

## THE DEVELOPMENT OF NUCLEAR POWER AT FORMER SOVIET BLOC COUNTRY

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This article explores the construction of the one-thousand megawatt Temelin nuclear power plant in the Czech Republic. It not only provides an opportunity for examining the extent to which sustainable development policy is being addressed in a former Soviet bloc country but also offers insights into the problems of building democratic institutions in such a country. The Czech experience with nuclear power is a test case that will affect the viability and future marketability of nuclear power in central and eastern Europe. The Chernobyl accident in the Ukraine is a constant reminder of the danger to human life and the environment. The European Bank for Reconstruction and Development (EBRD) refused to fund the completion of two nuclear power plants in the Ukraine until it shut down the remaining units at Chernobyl.

One of the major problems encountered by the nuclear industry is grafting western technology onto Russian-designed reactors. Temelin is to be the first such redesign project on a Russian one-thousand megawatt plant. Skeptics are concerned that Russian reactor containment designs can not be properly retrofitted.

The Temelin nuclear facility was approved in 1978, and in 1981 Czechoslovakia received the designs from the former Soviet Union. Construction started in 1986. It was part of a massive project to build four one-thousand megawatt reactors designed in the former Soviet Union at Temelin, with others to be located throughout Czechoslovakia. Because of the Chernobyl accident, construction was suspended in 1989 pending a review of the reactor design. The plan was scaled back in 1990 for political reasons. In fall 1992 CEZ and Westinghouse signed letters of intent for supplying nuclear fuel and replacing the instrumentation and control systems subject to U.S. Export Import Bank (Exim Bank) loan guarantees. Halliburton NUS, an American company, completed a

probabilistic safety assessment that examined issues such as commercial policy and personnel issues.

But this project had many problems, such of them:

- Lack of adequate documentation from the Russians necessitating redrawing of designs.
- Safety goals not well defined. Too many suggestions and insufficient standards to assess degree of change necessary.
- Russian and American cables were incompatible, requiring total replacement.
- Russian and American safety codes differed.
- Russian and American assumptions about equipment capability differed.
- Westinghouse designs lacked level of detail familiar to Czech workers.
- Absence of plans for long-term storage of nuclear waste.
- State Office of Nuclear Safety inspections revealed some noncompliance with safety standards.
- Tritium will be released in the Vltava River, which supplies drinking water to Prague.

Solution of the problems listed above will result to better exploitation of nuclear power plants and ensure its safety.

## **THE UNITED NATIONS CLIMATE CHANGE AGREEMENTS**

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On December 11, 1997, 159 nations adopted the Kyoto Protocol. The protocol and its parent agreement, the 1992 Framework Convention on Climate Change (FCCC), were both adopted under the multilateral treaty-making auspices of the United Nations. Together with some important resolutions of the UN General Assembly and the Governing Council of the United Nations Environment Programme (UNEP), they form the foundation of the United Nations climate change regime (UNCCR).