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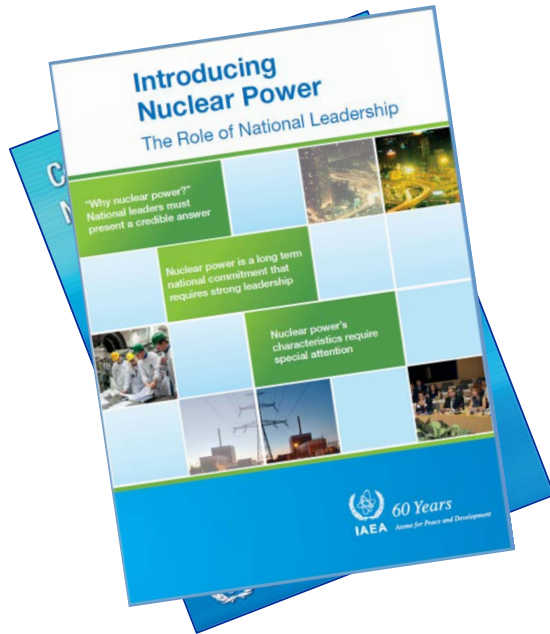
*Atoms for Peace and Development*

# **Industrial Involvement in Embarking Countries: Analysis on findings from INIR missions in the context of the Milestone Approach**

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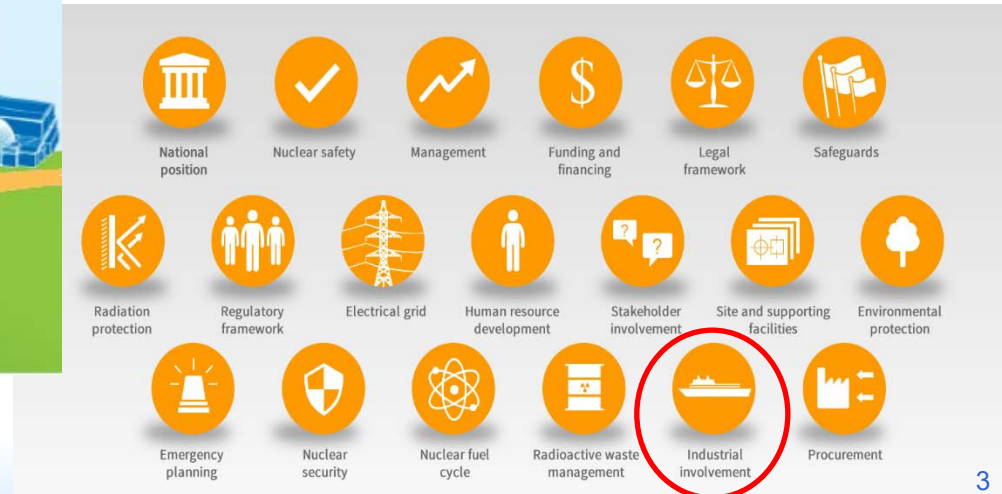
# Considerations for Nuclear Power



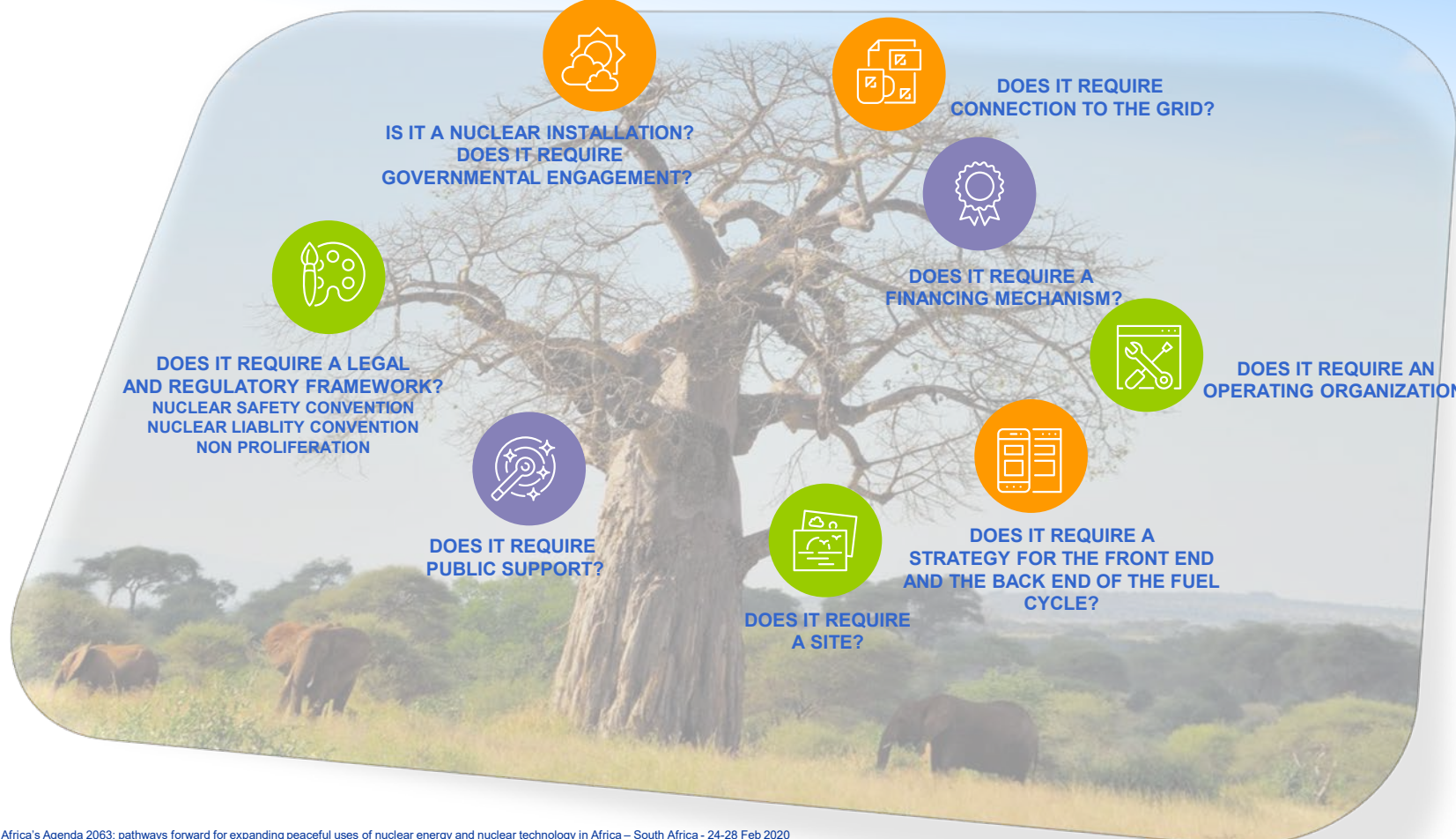
- Nuclear power is a long term commitment that requires strong national leadership.
- A successful nuclear power programme requires commitment of at least 100 years.
- Creating the infrastructure and building the first nuclear power plant will take at least 10-15 years.
- The leadership should ensure coordination and broad political and popular support.
- The penalties of interruptions and restarts are significant.
- The highest standards of safety, security and safeguards must be applied.

# Milestone Approach

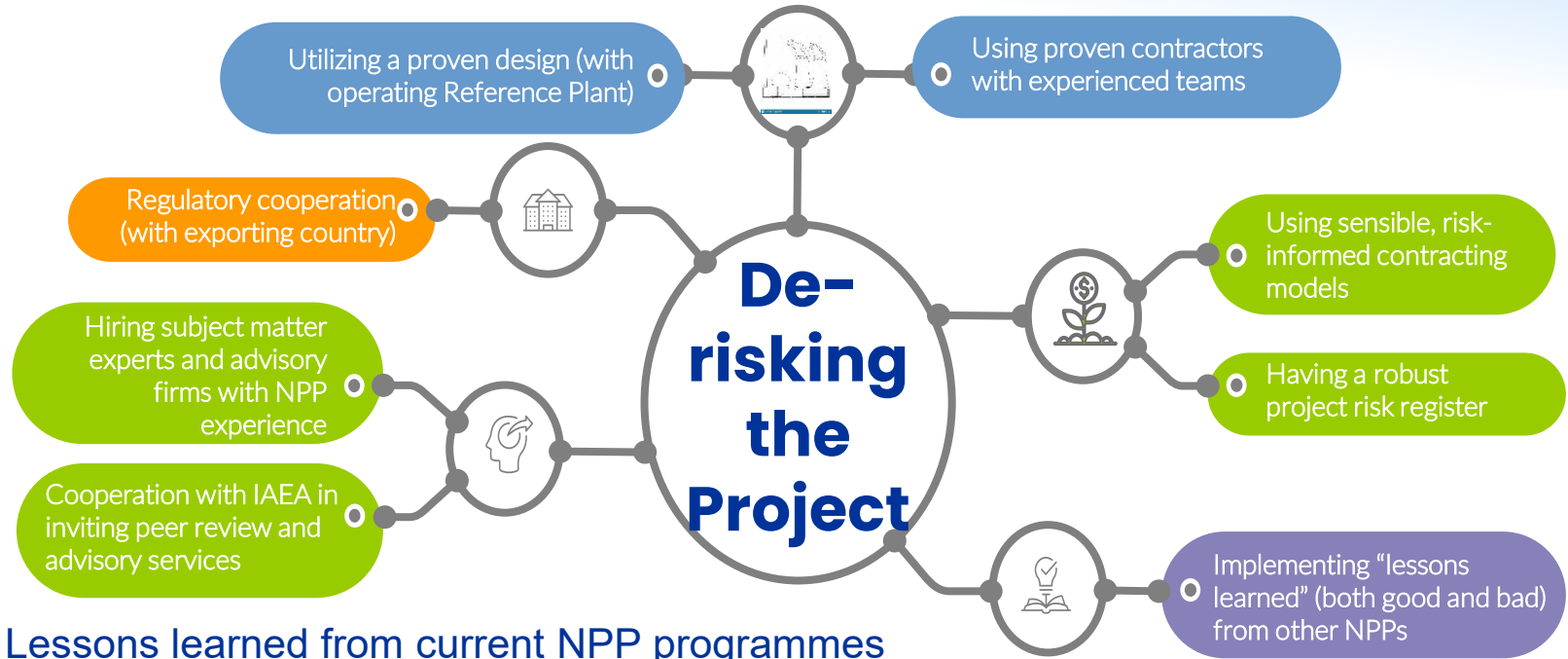
- Nuclear power program management guide for MS
  - Holistic and Considers 19 specific infrastructure issues
- The 18th is Industrial Involvement



# High Level Considerations for SMRs?



# How can NPP development challenges be overcome?

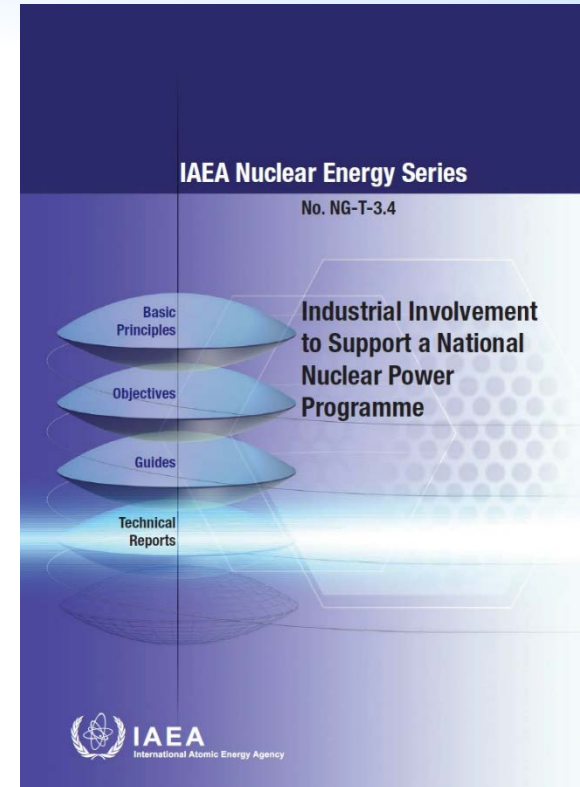


- Lessons learned from current NPP programmes

## Does it apply to SMRs ?

# Definition of Industrial Involvement

- Industrial Involvement is defined as
  - ‘the sum of the entire industrial capability
  - required to support a safe and reliable nuclear power programme,
  - of which a subset is local industrial involvement provided by local or national organizations’





# Benefits of localization

## Government

- Job Creation
- Support to high skilled job development
- Impact on GDP growth
- Justifying NPP project

## Nat'l/Local Industries

- Technology Transfer
- Partnerships
- Access to world market for NP/non-NP areas

# Risks of localization

## ➤ Cost

- Requiring national/local investment for capital investment
- cost of developing industrial capacity, etc

## ➤ Quality

## ➤ Stability of delivery

- One day delay of the construction might cause additional cost of a couple of M USD per day



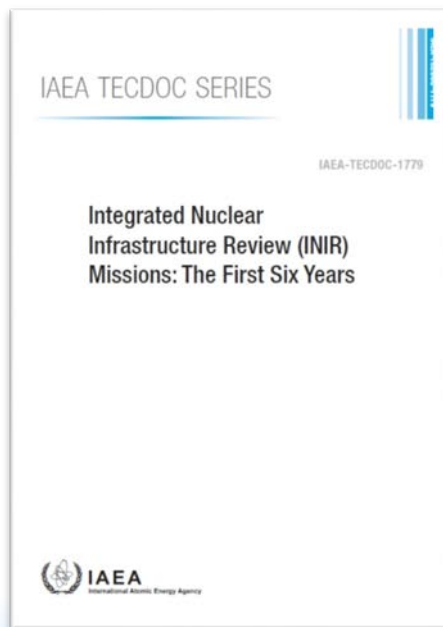
# Findings from INIR mission for the last 10 years

## Brief history of INIR mission

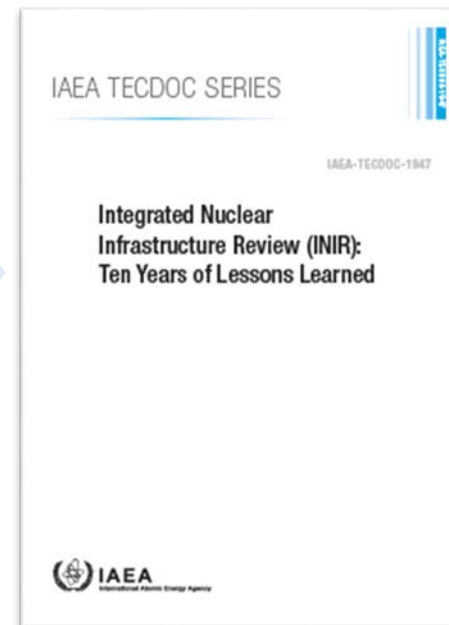
2009

Adopted  
for the 1<sup>st</sup> time

2015



2021



# Findings from INIR mission for the last 10 years-Cont'd

## Phase 1: Recommendations

Most of them are closely related to a national policy on Industrial Involvement

- The government should define or develop a national policy
  - ✓ with respect to national and local industrial involvement
- Owner/Operator should develop a policy in industrial involvement for the government approval

# Findings from INIR mission for the last 10 years-Cont'd

## Phase 1: Recommendations

### Investigation/survey on potential local suppliers and their capability

- The government / NEPIO should investigate the potential local suppliers for goods and services
- The government should complete its plans to perform a nuclear power specific industrial capability survey

# Findings from INIR mission for the last 10 years-Cont'd

## Phase 1: Suggestions

## Targeting and Engagement of local industries

- The government should set up a target for local content for NPP construction utilizing the result of the survey of domestic industry capability
- The NEPIO is encouraged to engage potential NPP suppliers
  - ✓ to better understand where national industry could participate and to develop awareness of the required quality standards and procedures for qualification of contractors

# Findings from INIR mission for the last 10 years-Cont'd

## Phase 1: Suggestions

## Case study and Get ready for phase 2

- The government should develop phase 2 action plans for industrial involvement
- The government should collect and study more information from international experience and lessons learned on industrial involvement

# Findings from INIR mission for the last 10 years-Cont'd

## Phase 2: Recommendations

### Assessment of capability for localization

- Capability to meet specific requirements for NPP of the potential local suppliers for goods and services should be analyzed
- The industrial capability assessment should be completed

**Nuclear vendors, suppliers and sub-suppliers of SSC<sup>1</sup> equipment act in a context which consists of the following areas;**

- 1. National regulation**
- 2. Nationally approved Codes and Standards (C&S)**
- 3. National standard industry practices (cultures)**

# Findings from INIR mission for the last 10 years-Cont'd

## Phase 2: Recommendations

### A national programme for localization

- Short- and long-term programs for increasing national and local participation for the future NPP should be developed
- The national programme for local industrial involvement should be developed based on assessment of local industries' capability



# Findings from INIR mission for the last 10 years-Cont'd

## Phase 2: Recommendations

## Coordination and Communication

- Communications between related parties including possible national suppliers should be adequately coordinated
- Requirements for industry participation on the project, such as the specified codes and standards, should be well understood and communicated to the industry



# Findings from INIR mission for the last 10 years-Cont'd

## Phase 2: Suggestions

### Investment / Involvement of Vendor

- It is suggested to include a determination of the needs for future investment in the potential local suppliers
- It is suggested to invite the selected NPP vendor to be involved in the audits of the management systems of the potential local suppliers

# Take away

- NP programme will trigger off developing national industries through self-efforts and technology transfer
- NP requires high level technology and effective industrial relation. Only national/local industries that can meet such condition can join the programme
- NEPIO has to play an important role to develop industrial involvement policy, conduct industrial capacity survey and facilitate capacity building of domestic industries
- The IAEA offers continuous services to help MS on Industrial Involvement.



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*Thank you!*

