

Memorandum of Understanding

between

UT-BATTELLE, LLC

and

NATIONAL INSTITUTE OF ADVANCED STUDY

Regarding

Nuclear Energy and Nuclear Material Security

This Memorandum of Understanding (MOU) is between UT-Battelle, LLC (UT-Battelle) and National Institute of Advanced Study (NIAS), hereinafter collectively referred to as the "Participants" or individually as a "Participant."

UT-Battelle, a limited liability company, organized and existing under the laws of the State of Tennessee, manages and operates the Oak Ridge National Laboratory (ORNL) located in Oak Ridge, Tennessee, a U.S. Department of Energy (DOE) national laboratory, pursuant to DOE Contract No. DE-AC05-00OR22725.

NIAS, an autonomous organization located in Bangalore, India, conducts advanced multidisciplinary research in various front-line areas of importance to India.

I. BACKGROUND/PURPOSE

Scientists and engineers at ORNL conduct basic and applied research and development to create scientific knowledge and technological solutions that strengthen the nation's leadership in key areas of science; increase the availability of clean, abundant energy; restore and protect the environment; and contribute to national security. Today, ORNL pioneers the development of new energy sources, technologies, and materials and the advancement of knowledge in the biological, chemical, computational, engineering, environmental, physical, and social sciences.

NIAS serves as a forum to bring together individuals from diverse intellectual backgrounds. The International Strategic and Security Studies Programme (ISSSP) at NIAS carries out research and studies pertaining to national security with countries in South Asia and Eastern Asia being the main focus. The United States also forms an area of study as events and advances in the United States drive the strategies and response of a number of countries. The ISSSP is staffed with a blend of personnel with science, technology and political science backgrounds. This

combination provides a sound basis for providing multi-disciplinary in-depth analysis on topics of interest to the strategic and security community.

II. PLANNED AREAS OF COOPERATION

The possible areas of cooperation between the Participants may include topics related to nuclear power generation, safety/security of civil nuclear materials, management of radioactive wastes, environmental impact, issues of resource competition and cyber security. The technical exchanges envisioned under this MOU are intended to permit experts from ORNL and NIAS to discuss best practices associated with nuclear material security and promote the implementation of these best practices at the Indian civilian nuclear facilities.

III. PLANNED FORMS OF COOPERATION

Planned cooperation may include, but is not limited to:

- (a) Research, technical and academic staff and student exchanges. Each Participant is to abide by the health, safety, and environmental requirements of the host Participant when on an exchange assignment at the host Participant's facility;
- (b) Joint organization of seminars, conferences, workshops and short-term continuing education programs on topics of mutual interest; and
- (c) Mutual exchange of publically available publications, reports and other academic and professional materials and information.

IV. GENERAL PROVISIONS

1. Designated points-of-contact for implementation of this MOU are:

UT-BATTELLE, LLC

Name: Dr. Surinder Paul Singh

Title: Research and Development Staff

Phone: 865-574-6566

NATIONAL INSTITUTE OF ADVANCED STUDIES

Name: Dr. M. Mayilvaganan

Title: Assistant Professor

Phone: 80 22185133

2. This MOU does not create any legally binding obligations between the Participants. Any commitment of funds, protection and allocation of intellectual property rights, disclosure of proprietary information, or commitment of other resources is to be made under a separate agreement. Each Participant is to be responsible for the costs it incurs in participating in cooperative activities under this MOU.
3. Each Participant should conduct the activities under this MOU in accordance with the laws and regulations to which it is subject, and applicable international agreements to which its Government is party.
4. Cooperation under this MOU may commence upon signature and continue for a period of three (3) years unless discontinued in accordance with paragraph 5 of this Section. This MOU may be extended or modified by mutual written consent of the Participants.
5. The Participants may discontinue this MOU at any time by mutual consent in writing. Alternatively, a Participant that wishes to discontinue its participation in this MOU should endeavor to provide at least sixty (60) days advance notice in writing to the other Participant.

Signed in duplicate.

For UT-BATTELLE, LLC:

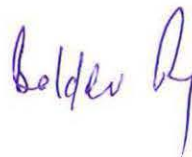


Alan S. Icenhour, Ph.D.
Associate Laboratory Director

Date: 9/30/2015
Place: OAK Ridge, TN
USA

For NATIONAL INSTITUTE OF
ADVANCED STUDIES:

Baldev Raj
Director



Date: 10/10/2015
Place: Bangalore

Baldev Raj
DIRECTOR
National Institute of Advanced Studies
Indian Institute of Science Campus
Bangalore - 560 012