Open Seminar on 5th Anniversary of Workshop of Nuclear Security and Safeguards Project

September 8, 2015, Kurchatov, Kazakhstan

Jointly Organized by–

Forum for Nuclear Cooperation in Asia (FNCA)

Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN) of Japan Atomic Energy Agency (JAEA)

National Nuclear Center (NNC) of the Republic of Kazakhstan

GOOD PRACTICES ON NUCLEAR SECURITY CULTURE

-ABID IMTIAZ

Principal Scientific Officer

Bangladesh Atomic Energy Commission

GOOD PRACTICE- WHAT DOES IT MEAN?

As it is defined in IAEA INIR mission report-

- A good practice is identified in recognition of an outstanding organization, arrangement, program or performance, **superior to those generally observed elsewhere.**

- A good practice is **more than just the fulfillment** of the conditions or expectations.

- It is worthy of the attention of other countries involved in the development of nuclear infrastructure as a **model in the drive for excellence.**

GOOD PRACTICE- IN BANGLADESH

"Good Practice" as mentioned in the IAEA INIR mission report (2011) on Nuclear Safety regarding NPP implementation (1st phase) in Bangladesh

- Understanding of key elements of nuclear safety
- Need for inter-governmental instruments on safety
- Support through international cooperation

GOOD PRACTICE- IN BANGLADESH

"Good Practice" as mentioned in the IAEA INIR mission report (2011) on Nuclear Security regarding NPP implementation (1st phase) in Bangladesh

- Requirements for security and physical protection acknowledged
- Necessary regulation identified
- Effective security protection for existing uses of radiation sources in place

GOOD PRACTICE- IN BANGLADESH

"Good Practice" as mentioned in the IAEA INIR mission report (2011) on Safeguards regarding NPP implementation (1st phase) in Bangladesh

- Obligations under NPT and non-proliferation treaties and other international instruments, recognized
- Development, implementation and enforcement of safeguards framework, including SSAC establishment, planned
- International requirements for any existing nuclear facilities or locations outside facilities met

GOOD PRACTICE- IN BANGLADESH

"Good Practice" as mentioned in the IAEA INIR mission report (2011) on Nuclear Safety regarding NPP implementation (2nd phase) in Bangladesh

- Safety culture evaluated
- Long Term relationship with supplier established

GOOD PRACTICE- IN BANGLADESH

"Good Practice" as mentioned in the IAEA INIR mission report (2011) on Nuclear Security regarding NPP implementation (2nd phase) in Bangladesh

- DBT defined
- Effective security protection for existing uses of radiation sources in place
- Sensitive information defined
- Physical protection by trained on-site security staff provided
- Programs for selection/qualifications of staff with access to facilities in place
- Security culture promulgated

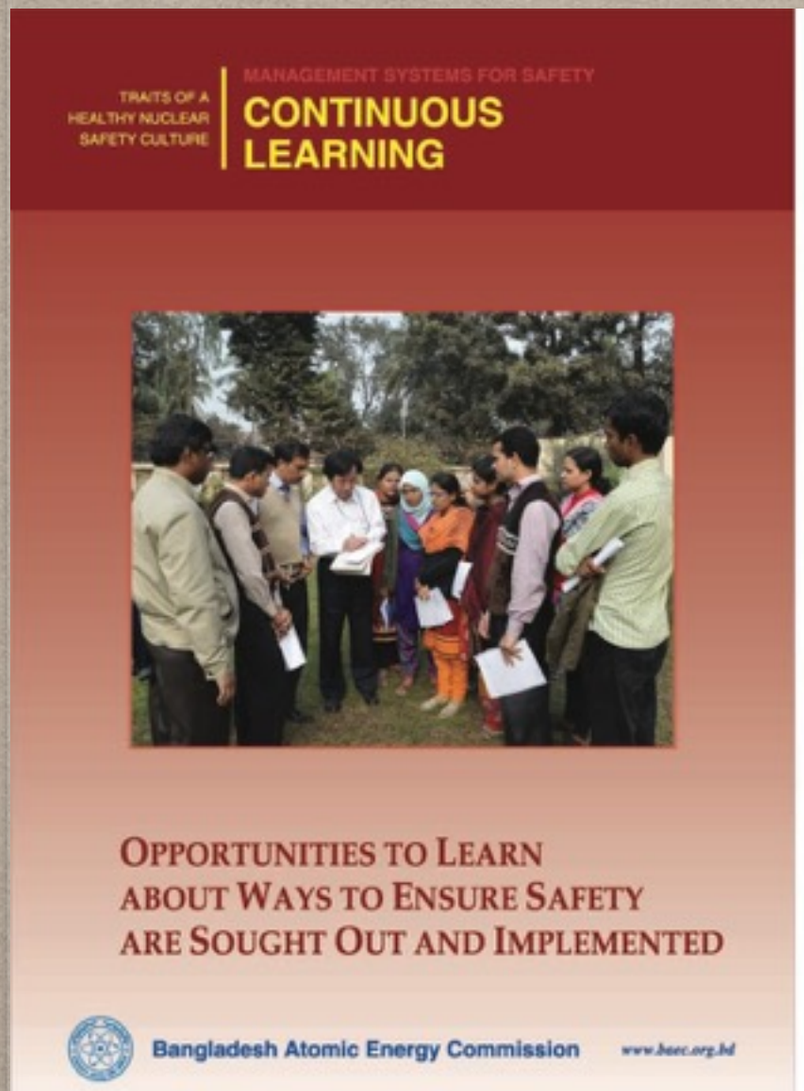
GOOD PRACTICE- IN BANGLADESH

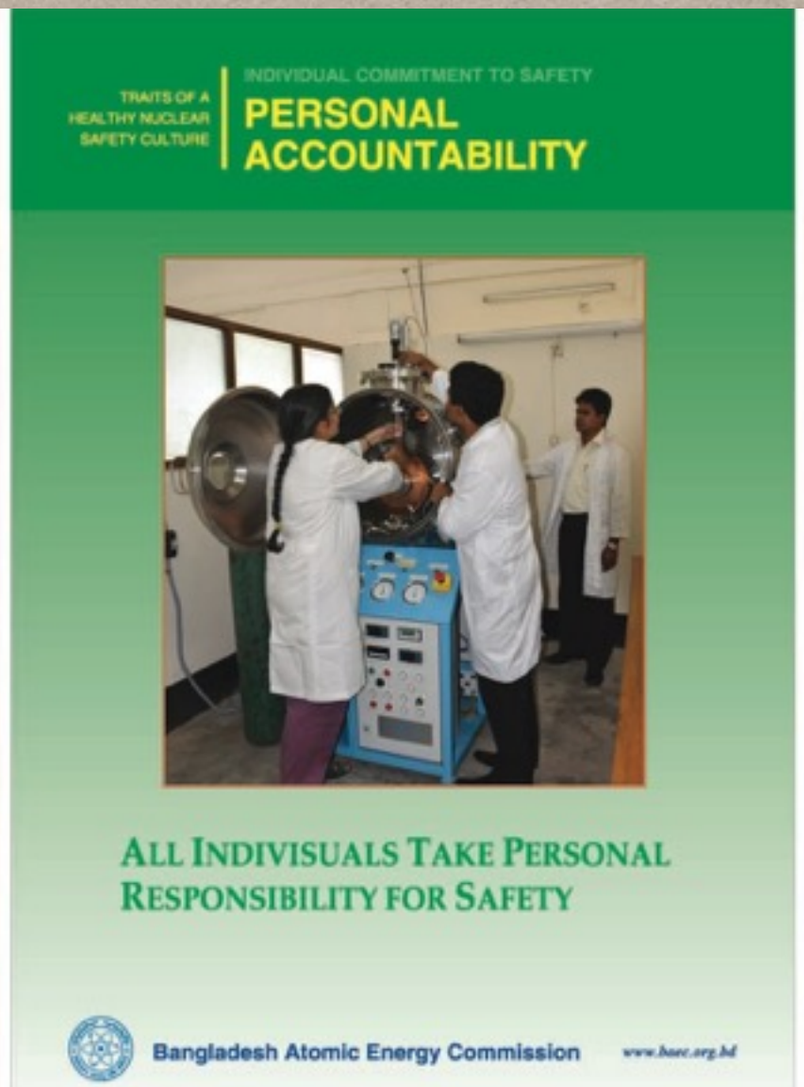
"Good Practice" as mentioned in the IAEA INIR mission report (2011) on Safeguards regarding NPP implementation (2nd phase) in Bangladesh

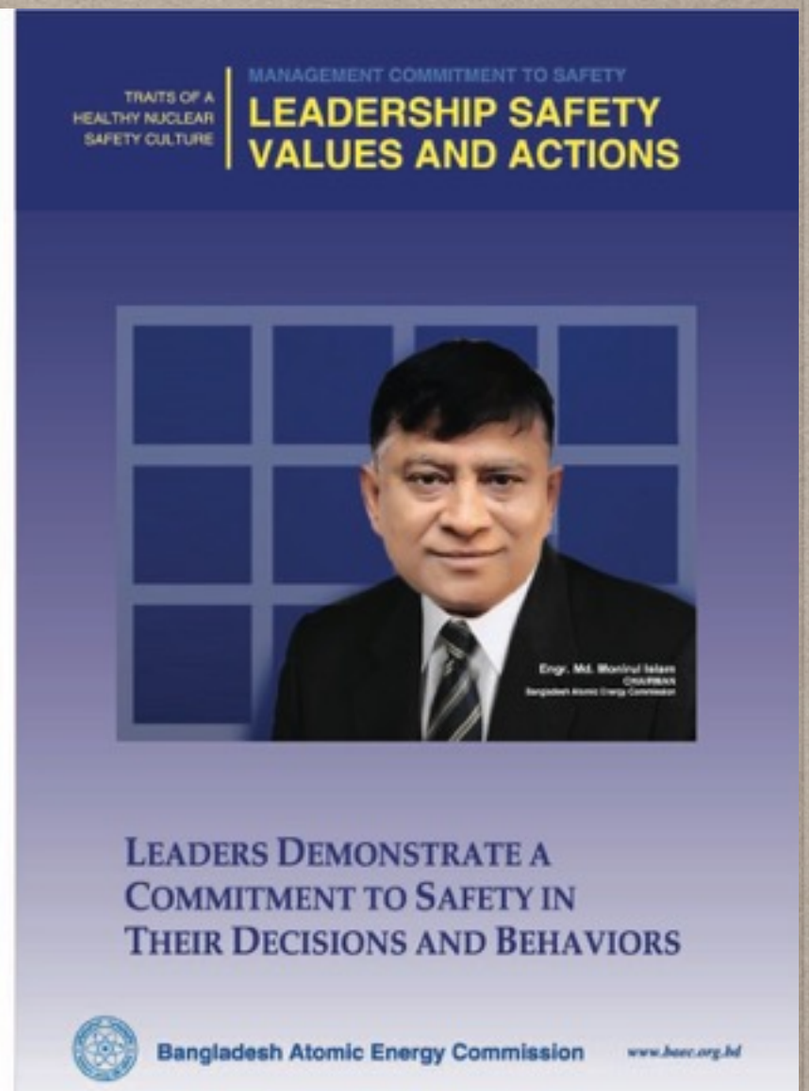
- Terms of international safeguards agreement in place
- SSAC established and operational

GOOD PRACTICE- IN BANGLADESH

AWARENESS TOWARD DEVELOPING A HEALTHY NUCLEAR SAFETY & SECURITY CULTURE







GOOD PRACTICE- IN BANGLADESH

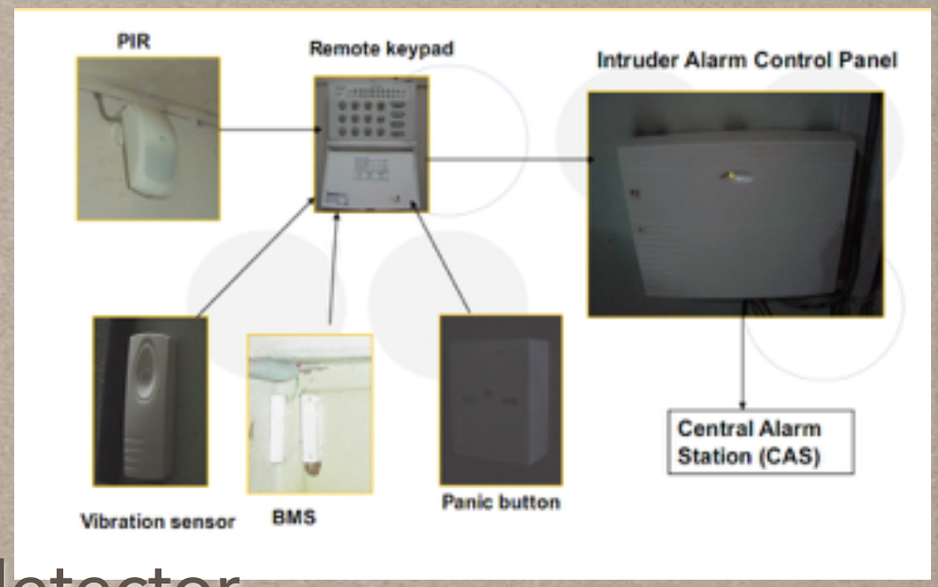
UP-GRADATION OF SECURITY SYSTEMS AND INFRASTRUCTURE

BAEC upgraded the physical protection system (PPS) at research reactor facility in accordance with the three basic elements of PPS–

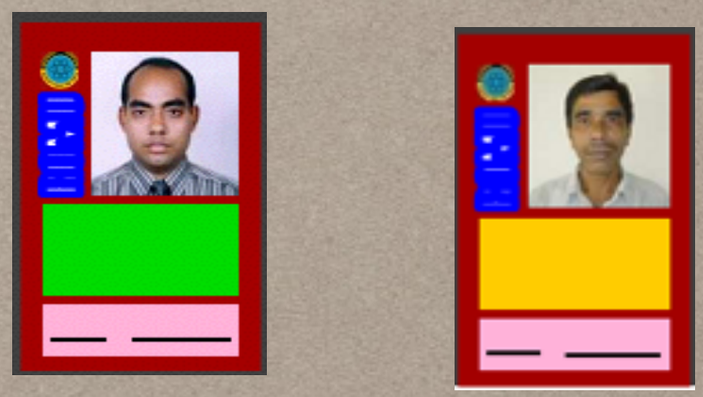
- ✦ Detection
- ✦ Delay and
- ✦ Response

GOOD PRACTICE- IN BANGLADESH

DETECTION



- Entry Control
- Intrusion sensing
- Alarm communication & display
- 120° forward looking PIR detector
- 60° rear looking Passive Infra Red (PIR) detector,
- Surveillance cameras (CCTV),
- Passive Infra Red (PIR) Motion Detectors
- Balanced Magnetic Switches (BMS) on access doors
- Vibration detectors on the walls
- Walk Through Metal Detector
- Hand held metal detector
- Personnel ID system, etc.



Personal ID System for Access Control

GOOD PRACTICE- IN BANGLADESH

DELAY

- Security fencing around the TRF
- High security hasps and locks
- Heavy steel plate in the primary return trench
- Steel doors & Collapsible gates
- Fireproof security safe, etc.

Security Keypad &
Security Hasps and Locks

Security Lock

Security Lock

Key Safe Box

Heavy Steel Plate

GOOD PRACTICE- IN BANGLADESH

RESPONSE

- BAEC Security Guards– on duty 24/7 at the entrance of the facility [un-armed]
- Ansars– petrol force [armed]
- Police Forces– petrol force [armed]

GOOD PRACTICE- IN BANGLADESH

UP-GRADATION OF SECURITY SYSTEMS AND INFRASTRUCTURE IN COLLABORATION WITH US DOE

Under the bilateral cooperation agreement between Bangladesh and US DOE (GTRI), security upgrades programs (physical protection) are implemented at BAEC facilities:

- Atomic Energy Research Establishment (AERE), BAEC
- TRIGA Reactor Facility
- Central Waste Processing and Storage Facility
- Co-60 Irradiation Facilities

Other than BAEC facilities:

- Co-60 Irradiation Facility of Bangladesh Institute of Nuclear Agriculture (BINA), Mymensingh
- Radiotherapy Facilities at different hospitals

GOOD PRACTICE- IN BANGLADESH

UP-GRADATION OF SECURITY SYSTEMS AND INFRASTRUCTURE IN COLLABORATION WITH US DOE

With GTRI Modernization of security systems are under process:

- Biometric Access Control System
- CCTV Cameras functional under low lighting condition
- Motion Sensors with Dual Technology (Dual PIR-4 elements, 1 Microwave)
- Replacement of all the existing PPS equipment/system with modern ones
- Training on operation of security equipment and maintenance of the system

Radiation detection Equipment: To Illicit trafficking, radiation detection equipment was installed on 2011 by USDOE under the Mega Ports Initiative at the Chittagong Sea Port. So Bangladesh is capable to scan the 80% export containers.

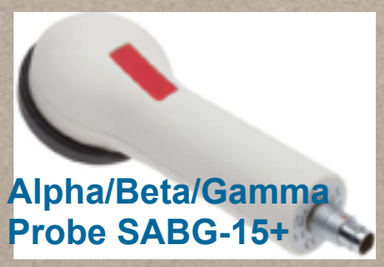
GOOD PRACTICE- IN BANGLADESH

INSTRUMENTS DONATED BY THE US DOE

RadEye PRD

Radiagem 2000
Survey Meter

Alpha/Beta Probe
SAB 100



Alpha/Beta/Gamma
Probe SABG-15+

PackEye

Inspector 1000

TELE-STTC Telescoping Probe

Portable Wipe Counter

Model 9-4 Ion Chamber

CSP Pole with
SG-2R and
Radiagem

CONCLUSION

- Need for strong security culture acknowledged
- Laws and regulations governing nuclear security are in place
- Committed to establishing strong and effective security systems in nuclear facilities
- Needs international cooperation for continuous improvements of security systems
- Effective measures toward building a healthy security culture need to be continued

THANK YOU


Nuclear
Safety
Security
Safeguards
SAFETY FIRST
SHORTCUTS