



Cost Concerns Loom Over US Nuclear Revival

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For U.S. utilities gearing up to build new nuclear-power plants, the rewards could be great, but the risks of cost overruns, delays and regulatory battles persist.

Expanding the nation's use of nuclear power is seen by many as a key component of any strategy to fight climate change, and utilities are lining up to provide it. The U.S. Nuclear Regulatory Commission has received applications from 14 companies to build and operate new nuclear power plants. Energy Secretary Steven Chu last week told utility executives that nuclear power, along with renewable energy and conservation, will be an important way to meet growing U.S. energy demand while cutting emissions of greenhouse gases.

The companies behind these projects, including Southern Co. (SO) and Duke Energy (DUK), are upbeat on their prospects, noting guaranteed long-term returns on investment and increasing acceptance of a need to replace coal-fired power plants and their emissions.

History sounds a cautionary note, however. Nuclear-power plants under development in Europe have come under fire for exceeding previously estimated costs, a fate that led developers to abandon several nuclear-power projects during the last U.S. nuclear build-out that ended in the early 1990s.

Estimates of new nuclear plant costs from 2003 and earlier are already outdated, said Mark Cooper, a senior fellow for economic analysis at the Institute for Energy and the Environment at Vermont Law School. Early reports predicted that the plants would cost about 7 cents a kilowatt-hour, but 12 to 20 cents a kilowatt-hour now seems more likely, Cooper said.

"Because of the complexity of these projects, there's always a risk of delays," said Jim Hempstead, an analyst with Moody's Investors Service in New York. "There could be delays related to regulatory issues, construction or access to the capital markets."

Regulatory Wild Card

The last surge in U.S. nuclear-power development was marred by the partial reactor meltdown at Pennsylvania's Three Mile Island nuclear power plant in 1979, followed by the Soviet Union's Chernobyl disaster in 1986, which created a hostile political and regulatory environment for nuclear energy in the U.S. Projects already underway went billions of dollars over budget and some were delayed by years. In most cases, the

financial burden was shouldered by ratepayers, some of whom saw their electric bills skyrocket.

Although steps have been taken at the federal and state levels to encourage nuclear power development - including combining the operating and construction licenses and allowing companies to start recovering costs before the plants are built - regulatory requirements could still change partway through the projects.

"The biggest concern in the U.S. is regulatory risk," said Roger Kranenburg, the director of power capital costs for Cambridge Energy Research Associates, an energy consulting firm. "At the federal level, changes in specifications for the plants after Three Mile Island caused a lot of delays and cost overruns. We don't have a lot of experience with the current regulatory environment, and everyone agrees it hasn't been fully tested."

Besides regulatory delays, construction costs and limited access to credit markets can cause costs to balloon.

Costs at a nuclear-power plant under construction by France's Areva S.A. (CEI.FR) in Finland have soared almost 50% because of construction issues, putting the budget overrun so far at about \$2.16 billion. The plant has been delayed by three years from its initial completion estimate. An identical plant being built in France is also behind schedule and over budget.

The expense of building a new power plant exceeds most companies' balance sheets, so if utilities can't find a way to offload some of the project risks to other parties through partnerships - as some nuclear developers are doing - credit-rating agencies could cut their ratings, adding even further to their costs.

In a report last week, Moody's Investor Service said it would likely cut credit ratings of one or more nuclear power plant developers if project costs grew too far beyond the company's balance sheet.

"It has become increasingly likely that the pursuit of new nuclear power projects will lead to some near-term rating actions or outlook changes," Moody's said.

Nevertheless, climate-change legislation, potential federal requirements to use renewable energy and other factors most likely would drive up the price of electricity from all sources, making nuclear power seem economical.

"Regulators will look differently at nuclear power as all electricity prices go up," Duke Energy Chief Executive Jim Rogers said.

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