operation.

4. Schedule*

(Schedule shown is by calendar year.)



* The schedule will be followed on a best-effort basis depending on receipt of funding and availability of parts.

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Remote Monitoring System for Nuclear Nonproliferation

APPENDIX II

Key Personnel

Power Reactor and Nuclear Fuel Development Corporation

1. PNC Headquarters

Toshiro Mochiji, Deputy General Manager
Office of Nuclear Non-proliferation
Nuclear Material Control Division
Power Reactor and Nuclear Fuel Development Corporation
9- 13, 1-Chome, Akasaka
Minato-Ku, Tokyo, 107, Japan

Tasuku Hanai, Senior Staff
Office of Nuclear Non-proliferation
Nuclear Material Control Division
Power Reactor and Nuclear Fuel Development Corporation
9- 13, 1-Chome, Akasaka
Minato-Ku, Tokyo, 107, Japan

2. PNC O-arai Engineering Center

Yu Hashimoto, Senior Staff, and
Richard L. Lucero, PNC International Fellow
Reactor Technology Section
Experimental Reactor Division
Power Reactor and Nuclear Fuel Development Corporation
4002, Narita-cho, O-araimachi,
Ibaraki-ken, Japan 311-13

Department of Energy

1. DOE Headquarters

Kenneth E. Sanders, Director
International Safeguards Division
Office of Arms Control and Nonproliferation
NN-44, GA-045
Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

John H. Capps
International Safeguards Division
Office of Arms Control and Nonproliferation
NN-44, GA-045
Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

2. DOE Albuquerque Operations Office

David L. Katz, Director
Science and Technology Transfer Division
DOE/Albuquerque Operations Office
P.O. Box 5400
Albuquerque, NM 87 115

3. Sandia National Laboratories

Darryl D. Drayer, International Remote Monitoring Project Manager
and
Charles D. Harmon, Japan Safeguards Project Manager
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87 185-0567

ACTION SHEET 33

between

**The Japan Nuclear Cycle Development Institute (JNC)
and
The United States Department of Energy (DOE)
for
Remote Monitoring System for Nuclear Nonproliferation**

1. Introduction

Under Article II Management of the Agreement between JNC and DOE for Cooperation in Research and Development Concerning Nuclear Material Control and Accounting Measures for Safeguards and Nonproliferation (herein called the "Agreement"), dated September 15, 1993, DOE and JNC undertake to carry out a cooperative effort in nonproliferation with the continued development of a Remote Monitoring System (RMS) for nuclear nonproliferation.

2. Duration and Termination

By mutual agreement, this Action Sheet shall remain in force until March 31, 2000. This extension will accommodate additional evaluations of the recently installed Joyo Remote Monitoring System.

For the Department of Energy:

For the Japan Nuclear Cycle Development
Institute:

Signature: 

Signature: 

Printed
Name: Kenneth E. Sanders

Printed
Name: Masayuki Iwanaga

Title: Director,
International Safeguards Division

Title: Director,
International Cooperation
and Nuclear Material
Control Division

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Date: 9 Sept. 1999

Date: 16 Sept. 1999