



Plant sites shown in map are highlighted in news stories in this section

## NEW CONSTRUCTION

# ESP, PBMR developments revealed at conference

A NEW BUSINESS UNIT created within Dominion's nuclear power division signifies the company's "continuing interest in new nuclear power," according to Marvin Smith, project manager of Dominion's new Early Site Permitting project.

Smith said the project's main goal is to provide Dominion with an option for possible future additions of nuclear baseload generating capacity. Smith's group will evaluate available reactor technologies to determine whether such plants offer an attractive return on investment. In addition, he said, it will help validate the NRC's improved "but as yet not fully tested" licensing process for new reactors.

For the near term, said Smith, who appeared at the Infocast "Building New Nuclear Plants" conference held October 1–3 in Washington, D.C., the project will focus on Dominion's North Anna and Surry nuclear plants as initial sites to be evaluated for an NRC early site permit (ESP). Smith estimated that obtaining an ESP would cost Dominion \$8 million to \$12 million per site, expended over a 36-month period for each. Obtaining an ESP would allow Dominion to hold a site for 10 to 20 years before applying to actually build a new nuclear plant on it.

Smith indicated that if market conditions warrant it, Dominion would likely submit an ESP application to the NRC in mid-

*A new Early Site Permitting group at Dominion will evaluate available reactor technologies to determine their economic attractiveness.*

2003. North Anna and Surry, both located in Virginia and each home to a pair of pressurized water reactors, were picked as possible sites because both were originally intended as four-unit locations and the NRC had at one time issued the necessary construction permits.

Smith's current work involves studying several broad areas involving engineering/cost/economics, environmental issues, and sociological issues. Considerations for engineering/cost/economics include market projections, transmission constraints, cooling water availability, transportation, geological and seismological issues, regulatory and permitting issues, and labor. Environmental considerations include terrestrial and aquatic habitat, groundwater, and population. Sociological considerations include land use, demographics, and socioeconomic benefits.

Reactor designs being reviewed by Smith's group include the GE Advanced Boiling Water Reactor, the Westinghouse AP-1000, and Generation IV technology.

Corbin McNeill, who also appeared at the Infocast conference, explained Exelon Corporation's involvement in the pebble bed modular reactor demonstration project currently under way in South Africa. McNeill, chairman and co-chief executive officer of Exelon, explained that the project has been delayed because of two design issues. The first issue is the configuration of the turbine and the graphite core internals, even though the design of the PBMR is 50 percent completed. The second issue involves the PBMR's four investors, who are looking for the reactor to have a core life of 40 years, while current designs have estimated full-power lives of 25 to 30 years.

The investors—Exelon, the South African utility Eskom, British Nuclear Fuels plc, and the South African investment group Industrial Development Corporation—had hoped to have a decision on funding the full-scale prototype by November or December. But a decision has now been pushed back to next spring.