

New Day for Prudence

Pre-approvals demand
a new approach to
managing risks
and costs.



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resurgence is beginning in power plant construction. The most obvious driver is the expectation that electricity consumption will continue its historic growth curve; U.S. Department of Energy (DOE) projects that by 2030 the nationwide electricity demand will increase 35 percent.¹ But in addition to the need for new generating capacity, several other factors are driving this resurgence. Namely, fossil-fuel price volatility and greenhouse-gas constraints are pushing the industry toward greater fuel diversity. Additionally, the aging power plant fleet requires investments in refurbishment and repowering—or in many cases, decommissioning to make way for entirely new facilities.

As utilities seek rate treatment for these capital investments, they increasingly are asking state utility commissions to pre-approve construction costs. However, most commissions refuse to allow utilities to grow their rate base unless they first prove the costs resulted from prudent decision making. When considering future costs, rather than those already incurred, rate cases are focusing on such key questions as who will build, own, and operate the new plants, and how the commission can determine and ensure the prudence of either direct investment or power purchases. Thus, utilities need to define the overall magnitude of their financial or business risks, including how those risks compare to other generation alternatives, and how they're distributed among developers, shareholders and ratepayers.

PUCs naturally are concerned with how the estimated costs reasonably can be assured given the utility infrastructure cost overruns of the 1980s. Thus, both commissions and utility companies face the new dilemma of determining what constitutes "prudence" and how it will have to be proved in a prospective environment—versus the retrospective environment of 20 years ago.

Intervenor Prudence Issues

Proving the prudence of future costs isn't easy. For example, Montana-Dakota Utilities Co. and Otter Tail Corp. filed an application in November 2006 for the advanced determination of prudence in the utilities' participation and ownership in the Big Stone 2 pulverized coal facility. They requested the state commission "determine the construction of Big Stone Unit II generating station to be reasonable and prudent in order to provide the basis for future rate stability proposals the companies will present to the commission." This filing created an opportunity for intervening parties to introduce a substantial hurdle for utilities seeking a preconstruction prudence determination. The intervenors argued against allowing the determination of pru-

dence because of "the utilities lack of preparation for changes in external circumstances," and that there was no showing that Big Stone 2 was the least-cost alternative over the life of the project.

Intervenors' counter-prudence arguments included allegations that the utilities underestimated the risks of further construction delays, construction cost increases, regulatory compliance costs, and coal supply disruptions and price increases. They further argued the cost estimates were severely outdated and couldn't be relied on, and that the utilities had ignored the substantial risk that future state or federal CO₂ regulations would harm and erode the economics of Big Stone 2. In short, the intervenors argued that the project should be rejected because of the utilities' failure to prove they'd

anticipated and mitigated all possible future risks.

In a similar matter, the Florida Public Service Commission (PSC) allowed recovery of costs sought in a 2008 utility application, ruling they were reasonably and prudently incurred. However, in order to address assertions by the Office of Public Counsel that the utility's documentation was insufficient to prove the costs of its sole source and single contracting approach, the Florida PSC recommended that prospectively the utility should increase its documentation and support for single source and sole source controls for projects that would be included under its nuclear construction rule. The PSC also recommended on-going auditing and "refinement" of the utility's project-management policies and procedures.²

In North Carolina, the Office of Public Counsel filed testimony creating even more uncertainty as to how prudence reviews of costs not yet incurred would be handled, arguing for results based on after-the-fact review of the initial prospective review:

"Imprudent actions without substantive adverse impacts have in the past not been investigated by regulators... It will further be required to review the reasonableness of costs incurred and decisions made year by year despite having resources that are a tiny fraction of those devoted to making those decisions. A prudence review without a cost overrun is to a real prudence review as a doctor's physical exam is to an autopsy. Just as a person may pass a physical exam one month

A certified prudent decision today can be reviewed tomorrow.

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and die the next, so as a transaction may pass a review based on the level of information provided in this proceeding only to be revealed as imprudent by later rate impacts indicative of significant infirmities.³

While the North Carolina commission held that it was reasonable and prudent for a utility to proceed with the construction of the Lee nuclear units, with a cap for project development costs, the commission also noted that it hadn't ruled relative to the reasonableness and prudence of specific project-development activities or costs that later would be subject to a determination of prudence and reasonableness.⁴ This means that in at least North Carolina, prudence determinations are continuing and that a certified prudent decision today can be reviewed tomorrow based on the results of that decision.

Defining Prudence

Some states have codified the definition of prudence, but most haven't. Many states have issued prior regulatory and judicial decisions articulating the appropriate standard, most of which arose during prudence reviews of over-budget nuclear plants. Other states have either regulations or statutes that refer to the recovery of "reasonably incurred costs," or the regulatory commissions' right to conduct "prudence reviews," without further explanation.⁵

The majority of jurisdictions conducting prudence reviews have adopted a common definition of prudence—a test of reasonableness of the decision under all of the circumstances known at the time. One example is Missouri, where the Missouri Public Service Commission has defined prudence as:

[The] company's conduct should be judged by asking whether the conduct was reasonable at the time, under all the circumstances, considering that the company had to solve its problem prospectively rather than in reliance on hindsight. In effect, our responsibility is to determine how reasonable people would have performed the tasks that confronted the company... In accepting a reasonable care standard, the Commission does not adopt a standard of perfection. Perfection relies on hindsight. Under the reasonableness standard relevant factors to consider are the manner and timeliness in which problems were recognized and addressed. Perfection would require a trouble-free project.⁶

The North Carolina, Texas, Georgia, Kansas and Missouri commissions are actively involved in new power plant construction cases involving the demonstration of prudent costs. The Ohio Consumer's Council has proposed expanding the "zone of reasonableness" test in prudency determinations from not just a range of reasonable management decisions, but also to include a zone of reasonableness for costs incurred, with the provision that reasonable costs might not be prudent. In short, the Ohio consumer's counsel has taken the harsh and extreme

position that reasonable decisions resulting in reasonable costs may, at some future point in time, be reviewed and found imprudent. Consumer's counsel told the commission last year, "Costs for which utilities seek recovery that fall within the zone of reasonableness are not necessarily—and should not be presumed to be—prudent... The importance is that a cost the utility seeks to recover could fall within the zone of reasonableness but it may not have been the most prudent option."⁷

The result, if the Ohio proposal is adopted, will be that every cost can be, and probably will be, questioned.

Compare this approach and its impact on the potential risk profile of a project, with the prudence definition derived in the 1970s and 1980s, and commonly accepted in the utility industry, that decisions are prudent, if made in a reasonable manner, in light of conditions and circumstances which were known or reasonably should have been known when the decision was made.⁸

In 2006, the Florida legislature enacted legislation to encourage utility investment in nuclear electric generation by creating a defined cost-recovery mechanism. The statute authorizes the commission to allow investor-owned utilities to recover certain construction costs in a manner that reduces the overall financial risk associated with utility nuclear power plants.⁹ Pursuant to Florida regulatory commission rules, once the utility obtains an affirmative need determination, it may petition for cost recovery. The statute notes three types of prudently-incurred costs in the rule for PSC consideration: pre-construction costs, incurred after a site is selected through the date of completed site clearing work; construction costs, expended to construct the nuclear or integrated gasification combined-cycle power plant including, but not limited to, the costs of constructing power plant buildings and all associated permanent stations, equipment and systems; and site-selection costs, incurred prior to a selection of a site. A site is deemed selected upon the filing for a determination of need.¹⁰

The Florida PSC adopted a definition of prudence in an Oct. 2, 2008 order as follows: "...other testimony based on management audits assert FPC was reasonable and followed reasonable business practices. This is significant because the standard for determining prudency is consideration of what a reasonable utility manager would have done in light of conditions and circumstances, which were known or reasonably should have been known at the time the decision was made."¹¹

While some states have codified the definition of prudence, most have not.

While the Florida formulation resembles other prudence definitions most commonly adopted and used in other states, not everyone agrees. Ohio

consumer's counsel provides one example. Also, a staff consulting expert in a recent state prudence case proposed that costs not be classified as either prudent or imprudently incurred, but rather as avoidable or unavoidable. Abandoning the reasonable-manager test, as articulated by the Florida commission, and adopting vague and undefined terms such as avoidable, results in confusion and provides little guidance to either utilities or regulatory commissions in evaluating prudence.

In the midst of uncertainty in this new age of power plant construction, utilities thus will be looking toward design-build and engineering, procurement and construction (EPC) contractors to provide mechanisms that will prove the prudence of costs and any changes to the original estimate. The prudence evaluation will focus on the efficiency of the decision-making and implementation process, which typically includes:¹²

- Identification of what data was available, including how the management systems and procedures were organized and implemented to produce the information to enable analysis. Was the data reliable? What was the timeliness of the data to the decision?
- Flow of the information including to whom and when the data was transmitted and what available data was communicated.
- Analysis of the information including what the information meant, what alternatives were considered, what benefits and impacts were projected and how the decision meshed with project, corporate and ratepayer needs.
- Determination of what decisions were made, including when each decision was made, how it was monitored and how it was reviewed as assumptions and circumstances changed.

Future Expectations

In the 1980s, U.S. utilities and their respective shareholders lost billions of dollars when commissions made determinations of imprudent spending. Utilities were caught in the midst of regulatory changes that demanded plant design changes, and ever-increasing costs for which reasonableness couldn't be accurately documented. Plants such as Marble Hill were abandoned. Some were completed but never started operating, including Zimmer and Shoreham. Challenges in plant operations in the 1980s and 1990s caused extended outages and early shutdowns, at such plants as Zion and Maine Yankee, in many cases triggering additional prudence reviews.

Today, the challenges to new nuclear construction include the lack of a U.S. infrastructure for manufacturing, services and a craft labor force. Also, the knowledge and experience of nuclear construction workers from the previous fleet of plants are seriously diminished. And despite high hopes about greater certainty with standardized plant designs and a consolidated

licensing process in the United States, some current foreign projects are over budget and behind schedule. It isn't surprising that utilities have been gun shy to embark on major nuclear power plant construction without some certainty as to the regulatory path forward.

While trends in the power market call for new plant construction, utilities and commissions both recognize that new construction costs will require the demonstration of prudence

“Costs for which utilities seek recovery that fall within the zone of reasonableness should not be presumed prudent.”

— *Ohio Consumer's Counsel*

before these projects are approved and the actual costs are passed on to ratepayers. Toward that end, Georgia Power has received approval from the Georgia commission for the construction of two new nuclear units. The filing included a request that the construction of nuclear plants be deemed the “prudent” new generation alternative and that the estimated costs be deemed prudent.

And prudence now extends well beyond nuclear plant construction and encompasses all new build, whether nuclear, fossil or renewable. One example is Kansas City Power & Light's (KCP&L) filing on the costs of environmental upgrades to Unit 1 at its Iatan I coal-fired unit. The Kansas and Missouri commissions, both of which have jurisdiction, required a showing of prudence in construction prior to allowing into rate base the pre-approved environmental upgrades to this coal facility.¹³

Unlike the rate cases of the 1970s-1980s, where the utility had to prove that the actual costs expended were prudent, many of today's rate cases are requiring the utility to prove up its costs before they are incurred. Much of the proof will center on contracting strategies and the contractors' commitments, especially how change will be managed, costed and reimbursed. For these prudence-of-future-costs cases, both the utility and the contractor must provide a means of estimating project price and separating the fixed-price portion from the variable portion and allocating risks in a form that can be approved by the commission.

In short, utilities will need to take some steps they might not have considered 20 years ago.

In a recent presentation before the House Energy Committee, David K. Owens of the Edison Electric Institute pointed to four difficult issues that complicate the prudence analysis: 1) high capital expenses for upgrades of existing facilities; 2) rising cost environment for all commodities and manufactured goods; 3) constraints on GHG emissions; and 4) energy efficiency

mandates and expectations. Additionally, Owens said there's a cloud looming over the industry due to the aging workforce and a shortage of skilled labor.

To address these uncertainties, Owens advocated establishing a process where project costs can be visited early, reviewed continually and acted upon as necessary. In prior years, investments were made and then second-guessed. This model isn't recommended. Instead, there needs to be an on-going dialogue between key decision-makers and utilities.

At the same hearing, Caren Byrd of Morgan Stanley noted that the major investment needed throughout the entire energy industry—an estimated \$900 billion over the next 15 years—might result in some large rate increases across the board. To manage these costs effectively, collaboration will be needed between regulators and the industry, with long-term plans presented and pre-approvals given for rate recovery.¹⁴

As part of this process, commissions are becoming actively involved in the on-going audit process. They're examining utilities' internal controls and processes and continually evaluating them. As noted in an August 2008 Florida PSC Bureau of Performance Analysis report:

Well constructed internal controls assist with the challenges of risk management and decision-making. Risks must be identified and appropriate protections must be established to prevent or control these risks. Prudent decision-making results from orderly, well-defined processes that address known risks, needs and capabilities. Adherence to written procedures, effective communication, vigilant contractor oversight, and on-going auditing and quality assurance are all essential for ensuring that project costs are incurred prudently.¹⁵

In the coming wave of construction, as each project unfolds changes will occur, so additional review might be necessary. New situations might require new decisions, and each decision is subject to a prudence evaluation, especially any change to pre-approved construction costs.

Effective management begins with planning and it continues with the systematic collection, preservation, and retrieval of project information and other data that provides support for the decision-making process and the costs incurred. Utilities, if

they are to succeed in this new age of prudence, will have to document their decision-making process from the very beginning and demand that their contractors do the same. However, in today's world, the utility companies must face the fact that prudence isn't just a concept, but a requirement, and if not met, the risk of disallowed costs increases greatly. Utilities have little option but to move forward, even if it means venturing into unmarked territory. ■

ENDNOTES:

1. Presentation by Michael J. Wallace, President and CEO Constellation Energy Nuclear Group, Chairman, Unistar Nuclear Energy, EEI International Utility Conference 2008.
2. Docket No. 08-0009-E, Florida PSC Order, Oct. 2, 2008.
3. Testimony of Peter Bradford, North Carolina PSC, Docket No. E-7, Sub 819, Mar. 27, 2008.
4. Docket No. E-7, Sub 819, North Carolina PSC, Aug. 25, 2008.
5. See, e.g. § 386.266 R.S. Mo. (2008) ("The commission may approve ... such rate schedules after considering all relevant factors which may affect the costs or overall rates and charges of the corporation, provided that it finds the adjustment mechanism ... (4) ... includes provisions for prudence reviews of the costs subject to the adjustment mechanism ... and shall require refund of any imprudently incurred costs..."). See also 4 C.S.R. 240-20.090(1)(B) (2008) ("Fuel and purchased power costs means prudently incurred and used fuel and purchased power costs, including transportation costs.") [Same definition at 4 C.S.R. 240-3.161(1) (A).]
6. *Union Electric*, 27 Mo. PSC (N.S.) 183, 194 (quoting *Consolidated Edison Co. of New York*, 45 P.U.R. 4th 331 (1982) (internal quotations omitted).
7. Migden-Ostrander, Janine L., Jan. 16, 2008 "Transparency, Special Contracts and Side-Deals," Office of Consumer Counsel to the House Public Utilities Commission.
8. Galloway and Nielsen, "Preparing for the Utilities' Future-Managing the Prudence Issue," *EP*, Volume 2, No. 4, 1986.
9. FS. 366.93.
10. Florida Rule 25-6.0423(4) and (5) F.A.C.
11. Docket No. 080009-EI, Florida PSC, Oct. 2, 2008.
12. K. Nielsen and P. Galloway, "The Prudence Management Audit-A New Challenge for the Civil Engineer," Transitions in the Nuclear Industry-Proceedings of the symposium sponsored by the Construction and Engineering Divisions of the American Society of Civil Engineers in conjunction with the ASCE Convention, Denver, CO, April 29-30, 1985, pages 43-67.
13. Docket No. 09-KCPE-246-RTS, Kansas C.C., September 2008.
14. "CEP Live blogging from House Energy Committee-Edison Electric and JP Morgan presentations," May 18, 2008.
15. *Progress Energy-Florida's Project Management Internal Controls for Nuclear Power Upstate and Construction Projects*, PA-08-01-002, Florida PSC, Division of Regulatory Compliance, Bureau of Performance Analysis, August 2008.

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