IAEA Support to Countries Embarking and Expanding Their Nuclear Power Programmes

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18th INPRO Dialogue Forum
Content

• Historical Perspective

• Current Programme

• Trends for the coming years
Historical Perspective
Early 2000’s

- Most IAEA activities in the area of nuclear power were oriented to countries operating nuclear power plants
  - Support to Regulatory Bodies
  - Support to Operating Organizations

**Focus of guidance documents, capacity building activities and peer review services on improving the existing arrangements**
Early 2000’s

During the GC and in other fora, several countries expressed interest in developing new nuclear power programmes:

1. Embarking countries (countries intending to build their first nuclear power plant)
2. Expanding Countries (countries already operating NPPs but without new constructions for a long time)
Period 2007-2010

- Milestones approach issued
  - 3 Phased approach
  - Integrates 19 topics

*Infrastructure development group* was created in 2010 (became NIDS in 2014) with the purpose of strengthening the coordination and harmonization of the Agency’s efforts related to the integration of nuclear power
CURRENT PROGRAMME
IAEA Major Programme 1: Nuclear Power

- Sub-programme 1.1.3: Infrastructure and Planning for New Nuclear Power Programmes

Axes of Sub-Programme 1.1.3: (1) Provide Integrated Support, (2) Implement Peer Reviews, (3) Develop guidance materials, (4) Support Capacity Building
Provide Integrated Support

Self-Evaluation (Gaps Identified) → National Action Plan →
Activities Not Requiring IAEA Support → IWP (Annually Reviewed)

INIR

Activities Not Requiring IAEA Support

INIR

Other IAEA Review Missions

IAEA Core Team (TC, NE, NS, OLA, SG) Coordinator: CTO-NIDS

Package of IAEA Assistance (TC/EB/RB Projects)
Peer Review Services

Integrated Nuclear Infrastructure Review (INIR)

- Objective is to assist the Member State in determining the status of its nuclear power infrastructure development.
- It evaluates the status of the infrastructure, identifies gaps, provides recommendations and suggestions to the host Member State.
- Requested by Member State government with results delivered to government (and decision-makers).
Integrated Nuclear Infrastructure Review Missions 2009-2020

1. Jordan (Phase 1) 2009
2. Indonesia (Phase 1) 2009
3. Viet Nam (Phase 1) 2009
4. Thailand (Phase 1) 2010
5. UAE (Phase 2) 2011
6. Bangladesh (Phase 1&2) 2011
7. Jordan follow-up 2012
8. Belarus (Phase 1&2) 2012
9. Viet Nam (Phase 2) 2012
10. Poland (Phase 1) 2013
11. South Africa (Phase 2) 2013
12. Turkey (Phase 2) 2013
13. Jordan (Phase 2) 2014
14. Viet Nam follow-up 2014
15. Nigeria (Phase 2) 2015
16. Kenya (Phase 1) 2015
17. Morocco (Phase 1) 2015
18. Bangladesh follow-up 2016
19. Poland follow-up 2016
20. Kazakhstan (Phase 1) 2016
21. Malaysia (Phase 1) 2016
22. Ghana (Phase 1) 2017
23. Niger (Phase 1) 2018
24. UAE (Phase 3) 2018
25. Saudi Arabia (Phase 2) 2018
26. Sudan (Phase 1) 2018
27. Philippines (Phase 1) 2018
28. Ghana follow-up 2019
29. Egypt (Phase 2) 2019
30. Belarus (Phase 3) 2020

4 planned in 2021
Uzbekistan Phase 2, Sri Lanka Phase 1, Kenya Phase 1 Follow-Up, Uganda Phase 1
IAEA Nuclear Safety Action Plan approved by the General Conference in September 2011, recommends that MSs ensure readiness of the nuclear infrastructure before commissioning and operating a NPP. MSs are encouraged to request INIR and other review missions.
Development of Guidance Materials

• Nuclear Infrastructure Bibliography

https://www.iaea.org/topics/infrastructure-development/bibliography
Capacity Building (1)

- E-Learning Modules

https://www.iaea.org/topics/infrastructure-development/e-learning-for-nuclear-newcomers
Capacity Building (2)

Integrated Nuclear Infrastructure Training (INIT)

25 Activities Per year

17 Host Institutions in 12 Member States

65 Invited Member States Driving the content

... implemented by 16 different Sections across 4 Departments and 1 Office.
Capacity Building (3)

WEBINAR SERIES

1. Milestones Approach and Key Organisations involved in the nuclear power programme development

2. Responsibilities and Functions of a NEPIO

3. Responsibilities and Capabilities of Owners and Operators of NPPs

4. Experience of Member States in Building a Regulatory Framework for the Oversight of NPPs

Newcomers success stories

United Arab Emirates

April 2021

Recording and Q&A are available here: https://www.iaea.org/nid-webinars
TRENDS FOR THE COMING YEARS
• Revision of the Milestones approach and other support documents
  – Include references to SMRs when appropriate
  – Cover more broadly non-electrical applications

• Reinforce support to more advanced embarking countries (Phase 3 and expanding)

• Expand e-tools (e-books, e-learning modules)
Thank you!