

DOCUMENT PREPARATION PROPOSAL

1. IDENTIFICATION

DPP No._____

Proposed document type	NE Series [X]					
Area	Nuclear General (NG)					
	Nuclear Power (NP)					X
	Nuclear Fuel Cycle (NF)					
	Nuclear radioactive waste and decommissioning (NW)					
Subject area	Management systems					
Document Category	Objectives		Guidance		Report	X
P&B Cycle	2016-17					
P&B Project / Task	1000147 Task 4					
PTAEO Code						
Provisional Title	Management of Nuclear Projects					
Technical Officer	Pekka Pyy					

2. RATIONALE

Managing long-term and complex undertakings like nuclear power plant ones project is a challenging task. The variety of national backgrounds triggers different issues. Countries with a long experience in operating nuclear power plants and currently managing the construction of new nuclear power plant(s) have very different experience from those countries planning the introduction or the reintroduction of a nuclear power programme. Embarking countries have to gain the experience for managing a nuclear power project. Countries expanding their nuclear power programme might have lost the nuclear expertise needed for the management of a nuclear power project. This shows in both smaller and larger nuclear projects carried out during the lifetime of a nuclear facility and especially a nuclear power plant.

The Milestone approach document provides basic information on managing new nuclear projects. This document will expend the content of the Milestone document and will build also on TECDOC 1555. TECDOC 1555 “Managing the First Nuclear Power Programme” gives an overall description of the main activities which have to be undertaken when planning the first nuclear power plant (NPP) in a country. But no practical guidance is given how the 19 different issues could be managed in an integral way in a management system foreseen / including a newbuild project or other projects.

Besides the normal complexity for large projects, additional issues may arise with the management of the licensing process in relation to the number of (nuclear) licenses, possible changes in the legal and regulatory framework, lack of details on the safety requirements, contract issues, organizational changes during the implementation of the nuclear programme such as the evolution from the NEPIO to the other involved organizations (owner/operator, regulatory body, technical support organization, etc). This all has to be managed with many different stakeholders / interested parties that sometimes represent different countries, cultures and different regulations.

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During a Technical Meeting on Management of New Nuclear Power Project organized in Bratislava, Slovakia, 5-8 December 2011, the participants encouraged the IAEA to develop some guidance in the field. The meeting, as well as former activities in this field (IAEA Interregional workshop on project management for new nuclear power project, May 2010, Ulsan, Korea), also addressed challenges and corresponding good practices that represent good background knowledge for the future draft publication.

3. OBJECTIVE

This report has an objective to provide with a structured and methodical framework for the management of nuclear projects from their initiation to their closeout. The report captures the essence of international best practices and makes this available in a structured and organized way to assist management teams in running nuclear projects.

The publication identifies the relation between the issues of the IAEA milestone document in case of newcomer countries, provides practical guidance to identify the different management system processes and provides information on how to manage and implement the processes in the different phases of the nuclear power plant project. The document will also provide guidance for smooth transition from one phase to the next.

4. SCOPE

The publication scope includes new build nuclear projects within the context of the national infrastructure programme and other projects that may be performed by nuclear organizations such as system upgrades or refurbishments. A coordinated management approach is presented facilitating compliance to national and major international legislative and regulatory requirements and standards. IAEA and other documents are referred to, where appropriate, for more detailed guidance on specific aspects. This report presents information on the various activities involved during the planning and execution of the project lifecycle.

Manufacturing, construction, operations or decommissioning management are outside the scope in as much detail since they are sufficiently covered by other IAEA guidance, such as NES NP-T-2.7 "Project Management in Nuclear Power Plant Construction: Guidelines and Experiences".

5. USERS

This report is primarily intended to be used by management and staff of potential owner/operator organizations who are planning for or involved in the planning and execution of nuclear projects. It may also be useful in giving guidance to staff within the NEPIO, key vendors, contractors, and other organizations involved in a newbuild or operating facility nuclear project. Countries re-embarking on new build projects need to pay careful attention to recent international experience and may therefore also find value in this report. Special emphasis is placed on specificities to support a new construction project.

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7. RELATED IAEA PUBLICATIONS

The current reference list in the draft report includes the updated versions of these listed below (list dates from 2012), and has altogether more than 260 references including many IAEA ones, of which these or their updates represent the most central ones.

1. NG-G-3.1, Milestones in the Development of a National Infrastructure for Nuclear Power
2. SSG-16, Establishing the Safety Infrastructure for a Nuclear Power Programme
3. NG-T 1.4, Stakeholder Involvement Throughout the Life Cycle of Nuclear Facilities
4. NG-T-3.1, Initiating Nuclear Power Programmes: Responsibilities and Capabilities of Owners and Operators
5. NG-T-3.2, Evaluation of the Status of National Nuclear Infrastructure Development
6. NG-T-3.6, Responsibilities and Capabilities of a Nuclear Energy Programme Implementing Organization Nepio
7. NG-T-3.9, Invitation and Evaluation of Bids for Nuclear Power Plants
8. NG-T-3.10, Workforce Planning for New Nuclear Power Programmes
9. NP-T-2.7, Project Management in Nuclear Power Plant Construction: Guidelines and Experiences under publication
10. TECDOC-1510, Knowledge Management for Nuclear Industry Operating Organizations
11. TECDOC-1513, Basic Infrastructure for a Nuclear Power Project
12. TECDOC 1555, Managing the First Nuclear Power Plant Project
13. Draft NE-Series, Management of Organizational Change in Nuclear Facilities
14. GS-R-3, The Management System for Facilities and Activities
15. GS-G-3.1, Application of the Management System for Facilities and Activities,
16. GS-G-3.5, The Management System for Nuclear Installations

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17. GSR Part 1, Governmental, Legal and Regulatory Framework for Safety
18. Draft GSR part 2, Leadership and Management of Safety
19. DS414; Safety of Nuclear Power Plants: Design; Draft Safety Requirements No. GSR 2/1
20. GS-G-1.1, Organization and Staffing of the Regulatory Body for Nuclear Facilities
21. Draft: Strategy for the expansion of nuclear power programme (Xiaoping Li, NPES)
22. TECDOC-1259; Nuclear Power Programme Planning: An Integrated Approach

8. INTERFACES

Internal within IAEA: SG, NSNI/OSS, NENP/NIDS, NENP/NKM

External to IAEA: WNA and peer reviewers from the MSs.

9. PRODUCTION (*Expected dates*)

Doc. Prepar. Profile	1-7-2012
Meetings held	Consultancy Meetings: Vienna, Austria: 26-30 March 2012; 29 October – 2 November 2012; 4-8 March 2013; 15-19 July 2013; 17-21 March 2014, 2 5 – 29 September 2017 Technical Meetings: Bratislava, Slovakia, 4 – 8 December 2011; Hanoi, Vietnam, 28 October - 1 November 2013, Vienna, Austria, 7 – 10 August 2017
Submission first draft to DCT	4 th Q 2017
Planned meetings	None
Submission final draft to DCT	1 st Q 2018
Estimated submission date to Publications Committee	1 st Q 2018 (or 2nd)

OTHER RELEVANT ISSUES

An internal (IAEA) and external peer review was organised in summer 2017 before the TM “Technical Meeting on Management and Leadership of Nuclear Power Projects from New Build to Decommissioning” in August 2017.

The peer review produced more than 20 answers from 12 Member States (MSs) resulting into substantial improvement of the contents.

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The TM in August 2017, attended by 40 persons from 26 different MSs, produced useful add-on comments and endorsed publication.

Although the time taken to produce the publication has been long, involving refining its scope along the way on several instances, the current draft is found to be well in line with the original objectives and to include important add-on information to the nuclear management and project management community (also based on the peer review and the TM).