



РОСАТОМ

ГОСУДАРСТВЕННАЯ КОРПОРАЦИЯ ПО АТОМНОЙ ЭНЕРГИИ «РОСАТОМ»

# Specifics of manager training and development for a new NPP build

Mr. Andrey Yuzhakov

VNIIAES Training Centre Director



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# Selection and development of Managers for a new NPP build: **Key issues**

1 2 3 4

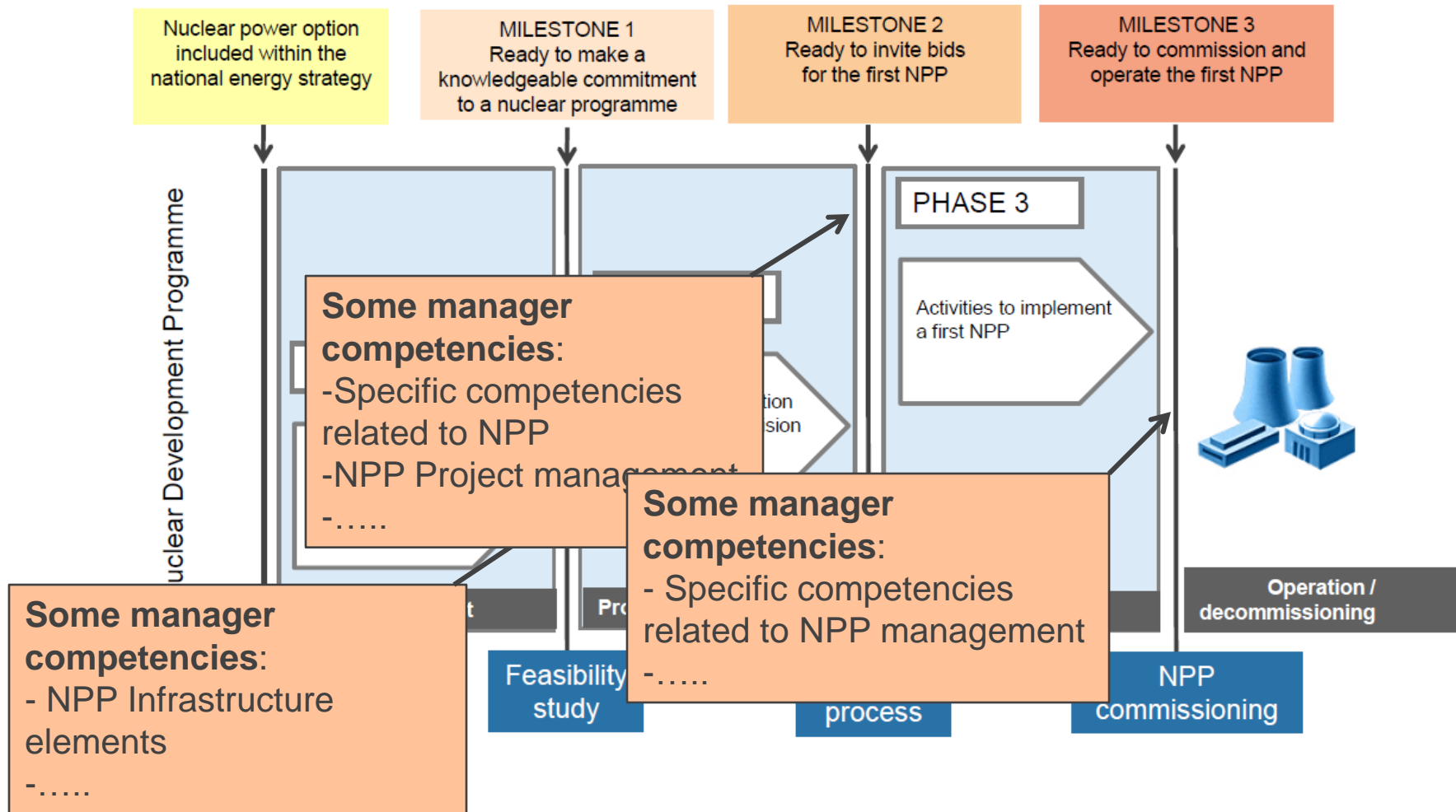
- Manager selection and recruitment
  - **Leadership for safety** is a challenge
  - Demands in specific managerial competencies
  - No experience in nuclear (in general)
  - No national/industry requirements for NPP manager training
  - ....
- Manager development
  - Basic nuclear background and/or experience is an advantage
  - Management organization (NPP as utility) and business model is to be established
  - Training on NPP manager competencies are needed
  - *Focus of training: the **Role of Management in NPP lifecycle phases***



.....

# Selection and development of Managers for a new NPP build: **Key issues**

1 2 3 4



ВНИИАЭС

- **Issue**

- To develop a leadership skills to promote safety
- To teach all needed knowledge and skills
- To develop managerial competencies in short term perspective
- To support in developing nuclear company's business model through real training
- To apply an integrated approach



**• Training programmes on  
Competence-based approach using SAT**

# Manager Training Programmes: Solutions

① ② ③ ④

## • General suggested approach

- NPP personnel is **a key element** of reliable and safe operation of the NPP. Especially, managers
- **A leadership for safety is a key.** Managers are role models for subordinates
- Rigorous and comprehensive approach is needed for selection, recruitment, training, retraining and development of NPP managers
- **A Systematic Approach to Training (SAT)** is a reliable tool for developing training for NPP managers
- Training is based on competencies derived through **Job Competence Analysis (JCA)**



# Manager Training Programmes: **Solutions**

① ② ③ ④

- **IAEA reference:**

- 3.3. A suitable programme shall be established and maintained for the training of personnel before their assignment to safety related duties.
  - The training shall emphasize the paramount importance of safety in all aspects of plant operation.
  - Advantage should be taken of the commissioning activities to provide additional training and first hand experience for the plant personnel (NS-R-2)

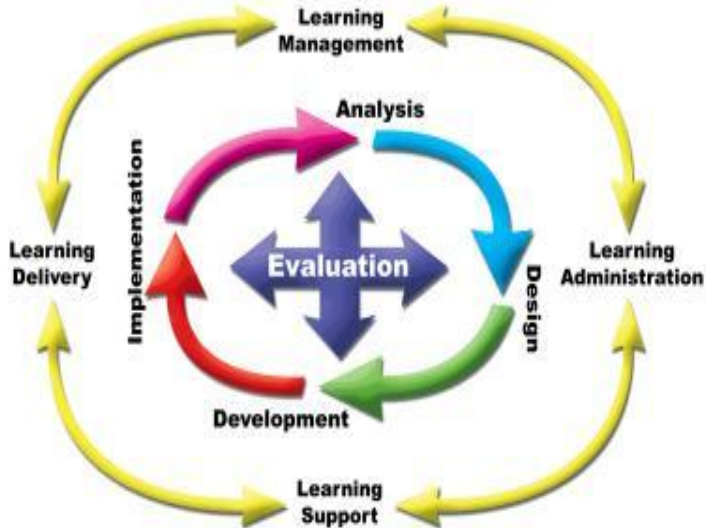


• **Training Programmes**  
• **Training itself**

# Manager Training Programmes: **Solutions**

① ② ③ ④

## Training Solution: **A systematic Approach to Training**



- **Advantages of SAT**
  - **Defines** exact contents and methods for training
  - **Focuses** on real work tasks/competencies needed to perform job duties as required
  - **Maintains** the same quality and content of the training for different groups
  - **Addresses** target population groups of NPP
  - **Evaluates** each element of the training to show areas for training improvement
- Recommended by IAEA
- Russia: Required by Operator (Rosenergoatom)



# Bushehr NPP Case

1 2 3 4

- **Example:** Development and Training of Top and Middle Managers of Bushehr NPP and NPPD Company (IRI) (IAEA Project)

Consortium to perform the Project:

- **VNIIAES** (Main Contractor) (Russia)
- Concern Rosenergoatom (Russia)
- VNIIAES Training Centre (Russia)
- SCICET (Russia)
- Ofogh Consulting Engineers (IRI)
- Industrial Management Institute (IRI)



- **Example:** Development and Training of Top and Middle Managers of Bushehr NPP and NPPD Company (IRI) (*IAEA Project*)
  - Initial project status:
    - no initial NPP management training in place
  - Aims:
    - To develop training programmes followed by conduct of training of Top and Middle Level managers of a new NPP
    - To transfer know-how in developing, conducting and evaluating training of managers
  - Scope:
    - NPP manager competencies (phase 3 of Milestones)
    - Top and Middle Level NPP and Operator managers

# Bushehr NPP Case



## **Example:** Development and Training of Top and Middle Managers of Bushehr NPP and NPPD Company (IRI) (IAEA Project)

- **Analysis:**
  - Full list of NPP Manager Competencies (90 Competencies)
- **Design:**
  - Design of training programmes
- **Development:**
  - Training programmes for Top and Middle Managers
- **Implementation:**
  - Training of the Top (Senior) and Middle level Managers
- **Evaluation:**
  - Area for improvement and extending the training scope



# Bushehr NPP Case

1 2 3 4

## ✓ Resume

### ✓ Four Training Programmes:

- Training Programme for *BNPP Top Level Managers* (134 training hours),
- Training Programme for *BNPP Middle Level Managers* (132 hours),
- Training Programme for *NPPD Top Level Managers* (91 training hours), and
- Training Programme for *NPPD Middle Level Managers* (93 training hours).

### ✓ 2 Pilot Training phases (Bushehr, Tehran and Moscow)

### ✓ Training delivered in **3 languages** (English, Russian and Farsi)

### ✓ **Mixed** trainee groups (Top and Middle Level managers are learnt together)

### ✓ 27 instructors and facilitators



# Bushehr NPP Case



## ✓ Training Programme Contents:

- C1 Strategic Management
- C21 Improving Business Performance
- C22 Improving Manager Performance
- C23 Excellence in NPP Operating Experience Feedback
- C3 Team Work and Team Building (*designed only*)
- C41 A Concept of safety Management
- C42 Safety Culture and Effective Safety Management
- C43 Risk Management
- C44 Emergency Management
- C5 Management Systems
- C7 Communication with influence
- C8 Managing Change (*designed only*)
- C9 Process and Project Management (*designed only*) 54 trainees

NPPD Co and BNPP Top (Senior) and Middle Level Managers



# Bushehr NPP Case



## Ownership of the End-User:

- Participation of **the End-User** at every key stage: TNA, Pilot Training, development and evaluation of training materials, review of documents and approval of deliverables, facilitation of training

## Role of the IAEA:

- manage the contract, review and approve project deliverables, observe pilot and main training, provide critique and feedback to Consortium, etc.



# Bushehr NPP Case

1 2 3 4

SAT-based training programmes

Full set of materials for instructors and trainees:

- Lesson plans
- Handbooks
- Case studies
- Videos
- Handouts
- Handbook
- Quizzes
- Test questions
- Support materials



# Bushehr NPP Case

1 2 3 4

Various training methods and settings:

- Classroom lectures
- Discussions
- Practical exercises (for individuals and groups)
- Video
- CBT





# Bushehr NPP Case

1 2 3 4

- Motivated trainees
- Positive *role models* (top managers of NPPD Co and BNPP in a class)
- A lot of questions and answers
- Team skills observed
- Developed leadership behavior



# Bushehr NPP Case

1 2 3 4

- It's a **first time** when NPP management training programmes have been developed and **implemented** in **full scope** requested by NPP manager competencies (not just as single courses)
- Team of managers reached NPP managerial competencies as designed by SAT
- NPPD and BNPP Managers achieved very good results at the end-of-programme evaluation



# Lessons learnt

① ② ③ ④

- **Requirements to NPP management training:** for NPP personnel shall be established before launching Project on the new plant construction
- **HR development for a new build:** Gradual application of the milestones approach (holistic approach)
- **Managers:** Focus on a role of managers and leadership skills
- **Training approach:** Training in mixed groups, more interactive, SAT-based
- **Organizational changes:** It is recommended to support organizational changes by training
- **Training of core team members first**

# Lessons learnt

1 2 3 4

- Management training for a new build should be **a part of a national strategy** of HR development
- Involvement of **best** international experts/companies and national universities for developing and promoting such training (new programmes, advanced training, post graduate studies,...)
- **The same approach** to NPP manager training may be applied for other new NPP builds
- **VNIIAES** has the **capacity** to support by consultancy and training



# Contacts

**Gennady Arkadov**

Director General,  
VNIIAES

e-mail: [arkadovgv@vniiaes.ru](mailto:arkadovgv@vniiaes.ru)

**Andrey Yuzhakov**

Director,  
VNIIAES Training Centre

e-mail: [yuzhakov@gmail.com](mailto:yuzhakov@gmail.com)

<http://www.vniiaes.ru>

<http://www.tc-vniiaes.ru>



# Thank you for your attention !

## QUESTIONS?

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