

Establishing a Nuclear Power Programme: The Milestones Approach to Nuclear Power and Services for Future Owner Operators

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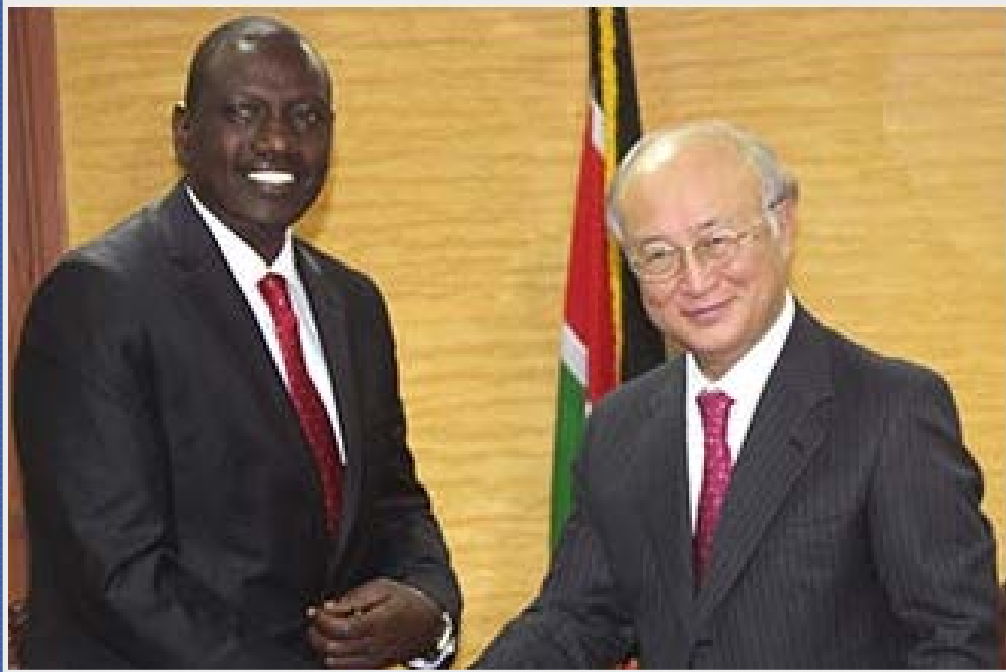
May 2014



IAEA

International Atomic Energy Agency

IAEA and Newcomers



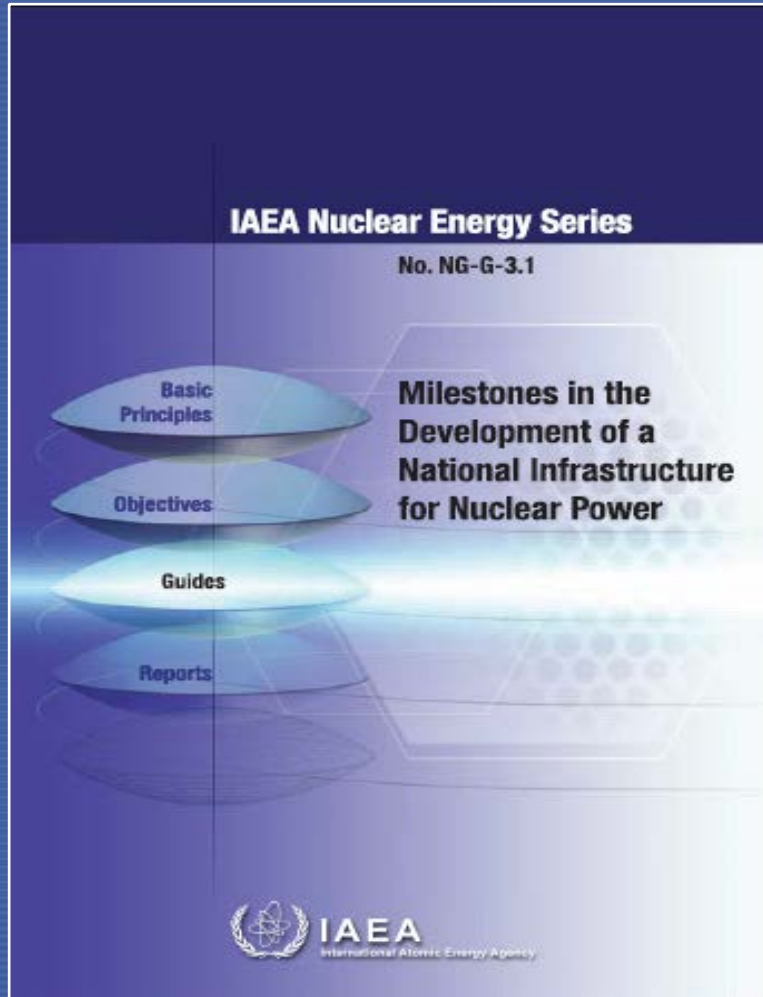
Deputy President of Kenya H.E. W. Ruto and IAEA DG Amano in December 2013

“The Agency has a key role to play in ensuring that this expansion in nuclear power takes place in an efficient, responsible and sustainable manner.”

”Assistance to newcomers.... will remain a high-priority issue.”

Yukiya Amano, IAEA Director General

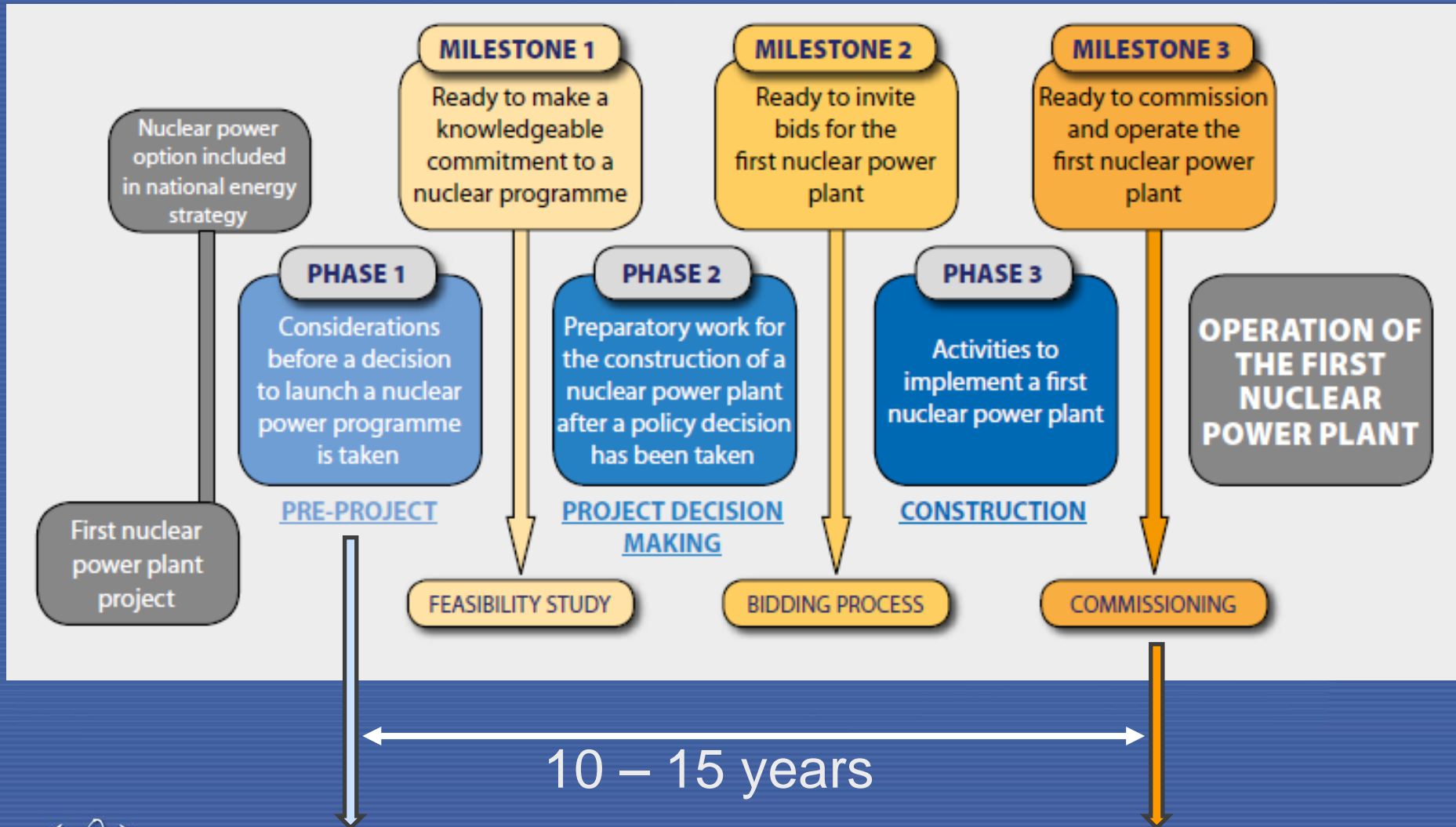
The Milestones Approach to Nuclear Power



- Phased
- Comprehensive
- Integrated

***Currently under revision:
TM scheduled for May 28-30***

Milestones in the Development of a National Infrastructure for Nuclear Power (NG-G-3.1)

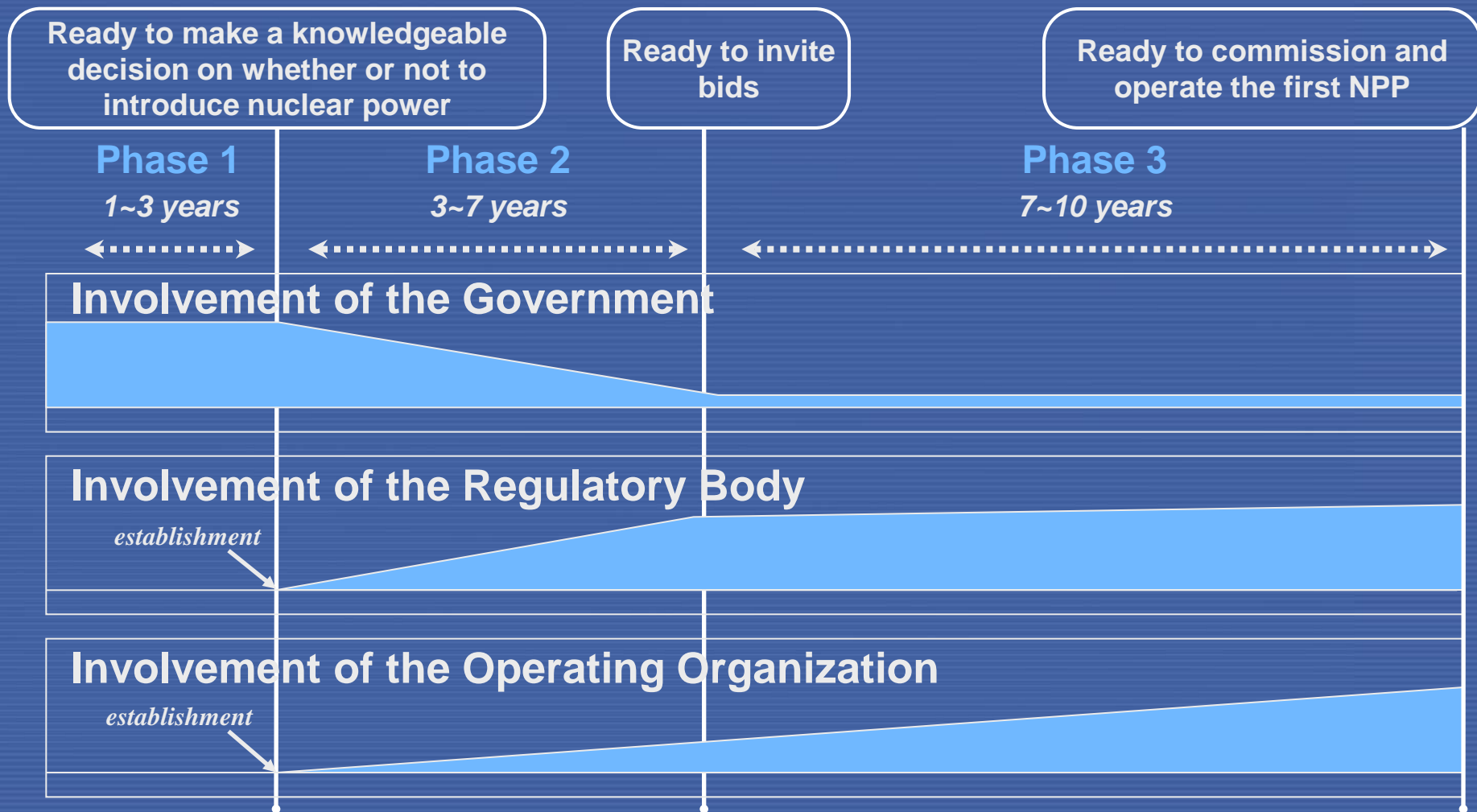


Newcomers to Nuclear Power

		2010	2011	2012	2013
Phase 3	First nuclear power plant started construction/under construction	1	0	1	2
Phase 3	First nuclear power plant ordered	2	3	2	1
Phase 2	Decided to introduce nuclear power and started preparing the appropriate infrastructure	10	6	6	6
Phase 1	Active preparation for a possible nuclear power programme with no final decision	7	6	6	5
Phase 1	Considering nuclear power programme	14	14	13	19

Total: 33

Roles during Milestones Approach



IAEA Assistance to Newcomers

- The IAEA offers a wide range of services to support the expansion of nuclear power
 - Guidance documents
 - Technical trainings, expert missions, and review services
 - Fellowships and scientific visits



Catalogue of Services

- New IAEA Catalogue of Services for Nuclear Infrastructure Development
 - Helps Member States identify and request IAEA assistance for national organizations at different stages of the development
 - Includes:
 - Workshops/Training Courses
 - Expert Missions/Advisory Services
 - Review Missions/Peer Reviews
 - Training tools and networks

<http://www.iaea.org/NuclearPower/Infrastructure/catalogue.html>

Select Services for Future Owner/Operators

- Leadership and Management Courses
 - Argonne National Laboratory
 - International Nuclear Leadership Education Program at MIT
 - Texas A&M University
 - IAEA Management Schools
- Operational Safety Missions
 - Operational Safety Review Team
 - Independent Safety Culture Assessment



Select Services for Future Owner/Operators

- Expert Missions to Review:
 - NPP Owner/Operator's Human Resources Development Plan
 - Bid Invitation Specifications
 - Owner/Operator's Integrated Management System
 - Construction Management Process of the first NPP

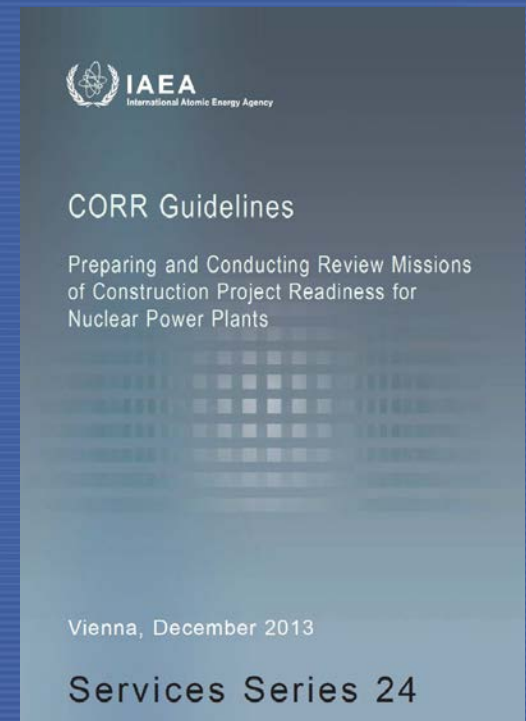


Select Services for Future Owner/Operators

- Available Workshops
 - Establishment of the NPP Owner/Operator Organization
 - How to Become a Knowledgeable Customer
 - Interfaces with NPP Owner/Operator in a BOO/BOOT Approach
 - Integrated Management System, Leadership and Safety Culture for the NPP Owner/Operator Organization
 - NPP Project Management
 - Management of NPP Construction and Commissioning
 - Interfaces of NPP Owner/Operator with Regulatory Bodies for Licensing of the First NPP

Construction Readiness Review (CORR)

- CORR Guidelines: Preparing and Conducting Review Missions of Construction Project Readiness for Nuclear Power Plants
- Mission to provide a detailed assessment of readiness for construction, construction progress, readiness for turnover, as well as recommendations for improvement.



Conclusions

- Newcomers are moving ahead with their plans for nuclear power introduction.
- The IAEA continues to support these Member States through its Milestones Approach and a variety of services
- Specific support to future NPP owner/operators is provided through expert missions, workshops, and tailored services.

Getting Informed About Nuclear

Website: IAEA and Newcomers

<http://www.iaea.org/NuclearPower/Infrastructure>

E-learning about Nuclear Power

<http://www.iaea.org/NuclearPower/Infrastructure/elearning/index.html>

The screenshot shows the IAEA Nuclear Power (NENP) website homepage. The header includes the IAEA logo, navigation tabs (About Us, Our Work, News Centre, Publications, Nucleus), and a search bar. The main content area features a large banner for the 'Integrated Nuclear Infrastructure Group' with a 'Read more >' link. Below this, there are sections for 'News' and 'Videos'. The 'News' section includes articles such as 'IAEA Delivers Report on Nuclear Power Development to Turkey' (dated 2014-02-20) and 'How They Do It: Belarus, China, Turkey' (dated 2014-02-14). The 'Videos' section features 'Meetings 2014' with a video titled '7-11 Apr Technical Meeting on Becoming a Knowledgeable Customer within the Framework of a Nuclear Power Programme Read more'. A sidebar on the left lists various resources under 'Division of Nuclear Power', including 'Nuclear Power Engineering', 'Nuclear Power Technology Development', 'INPRO', 'Infrastructure', 'Milestones Approach', 'INIR Missions & Reports', 'Catalogue of Services', 'Assistance Package for Future Owner/Operator', 'E-learning', 'Technical Working Group', 'Meetings', 'Infrastructure Bibliography', 'Publications', and 'Information Systems & Databases'. A Twitter widget for @IAEANE is also visible.

The screenshot shows the IAEA Nuclear Power (NENP) website e-learning section. The header is identical to the previous screenshot. The main content area features a section titled 'E-learning for Nuclear Newcomers' with the question 'Is your country considering nuclear power?'. Below this, there is a video player with the title 'The IAEA is here to help!' and a description: 'We have created an interactive e-learning series explaining the IAEA's Milestones Approach to introducing a nuclear power programme. This approach is based on three phases and covers the 19 infrastructure issues that need to be addressed, and brings decades of expertise to life. Both newcomers and those expanding their nuclear power programmes may benefit from the e-learning series.' Below the video, there is a section titled 'E-learning Modules' with a description: 'We have developed several interactive and engaging e-learning modules for nuclear power development:'. Four modules are displayed: 'Module 1: Implementing a Nuclear Power Programme - Introduction', 'Module 2: Developing a Human Resource Strategy', 'Module 3: Welcome to the Nuclear Infrastructure Development', and 'Module 4: Welcome to the Nuclear Infrastructure Development'. A sidebar on the left lists various resources under 'Division of Nuclear Power', including 'Nuclear Power Engineering', 'Nuclear Power Technology Development', 'INPRO', 'Infrastructure', 'Home', 'Milestones Approach', 'INIR Missions & Reports', 'Catalogue of Services', 'Assistance Package for Future Owner/Operator', 'E-learning', 'Training', 'Technical Working Group', 'Meetings', 'Infrastructure Bibliography', 'Publications', and 'Information Systems & Databases'. A Twitter widget for @IAEANE is also visible.



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