

Training Workshop on Nuclear Security Design Vulnerability Assessments and Battle Board Table Top Exercise, 9th Jan – 1st Feb 2019

1. General Introduction

This workshop was a follow up workshop of the Vulnerability assessment workshop was held during April 2018. The present workshop intends to bring together scientists, technicians, engineers and academicians along with the students on a single platform to discuss the vulnerability of security systems and to improvise upon them. We have facilitators from Nuclear Security Science and Policy Initiative (NSSPI) Texas A & M university, Oak Ridge National Laboratory, and Defence Threat Reduction Agency (DTRA) US Department of Defense, who have been dealing with nuclear materials and their security aspects.

The concluding ceremony of the workshop witnessed conferring of Honorary Professor degree to three eminent Indian scientists in the area of nuclear science & technology. Prof. A K Jain, Advisor, AINST and former Head of Department Physics, IITR, Dr. D. K. Srivastava Distinguished Scientist and Former Director, VECC and Dr. R K Singh, Distinguished Scientist and Former Head of Reactor Design Division, BARC, Mumbai.

2. Objective(s) of the Event (Point-wise)

Following were the objectives:

- a. The main objective was to assess the state of security in nuclear facilities, check and assess their vulnerabilities with the help of exercises and then improve upon the security of the facilities of high strategic significance.
- b. There will be some exercises on simulators as well to further strengthen the concepts of risk calculations.
- c. AINST intends to sensitize the importance of the matter amongst the faculty members, researchers and students from various government and private universities and Institutions. Participants were from many universities and research laboratories across India dealing with nuclear science & technology.
- d. Role of AINST and its recognition of AINST amongst the nuclear fraternity and governmental bodies like BARC, VECC, SINP and independent thinktank like Observer Research Foundation.

3. Envisaged Vs Achieved Outcomes

Sn	Envisaged Outcome	Is the outcome tangible or intangible?*	Achieved Outcome	Remarks, if any
1	The enhance the visibility of AINST amongst the other institutions and government institutions working in Nuclear Science & Technology	Intangible	AINST faculty would be participating in an IAEA organized workshop in February 2019 which is on the theme of exchanging best practices in the area of nuclear security and safety.	

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2	Increasing probability of International Research collaboration and funding opportunities increase. One project is going on with NSSPI with funding from CRDF Global and we intend to expand the work further. The workshop provides opportunity to discuss and review our progress and lay path for future collaboration and expansion.	Tangible	Discussions regarding the extension of the existing project were done with Dr. Sunil Chirayath who is also an expert in the field of nuclear security for the completion of project. Inputs were taken regarding the results obtained and future steps that can be taken.	
3	National collaboration enhances with reputed institutes likes IITs and with National Laboratories of repute like Saha Institute for Nuclear Physics, Variable energy Cyclotron center, Institute for Plasma Research and Inter University Accelerator Centre. This improves student acceptance in these places for dissertation and projects.	Intangible	Participants comprised of leading researchers in the area of nuclear and allied technologies. This ensures the recommendation of some of our students in their labs for internships and projects. Also, this improves the student intake.	
4	Faculty development and enhancement: faculty develops while interacting with faculties and researchers from reputed national and international organizations. They also have a chance to participate in national and international meets related to nuclear security aspects with funding support.	Tangible	Discussion meeting were conducted with regards to the ongoing research project at AINST and the lead researchers aim to present their work at a conference in USA in July 2019.	

4. Actionable Progressive Outcomes

Outcomes requiring prolonged monitoring are as under:

Sn	Envisaged Outcome (a)	Outcome activity yet to be achieved (b)	Is the outcome tangible or intangible? *	Action plan to achieve the Outcome activity described in column “(b)” (c)	Target Date (d)	Responsibility (e)	Remarks, if any (f)
1	Improvising the state of nuclear security with the help of national and international experts. Developing and strengthening the concept internationally.	Strategies were developed with regards to improving upon the vulnerability of facility by taking the help of battle board table top exercises which are more engaging and demanding in terms of individual inputs.	Intangible	Continual process and would require continuous improvement as technology and human capabilities enhancement.		Trainers and the contributors	
2	Improving student intake	Improving student placement	tangible	Brochures prepared and	June 2019	Faculty and Head, AINST	

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				circulated amongst the participants			
3	Improving research index	Improving research publications	Tangible	Collaborations to be increased, project to be expanded and more projects to be put forth the funding agency. Project is planned on Adversary Sequence Diagram having insider collusion and multiple entry points.	December 2019	Faculty and Head, AINST	
4	Improving student's placement	Acceptability of graduands in the industry	Intangible	Increase the entrepreneur ventures in the area of work		Faculty and Head, AINST	
5	Student exchange programs to be initiated	Yet to be established	Tangible	Talks are in progress with TAMU, the feasibility must be explored, and funds allocated.		Head, AINST and TAMU Representative	

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