

Part II. OTHER DOCUMENTS

THE PRIME MINISTER

Decision No. 906/QĐ-TTg of June 17, 2010, approving orientations for planning nuclear power development in Vietnam through 2030

THE PRIME MINISTER

Pursuant to the December 25, 2001 Law on Organization of the Government;

Pursuant to the June 3, 2008 Law on Atomic Energy;

Considering the proposal of the Ministry of Industry and Trade in Report No. 2684/TTr-BCT of March 18, 2010, on orientations for planning nuclear power development in Vietnam through 2030, and Report No. 2725/TTr-BCT of March 19, 2010, on orientations for planning building locations of nuclear power plants in Vietnam; and opinions of the Ministry of Natural Resources and Environment in Official Letter No. 4437/BTNMT-TCMT of November 23, 2009, on results of appraisal of the strategic environmental assessment report of the project on planning building locations of nuclear power plants in Vietnam,

DECIDES:

Article 1. To approve orientations for planning nuclear power development in Vietnam through 2030 with the following principal contents:

1. Viewpoints on nuclear power development

a/ Nuclear power development for peaceful purposes is a consistent policy of Vietnam.

b/ Nuclear power development must be based on certified modern technology and follow a long-term program in order to form a nuclear power industry in Vietnam.

c/ Nuclear power development must assure safety for people and the environment.

d/ International cooperation shall be stepped up to attract investment in and transfer nuclear power technologies.

e/ Social resources shall be reasonably mobilized for nuclear power development in order to guarantee success for the nuclear power development program.

f/ Nuclear power plants shall be built in locations selected in each period, suiting practical conditions of each location, conforming with local socio-economic development orientations and contributing to local and regional social-economic development.

2. Nuclear power development objectives

a/ Overall objective: To incrementally build and develop a nuclear power industry in Vietnam, assuring safe management and effective operation of nuclear power plants, step by step raising the participation of domestic industries in the execution of projects to build nuclear power plants and striving to assume the tasks of designing, manufacturing, building, installing, operating and maintaining nuclear power plants.

b/ Specific objectives:

- By 2015:

+ Execution of a project to build the first

nuclear power plant: To complete approval of the investment project and its location, organize selection of contractors, prepare adequate project managers and key technical specialists for the investor to meet requirements of building the plant.

+ Nuclear power technology: To build a contingent of nuclear power specialists.

+ Participation of domestic industries: To plan and formulate mechanisms and policies for promoting and preparing capacity for domestic industries to provide supplies, equipment, build, install, manage projects and supervise and inspect the quality of nuclear power plants.

+ Building location: To complete the preparation of a building location for the first nuclear power plant.

+ Assurance of nuclear fuel supply security: To study mechanisms, policies and solutions for assuring security of nuclear fuel supply for the nuclear power plant. To investigate and explore natural uranium and develop mechanisms and policies on exploitation and commercial use of natural uranium.

+ Management of radioactive wastes and spent nuclear fuels: To complete a national master plan on locations for storing low- and medium-level radioactive wastes. To study and formulate policies on management of radioactive wastes and spent nuclear fuels. To build radioactive waste treatment research and development capacity.

+ Nuclear safety assurance: To promulgate adequate regulatory documents, standards and technical regulations, processes and procedures for approving locations and designs and licensing

the building of nuclear power plants. To build full capacity for the nuclear safety control agency to grant licenses related to nuclear safety assurance up to the stage of starting construction of a nuclear power plant.

+ Increase of technical assistance capacity: To create an independent technical assistance agency capable of analyzing, appraising and assessing nuclear safety in the stages of approving locations, designing and licensing the building of a nuclear power plant; conducting the operation of an environmental radiation warning and observation network; inspect and correct related equipment and devices in projects; and possess initial technical capacity for responding to and remedying radiation and nuclear incidents. To plan a network of national radiation-induced disease treatment establishments.

+ Training and development of human resources for the nuclear industry: To plan, recruit and train sufficient project managers and technical specialists for investors, and professional personnel for nuclear power technology research and development institutions, technical assistance agencies and the nuclear safety control agency. At the same time, to work out a plan on university and postgraduate nuclear power training institutions. To formulate policies on nuclear power personnel training and employment.

+ Investment and financial arrangement: To study and formulate mechanisms and policies on investment and financial arrangement for the execution of the project to build the first nuclear power plant.

- By 2020:

+ Building of the first nuclear power plant: To complete the construction of the first turbine unit of Ninh Thuan 1 nuclear power plant and put it into commercial power generation by 2020, and put the second turbine unit into operation by 2021.

+ Nuclear power technology: To carry out some activities of transferring nuclear power technologies with foreign partners, focusing on the technology of designing a nuclear power plant.

+ Participation of domestic industries: To involve domestic industries in providing supplies and equipment, building, installing and transporting extra-long and extra-heavy equipment with a contractual value from 20% to 30% of total construction and installation value of a work.

+ Building locations of nuclear power plants: To start building Ninh Thuan 2 nuclear power plant; to prepare locations for other nuclear power plants.

+ Assurance of nuclear fuel supply security: To adopt policies on assuring nuclear fuel supply security, including formation of a fuel security assurance fund. To work out a roadmap for localizing production of fuels from imported enriched uranium. To develop mechanisms and policies on exploitation and use of natural uranium. To be able to absorb nuclear fuel manufacturing technologies and have a system of laboratories on modern uranium technologies.

+ Management of radioactive wastes and spent nuclear fuels: To adopt comprehensive policies on management of nuclear wastes and spent nuclear fuels and have a system of modern

laboratories on radioactive waste treatment technologies.

+ Nuclear safety assurance: To promulgate adequate legal documents, standards, technical regulations, processes and procedures for licensing the operation and maintenance of nuclear power plants, at the same time assure adequate capacity for the nuclear safety control agency to fulfill its licensing task.

+ Increase of technical assistance capacity: To have an independent technical assistance agency capable of analyzing, appraising and assessing nuclear safety, conducting environmental radiation observation, inspecting and correcting nuclear equipment and devices, responding to radiation and nuclear incidents to effectively serve the putting of nuclear power plants into safe operation. To build a radiation-induced disease diagnosis and treatment establishment at Ninh Thuan hospital and national radiation-induced disease diagnosis and treatment centers in Hanoi and Ho Chi Minh City.

+ Training and development of human resources for the nuclear industry: To ensure adequate personnel for operating and maintaining generator 1 of Ninh Thuan 1 nuclear power plant, the nuclear safety control agency and research and development and technical assistance agencies to meet their task requirements by 2020. To stably operate university and postgraduate nuclear power training institutions.

+ Investment and financial arrangement: To assure financial arrangement for the first nuclear power plant and prepare financial arrangement plans for other plants. To develop financial mechanisms for the management of radioactive

wastes and dismantlement of expired plants.

- By 2030:

+ Execution of projects of building nuclear power plants: To proceed with building other nuclear power plants, making nuclear power a major energy source of the country, representing an appropriate share in the national electricity source structure.

+ Nuclear power technology: To master the technology of designing a nuclear power plant and be capable of joining foreign partners in such designing

+ Participation of domestic industries: Domestic industries will participate in building nuclear power plants through performing contracts valued at 30%-40% of total construction and installation value of each work.

+ Building locations of nuclear power plants: To complete preparations for locations and building of other nuclear power plants.

+ Assurance of nuclear fuel supply security: To master the technology of manufacturing nuclear fuels, build investment projects on facilities to manufacture domestic nuclear fuels from imported enriched uranium. To start commercial exploitation of natural uranium in the country

+ Management of radioactive wastes and spent nuclear fuels: To start pre-feasibility study of a project of building national facilities to store low-level and medium-level radioactive wastes; to have a system of synchronous and modern laboratories on radioactive waste treatment.

+ Nuclear safety assurance: To improve, update, supplement and amend legal documents and national standards and technical regulations

to conform with realities and ensure that the capacity of the nuclear safety control agency will suit the development of the nuclear power program by 2030.

+ Increase of technical assistance capacity: To increase and add potential for the independent technical assistance agency and radiation-induced disease diagnosis and treatment establishments to meet the development requirement of the nuclear power program by 2030.

+ Training and development of human resources for the nuclear industry: To assure adequate personnel for investors, the nuclear safety control agency and research and development and technical assistance agencies to meet the task requirements of these agencies by 2030. To stably operate university and postgraduate nuclear power training institutions.

+ Investment and financial arrangement: To assure financial arrangement for subsequent nuclear power plants. To implement financial arrangement mechanisms for the management of radioactive wastes and dismantlement of expired plants.

3. Orientations for the development of nuclear power plants

- By 2020: The first nuclear power turbine unit of about 1,000 MW will be put into operation.

- By 2025: The total capacity of nuclear power plants will be about 8,000 MW, accounting for some 7% of the total electricity output.

- By 2030: The total capacity of nuclear power plants will be about 15,000 MW, accounting for some 10% of the total electricity output.

List, capacities and time of operation of nuclear power turbine units

No.	Plant	Capacity (MW)	Year of operation
1	Phuoc Dinh nuclear power, turbine unit 1	1,000	2020
2	Phuoc Dinh nuclear power, turbine unit 2	1,000	2021
3	Vinh Hai nuclear power, turbine unit 1	1,000	2021
4	Vinh Hai nuclear power, turbine unit 2	1,000	2022
5	Phuoc Dinh nuclear power, turbine unit 3	1,000	2023
6	Phuoc Dinh nuclear power, turbine unit 4	1,000	2024
7	Vinh Hai nuclear power, turbine unit 3	1,000	2024
8	Vinh Hai nuclear power, turbine unit 4	1,000	2025
9	Central Vietnam nuclear power 1 and 2	2 x 1,000	2026
10	Central Vietnam nuclear power 3	1,300 - 1,500	2027
11	Central Vietnam nuclear power 4	1,300 - 1,500	2028
12	Central Vietnam nuclear power 5	1,300 - 1,500	2029
13	Central Vietnam nuclear power 6	1,300 - 1,500	2030
	Total capacity	15,000 - 16,000	

4. Orientations for planning building locations of nuclear power plants

In order to implement the above program on development of nuclear power plants, 8 locations are planned for building nuclear power plants, each capable of building between 4 and 6 nuclear power turbine units:

a/ Vinh Truong village, Phuoc Dinh commune, Thuan Nam district, Ninh Thuan province.

b/ Thai An village, Vinh Hai commune, Ninh Hai district, Ninh Thuan province.

c/ Lo Lieu village, Hoai My commune, Hoai Nhon district, Binh Dinh province.

d/ Vung La, Phu Hai village, Xuan Phuong commune, Song Cau district, Phu Yen province.

e/ Son Tinh village, Ky Xuan commune, Ky Anh district, Ha Tinh province.

f/ Cha La bank, Binh Tien village, Cong Hai commune, Thuan Bac district, Ninh Thuan province.

g/ Gia Hoa village, Duc Thang commune, Mo Duc district, Quang Ngai province.

h/ Van Ban village, Duc Khanh commune, Mo Duc district, Quang Ngai province.

5. Nuclear power development policies

a/ Investment policy:

- For the first 4 turbine units of Ninh Thuan nuclear power project, to assign Vietnam Electricity Group as investor.

- To consider assigning state economic groups with adequate potential and experience to invest or set up joint ventures to invest in other nuclear power turbine units.

b/ Technology policy:

- Selected technologies must be certified **modern** and safe ones that assure economic efficiency, convenient operation, maintenance, repair, personnel training and management and **possible** localization of equipment.

- Capacities of turbine units:

+ For the initial phase, to select turbine units of some 1,000 MW.

+ After 2025: To consider turbine units of larger capacity.

c/ Policy on fuels for nuclear power plants:

- Supply of nuclear fuels: By 2030, fuels for Vietnam's nuclear power plants will be imported.

- Management of radioactive wastes:

+ Low- and medium-level radioactive wastes discharged from nuclear power plants shall be temporarily stored in storehouses of the plants for future transportation to the national waste storage site for permanent storage.

+ High-level radioactive wastes, mainly burnt fuels, shall be temporarily stored in the plants in the form of wet storage in soaking tanks in these plants.

d/ Localization policy: To incrementally localize manufacture of equipment for nuclear power plants under a localization program approved by the Prime Minister.

e/ Policy on international relations in nuclear power development:

- To affirm the use of atomic energy for peaceful purposes and study accession to international conventions and treaties pertaining to the development of nuclear power plants in line with the common international trend.

- To promote cooperation with the

International Atomic Energy Agency, ASEAN and some countries in the Regional Cooperation Association, actively take part in activities of the Forum of Nuclear Cooperation of Asia.

- To vigorously promote cooperation with countries with experience and strong potential in nuclear power.

6. Implementation solutions

a/ Solutions regarding organization of implementation:

- To build and complete a legal framework for nuclear power development.

- To build and increase technical capacity to ensure nuclear power plant safety: To establish an independent nuclear safety-related technical assistance agency with adequate modern testing equipment and facilities, highly qualified professional personnel and necessary financial sources.

- Organizational structure to implement the nuclear power development program: To set up a state steering committee to assist the Prime Minister in directing the execution of nuclear power projects and develop infrastructure facilities for the nuclear power industry of Vietnam.

b/ Solutions regarding nuclear power development investment: To adopt mechanisms, policies and measures of investment and financial support in accordance with Vietnam's current regulations and international commitments.

c/ Human resource development solutions:

- To elaborate plans on human resource training at home and overseas.

- To upgrade and set up human resource training establishments to meet personnel requirements of projects to build nuclear power

plants; research and development and technical assistance activities; state management agencies and the nuclear radiation safety control agency; and training establishments.

d/ Information and communication solutions:

- To formulate a public information program on nuclear power in conformity with the nuclear power development program.

- To regularly and closely coordinate with state agencies and related organizations in order to create necessary public awareness about nuclear power development.

- To ensure timely and transparent information on nuclear power; to maintain public support for all phases of nuclear power projects, from investment preparation, execution and putting into operation.

Article 2. Organization of implementation

1. Ministries, branches and localities shall in pursuance to this Decision disseminate and publicize the orientations for planning nuclear power development in Vietnam through 2030. At the same time, on the basis of their prescribed functions, tasks and powers, concerned ministries and branches shall collaborate with and assist investors and localities in materializing these orientations.

2. Responsibilities of ministries, branches and localities:

a/ The Ministry of Industry and Trade shall:

- Monitor, urge, examine and supervise investments in the building of nuclear power plants in line with the orientations stated in this Decision, the master plan on national power development and the reality of national socio-

economic development.

- Monitor and grasp in time the situation of implementation of plans on development investment in nuclear power plants and newly arising issues and report them to the Prime Minister for consideration, adjustment and supplementation of the orientations for planning nuclear power development in Vietnam as appropriate.

- Assume the prime responsibility for, and coordinate with the Ministry of Construction and the Ministry of Science and Technology in, building, designing and manufacturing equipment for nuclear power plants.

b/ The Ministry of Science and Technology shall coordinate with the Ministry of Industry and Trade in directing the implementation of programs on promotion of scientific and technological activities in the field of atomic energy, and improving regulations to assure safety in nuclear power development.

c/ The Ministry of Natural Resources and Environment shall:

- Coordinate with the Ministry of Science and Technology in guiding the elaboration of environmental impact assessment reports for nuclear power projects.

- Conduct surveys and explorations to assess uranium deposits.

d/ The Ministry of Planning and Investment shall assume the prime responsibility for, and coordinate with the Ministry of Finance, the State Bank of Vietnam and concerned agencies in, studying and promulgating mechanisms for raising and effectively using funds for investment in nuclear power development.

e/ The Ministry of Education and Training

shall assume the prime responsibility for, and coordinate with concerned agencies in, elaborating training programs and conducting training to meet the need for human resources for nuclear power development.

f/ The Ministry of Foreign Affairs shall assume the prime responsibility for, and coordinate with concerned ministries and branches in, working out and proposing activities and solutions regarding international relations to serve the development of nuclear power projects.

g/ The Ministry of Public Security shall organize protection of building locations of nuclear power plant projects to meet requirements of protection of important works related to national security.

h/ The Ministry of National Defense shall coordinate with concerned ministries and branches in mobilizing people and means to implement plans on response to national-level incidents upon occurrence of nuclear incidents.

i/ Localities with building locations of nuclear power projects shall assume the prime responsibility for, and coordinate with investors in, conducting ground clearance, compensation, relocation and resettlement for nuclear power projects according to regulations.

Article 3. This Decision takes effect on the date of its signing.

Article 4. Ministers, heads of ministerial-level agencies, heads of government-attached agencies and chairpersons of provincial-level People's Committees shall implement this Decision.-

Prime Minister

NGUYEN TAN DUNG