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An 80-Year Run for Nuclear Reactors?

By MATTHEW L. WALD

Constellation Energy Constellation sees its Nine Mile Point 1 reactor in Scriba, N.Y., as a candidate for a second permit extension. It is one of the oldest nuclear reactors operating in the United States.

With the so-called "nuclear renaissance" looking smaller and slower than predicted, some in the nuclear industry are focusing on running existing plants longer — not only for their initial 40-year licensing period and the 20-year extension already allowed, but for a second 20-year extension.

"If you would have looked five years ago at the number of plants people were intending to construct and then you look today, it's clear with the economic conditions we face in our nation, they're pushing the builds out there," said Maria Korsnick, the chief nuclear officer with Constellation Energy Group. (In industry-speak, that means delaying construction.)

In fact, her own company dropped out of a partnership to build a third reactor at its Calvert Cliffs site, 50 miles south of Washington, last month.

But in a conference call this week with reporters, Ms. Korsnick warned, "If you let these current units retire, you're going to end up with a gap before you'll be able to build the new nuclear plants to take their place."

The two reactors now running at Calvert Cliffs were test cases for plants around the nation seeking to win license extensions beyond 40 years. Since then, about half of the plants have applied for 20-year extensions and had them approved.

Constellation views two other reactors that it owns, the Nine Mile Point 1 and Robert E. Ginna reactors in upstate New York, as candidates for a second 20-year extension.

Both plants recently received 20-year extensions of their licenses and would file for the second one early, about 10 years now, Ms. Korsnick said.

The Electric Power Research Institute, a utility consortium based in Palo Alto, Calif., views those plants as test cases for its own research.

The institute is focusing on deterioration of nuclear reactors' steel and concrete. Steel is known to get brittle as it is subjected to radiation; that raises the possibility that a vessel could crack when a mishap triggers the reactor's emergency core cooling system and it pumps cold water into the vessel at high pressure. And concrete can get crumbly with age, researchers suggest.

But the institute's researchers said that while such phenomena pose concerns, they have not observed them to a worrisome degree in existing plants and doubt that either would be a "life-

limiting" problem for reactors.

Ronaldo Szilard, a member of the research institute and the director of nuclear science and engineering in the Idaho National Laboratory's nuclear program, said researchers would look into installing digital control systems of the kind common to younger industrial plants on old reactors. They will also research fuel components that would resist melting in an accident more ably than existing materials do.

The institute group is not studying the aging problem that has most bedeviled reactors so far, leaks from underground pipes.

And the institute's view on extending reactors' life is not universally shared. The Union of Concerned Scientists argues that reactors are now entering their "wear-out phase."