

March 2010

VIETNAM'S PREPARATION FOR NPP



Contents

- 1 Nuclear Power Program
- 2 Nuclear Regulatory Infrastructure
- 3 Vietnam-US (NRC-VARANS) Cooperation

Decision in-principle

Decision in-principle

On November 25, 2009 the National Assembly in its Resolution No.41/2009/NQ-QH12 approved investment in Ninh Thuan Nuclear Power Project

Siting

Investor: Vietnam Electricity (EVN)

Vinh Hai

Capacity: 2 x 1000 MW

Phuoc Dinh

Capacity: 2 x 1000 MW
Construction start: 2014
Commercial operation: 2020

NPP Milestones

Roadmap for the first NPP

Phase 1	Phase 2	Phase 3	Operation
Decision in principle (2009)	Call for bids (2013-2014)	Commissioning (2020-2021)	
Milestone 1 NA Pre-FS Approval (Primary Site Evaluation)	Milestone 2 Prime Minister Site Approval (Final Site Evaluation) FS Approval	Milestone 3 MOIT Operation License	

Main Activities

1. Site Approval by the Government
 VARANS to prepare safety requirements for site evaluation.
 The National Assessment Council to assess site application.
2. FS Approval by the Government
3. Bid/Bid Evaluation, Vendor selection
4. Contract Signing

Main Activities

5. Construction Permit

- VARANS to prepare safety requirements for NPP design and Guidance to assess SAR
- EVN develops SAR as part of application for Construction Permit
- VARANS reviews application and issues Construction Permit
- MONRE to assess Environmental Impact Report
- MOST to issue Construction Permit

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The Regulatory Body


VARANS, established in 2003, is an agency belonged to MOST and assists the Minister of S&T in State management of radiation and nuclear safety (*Atomic Energy Law, Article 8*)

VARANS Offices

- Headquarter

Campus 2:

- TSO on RP and Emergency Response
- TSO on Nuclear Safety



The Regulatory Body

Article 8, Atomic Energy Law

The agency for radiation and nuclear safety is under the Ministry of Science and Technology and has the responsibility to assist the Minister in performing the following duties and authorities:

- To develop draft legal documents on radiation safety and nuclear safety;
- To organize for the registration of radioactive sources, radiation devices, nuclear material, nuclear equipment, and to license for conducting radiation activities in accordance with its competency;
- To conduct and organize verification on radiation safety and nuclear safety;
- To carry out inspection, checking; to handle violations against regulations on radiation and nuclear safety; and to suspend radiation activities in accordance with its competency; to recommend to the relevant State competent authority to suspend research reactor, nuclear power plant operation if suspecting there is unsafe element;
- To organize for international safeguards related activities within its competency;
- To take part in emergency response to radiation and nuclear incidents within its competency;
- To establish and maintain the national information system on radiation safety and nuclear safety;
- To organize and cooperate for professional trainings on radiation safety and nuclear safety;
- To carry out international cooperation activities in radiation and nuclear safety.



Regulatory Legislation

ATOMIC ENERGY LAW (2008)

Decree No. 07/2009/ND-CP dated Jan 25, 2010 detailing the implementation of the some provisions in Atomic Energy Law	Decree No. 11/2009/ND-CP dated Dec 11, 2009 on administrative sanction for non-compliance in nuclear energy field	Decree No. 07/2006/ND-CP regulating the inspection organization and operation of the Ministry of Science and Technology	REGULATIONS No. 11/2007/QĐ-TTg dated July 23, 2007 on ensuring the security of radioactive sources	REGULATIONS No. 14/2007/QĐ-TTg dated September 04, 2007 for the recovery and handling of orphan radioactive sources	The Strategy for peaceful uses of atomic energy up to 2020
Joint Circular No. 22/37/1999/TT-LT/B-KHCNM-T-BYT dated December 28, 1999 guiding the implementation of Radiation Safety in the Public Health	Circular No. 14/2003/TT-BKHCN dated July 11, 2003 guiding radiation transportation safety	Circular No. 05/2006/TT-BKHCN dated January 11, 2006 guiding the procedures of notification, registration and license issuance to radiation activities	Circular No. 10/2006/TT-BKHCN dated March 17, 2006 guiding specialized inspection on radiation safety and control	Circular No. 31/2007/TT-BKHCN dated December 31, 2007 on working and resting time for radiation workers	Circular No. 13/2009/TT-BKHCN dated May 26, 2009 on preliminary nuclear safety assessment for site selection
DECISION No. 36/42/2004/QĐ-BYT dated 4 October 2004 on the issuance of the Regulations on the safety and sanitation of food preserved by irradiation	Document No. 169/2002/BKHCNMT-ATBX dated May 2, 2002 provisionally regulating license application and conditions for the use of X-ray medical devices	DIRECTIVE No. 13/2006/QĐ-TT-BKHCN dated June 07, 2006 on the enforcement of State administration of radiation safety and security	DECISION No. 17/2007/QĐ-BKHCN dated August 31, 2007 on the issuance of radioactive sources categorization complying with security requirements	DECISION No. 32/2007/QĐ-BKHCN enacting the Regulation on examining medical diagnosis X-ray machines	DECISION No. 38/2006/QĐ-BTC dated July 24, 2006: Regulation of fees and charges for radiation safety assessment and verification

Vietnam Standards (TCVN) on Radiation Safety

Regulatory Legislation

Legal documents to be issued:

- Decree on nuclear power plants;
- Decree on administrative sanction of non-compliance;
- Prime Minister Decision on nuclear safeguards;
- Prime Minister Decision on National Nuclear Safety Council.

Work in progress:


- System of requirements (circulars) and guidances for NPPs.

Development of Legal Documents

International conventions & treaties

Joined	To join
<ul style="list-style-type: none"> ▪ Nuclear Nonproliferation Treaty; ▪ Safeguards Agreement; ▪ Convention on Early Notification of a Nuclear Accident; ▪ Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency; ▪ Comprehensive Test Ban Treaty; ▪ Bangkok Treaty; ▪ Regional Cooperative Agreements; ▪ Additional Protocol (signed in 2007). 	<ul style="list-style-type: none"> ▪ Convention on Nuclear Safety; ▪ Convention on the Physical Protection of Nuclear Materials; ▪ Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Contents


Nuclear Power Program

Nuclear Regulatory Infrastructure

Vietnam-US (NRC-VARANS) Cooperation

USA

VARANS has been actively in preparation for:

- Vietnam's participation in the Nuclear Security Summit to be held in Washington DC in April 2010;
- The signing of MOU for cooperation in the nuclear energy field between the Vietnam and the US.

Cooperation with US NRC




Signing an arrangement for the exchange of technical information and cooperation on nuclear safety between NRC and VARANS, on June 25, 2008



VARANS Director General and the US NRC Commissioner in his visit to VARANS (2007)

Cooperation with US NRC



- Meeting:
 - Meeting to discuss the cooperation between the two sides (NRC Headquarters, Aug, 2008)

Cooperation with US NRC

Outcomes from the cooperation (with support from NRC's contractor AdSTM):

An Action Plan developed:


- Describing the overall strategy of VARANS to develop new requirements and guides
- Establishing requirements for VARANS staffing and training needs to meet its regulatory responsibilities for the NPP



Cooperation with US NRC

1.1. NRC provided VARANS with generic documents

- G-TR-S: Reactor siting safety requirements
- G-RG-S: Reactor siting risk-informed review guide
- TR: Human induced Event – Technical requirements
- TR: Natural events – Technical requirements
- TR: Dispersion of Radioactive Materials – Technical requirements
- G-RG-CP: Construction permit
- G-TR-L: Licensing requirements



Cooperation with US NRC

1.2. VARANS developed regulatory documents

- Issued Circular No.13 (Requirements) on preliminary nuclear safety assessment for site selection
- Currently working on the second Circular on siting, in which detailed requirements are specified

CIRCULAR
 GENERAL REGULATORY REQUIREMENTS FOR THE SAFETY ASSESSMENT FOR THE PRELIMINARY NUCLEAR SAFETY ASSESSMENT FOR SITE SELECTION

Issued in the name of the President of the Republic of the Philippines on 13 June 2010
 Pursuant to the Executive Order (EO) 133, signed on 18 March 2009 by the President of the Philippines, the Department of Energy, and the Department of Environment and Natural Resources, in accordance with the provisions of the Atomic Energy Act of 1954 (RA 6362) and its amendments, the Department of Energy and the Department of Environment and Natural Resources are hereby directed to issue the following guidelines on the safety assessment for site selection for nuclear power plants:

I. GENERAL PROVISIONS

1. Scope.
 This circular shall apply to the safety assessment for the preliminary nuclear safety assessment for site selection for nuclear power plants to be developed in the next few years.

2. Purpose and Objective.
 The purpose of this circular is to provide the guidelines for the safety assessment for site selection for nuclear power plants to be developed in the next few years.

3. Authority.
 This circular is issued under the authority of the President of the Philippines.

4. Effectivity.
 This circular shall take effect immediately upon issuance.

5. Approval.
 This circular is approved by the President of the Philippines.


6. Dissemination.
 This circular shall be disseminated to all concerned offices and personnel.

7. Compliance.
 All concerned offices and personnel shall comply with the provisions of this circular.

8. Penalties.
 Any violation of the provisions of this circular shall be subject to the appropriate penalties.

9. Other Provisions.
 This circular shall be subject to the provisions of the Atomic Energy Act of 1954 and its amendments.

10. Finality.
 This circular shall be final and shall not be subject to appeal.



Cooperation with US NRC

2. Staffing for NPP

2.1. Human resource development plan

- Human resource: staff to be recruited and trained in 5 years
 For regulatory document developments: 50
 (2010: 15, 2011: 30, 2012: 45, 2013: 50, 2014: 50 staff)
 For NPP safety assessment: 62
 (2010: 26, 2011: 34, 2012: 42, 2013: 48, 2014: 62 staff)
- Qualification process proposed, including general knowledge training and on-the-job training

Cooperation with US NRC

2.2. Training:

- Workshop on nuclear safety and site selection requirements (May 2009);



- Workshop on organizational structure and staffing (December 2009)



Cooperation with US NRC

2.2. Training (cont.):

- 2 staff joined NRC inspection team (December 2009).
- 1 staff studied radiation protection, nuclear safety and international treaties at NRC (June – August 2009)




Cooperation with US NRC

II. Future Cooperation Activities

1. Regulatory documents to be developed


- 2nd Circular on siting
- Regulations on Licensing (Design Requirements and Construction Permit Guidelines)
- Technical Regulation on investigation and evaluation of data on natural events affecting the safety of NPP
- Technical Regulation on investigation and evaluation of human induced events affecting the safety of NPP
- Technical Regulation on data and methodology for assessment of dispersion of radioactive materials due to operation of NPP
- Circular (Requirements) providing guidance for safety analysis report (format and content) for site approval



Future Cooperation Activities

2. Training

- Construction Permit Review (WCP-1)
- Safety management
 - Construction Codes and Standards
 - Quality Assurance



Acknowledgement

We would like to express our deep gratitude to the US NRC for its support and assistance in the activities to strengthen VARANS as the regulatory body

Thank You !

For more information, please visit our website:
<http://www.varans.gov.vn>