

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: PCB EUS 13-01 Cost recovery for nuclear and integrated gasification combined cycle power plants

SPONSOR(S): Energy & Utilities Subcommittee

TIED BILLS: **IDEN./SIM. BILLS:**

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
Orig. Comm.: Energy & Utilities Subcommittee	13 Y, 1 N	Keating	Collins

SUMMARY ANALYSIS

Section 366.93, F.S., requires the Public Service Commission (PSC) to establish, by rule, alternative mechanisms for the recovery of costs incurred in the siting, design, licensing, and construction of nuclear power plants and integrated gasification combined cycle power plants. The law states that these mechanisms must be designed to promote utility investment in nuclear and integrated gasification combined cycle power plants. Specifically, the law requires that these mechanisms provide for recovery of preconstruction costs (e.g., costs of design, siting, licensing, and site clearing) and carrying costs on the utility's construction cost balance (i.e., financing costs for the plant) as they are incurred.

A utility may petition for recovery of these costs through its rates only after the PSC has granted a determination of need for the proposed power plant. The law also provides that carrying costs for projects submitted for PSC review on or before December 31, 2010, shall be equal to the utility's pretax allowance for funds during construction (AFUDC) rate in effect in 2006. These provisions are commonly referred to as "advanced cost recovery."

The bill amends the advanced cost recovery provisions of section 366.93, F.S. Specifically, the bill:

- Provides that recoverable carrying costs on the construction costs associated with a nuclear power project must be calculated based on the utility's PSC-approved AFUDC rate.
- Provides that the PSC may approve recovery for costs incurred after final NRC licensure of a nuclear power plant only upon finding that construction of the plant will continue to provide the most cost-effective source of power for the consumer, taking into account whether the plant provides needed base-load capacity for the consumer, improves the balance of fuel diversity, and enhances the long-term stability and reliability of the electric grid.
- Limits the availability of advanced cost recovery through no later than December 31, 2025.
- Precludes new power plants from being eligible for advanced cost recovery.

The bill does not appear to have a fiscal impact on state or local governments.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Present Situation

Florida's Advanced Cost Recovery Law

On May 5, 2006, the Legislature passed SB 888, a comprehensive energy package that was signed into law by Governor Jeb Bush on June 19, 2006.¹ Among other things, the bill included provisions designed to encourage the development of new nuclear power generation in Florida.

At that time, a number of circumstances created an incentive for the policy decision to encourage new nuclear power resources. These circumstances included:

- Growing statewide demand for electrical power;
- High and volatile natural gas costs;
- Vulnerability to natural gas supply disruptions, such as those that resulted from the 2004 and 2005 tropical storm seasons;
- The expectation of new costs associated with carbon emissions; and
- Uncertainties about the economic and regulatory feasibility of constructing new coal-fired power plants.²

There were uncertainties, however, associated with the development of nuclear resources. First, though fuel costs for nuclear power plants are lower than those of traditional fossil-fueled plants, nuclear plants require a higher capital investment than fossil-fueled plants. Second, nuclear power plants require a substantial lead time to license and construct. Adding to this uncertainty, the U.S. Nuclear Regulatory Commission (NRC) had not reviewed or granted a construction and operating license for any new nuclear plant in Florida in almost 30 years.

SB 888 addressed these regulatory and financial uncertainties. As codified in section 366.93, F.S., the law requires the Public Service Commission (PSC) to establish, by rule, alternative mechanisms for the recovery of costs prudently incurred in the siting, design, licensing, and construction of a nuclear power plant. The law states that the mechanisms established by the PSC must be “designed to promote utility investment in nuclear power plants.” Specifically, the law requires that these mechanisms provide for recovery of “preconstruction costs”³ and “carrying costs on the utility's projected construction cost balance associated with the nuclear power plant.”⁴ A utility may petition for recovery of these costs through its capacity cost recovery charges – a component of each utility's total rate that is set by the PSC at least once a year – only after the PSC has granted a determination of need for the proposed nuclear power plant.⁵ To “encourage investment and provide certainty,” the law provides that carrying costs for projects submitted for PSC review on or before December 31, 2010, shall be equal to the

¹ Section 44, Chapter 2006-230, Laws of Florida.

² See, generally, Statement of Alex Glenn, State President, Progress Energy Florida, before the Florida House of Representatives Energy & Utilities Subcommittee (March 27, 2013).

³ “Preconstruction” is defined in s. 366.93(1)(f), F.S., as “that period of time after a site . . . has been selected through and including the date the utility completes site clearing work.” “Cost” is defined in s. 366.93(1)(a), F.S., as including, but not limited to, “all capital investments, including rate of return, any applicable taxes, and all expenses, including operation and maintenance expenses, related to or resulting from the siting, licensing, design, construction, or operation of the nuclear power plant, including new, expanded, or relocated electrical transmission lines or facilities of any size that are necessary thereto, or of the integrated gasification combined cycle power plant.”

⁴ Section 366.93(2), F.S.

⁵ Section 366.93(3), F.S.

utility's pretax allowance for funds during construction (AFUDC) rate in effect when SB 888 became law.⁶ These provisions are commonly referred to as "advanced cost recovery."

In addition, the law provides that, until a nuclear power plant becomes commercially operational, the utility must report annually to the PSC its budgeted and actual costs for the plant as compared to the estimated cost of the plant as presented in the determination of need proceeding.⁷ If the utility elects not to complete the plant or is precluded from completing the plant, the law provides that the utility shall be allowed to recover all prudent preconstruction and construction costs incurred following the PSC's issuance of a final order granting a determination of need for the plant.⁸ The law allows the utility to recover these costs through its capacity cost recovery charges over a period equal to the period during which the costs were incurred or 5 years, whichever is greater.⁹ When the plant is placed into commercial service, the utility may increase its base rate charges by the projected annual revenue requirements of the plant.¹⁰

Under the advanced cost recovery mechanism, a utility is permitted to recover some of the costs associated with a new nuclear power plant earlier than it would under traditional power plant cost recovery. Under traditional cost recovery, a utility does not recover any costs associated with a new power plant until the plant has been placed into commercial service. Carrying costs (i.e., financing costs) accrue as AFUDC, compound during the construction period, and are added to the construction cost balance. When the plant is placed in service, rates may be adjusted by the PSC to provide for recovery of these costs. Under the advanced cost recovery mechanism, carrying costs and preconstruction costs (e.g., design, siting, licensing, and site clearing) are eligible for recovery through rates as they are incurred.¹¹ Thus, these costs do not accrue and compound during the course of construction. When the plant is placed into commercial service, rates are automatically adjusted to provide for recovery of the construction cost balance. Because preconstruction costs and carrying costs have already been recovered and have not compounded during construction of the plant, the rate impact upon completion is lower than it otherwise would be under traditional cost recovery. Under both traditional cost recovery and advanced cost recovery, the utility is required to raise capital and/or use its own funds to pay for construction of the power plant.

In 2007, the Legislature amended the law to provide similar treatment for integrated gasification combined cycle power plants.¹²

Implementation of Advanced Cost Recovery

To implement the advanced cost recovery law, the PSC adopted Rule 25-6.0423, Florida Administrative Code, on April 8, 2007. The rule establishes a process by which a utility may request and obtain approval to recover the preconstruction costs and carrying costs of new nuclear generation through ongoing annual proceedings. After a utility has obtained a determination of need for a new nuclear generation project, the utility may petition the PSC for cost recovery through an adjustment to the utility's capacity cost recovery charges.¹³ In each annual proceeding, the PSC will determine the

⁶ An "allowance for funds used during construction" (AFUDC) represents the costs of financing the construction of facilities before the facilities are completed and included in a utility's rate base. The AFUDC rate reflects the utility's weighted cost of capital, including debt and equity components. *Florida's Electric Utilities: A Reference Guide* (Florida Electric Power Coordinating Group, Revised 1994).

⁷ Section 366.93(5), F.S.

⁸ Section 366.93(6), F.S.

⁹ *Id.*

¹⁰ Section 366.93(4), F.S.

¹¹ Based on estimates by Florida Power & Light Company, licensing and other preconstruction costs will constitute approximately 3-6 percent of total project costs, and the carrying costs on construction costs will constitute approximately 8-10 percent of total project costs. These amounts will vary by project. See, Statement of Steven Scroggs, Senior Director, Nuclear Development, Florida Power & Light Company, before the Florida House of Representatives, Energy & Utilities Subcommittee (March 27, 2013).

¹² Section 1, Chapter 2007-117, Laws of Florida.

¹³ Since 1992, capacity cost recovery charges have been set on an annual basis to allow utilities to recover the costs of purchasing generating capacity from wholesale electricity providers. These charges have historically constituted a relatively small portion of each utility's overall rates.

prudence of eligible costs incurred in the prior year as well as the reasonableness of actual and estimated project costs for the current and upcoming year. Those costs deemed reasonable and prudent are allowed for recovery. Estimated and projected costs are subject to true-up in the following year's proceeding.

Since adoption of the PSC's rule, Progress Energy Florida (Progress)¹⁴ and Florida Power & Light Company (FPL) have used the advanced cost recovery law to obtain recovery of costs associated with the following nuclear power projects:

- Progress – 180 megawatt (MW) expansion of existing Crystal River Unit 3 (project terminated)¹⁵
- Progress – 2,200 MW addition of new Levy County Units 1 & 2 (pending NRC licensure)¹⁶
- FPL – 208 MW expansion of existing Turkey Point Units 3 & 4 (complete)¹⁷
- FPL – 206 MW expansion of existing St. Lucie Units 1 & 2 (complete)¹⁸
- FPL – 2,200-3,040 MW addition of new Turkey Point Units 6 & 7 (pending NRC licensure)¹⁹

Because each of these projects was submitted to the PSC for a determination of need prior to December 31, 2010, the AFUDC rates in effect for each utility as of 2006 have been used to calculate the recoverable carrying costs for the projects.

In 2007, Tampa Electric Company filed a petition for determination of need for an integrated gasification combined cycle power plant, but subsequently withdrew its petition.²⁰ No utility has filed for approval of such a plant since that time. Accordingly, no utility has used advanced cost recovery for an integrated gasification combined cycle power plant.

Developments / Changed Circumstances since Initial Implementation of Advanced Cost Recovery

Progress and FPL have received all state regulatory approvals for the expansion projects and new construction projects listed above. In addition, FPL has received all required NRC license approvals for its expansion projects. However, a number of circumstances have changed since initial approval of these projects, including:

- Decreased growth in statewide demand for electrical power;
- Lower and less volatile natural gas prices as a result of increased supply sources;
- Delays in the federal licensing process, including a recent suspension of final decisions on licenses pending a reassessment of risks related to spent nuclear fuel storage;²¹ and
- No new costs associated with carbon emissions.

Since these projects were initially approved by the PSC, the estimated costs have risen for all of the projects. Further, the projected in-service dates for the new construction projects have been pushed back several years. The table below shows how estimated costs and in-service dates for the specific projects have changed since initial approval by the PSC:

	Original Estimates		Current Estimates (2012)	
	Total Cost	In-Service Year	Total Cost	In-Service Year

¹⁴ Progress merged with Duke Energy Corporation effective July 2, 2012. For purposes of this analysis, the combined company is referred to as "Progress."

¹⁵ Determination of Need granted by the PSC in Order No. PSC-07-0119-FOF-EI, issued February 8, 2007, in Docket No. 060642-EI. On February 5, 2013, Progress announced its decision to retire CR3, effectively terminating the uprate project.

¹⁶ Determination of Need granted by the PSC in Order No. PSC-08-0518-FOF-EI, issued August 12, 2008, in Docket No. 080148-EI.

¹⁷ Determination of Need granted by the PSC in Order No. PSC-08-0021-FOF-EI, issued January 7, 2008, in Docket No. 070602-EI.

¹⁸ *Id.*

¹⁹ Determination of Need granted by the PSC in Order No. PSC-08-0237-FOF-EI, issued April 11, 2008, in Docket No. 070650-EI.

²⁰ See Order No. PSC-07-0877-FOF-EI, issued October 31, 2007, in Docket No. 070647-EI.

²¹ In June 2012, a federal appeals court required the NRC to conduct a more thorough review of the potential environmental impacts of spent fuel from new nuclear units. New York v. Nuclear Regulatory Commission, 681 F.3d 471 (June 8, 2012). The NRC expects to complete its review in September 2014.

	(millions)		(millions)	
FPL				
Upgrades to existing nuclear plants (St. Lucie 1&2 and Turkey Point 3&4)	\$1,446	2011-2012	Min. \$2,956 Max. \$3,150	2012-2013
New nuclear plant (Turkey Point 6&7)	Min. \$8,622 Max. \$12,597	2018-2020	Min. \$12,812 Max. \$18,694	2022-2023
Progress				
Upgrades to existing nuclear plant (Crystal River 3)*	\$382	2011	\$635	2014 (Terminated-2013)
New nuclear plant (Levy 1&2)	\$16,897	2016-2017	\$23,987	2024-2025

Source: Florida Public Service Commission

* On February 5, 2013, Progress announced its decision to retire the unit. Because repair of the unit was a prerequisite to the uprate project, the uprate project has been terminated.

In addition, the utilities' AFUDC rates have decreased from their 2006 levels to reflect decreased costs of capital since that time. For Progress, the AFUDC rate has decreased from 8.848% in 2006 to 7.44% presently. For FPL, the AFUDC rate has decreased from 7.42% in 2006 to 6.41% presently.

As part of its annual cost recovery proceedings,²² the PSC reviews the long-term feasibility of these projects. In its most recent annual review of these projects, the PSC found that although the overall cost-effectiveness of the projects has declined, the projects remain feasible in light of economic, regulatory, and technical factors.²³ The PSC did not rule on the continuing feasibility of Progress' expansion of Crystal River Unit 3, as the status of that project was unresolved at that time.

Effect of Proposed Changes

The bill amends the advanced cost recovery provisions of section 366.93, F.S. Specifically, the bill:

- Provides that recoverable carrying costs on the construction costs associated with a nuclear power project must be calculated based on the utility's PSC-approved AFUDC rate.
- Provides that the PSC may approve recovery for costs incurred after final NRC licensure of a nuclear power plant only upon finding that construction of the plant will continue to provide the most cost-effective source of power for the consumer, taking into account whether the plant provides needed base-load capacity for the consumer, improves the balance of fuel diversity, and enhances the long-term stability and reliability of the electric grid.
- Limits the availability of advanced cost recovery through no later than December 31, 2025.
- Precludes new power plants from being eligible for advanced cost recovery.

Calculation of Recoverable Carrying Costs – Applicable AFUDC Rate

The bill provides that recoverable carrying costs on the construction costs associated with a nuclear power project must be calculated based on the utility's PSC-approved AFUDC rate. Each utility's AFUDC rate reflects its weighted cost of capital, including debt and equity components. Changes to

²² The order resulting from the PSC's 2011 cost recovery proceedings is subject to a pending appeal before the Florida Supreme Court. The appellants – the Southern Alliance for Clean Energy – argue two main points: (1) the utilities have not demonstrated intent to build the new planned units; and (2) section 366.93, F.S., is an unconstitutional delegation of legislative authority because it does not provide sufficient guidance to the PSC. Oral arguments were held Thursday, October 4, 2012. The court has not yet issued a decision, and there is no set schedule for a decision by the court.

²³ Order No. PSC-12-0650-FOF-EI, issued December 11, 2012, in Docket No. 120009-EI.

these rates are approved by the PSC from time to time as the costs of debt and equity financing change.

Under current law, recoverable carrying costs on nuclear power projects are calculated using the utility's AFUDC rate in effect in 2006: 8.848% for Progress, and 7.42% for FPL. Because capital costs have decreased since 2006, the utilities' 2006 AFUDC rates may overstate actual carrying costs in the present environment. Current, PSC-approved AFUDC rates are 7.44% for Progress and 6.41% for FPL. Thus, the bill will have the immediate effect of lowering the rates at which recoverable carrying costs are calculated. However, if a utility's authorized AFUDC rate increases to exceed its 2006 level during the term of advanced cost recovery, the rate at which recoverable carrying costs are calculated will increase beyond the level provided for in current law.

Post-Licensure Review

The bill provides that the PSC may approve recovery of costs incurred after final licensure of a nuclear power plant by the Nuclear Regulatory Commission (NRC) only upon finding, based on updated cost estimates, construction schedules, and feasibility analyses, that construction of the plant will continue to provide the most cost-effective source of power for the consumer, taking into account whether the plant provides needed base-load capacity for the consumer, improves the balance of fuel diversity, and enhances the long-term stability and reliability of the electric grid. Though the PSC currently conducts long-term feasibility analyses for nuclear power projects as part of its annual cost recovery proceedings, the bill specifically requires a review of each project following licensure by the NRC as a condition for continued advanced cost recovery treatment.

The review required by the bill involves factors similar, but not identical, to the factors reviewed in a determination of need proceeding for a new nuclear power plant. Section 403.519(4), F.S., requires the PSC, when determining the need for a new nuclear power plant to consider:

- The need for electric system reliability and integrity, including fuel diversity;
- The need for base-load generating capacity;
- The need for adequate electricity at a reasonable cost; and
- Whether renewable energy sources and technologies, as well as conservation measures, are utilized to the extent reasonably available.

In addition, section 403.519(4), F.S., requires the PSC to take into account whether the new nuclear plant will:

- Provide needed base-load capacity.
- Enhance the reliability of electric power production within the state by improving the balance of power plant fuel diversity and reducing Florida's dependence on fuel oil and natural gas.
- Provide the most cost-effective source of power, taking into account the need to improve the balance of fuel diversity, reduce Florida's dependence on fuel oil and natural gas, reduce air emission compliance costs, and contribute to the long-term stability and reliability of the electric grid.²⁴

The review required by the bill focuses on whether the nuclear power plant, based on updated cost estimates and schedules, remains the most cost-effective source of power. The bill allows the PSC, in making this determination, to weigh the plant's ability to provide needed base-load capacity for the consumer, to improve fuel diversity, and to enhance long-term stability and reliability of the electric grid. The bill does not require any additional siting review.

This provision of the bill is intended to serve as a check on the prudence of moving forward with a new nuclear power plant in light of the changed circumstances over the course of the federal licensing process.

²⁴ Section 403.519(4)(b), F.S.
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Time Limit for Advanced Cost Recovery

The bill provides that the PSC may allow the recovery of eligible costs (preconstruction costs and carrying costs on construction costs) through the advanced cost recovery mechanism until the nuclear power plant is placed in commercial service or until December 31, 2025, whichever occurs first. Thus, utilities would be unable to use the advanced cost recovery mechanism beyond 2025.

While this provision indicates that advanced cost recovery would be available through 2025, its practical effect may be to require a utility to decide much sooner – perhaps within the next 2-5 years – whether to commence construction of a new nuclear power plant. A significant portion of the carrying costs recoverable through the advanced cost recovery mechanism would likely be incurred in the last years of plant construction.²⁵ Assuming a construction schedule of between 7 and 10 years for a new nuclear power plant,²⁶ a utility could risk losing the benefit of advanced cost recovery for these carrying costs if it does not commence construction in time to complete the plant by 2025.

Arguably, this provision may encourage a utility to move forward with a project on a timetable that does not most efficiently meet the needs of its customers. However, as discussed above, the bill provides for additional PSC review after federal licensure as a condition for ongoing use of the advanced cost recovery mechanism. This review may limit the possibility of a project going forward prematurely.

Elimination of the Advanced Cost Recovery Mechanism for New Projects

The bill provides that section 366.93, F.S., applies only to power plants for which the PSC has granted a determination of need prior to January 1, 2013. Thus, no new nuclear power projects or integrated combined cycle power plants would be eligible to use the advanced cost recovery provisions of that section.

Other Provisions

The bill modifies the language of the standard applied by the PSC to determine whether particular costs may be recovered. Whereas existing law requires the PSC to allow recovery of “prudently incurred” costs, the bill requires the PSC to allow recovery of “prudently and reasonably incurred” costs. It is not clear whether this provision creates a materially different standard that will impact the PSC’s review process.

B. SECTION DIRECTORY:

Section 1. Amends s. 366.93, F.S., relating to cost recovery for the siting, design, licensing, and construction of nuclear and integrated gasification combined cycle power plants.

Section 2. Provides an effective date of July 1, 2013.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

²⁵ Based on a sample calculation performed by the PSC, more than half of the total costs eligible for advanced cost recovery would be recovered in the last three years prior to commercial operation of a plant.

²⁶ See, e.g., Statement of Steven Scroggs, Senior Director, Nuclear Development, Florida Power & Light Company, before the Florida House of Representatives, Energy & Utilities Subcommittee (March 27, 2013), indicating an approximately 9-year timeline for construction activities.

None. The bill may require the Public Service Commission (PSC) to conduct an additional review for each of two nuclear power projects proposed by Progress Energy Florida and Florida Power & Light Company that are currently pending licensure by the Nuclear Regulatory Commission. The PSC has indicated that the cost of any such reviews can be covered within its existing resources.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

If a utility obtains a license from the Nuclear Regulatory Commission to construct a new nuclear power plant in Florida and wishes to continue construction and use the advanced cost recovery mechanism to recover eligible carrying costs, the bill requires an additional regulatory review by the Public Service Commission. The impact of this review on utility costs should be insignificant.

The bill provides that recoverable carrying costs on the construction costs associated with a nuclear power project must be calculated based on the utility's PSC-approved AFUDC rate. Current, PSC-approved AFUDC rates are lower than the rates presently fixed by law, thus the bill will have the immediate effect of reducing costs recovered from customers and lowering rates. However, if a utility's authorized AFUDC rate increases to exceed the rate presently fixed in law during the term of advanced cost recovery, the bill will increase costs recoverable from customers beyond the level provided for in current law.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to affect county or municipal government.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

The bill requires the PSC to consider, when reviewing costs incurred after final licensure of a nuclear power plant, whether construction of the plant will continue to provide the most cost-effective source of power for the *consumer*, taking into account, among other things, whether the plant provides needed base-load capacity for the *consumer*. Existing law related to the addition of new power resources²⁷ provides for a review of whether a plant is cost-effective and whether it provides needed base-load capacity for the *utility*, because the utility is legally obligated to meet its customers' electricity needs in a cost-effective manner. When looking at the cost-effectiveness of a plant from the perspective of the consumer rather than the utility, the PSC's analysis may not be significantly different, as the costs to the utility are the costs included in customer rates. However, it is not clear how the PSC can determine whether a plant provides needed base-load capacity for "the consumer", because different classes of consumers (e.g., residential, commercial, industrial) contribute to a utility's need for base-load capacity in different ways.

IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES

²⁷ See, e.g., section 403.519, F.S.