
SUMMARY OF THE FIRST MOROCCAN NUCLEAR POWER PLANT FEASIBILITY STUDY

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In the framework of the diversification policy of the energy primary sources and in compliance with governmental orientations, the Office National de l'Electricité (ONE), considers the nuclear power option as one of the technically viable solutions able to meet the future electrical energy requirements of Morocco. It is in this framework that ONE in the early 1980s undertook site and technical-economic feasibility studies for the first Nuclear Power Plant (NPP) in Morocco in the context of an agreement signed with French company SOFRATOME, with the technical assistance of the International Atomic Energy Agency (IAEA). The site of Sidi Boulbra, located on the Atlantic coast between the cities of Safi and Essaouira, was selected and qualified as a site able to receive an NPP under the required nuclear safety conditions.

The said feasibility studies concluded that for reasons of insertion into the national grid, the nearest date for introduction of a first unit of 900-1000 MWe, in the framework of the equipment program focusing on the introduction of nuclear energy, would be somewhere near 2016-2017.

Currently, the reasons pointing to the importance for our country of going to nuclear energy are the following:

- Increase in the rate of dependency of external energy sources (96 % of primary energy sources are imported),
- The important growth of power demand (8 % each year)
- Uncertainty regarding future cost trends with regard to fossil fuel in an environment of soaring oil, coal and natural gas prices,
- Closure of the country's only coal mine (Jerada mine),
- Saturation of the hydroelectric potential to be equipped in Morocco,
- Negative environmental impact of projects using fossil fuel and the difficulty in finding international financing for such projects.

In light of these realities, ONE decided to:

- Update the feasibility study for the first NPP in Morocco in the framework of optimization of the development program of electrical generation equipment's between 2004 and 2020 to meet Morocco's energy needs.
- Provide the decision makers with elements allowing them to take decisions on the orientations and options regarding the implementation of the first a Moroccan NPP and, in parallel, giving the necessary confidence to the public, so as to have greater visibility with regard to the introduction of this energy source in the electrical system of the Kingdom, and to assess the relevant suitability and its positive environmental impact.

Indeed, one of the main issues taken into consideration in the Sidi Boulbra NPP project, the public information policy or guidance's to be implemented in this important project, is of

greater importance due to the negative effect of nuclear energy perception after the major nuclear accident of Tchernobyl.

A big work is now ongoing and remains to be done in order to reduce the public worries and to show him the main advantages of setting up a NPP project.

This aspect is tightly linked with the establishment of a set of national nuclear regulations and also international agreements or conventions that have been signed by our country and which are now accompanying nuclear activities.

On the other hand, it should be noted that Morocco has a modest experience with regard to nuclear knowledge management related to these aspects in the framework of realization of the first nuclear research center of Maamora based on TRIGA 2 research reactor which is presently in commissioning phase.

In this paper, we shall present the elements of public information program including the main socioeconomic, technical, legal and environmental arguments and propose an action plan to carry out this program.