

## Basic Infrastructure for a Nuclear Power Project

*IAEA TECDOC Series No. 1513*

There are several stages to the process of introducing nuclear power in a country. These include the development of nuclear policies and regulations, feasibility studies, public consultations, technology evaluation, request for proposals and proposal evaluation, project and contracts development, financing, supply, construction and commissioning, and finally operation. This publication addresses the "minimum" infrastructure requirements which are adequate until the issue of the construction licence. The target readers are decision makers, advisers and senior managers in governmental organizations, utilities, industrial organizations and regulatory bodies in the countries adopting nuclear power programmes or exporting supplies for these programmes.

IAEA-TECDOC-1513, 2006, ISBN 92-0-108506-0, English. 15.00 Euro. Date of Issue: 17 July 2006. [Full Text](#), (File Size: 658 KB).

Milestones in the Development of a National Infrastructure for Nuclear Power

## Managing the First Nuclear Power Plant Project

*IAEA TECDOC Series No. 1555*

Experience shows that the time between an initial policy decision by a State to consider nuclear power until the initiation of its first nuclear power plant is about 10-15 years. The proper management of the wide scope of project activities during this period represents a major challenge for the involved governmental, utility, regulatory, supplier and other support organizations. The main focus is to ensure that the project is implemented successfully from a commercial point of view while remaining in accordance with the appropriate engineering and quality requirements, safety standards and security guides. This publication provides an introductory overall description of the main project management activities and gives references to the related detailed guidance. The target audience are decision makers, advisers and senior managers in governmental organizations, utilities, industrial organizations and regulatory bodies in the countries desiring to launch their first nuclear power plant project.

IAEA-TECDOC-1555, 2007, ISBN 978-92-0-105207-0, English. 15.00 Euro. Date of Issue: 31 July 2007. [Full Text](#), (File Size: 915 KB).

IAEA Nuclear Energy Series No. NG-G-3.1

The development and implementation of an appropriate infrastructure to support the successful introduction of nuclear power and its safe, secure, peaceful and efficient application is an issue of central concern, especially for countries that are considering and planning their first nuclear power plant. In preparing the necessary nuclear infrastructure there are several activities that need to be completed. These activities can be split into three progressive phases of development. In order to assist with the best use of resources, a description of the conditions which would be expected to be achieved by the end of each phase is provided. The term "milestones" refers to the conditions necessary to demonstrate that the phase has been successfully completed. This publication can be used by Member States to assess their own development status and to prioritize the activities that they need to complete in order to prepare to order, license, construct and then operate a nuclear power plant.

STI/PUB/1305, 88 pp.; 2 figures; 2007, ISBN 978-92-0-107707-3, English. 30.00 Euro. Date of Issue: 4 October 2007. [Full Text](#), (File Size: 1024 KB).

## Evaluation of the Status of National Nuclear Infrastructure Development

*IAEA Nuclear Energy Series No. NG-T-3.2*

This publication describes an evaluation approach to determine a Member State's status in developing and implementing the infrastructure areas necessary for a nuclear power plant (NPP) project. It has been written to be used by any interested Member State for self-evaluation as well as for external reviews with the participation of the IAEA and of independent external experts. Other organizations, such as donors, suppliers, nuclear energy agencies and operator organizations, may also use this publication to provide confidence that a Member State is adequately developing the infrastructure necessary to regulate, construct and safely operate an NPP.

STI/PUB/1358, 55 pp.; 1 figures; 2008, ISBN 978-92-0-109808-5, English. 15.00 Euro. Date of Issue: 20 November 2008. [Full Text](#), (File Size: 923 KB).

### **Financing of New Nuclear Power Plants**

*IAEA Nuclear Energy Series No. NG-T-4.2*

This publication addresses the issues associated with the financing of new nuclear power plants. It explores the roles, responsibilities and options of both government and industry with regard to nuclear power plant financing, as well as issues of risk mitigation and management. The report stresses that finance for new nuclear plants can be secured in a number of ways, but efficient risk allocation and proper assurances of loan repayment, as well as returns on capital, must be integral parts of any financing scheme. Good project management and careful contracting are the key elements in commercial risk allocation, which should ideally be allotted to those parties best suited to manage or control the given risk.

STI/PUB/1345, 10 pp.; 0 figures; 2008, ISBN 978-92-0-107208-5, English. 10.00 Euro. Date of Issue: 22 September 2008. [Full Text](#), (File Size: 845 KB).

### **Commissioning of Nuclear Power Plants: Training and Human Resource Considerations**

*IAEA Nuclear Energy Series No. NG-T-2.2*

For many Member States with operating nuclear power plants, it has been some years since a nuclear power plants (NPP) has been commissioned, and most of the staff with experience in commissioning has since retired. Additionally, in a number of Member States, serious consideration is being given to initiating a new nuclear power programme. This document is intended to provide useful information for both situations. It is expected that Member State organizations will use this information to improve their training programmes and other aspects of human resource management for commissioning of NPPs in areas such as: staffing plans for commissioning, commissioning training plan development and implementation, content and methods for commissioning training, training materials for commissioning, control room simulator training to support commissioning and the organization of training for commissioning.

STI/PUB/1334, 93 pp.; 1 figures; 2008, ISBN 978-92-0-103608-7, English. 15.00 Euro. Date of Issue: 19 May 2008. [Full Text](#), (File Size: 1195 KB).

### **Potential for Sharing Nuclear Power Infrastructure between Countries**

*IAEA TECDOC Series No. 1522*

The introduction or expansion of a nuclear power programme in a country and its successful execution are largely dependent on the network of national infrastructure, covering a wide range of organizational and material activities and capabilities. Such infrastructure requires an investment that could be large or onerous for a national economy. The burden of infrastructure can be reduced significantly if a country forms a sharing partnership with others. The sharing could be organized regionally or internationally. It can include physical facilities or common programmes and knowledge, and will be reflected in economic benefits. This publication provides guidance for analysing and identifying the potential benefits of sharing nuclear power infrastructure during various stages of the nuclear power project life cycle. The target users of this publication are decision makers, advisers and senior managers in utilities, industrial organizations, regulatory bodies and governmental organizations in countries adopting or extending nuclear power programmes.

IAEA-TECDOC-1522, 2006, ISBN 92-0-112106-7, English. 15.00 Euro. Date of Issue: 17 November 2006. [Full Text](#), (File Size: 692 KB).

### **Case Study on the Feasibility of Small and Medium Nuclear Power Plants in Egypt**

*IAEA TECDOC Series No. 739*

IAEA-TECDOC-739, 1994, English. 15.00 Euro. Date of Issue: 3 May 1994..

Subject Classification: 0701 – Nuclear power planning and economics.

### **Site Survey for Nuclear Power Plants**

*Safety Series No. 50-SG-S9*

This guide describes the first stage of the siting process for nuclear power plants, the site survey, which involves the study and investigation of a large region to select one or more preferred candidate sites. It deals only with the safety aspects in the site survey, although it is recognized that the review of the safety aspects of sites takes place in a larger context, including questions related to feasibility.


**Contents:** Introduction; Site survey process; Organization of a site survey; Specific safety-related site characteristics; Documentation; Annex I: Elements of site survey methodology; Annex II: Screening and ranking of areas and sites; Annex III: Non-safety considerations.

STI/PUB/682, 1984, ISBN 92-0-123884-3, English. 14.00 Euro. Date of Issue: 29 August 1984..


Subject Classification: 0603 – Nuclear power plants.

**Nuclear Energy Basic Principles***IAEA Nuclear Energy Series No. NE-BP*

This is the leading publication within the Nuclear Energy Series, and manifests and describes the rationale and vision for the peaceful use of nuclear energy. It identifies the basic principles that nuclear energy systems must satisfy to fulfil their promise of meeting growing global energy demands — specifically: efficient operation, a high level of safety, economic competitiveness, proliferation resistance, efficient resource utilization, sustainability and low environmental impact. These principles will form the basis of discussion for all subsequent publications within the series.

STI/PUB/1374, 11 pp.; 0 figures; 2008, ISBN 978-92-0-112608-5, English. 10.00 Euro. Date of Issue: 10 February 2009.  [Full Text](#), (File Size: 448 KB).

**Safety Aspects of Nuclear Plants Coupled with Seawater Desalination Units***IAEA TECDOC Series No. 1235*

IAEA-TECDOC-1235, 2001, English. 15.00 Euro. Date of Issue: 13 August 2001.  [Full Text](#), (File Size: 2222 KB).