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 underway 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.