Vermont Yankee Nuclear Power Station Completes Final Operating Cycle

More Than 171 Billion Kilowatt-Hours Generated Over 42 Years

Permanent Shutdown Due to Wholesale Power Market Economics that Favor Natural Gas Power Plants

VERNON, VT –Vermont Yankee Nuclear Power Station completed its 30th and final operating cycle at 12:12 p.m. local time Monday when operators discontinued the flow of power to the electric grid. By inserting control rods into the reactor core, operators stopped energy production from the splitting of uranium atoms and ended four decades of nuclear electricity generation on the Connecticut River in Vernon.

Throughout Vermont Yankee's operating life, New England's electricity consumers have benefited from stable fuel costs of nuclear power generation and from environmental benefits of non-emitting nuclear generation.

In its 42 years, the plant reliably produced over 171 billion kilowatt-hours of electricity. The plant provided 71.8 percent of all electricity generated within Vermont during that period, which amounted to 35 percent of electricity consumed in the state, according to the Energy Information Agency.

Vermont Yankee's lifetime capacity factor – a measure of the plant's reliability – exceeded 80 percent. Under Entergy's ownership since 2002, plant reliability steadily improved. The final operating cycle, which ended today, caps a continuous run of 633 days and nights of operation. Three recent 18-month operating cycles also involved continuous operation without a shutdown. The plant's high reliability was a direct result of Entergy's conservative operating philosophy, with a constant focus on safety.

For much of its life, the plant's electrical output was sold back to a consortium of New England utilities, Vermont Yankee Nuclear Power Corporation, which funded the plant's construction. In 2002, the plant became a merchant generator when it joined the fleet of Entergy Nuclear, which made investments necessary to increase plant output and renew its operating license. In 2012, Entergy's long-term power purchase contract with the Vermont Yankee Nuclear Power Corporation expired, and the bulk of the plant's output has since been sold on the open wholesale electricity market through ISO-New England.

Despite investments Entergy made in this highly reliable plant to maintain its economic viability in the wholesale electricity market – a 20 percent power uprate, operating license renewal and dry fuel storage capability – this permanent shutdown, announced in August 2013, was necessitated by regional wholesale electricity market economics, driven by current low prices and increased natural gas use by electric utilities.

Bill Mohl, president, Entergy Wholesale Commodities, said, "Economic factors, especially related to the natural gas market in the Northeast, are the primary reason for the shutdown. The Northeast has undergone a shift in supply because of shale gas, resulting in sustained low natural gas prices and low wholesale energy prices. Wholesale market design flaws result in artificially low energy and capacity prices in the region, and do not provide adequate compensation to merchant nuclear plants for the fuel diversity benefits they provide.

“Vermont Yankee also bears a high cost structure, partly because of regulation at the federal, local and state levels. In addition to higher costs, this increased regulation has created an atmosphere of unpredictability that is not optimal for long-term infrastructure like a power plant,” Mohl said.

Mohl added, “When we first announced the shutdown, we asked Vermont Yankee employees to ‘Step Up and Finish Strong.’ With their dedication to providing safe, clean and reliable energy, they indeed ‘Finished Strong.’”

With the plant’s shutdown, staff will now focus on transferring fuel from the reactor to the spent fuel pool then eventually to dry cask storage and transitioning plant systems to long-term safe and secure storage. These steps will allow for growth of a decommissioning trust fund as well as natural reduction of radioactivity in plant systems before major decommissioning work begins.

ENVY has launched a web site featuring additional information about the nuclear plant’s decommissioning plan – vydecommissioning.com.

Entergy Corporation is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy owns and operates power plants with approximately 30,000 megawatts of electric generating capacity, including more than 10,000 megawatts of nuclear power, making it one of the nation’s leading nuclear generators. Entergy delivers electricity to 2.8 million utility customers in Arkansas, Louisiana, Mississippi and Texas. Entergy has annual revenues of more than $11 billion and approximately 14,000 employees.