

Action Sheet 21

between

The Power Reactor and Nuclear Fuel Development Corporation (**PNC**) of Japan
and

The United States Department of Energy (DOE)

for

Joint Research on “Transparency” in 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 (hereafter called the “Agreement”) dated September 15, 1993, DOE and PNC undertake to carry out a cooperative effort to exchange information and views on “Transparency.”

2. Scope of Work

This Action Sheet provides for a fundamental study on “Transparency” to clarify the means to improve world wide acceptability for the nuclear energy from the nuclear nonproliferation point of view. The work under this Action Sheet shall be performed at the LANL and the PNC in accordance with the terms and conditions of the Agreement.

3. Program Management

LANL is responsible for the study on the subject in DOE (USA). PNC is responsible for the study on the subject in Japan. Work to be done jointly is identified in Appendix I and is limited to the **fundamental** study for the time being. Appendix II identifies coordinator and key personnel working on this project.

DOE and PNC carry out the study of the related subject independently, then hold meetings to exchange information and views on “Transparency.” Such meetings shall be held twice a year. Based on these exchanges of information and views, DOE and PNC determine the possible study which could be followed.

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

4. Fiscal Management

DOE and PNC shall bear their own expense for the study respectively. However, the additional discussion to share needed expenses could be held if the study seems to become costly.

5. Duration and Termination

This Action Sheet shall enter into force upon the later date of signature, and shall continue in force for a two year period, or until mutually agreed by the parties that all activities under this Action Sheet are judged to be completed by DOE and PNC.

For the Power Reactor and Nuclear Fuel
Development Corporation

Signature: Masami Katsuragawa
Printed
Name: Masami Katsuragawa
Title: Director
International Division
Date: February 2, 1996

For the United States Department of Energy

Signature: Kenneth E. Sanders 
Printed
Name: Kenneth E. Sanders
Title: Director, International Safeguards Div.
Date: 2 January 1996

Action Sheet 21

Appendix I

Joint Research on Transparency in Nuclear Nonproliferation

A. Outline for Exchange of Information and Views

1) Policy Environment of Transparency

- i) Determine different definitions of transparency
- ii) Determine reasons for transparency
- iii) Determine the detailed goals of transparency
- iv) Determine obstacles to transparency
- v) Workshop on the policy environment of transparency

2) Development of Transparency Options

- i) Identify type of facilities where transparency might be applied
- ii) Define criteria for applying transparency
- iii) Delineate applicable transparency options
- iv) Workshop on transparency options

3) Technical Options for Transparency

- i) Identify conceptual options for transparency system design
- ii) Identify instrumentation and measurement options
- iii) **Identify** data processing options
- iv) Identify data display options
- v) Workshop on technical options for transparency

4) Final workshop on integrated approaches to transparency

B. Approach

1) A series of four workshops, two in the U.S. and two in Japan, will be held. These workshops will be the most vital aspect of the project because they will allow Japanese and American experts to share their views on transparency.

2) DOE and PNC will carry out their studies independently with results presented at the workshops. Minutes of the workshops will be prepared.

Note: During the work under this Action Sheet, priority will be given to those approaches that do not complicate existing safeguards arrangements or require changes of domestic nuclear policy.

C. Study Sites

- 1) DOE: Los **Alamos** National Laboratory
- 2) PNC: PNC Head **Office**

D. Schedule

	<u>CY 1996</u>				<u>CY 1997</u>			
	1	2	3	4	1	2	3	4
Commence work on Action Sheet	x							
Policy Environment	x	x						
Workshop #1		x						
Transparency Options			x	x	x			
Workshop #2				x				
Technical Options					x	x	x	
Workshop #3						x		
Final Workshop								x

ACTION SHEET 21

Appendix II

Key Personnel

Power Reactor and Nuclear Fuel Development Corporation

1. PNC Headquarters

Katsuya Ikeda, Director
Nuclear Material Control Division
Power Reactor and Nuclear Fuel Development Corporation
9-13, 1-**Chome**, Akasaka
Minato-Ku, Tokyo, 107, Japan

Masao Senzaki, 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

Hiromitsu Kaneko
Transparency Program Coordinator
Deputy Director, Nuclear Fuel Cycle Development Division
Power Reactor and Nuclear Fuel Development Corporation
9-13, 1-**Chome**, Akasaka
Minato-Ku, Tokyo, 107, Japan

Toshinori Shigeto,
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

Department of Energy

1. DOE Headquarters

Kenneth E. Sanders, Director
and
John M. Puckett, Technical Staff
International Safeguards Division
Office of Arms Control and Nonproliferation
NN-44, GA-O 17
Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

2. DOE Albuquerque Operations Office

James R. Anderson, Director
Science and Technology Transfer Division
DOE/Albuquerque Operations Office
P.O. Box 5400
Albuquerque, NM 87 115

3. Los **Alamos** National Laboratory

George Eccleston, Project Leader
International Safeguards Division
NIS-SG, MS-E550
Los **Alamos**, NM 87545

Chad T. **Olinger**, Coordinator
Transparency Project
Group NIS-7, MS-E54 1
Los **Alamos**, NM 87545

4. Sandia National Laboratories

Kenneth Ystesund, Japan Safeguards Project Manager
On Site Monitoring Applications
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185-0567