# Crystal River Nuclear Power Plant, Florida

*Update: September 10, 2009*
*Next Update: September 2010*

## Crystal River 3 Nuclear Power Plant

**Net Generation and Capacity, 2008**

| Unit | Net Capacity MW(e) | Generation (Million Kilowatt Hours) | Capacity Factor (Percent) | Type | On Line Date | License Expiration Date |
|---|---|---|---|---|---|---|
| 3 | 838 | 7,000 | 95 | PWR | 3/13/1977 | 12/3/2016 |

**PWR =**pressurized light water reactors.
Sources

**Description:** The Crystal River Energy Complex is located in Citrus County, Florida. The site consists of approximately 4,700 acres. The single nuclear unit shares the site with 4 fossil-fueled generators.

## Crystal River, Unit 3

Nuclear Steam System Supplier (NSSS Vendor) = Babcock & Wilcox
Architect Engineer = Gilbert Associates
Owner = Progress Energy Corporation is majority owner. The distribution of ownership is shown in the table that follows
Operator (Licensee) = Progress Energy Corporation.

## Ownership of Crystal River 3

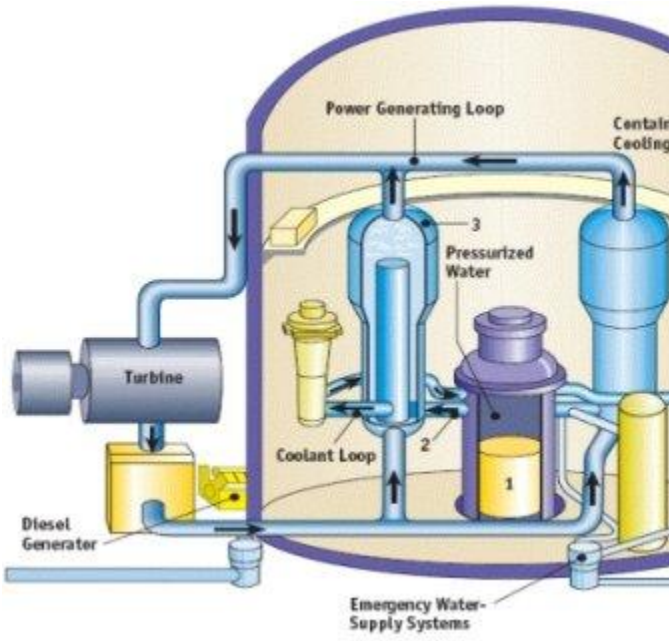
| Company | Percent of Total |
|---|---|
| Progress Energy Florida | 91.8 |
| Seminole Electric Cooperative | 1.7 |
| Orlando Utilities Commission | 1.6 |
| Gainesville Regional Utilities | 1.4 |
| City of Ocala, Florida | 1.3 |
| Leesburg Electric Department | 0.8 |
| Kissimmee Utility Authority | 0.7 |
| Utilities Commission of New Smyrna Beach | 0.6 |
| City of Alachua, Florida | 0.1 |
| City of Bushnell, Florida | * |

* Less than 0.1 percent

| U.S. Nuclear Power Plants by State | Plants |
|---|---|
| Alabama | Browns Ferry |
| | Farley (Joseph M. Farley) |
| Arizona | Palo Verde |
| Arkansas | Arkansas Nuclear One |
| California | Diablo Canyon |
| | San Onofre |
| Connecticut | Millstone |
| Florida | Crystal River 3 |
| | St Lucie |
| | Turkey Point |
| Georgia | Hatch (Edwin I. Hatch) |
| | Vogtle |
| Illinois | Braidwood |
| | Byron |
| | Clinton |
| | Dresden |
| | LaSalle County |
| | Quad Cities |
| Iowa | Duane Arnold |
| Kansas | Wolf Creek |
| Louisiana | River Bend |
| | Waterford |
| Maryland | Calvert Cliff |
| Massachusetts | Pilgrim |
| Michigan | Donald C. Cook |
| | Enrico Fermi (Fermi) |
| | Palisades |
| Minnesota | Monticello |
| | Prairie Island |
| Mississippi | Grand Gulf |
| Missouri | Callaway |
| Nebraska | Cooper |
| | Fort Calhoun |
| New Hampshire | Seabrook |
| New Jersey | Hope Creek |
| | Oyster Creek |
| | Salem Creek |
| New York | Fitzpatrick (James A. Fitzpatrick) |

## Pressurized-Water Reactor (PWR)

In a typical commercial pressurized light-water reactor (1) the reactor core generates heat, (2) pressurized-water in the primary coolant loop carries the heat to the steam generator, (3) inside the steam generator heat from the primary coolant loop vaporizes the water in a secondary loop producing steam, (4) the steam line directs the steam to the main turbine causing it to turn the turbine generator, which produces electricity. The unused steam is exhausted to the condenser where it is condensed into water. The resulting water is pumped out of the condenser with a series of pumps, reheated, and pumped back to the steam generator. The reactors core contains fuel assemblies which are cooled by water, which is force-circulated by electrically powered pumps. Emergency cooling water is supplied by other pumps, which can be powered by onsite diesel generators. Other safety systems, such as the containment cooling system, also need power.






**Containment:** According to the U.S. Nuclear Regulatory Commission, unit 3 is has dry, ambient pressure.[1]

| | |
|---|---|
| | Indian Point |
| | Nile Mile Point |
| | R.E. Ginna (Ginna, or Robert E. Ginna) |
| North Carolina | Brunswick |
| | McGuire |
| | Shearon-Harris(Harris) |
| Ohio | Davis-Besse |
| | Perry |
| Pennsylvania | Beaver Valley |
| | Limerick |
| | Peach Bottom |
| | Susquehanna |
| | Three Mile Island |
| South Carolina | Catawba |
| | H.B. Robinson |
| | Oconee |
| | Virgil C. Summer (Summer) |
| Tennessee | Sequoyah |
| | Watts Bar |
| Texas | Comanche Peak |
| | South Texas |
| Vermont | Vermont Yankee |
| Virginia | North Anna |
| | Surry |
| Washington | Columbia Generating Station |
| Wisconsin | Kewaunee |
| | Point Beach |

[1]Dry, Ambient Pressure: a reactor containment design whose safety has been evaluated on the basis of having a dry air atmosphere at ambient pressure (0 psig) prior to the onset of a loss of coolant accident or steam pipe break. The containment design (concrete and steel tendons) must be able to take the full thermal and pressure stresses associated with the rapid energy release (steam) from a major pipe break.

Sources for Data in Table: **Capacity**, for purposes of this report, is the net summer capability as reported in Energy Information Administration (EIA) Form EIA-860, "Annual Electric Generator Report." **Capacity Factor** is a percentage calculation in which the maximum possible generation (based on net summer capability) is divided into the actual generation then multiplied by 100. **Generation** is the net electricity output reported by plant owners on Form EIA-906, " Power Plant Report." **Type of Unit**: All U.S. commercial reactors currently in operation are one of two types: **BWR** (boiling water reactor) or **PWR** (pressurized light water reactor). The type, on-line date, and the license expiration date are published annually in *Information Digest* by the U.S. Nuclear Regulatory Commission.

## see also:

**annual nuclear statistics back to 1953**
**projected electricity capacity to 2030**
**international electricity statistics**