

# Maximizing the Assets

## A status report on license renewal and power uprates

Owners of power reactors now in operation can maximize their investments by taking advantage of either, or both, of two options available through the Nuclear Regulatory Commission: license renewal, which can add 20 more years to the term of an operating license; and power uprates, which can allow higher power output from the original fundamental reactor hardware. Both options require a licensee to show that its plant can continue to operate safely, involve NRC staff reviews, and include the possibility of public hearings. The license renewal process generally takes about 22 months for an uncontested proceeding and about 30 months for one with hearings. Renewal applications with hearings being held by Atomic Safety and Licensing Boards are indicated below in bold italics. There are three different kinds of power uprates—a reactor might, in theory, be given one, two, or all three—and the NRC process is more case-by-case and less subject to rigorous scheduling in advance than the license renewal process. Both options can also be influenced generically by developments in industry-backed projects from organizations such as the Nuclear Energy Institute and reactor vendors.

Please refer to page 77 of the March 2013 issue for more in-

formation on the following plants, which were renewed before the start of 2011: ANO, Arnold, Beaver Valley, Browns Ferry, Brunswick, Calvert Cliffs, Catawba, Cook, Cooper, Dresden, Farley, FitzPatrick, Fort Calhoun, Ginna, Harris, Hatch, McGuire, Millstone, Monticello, Nine Mile Point, North Anna, Oconee, Oyster Creek, Palisades, Peach Bottom, Point Beach, Quad Cities, Robinson, St. Lucie, Summer, Surry, Susquehanna, Three Mile Island, Turkey Point, Vogtle, and Wolf Creek.

The NRC has suspended final actions on license renewals until after its waste confidence position is found acceptable by the U.S. Court of Appeals for the District of Columbia Circuit (perhaps after completion of an environmental impact statement, scheduled for October 2014), but technical reviews of renewal applications by the NRC staff and hearings on contested issues can still be conducted. "STARS plant" indicates an unspecified participant in the Strategic Teaming and Resource Sharing (STARS) Alliance.

**Latest developments:** On February 10, the NRC approved 1.6 percent measurement uncertainty recapture power uprates for Exelon's Braidwood-1 and -2 and Byron-1 and -2, and for DTE Energy's Fermi-2.

More details can be found on the following pages at the NRC website: for license renewal, <[www.nrc.gov/reactors/operating/licensing/renewal/applications.html](http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html)>, and for power uprates, <[www.nrc.gov/reactors/operating/licensing/power-uprates/approved-applications.html](http://www.nrc.gov/reactors/operating/licensing/power-uprates/approved-applications.html)> and <[www.nrc.gov/reactors/operating/licensing/power-uprates/pending-applications.html](http://www.nrc.gov/reactors/operating/licensing/power-uprates/pending-applications.html)>.

### License renewal

#### Approved (since the start of 2011, with new expiration years)

|                      |                    |                        |               |                  |               |
|----------------------|--------------------|------------------------|---------------|------------------|---------------|
| Vermont Yankee, 2032 | Palo Verde-2, 2045 | Prairie Island-1, 2033 | Salem-1, 2036 | Hope Creek, 2046 | Pilgrim, 2032 |
| Palo Verde-1, 2044   | Palo Verde-3, 2047 | Prairie Island-2, 2034 | Salem-2, 2040 | Columbia, 2043   |               |

#### Applications under review (with submission dates)

|                                              |                                                    |                                         |
|----------------------------------------------|----------------------------------------------------|-----------------------------------------|
| <b>Indian Point-2 &amp; -3</b> , 4/30/2007   | <b>South Texas Project-1 &amp; -2</b> , 10/28/2010 | <b>Sequoyah-1 &amp; -2</b> , 1/15/2013  |
| <b>Diablo Canyon-1 &amp; -2</b> , 11/24/2009 | <b>Limerick-1 &amp; -2</b> , 6/22/2011             | <b>Braidwood-1 &amp; -2</b> , 5/29/2013 |
| <b>Seabrook</b> , 5/28/2010                  | <b>Grand Gulf-1</b> , 10/28/2011                   | <b>Byron-1 &amp; -2</b> , 5/29/2013     |
| <b>Davis-Besse</b> , 8/30/2010               | <b>Callaway-1</b> , 12/19/2011                     |                                         |

#### Expected applications (with projected submission dates)

|                          |                        |                         |
|--------------------------|------------------------|-------------------------|
| Fermi-2, 4-6/2014        | Perry, 9/2015          | Clinton, 1-3/2017       |
| Waterford-3, 1-3/2015    | River Bend-1, 1-3/2016 | STARS plant, 10-12/2018 |
| LaSalle-1 & -2, 1-3/2015 | STARS plant, 7-9/2016  |                         |

### Power uprates

#### Approved (since the start of 2011, with percentage of thermal power increase)

|                     |                         |                    |                  |              |
|---------------------|-------------------------|--------------------|------------------|--------------|
| Limerick-1, 1.65    | Nine Mile Point-2, 15.0 | St. Lucie-1, 11.9  | McGuire-2, 1.7   | Byron-1, 1.6 |
| Limerick-2, 1.65    | Harris, 1.6             | Grand Gulf-1, 13.1 | Monticello, 12.9 | Byron-2, 1.6 |
| Point Beach-1, 17.0 | Turkey Point-3, 15.0    | St. Lucie-2, 11.9  | Braidwood-1, 1.6 | Fermi-2, 1.6 |
| Point Beach-2, 17.0 | Turkey Point-4, 15.0    | McGuire-1, 1.7     | Braidwood-2, 1.6 |              |

#### Applications under review (with percentage of thermal power increase)

|                      |                      |               |                      |
|----------------------|----------------------|---------------|----------------------|
| Browns Ferry-1, 14.3 | Browns Ferry-3, 14.3 | Oconee-2, 1.6 | Peach Bottom-2, 12.4 |
| Browns Ferry-2, 14.3 | Oconee-1, 1.6        | Oconee-3, 1.6 | Peach Bottom-3, 12.4 |