SUPREME COURT OF LOUISIANA

98-CA-0881

ENTERGY GULF STATES, INC.

V.

LOUISIANA PUBLIC SERVICE COMMISSION, ET AL.

ON APPEAL
FROM THE NINETEENTH JUDICIAL DISTRICT COURT,
FOR THE PARISH OF EAST BATON ROUGE
HONORABLE ROBERT D. DOWNING JUDGE

KIMBALL, J.[*]

This is a direct appeal from the Nineteenth Judicial District Court pursuant to La. Const. Art. IV, Sec. 21(E). Both the Louisiana Public Service Commission ("the Commission") and Entergy Gulf States ("the Company") appealed portions of the district court ruling regarding Commission Order No. U-19904-D ("the Order") which requires the Company to refund to its ratepayers $34.24 million of the fuel adjustment charges collected from 1991 through 1994. Because our review of the Commission's Order revealed no error of law, and we find that the disallowances were fully supported by the record, and were therefore not arbitrary, capricious, nor an abuse of authority, we conclude that the trial court erred in reversing portions of the Commission's Order. We therefore affirm the ruling of the trial court in part and reverse in part.

FACTS AND PROCEDURAL HISTORY

In 1993 the Commission began an investigation into the Company's fuel adjustment clause filings between 1988 and 1994.[1] The proceedings were broken into two segments, Phase I and II

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[*] VICTORY, J. Not on panel. *See* Rule IV, Part 2, Section 3.

1 The Company was formerly Gulf States Utilities, prior to its merger with Entergy, and is referred to in the Order as "GSU."

respectively.[2] Phase II hearings, covering the years 1991 through 1994 began December 4, 1995, and were completed March 14, 1996, resulting in the Commission issuing the Order which is the subject of the instant appeal.[3]

The Commission has "broad and independent" regulatory powers over public utilities, derived from the Louisiana Constitution. *Daily Advertiser v. Trans-La,* 612 So.2d 7, 16 (La. 1993) quoting La Const. Art. IV, Sec. 21(B).[4] These regulatory powers include the authority to fix and change rates charged by the utility. *Id.* There are two classes of rates which are at issue in this opinion: the ordinary rate charged per unit of electricity, which is the "base rate," and the cost of fuel that is charged to the ratepayer in addition to the base rate through the "fuel adjustment clause charge." Under its regulatory powers, the Commission reviews both of these classes of rates in separate proceedings for each type of rate. The Commission fixes the base rate charged to utility customers in an annual base rate proceeding, and reviews fuel clause charges in a fuel review proceeding.[5] The retrospective review of fuel clause charges which produced the Order

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2 The judgment of the district court concerning the first order, LPSC Order U-19904-C, issued in Phase I of the review, covering the fuel clause filings from 1988 through 1991, was affirmed as to all of the Commission ordered refunds, but reversed $.446 million in interest on past refunds. *Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n.*, 96-2046 p. 2, 689 So.2d 1337, 1340 (La. 1997).

3 There were 16 days of hearings, December 4-8, 1995, and February 29, 1996 through March 14, 1996.

4 Louisiana Constitution Art. IV, Sec. 21(B) provides in pertinent part:

> The commission shall regulate all common carriers and public utilities and have such other regulatory authority as provided by law. It shall adopt and enforce reasonable rules, regulations, and procedures necessary for the discharge of its duties, and shall have other powers and perform other duties as provided by law.

Additionally, under La.R.S. 45:1167, the Commission is charged with the duty to promulgate reasonable and just rules, regulations, and orders. *Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n.*, 578 So.2d 71, 84 (La. 1991). This excludes the Commission from the division of powers in its efforts to regulate public utilities, in other words, its power is "plenary." *Daily Advertiser,* 612 So.2d at 16.

5 Base rates consist of the predictable costs that are known and measurable, such as capital expenditures, which should only be considered in a base rate proceeding in which the Commission examines the value of the asset, considers a depreciation expense recoverable over the life of the asset, and adjusts the base rate of electricity to reflect the capital outlay for that project, and any other capital expenses, such as financing costs, etc. of regulatory assets. The Commission then approves or disapproves the rate increase/decrease based on its evaluation of the Company's expenses. *L.P.S.C. Order U-19904-D.*

under consideration in this case, is considered an exception to the ordinary ratemaking process as it does not involve a prior review by the Commission. Rather, under the fuel adjustment clause exception, a utility company is allowed to charge fuel costs directly to its customers on a monthly basis with only a retrospective review by the Commission. This procedure is allowed because the cost of fuel fluctuates, cannot reasonably be predetermined, and therefore, cannot be pre-set by the Commission. *L.P.S.C. Order U-19904-D* (10/7/1996).

When the Commission reviews a utility's rates it is required to apply a "prudence" standard. Under this so-called "prudence review," the Commission scrutinizes the utility's decision-making processes for reasonableness. This Court has established that in a prudence review of a utility company's rates, the burden of proof is on the utility, which must "demonstrate that it went through a reasonable decision making process to arrive at a course of action and, given the facts as they were or should have been known at the time, responded in a reasonable manner." *Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n.*, 578 So.2d 71, 85 (La. 1991).

The utility must demonstrate that its decisions and actions are prudent in order to counterbalance the monopolistic effects on the ratepayers who do not have a choice about which company provides their utility service. *Gulf States Util. Co.*, *supra*, 578 So.2d at 84, n. 6.

> Because customers of a monopolistic enterprise do not have the choice to take their business to a more efficient provider, market forces provide no incentive to utilities to act prudently. Therefore, a utility's only motivation to act prudently "arises from the prospect that imprudent costs may be disallowed.

Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n., 96-2046 p.12 (2/25/97), 689 So.2d 1337, 1345 at n. 9 (La. 1997), (citing *In Re Long Island Lighting Co.*, 71 P.U.R. 4th 262 (N.Y.P.S.C.1985)).

The standard for our review of Commission orders was set forth by this Court in *Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n.*,96-CA-0345 p. 2 (7/2/96), 676 So.2d 571, 573 (La. 1996) (quoting *Central Louisiana Elec.Co. v. Pub. Serv. Comm'n.*, 508 So.2d 1361, 1364 (La. 1987) (quoting *South Central Bell v. Louisiana Pub. Serv. Comm'n.*, 352 So.2d 964, 968 (La. 1977) and *Southern Bell Tel. & Tel. Co. v. Louisiana Pub. Serv. Comm'n.*, 118 So.2d 372, 378 (La. 1960))), wherein we described our role in the following way:

> Initially, as the orders of the Commission are entitled to great weight, they should not be overturned absent a showing of arbitrariness, capriciousness, or abuse of authority by the Commission. Secondly, courts should be reluctant to substitute their own views for those of the expert body charged with the legislative function of rate-making. Lastly, a decision of the Commission will not be overturned absent a finding that it is clearly erroneous or that it is unsupported by the record.

Gulf States Util. Co., supra, 96-CA-0345 p. 2, 676 So.2d at 573 (internal citations omitted).

In the instant case, the Commission ordered the Company to refund $34.24 million in fuel adjustment clause charges to its customers, with interest from December 31, 1995 because it found multiple acts of imprudence.[6] Additionally, the Commission found with respect to other fuel clause charges, that even though the expenses were not imprudently incurred, they were not properly recoverable through use of the fuel adjustment clause; rather, those costs were appropriate for consideration in a base rate proceeding.[7]

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6 Commission Order U-19904-D states:

The Commission ordered a refund of $34.2 million, subject to adjustment, consisting of the following rulings:

1. The Commission ordered a refund of capital costs of the Spindletop Gas Storage Facility that were passed through the fuel clause during October 1991 through December, 1994. The Commission reduced the refund by $3.696 million to reflect lost depreciation as of December 31, 1995. This disallowance results in a refund of $14.269 million, including overcollections through 1994 and interest through December 1995. The Commission also ordered that the company be allowed to include the disallowed gas capital costs in base rates by establishing a regulatory asset valued at depreciated original cost. The revenue requirement for the regulatory asset has been quantified in the GSU earnings review, Docket No. 21485. The Commission directed the Staff to ensure that the regulatory asset investment and refund are in synch when the refunds and rate realignment occur, which will require adjustment of the refund amount for overcollections past December 31, 1994 and depreciation past December 31, 1995 and a concomitant adjustment of the regulatory asset amount.
2. Disallow $.758 million in Spindletop gas inventory charges.
3. Disallow excessive fuel costs of $1.459 million associated with GSU's failure to uprate RiverBend's capacity.
4. Disallow excessive fuel costs of $3.597 million associated with GSU's canceled nuclear units and speculation in the uranium market.
5. Disallow $2.293 million associated with the rebilling of base rate charges through the fuel clause for the gas storage facility and NISCO electric usage.
6. Disallow and refund $0.909 million associated with excessive Nelson 6 coal costs.
7. Disallow $10.951 million associated with imprudence related to various River Bend outages.

7 The costs associated with the Company's gas storage facility are expenses that were prudently incurred yet do not belong in the fuel adjustment charge; rather, these expenses will be considered in the annual rate review to determine if the Company should get a base rate increase to offset its investment. These expenditures, even though fuel related are not properly recoverable through the fuel adjustment charge because they are predictable and constant. Predictable costs should be considered in a base rate proceeding, which examines whether base rate offsets exist that would

The Company appealed $19.967 million of the ordered refunds to the district court. The court below affirmed the Commission's Order with respect to approximately $8.795 million in disallowances, but reversed the Commission on $9.147 million of the total $10.951 million disallowance refund arising from the Commission's finding of imprudence related to outages and outage extensions at the River Bend Nuclear Generating Station ("River Bend") and a $1.459 million imprudence disallowance and refund based on the Company's failure to upgrade the capacity of River Bend.

Each party briefed multiple assignments of error on appeal to this Court. In order to efficiently address all of the issues presented for review, we have grouped the assignments of error into the following issues for discussion: (1) whether the Commission applied the proper "prudence" standard in its review of the Company's outages and outage extensions and properly disallowed the associated replacement power costs; (2) whether the Commission properly found imprudence in the failure of the Company to upgrade River Bend's capacity; (3) whether the Commission properly found imprudence and disallowed the nuclear fuel inventory costs associated with retention of uranium for River Bend; (4) whether the Commission properly found imprudence regarding coal costs associated with the Company's Nelson 6 Station; and (5) whether the Commission properly disallowed costs associated with the Company's gas storage facilities at "Spindletop" and the Nelson Industrial Steam Company ("NISCO").

I. THE OUTAGES AND OUTAGE EXTENSIONS AT RIVER BEND

The Commission examined twenty-six outages and refueling outage extensions at River Bend that occurred between October, 1991, and December, 1994, ("the review period"). As we explained in Phase I, there are two different types of "outages," the refueling outage, which is a planned outage, and a forced outage, which is an unplanned outage. All nuclear power plants must schedule refueling outages to replace spent fuel. During refueling outages, the Company takes advantage of the down time to conduct maintenance, inspections and testing that cannot

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preclude a rate increase. Base rate offsets are not considered in fuel proceedings. Thus, it is essential to make sure that base rate costs are not passed through the fuel clause, even when they are portrayed as fuel-related. *Order U-20647* at 62.

safely be performed while the nuclear reactor is in operation. Because it is planned and scheduled in advance, a refueling outage is considered a "planned outage."[8] By contrast, a "forced outage" occurs when the plant shuts down automatically or manually in response to unplanned problems like system failures, equipment failures, or incidents such as a fire or an explosion. *Gulf States Util. Co., supra*, 96-2046 p.14, 689 So.2d at 1346.

River Bend had an extremely high outage rate during the review period. Commission Staff expert, Dr. William R. Jacobs, Jr., Ph.D., testified that "the Cumulative Forced Outage Rate ("CFOR") . . . was 25.97%, an extremely high rate by industry standards."[9] *Dir. Test. Dr. Jacobs* p.12, L.P.S.C. (6/30/95). The CFOR is a measure of the lost energy generation due to forced outages and is similar to a performance indicator used by the Institute of Nuclear Power Operation ("INPO") called the Unplanned Capability Loss Factor ("UCLF"). *Id.* Dr. Jacobs explained that the INPO monitors nuclear reactors around the nation and assesses their performance under this indicator. *Id.* "This parameter is similar to the Forced Outage Rate and is defined to be the percentage of maximum energy generation that a plant is not capable of supplying to the electrical grid because of unplanned energy losses, such as unplanned shutdowns

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8 Two planned outages are at issue in this case, referred to as Refueling Outages 4 and 5 respectively. The outage extensions discussed in the order are simply delays in the amount of time it took the Company to get the facility back on-line once it was shut down, whether the original shut down was a forced or planned outage.

When the Company plans a refueling outage it plans to have the facility shut down for a certain number of hours to refuel the core and conduct certain maintenance tasks. When the outage lasts longer than necessary to conduct the critical tasks, the Company must give a reasonable or prudent reason for the delay. If an item of work was done because it was necessary to avoid a future forced outage the Company may seek mitigation for that time. In other words, if the unplanned problem which is being corrected during a refueling outage would have independently caused a forced outage in the future, prior to the next planned outage, then the Company, in staying shut down long enough to make that repair, is deemed to have acted prudently and the costs of replacement power for that delay will not be assessed against the Company and can be properly passed through to the customer.

9 Dr. William Jacobs, Jr., PH.D., a nuclear engineer with GDS Associates, Inc., testified for the Commission staff. Dr. Jacobs has more than 20 years of experience in the nuclear power industry including more than 12 years of nuclear power plant construction and startup experience. He received his PH.D. in Nuclear Engineering from the Georgia Institute of Technology in 1971 and is a registered professional engineer. He has participated in the construction and startup of seven nuclear plants in management positions including startup manager and site manager. Additionally, he served with the Institute of Nuclear Power Operations on the Construction Project Evaluation Program, performed operating plant evaluations and assisted in development of the Outage Management Evaluation Program. Dir. Test. Dr. Jacobs, L.P.S.C., (12/4-8/95).

or outage extensions." *Id.* The UCLF is broader than the CFOR because it includes not only forced outages but also extensions to planned outages. *Id.* Because the UCLF has a broader scope, the figure is usually higher than the CFOR. *Id.* Thus, with River Bend achieving a 25.97% CFOR compared against the average INPO reported UCLF for all U.S. reactors for the years 1992, 1993, and 1994, which were 6.8%, 4.3%, and 5.4%, Dr. Jacobs demonstrated that River Bend's outage rate was almost five times the national average. *Id.*

When a nuclear generating station suffers an outage, whether forced or planned, the Company cannot provide electricity from the reactor, requiring its customers to be supplied with electricity from other sources. The expenses of providing replacement power may be properly included in the fuel adjustment clause charges billed to ratepayers and will be allowed upon the Commission's fuel clause review if the outage was not caused by the Company's imprudence. Otherwise, the replacement power costs will be properly borne by the Company, rather than the ratepayers. A determination of whether the replacement power costs are imprudent is made by the Commission after an examination of the root cause of the outage or extension that facilitated the need for replacement power. If the outage or extension was caused by the Company's imprudence, the Commission will conclude that the replacement power costs were imprudent, and they will be "disallowed." Upon disallowance, the Commission orders the replacement power costs previously collected through the fuel adjustment charge refunded to the Company's ratepayers.

When the Commission conducts a fuel adjustment clause review, the Company must demonstrate that it acted prudently in incurring fuel costs, including any replacement power costs. *Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n.*, 578 So.2d 71, 84 (La. 1991) (quoting *In Re Cambridge Electric Light Co.*, 86 P.U.R.4th 574 (Mass.D.P.U.1987)). In order to carry this burden with regard to outage related replacement power costs, the Company must demonstrate that its decisions and actions that lead to the outage were prudent. *Id.* To this end, the utility must show that it "went through a reasonable decision making process to arrive at a course of action and, given the facts as they were or should have been known at the time, responded in a

reasonable manner." *Id.*

> [T]he focus in a prudence inquiry is not whether a decision produced a favorable or unfavorable result, but rather, whether the process leading to the decision was a logical one, and whether the utility company reasonably relied on information and planning techniques known or knowable at the time. Although a prudence review is necessarily retrospective in that it involves an examination of past circumstances, past information available, and past decisions, these factors may not be evaluated in light of subsequent knowledge.

Gulf States Util. Co. v. Louisiana Pub. Serv. Comm'n., supra, 578 So.2d at 85 (internal citations omitted).

If the Company fails to carry its burden, it will be saddled with those replacement power costs and will be, as in this case, ordered to refund any such costs previously billed to the customers through the fuel adjustment charge.

DISCUSSION

The Commission is the expert body charged with the legislative function of ratemaking and courts should be reluctant to substitute their own views for those of the Commission. *Gulf States Util. Co.,supra*, 96-CA-0345 p. 2, 676 So.2d at 573. Commission orders are entitled to great weight, and will not be overturned absent a clear error of law, or a showing of arbitrariness, capriciousness, or abuse of authority by the Commission. *Ibid.*

In the instant case, the district court found an error of law and reversed the Order with respect to the majority of the $10.951 million imprudence disallowance concerning the outages and outage extensions. In oral reasons for judgment, the court stated that the Commission imposed an unreasonable standard on the utility. "They're trying to make the utility make perfect decisions on maintenance programs which have to be looked at in terms of the people who are working on it at the time." Continuing, the judge stated "apparently, they're supposed to get in touch with the psychic hotline on these repairs, and I think that's a standard no one can meet." However, the court affirmed two portions of the imprudence disallowance dealing with the outages: $596,000 in refunds arising from Outage 94-03, that occurred on September 8, 1994, and an additional refund amount of $910,749 associated with the Company's admitted imprudence in causing Outage 93-07. For the reasons that follow, we affirm the trial court's ruling concerning the disallowances for outages 94-03 and 93-07, but because we do not find an

error of law in the standard applied by the Commission, we reverse the trial court decision with respect to the remaining outages.

The Commission demonstrated that the proper "prudence" standard was applied and the disallowances based upon the Company's imprudence with respect to nine forced outages and extensions to two refueling outages are well supported by the record.[10] The Company argues that not one of the twenty-six outages or extensions occurring during the review period was caused by its imprudence and that the only basis for a finding of imprudence is through the impermissible use of the "perfect vision conferred by hindsight."

In rejecting this argument, the Commission relied upon the recommendation of Hearing Examiner, Roy F. Edwards, who heard the testimony of both Company and Commission experts. The extensive testimony of the Commission Staff's expert witness, Dr. William Jacobs, Jr., Ph.D., involved detailed findings supporting his opinion that fifteen of the twenty-six outages and outage extensions reviewed were caused by the Company's imprudence. The Commission reviewed both his testimony at the hearings, and the extensively detailed findings in support of his opinion which were filed into the record.

Dr. Jacobs' opinion is based upon a thorough review of the Company's actions and decisions including a review of the Company's documents and records, deposition testimony, testimony of Company personnel, regulatory documents and reports, site inspections and review of industry data, all in light of the proper prudence standard set forth in *Gulf States Utilities Co., supra,* 578 So.2d at 84. Dr. Jacobs explained the standard under which he formed his opinion in his direct testimony as follows:

> GSU should be judged, their actions and decisions, against those of a reasonable utility operator, considering what the operator knew or should have known at the time those decisions were made. So I don't rely on hindsight. I base my findings on what the utility should have known at the time. And I don't base my findings on the fact that an event happened or certain decisions led to a poor outcome.

Dir. Test. Dr. Jacobs at p.560, L.P.S.C. (12/6/95).

The hearing examiner adopted the opinion of Dr. Jacobs and the Commission accepted the

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10 The outages at issue are 91-10, 92-07, 93-03, 93-04, 93-06, 93-08, 94-03, 94-04, 94-05, and RFO-4 & RFO-5.

hearing examiner's recommendations on the outages. The Commission noted that Dr. Jacobs applied the correct prudence standard when he evaluated the decisions and actions of GSU in detail in light of the "facts that were known or reasonably should have been known at the time, by persons possessing the proper qualifications" including the decisions made by the Company's management, employees, and contractors. *Order U-19904-D* at p.26.

Conversely, the Company argues that the Commission and its experts improperly applied the prudence standard. The Company's expert, Mr. Michael Sellman, former General Manager of River Bend, testified that the outages found to be imprudent were actually caused by uncontrollable events, such as "mere human error," vendor fault, and unpredictable mechanical failures.[11] The Company argues that the only way to conclude that River Bend should have expected these problems, and therefore prevented the outages, is by expecting the Company to apply knowledge only gained after the cause of the outage in issue was investigated, and that this amounts to the impermissible use of hindsight in the prudence review.

There were two outages occurring in the review period which the Company argues were caused by unpredictable human errors.[12] Mr. Sellman testified that the prudence standard should exclude consideration of human blunders:

> There should be no finding of imprudence where, for example, a technician makes an error, provided that management did all that should reasonably be expected prior to the error.

Rebuttal Test. Sellman p. 5, L.P.S.C. (10/27/95).

The first of these "human error" outages, labeled outage 93-04, occurred on April 19,

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11 Mr. Sellman, at the time of giving his testimony was Entergy's Vice President of Waterford Nuclear Plant. He has a BS degree in physics and a Masters degree in nuclear engineering, is a graduate of the Kellogg School of Executive Management at Northwestern University and has completed the Bettis Reactor Engineering School program taught by Westinghouse-Bettis Atomic Power Laboratory. (*Test. Sellman* p.1683, L.P.S.C. (3/ 7/ 95). Sellman began his career in the Navy on a nuclear submarine and held a senior reactor operator's license for twelve years. He held various supervisory positions with Northern States Power Company from 1980 to 1987 when he left to take a job with Entergy. In September of 1993 he became the general manager of River Bend and remained so until February of 1996, when he took his current position at Waterford.

12 These outages were "94-05," the outage caused by the "scram" during the testing of the MSIV and "93-04," where a machinist improperly repaired the MSIV causing it to become stuck in the open position. *Order U-19904-D* at p. 33.

1993, and involved one of the Main Steam Isolation Valves ("MSIV") which became stuck in an open position. There are a total of four MSIV at River Bend which serve an important safety function within the reactor. After outage 93-04, GSU's own Nuclear Safety Assessment Group concluded that the equipment failed due to improper repair.[13] Based on this information, the Company unsuccessfully argued below that the outage was caused by a single machinist's error.

> This was not a simple human error by a single machinist. This error resulted from the company's failure to aprise the machinist of the safety significance of the task and GSU's failure to assure that the plans for accomplishing the task included appropriate techniques, equipment, and quality control barriers to assure that the work was done properly. In short, no quality assurance steps were followed.

Order U-19904-D at p. 34.

Evidence submitted at the hearing revealed that the Company's planners deleted the quality control safeguards which had previously called for the Company's own Quality Control Department to review and verify that equipment repairs comply with technical specifications. The Company admitted that a lack of quality control review caused the outage in a response to an NRC notice of violation covering the outage. Based on the evidence, the Commission found imprudence and disallowed the replacement power costs associated with this outage.

The second outage which the Company asserts was caused by "mere human error," labeled 94-05, was caused when a technician was performing a routine monthly test of the MSIV.[14] The MSIV test is performed in the control room on a monthly basis to test the performance of electronics in the event of an emergency. The technician is supposed to test each of four channels, one at a time. After a channel is tested, the technician should "clear" that channel and go on to the next one. However, the technician did not properly clear the first

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13 The four MSIV serve an important safety function in a nuclear reactor. This particular MSIV had been repaired and the machinist doing the job did not follow proper procedures and the management did not properly review or require review of the work. According to the Commission multiple causes existed: improper measurement techniques coupled with dependence on data supplied by vendor representatives, inadequate job plans, lack of quality control verification, lack of awareness of safety significance, and minimal accountability, all culminating in a faulty machining job on the equipment causing the valve to have improper clearance.

14 The routine safety test the technician was conducting is designed to ensure the working order of the Main Steam Isolation Valves ("MSIV"). When more than one of these valves are open at any time the plant will automatically shut down, or "scram."

channel prior to testing the next one, creating a "trip condition" in which two of the four channels were open at once. When this error occurred, the plant "tripped" or automatically shut down. According to the Company, the trip condition was caused by the technician's error, when the technician "miscommunicated" with an operator.

However, the Commission found this was not a case of a simple miscommunication, but involved a failure to follow procedures and failure to provide the technician with adequate verification procedures. The outage was determined to have been caused in part by the technician's failure to follow established procedures and verbally check with the operator to ensure that the first channel was closed prior to testing the next channel. That verification is intended to be an affirmative verbal check.[15] Instead, the technician conducting the test thought he overheard the operator say that the channel was closed. The technician then moved on, testing the next channel. According to Mr. Sellman's testimony, the operator whom the technician overheard was not speaking to the technician performing the MSIV test, nor was the operator speaking about the MSIV channel. Mr. Sellman testified that the technician should have asked the operator if the first channel was clear, prior to testing the next channel.

Additionally, Mr. Sellman testified that a second safety verification step, or "barrier," that "had been in place in that procedure earlier" had been removed by management in the revision process prior to this forced outage. *Cross. Test. Sellman* p. 1859, L.P.S.C. (10/07/96).[16]

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15 According to Mr. Sellman, the technician did not affirmatively ask the operator if the channel was closed prior to moving on to test the next channel, as is required by the test procedure.

16 Mr. Sellman testified that when he became the manager at River Bend in 1993, the Company embarked upon a procedure upgrade program because, after he conducted an analysis of "human errors," he found that the primary cause of human error was a failure to follow proper procedures and that a failure to follow procedures was not an isolated problem. *Cross. Test. Sellman.*, p. 1742, L.P.S.C. (3/7/95). Mr. Sellman testified that the procedure upgrade and revision program was intended "to human-factor those procedures, and also to facilitate revisions to the procedures." *Id.* Sellman explained that "human-factoring procedures" meant that procedures are looked at by management through two aspects, the technical correctness, i.e. "if you follow procedures verbatim, will you be able to perform the task involved?" and for the "human-factoring" where a procedure's wording is examined, "for example, if you put a double negative in a step, that's not human-factored. And it's the kind of thing that can, if a person doesn't read very carefully, can lead to an error." *Id.* at 1742. Mr. Sellman continued that another part of human-factoring involved the placement of "barriers" in procedures, a kind of extra step to ensure a safety step has been properly taken. As an example, Mr. Sellman said that the verbal communication step to ensure the channel was clear is a "barrier."

> There's another barrier which subsequent to the scram (the 94-05 outage) we put in, in which previous to the scram had been in the procedure in a different provision, which was related to going to another indication available that the I & C technician could check and verify that, in fact, the electronics signal had cleared.

Id.

Mr. Sellman said it was a "judgement call" as to how many barriers are included in a procedure and that decision is based on the safety significance as well as the complexity of the task. Mr. Sellman admitted that prior to a procedure's use by the technical employees, supervisors and/or management review the procedures for such technical accuracy and human-factoring. "Our process for revising procedures involves not only a manager's signature, but verification and validation by the particular type of worker doing the work." *Id.* at 1765. Thus, since the procedure followed by the technician who conducted the MSIV test had been revised prior to this outage and one of the safety steps, or barriers, had been removed, Company representatives "validated" the removal of that barrier prior to the technician's use of the procedure.

The Commission concluded that the Company imprudently caused this outage; the outage was not caused by "mere human error," but was rather that "GSU management failed to correct long-term procedural adherence problems and removed a significant step in an important safety-related procedure." *Order U-19904-D* at p. 28. After this incident the second safety barrier was put back into the procedure.

The record fully supports the Commission's conclusion that the Company imprudently caused outages 93-04 and 94-05, because management provided inadequate written procedures. As written, the procedures were insufficient to protect against the type of errors that in fact occurred.

Essentially, the Commission concluded that management's failure to correct long-standing procedural adherence problems and provide proper written procedures to employees conducting important safety tests was unreasonable and was therefore imprudent management, and that it was this imprudent management of River Bend which caused outages 93-04 and 94-05, which the Company argues were actually caused by "mere human error." Although the district

judge made no specific finding concerning the "mere human error" argument, he concluded that the Commission committed an error of law by holding the Company to an unreasonable standard. We disagree.

The Commission fully demonstrated that what the Company characterized as "unavoidable" and "unpredictable" "mere human error" was in fact avoidable, because the errors at issue were caused by management's failure to correct long-term procedural adherence problems, and management's removal of important verification steps from those procedures. Because inadequate and unreasonable management practices furnishes a proper basis for a finding of imprudence, we conclude that the Commission properly applied the prudence standard in finding the Company responsible for the outages caused by mismanagement. *Gulf States Util. Co., supra,* 578 So.2d at 85.

Having so found, it is not appropriate for us to reach the legal question argued by the Company, yet not presented by the facts of this case, of whether "isolated incidents of human error that management could not reasonably have foreseen or prevented" can constitute imprudence on the part of the utility. We find that the Commission's imprudence disallowances for outages 93-04 and 94-05 were not arbitrary, capricious, or based upon any error of law, and were supported by the evidence.

The Commission also found that River Bend experienced a long-standing pattern of overriding poor management practices which, during the review period, were pervasive, affecting all levels of plant operation. *Order U-19904-D* at p. 26. Dr. Jacobs submitted evidence at the hearings of the Company's management problems including an August 1993, report written by the Vice President of River Bend, submitted to the Nuclear Regulatory Commission ("NRC"). The Commission emphasized that the NRC report revealed eight areas of deficiencies at River Bend, including "significant systemic problems." Dr. Jacobs opined that these pervasive problems caused or contributed to the numerous outages. *Order U-19904-D* at p. 26.

For instance, the Hydrogen Igniters System serves an important safety function within

nuclear reactors.[17] Due to their function, the NRC requires, as part of its safety regulations, that igniters be regularly tested to ensure that they are operable in case of an emergency. On October 24, 1991, outage 91-10 occurred when the Company realized that it had failed to conduct the hydrogen igniter safety testing procedure. In fact, 62 igniters had not been tested; it had been four and a half years since most of the 62 had been tested, and in the case of one of the igniters, it had been over six years. As a result, River Bend was shut down for 54.3 hours to conduct this safety procedure, and the NRC issued a citation to the Company for its failure to conduct the igniter tests, a violation of NRC requirements that the Company admitted. *Order U-19904-D* at p. 27.

With respect to this outage, Dr. Jacobs found that critical discrepancies existed among the Technical Specifications, which provide the requirements for demonstrating operability of the Hydrogen Ignition System; the Bases, which provide specific definitions for the Technical Specifications; and the Surveillance Test Procedure, used to verify this Technical Specification requirement. *Dir. Test. Dr.Jacobs,* p. 15, L.P.S.C. (6/30/95). In November, 1990 "TCN 90-1270," a revision of these procedures, changed the status of certain igniters. This revision was reviewed by management under its usual revision review process and was permanently approved in December 1990, yet no one in the review process realized that this revision conflicted with the Technical Specifications. *Id.*

The Company admitted that its failure to conduct the safety tests were due to this discrepancy between its technical specifications and its testing procedure. *Order U-19904-D* at p. 27. The Commission concluded that this outage was due to improper revision and review by management of plant procedures. The Commission wrote:

> GSU management was responsible for drafting both the technical specifications and the testing procedures, and assuring that the two were consistent. Because of GSU's numerous failures related to the hydrogen igniters, the NRC issued a citation to GSU for its failure to test the igniters. GSU admitted the violation.

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17 If the plant has an accident the igniters are turned on immediately, and if any area in the containment reaches a hydrogen concentration that is combustible, the hydrogen is immediately ignited. The igniters are triggered at a lower concentration so that the resulting pressure transient is minimized. *Dir. Test. Dr. Jacobs,* p. 14, L.P.S.C. (6/30/95).

Order U-19904-D at p. 27.

The Commission disallowed the replacement power costs associated with this forced outage, concluding that the Company's mismanagement was imprudent. After review of the record, we find that the Commission's imprudence disallowance was not arbitrary, capricious, or based upon any error of law, and was fully supported by the record.

With respect to the extensions to the refueling outages at issue in this case, Refueling Outage Four and Five, the Commission disallowed the replacement power costs attributable to two tasks during each outage which caused unnecessary extensions. The Company argues that these delays were unpredictable and unavoidable and that the Commission should not have found imprudence under the circumstances.

There are two activities at issue that took place during Refueling Outage Four ("RFO-4"). The first relates to the service water system and the second relates to the forty-one hours of critical path time associated with work on the Reactor Water Clean-up.[18] The Commission found that the service water system repair was facilitated by a massive corrosion problem resulting from

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18 In Order No. U-20647 at 39, the Commission explained the scheduling of the critical path of a nuclear plant planned outage:

> In planning a refueling outage, the River Bend outage managers establish a critical path schedule. The various departments identify the tasks that must be performed during the outage. Since all tasks cannot be performed at the same time, and some tasks must be completed before others can be started, the outage management group must align the tasks in the sequence that will result in the completion of all of the tasks in the shortest time. The "critical path" then is the schedule of specific tasks that determines the potential duration of the outage. While other work items may be performed in parallel with the critical path items, the critical. path items are those that must be completed before the next sequence or phase of necessary projects can be started. As a result, if an item on the critical path takes longer to complete than planned, there may be an extension of the outage. If completion of a "non-critical path" item is delayed, it can become the critical path by delaying activities on the critical path.

Gulf States Util. Co., supra, 96-2046, 689 So.2d 1346.

a long series of GSU errors.[19] In reliance on Dr. Jacobs' opinion, the Commission found the service water repair to be caused by GSU's imprudence because it found that GSU was aware of long existing problems with acidic flush water, yet took no corrective action; the Company inadequately monitored and controlled the chlorination; the system was operated for a long time with inoperable chlorine and chemistry monitors; the acid feed system was inadequate; and the initial failure to use carbon steel inhibition prior to 1987 was imprudent.[20] The Commission concluded that the outage critical path, as initially planned, would not have been extended by the service water system repair if not for GSU's initial and continued imprudence. Having found imprudence with regard to the Company's historical mismanagement of its service water system, the Commission disallowed the replacement power costs allotted to the amount of time the service water system work occupied the critical path during RFO-4.

The second activity at issue, undertaken during RFO-4, was the Reactor Water Clean-Up ("RWCU") intended to modify the ring-header in order to reduce the radiation levels in the reactor vessel. The Commission found that the Company's outage managers poorly planned the RWCU causing the project to extend the outage by 41 hours. The evidence that the RWCU time

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19 The service water system performs the important function of cooling nuclear plant equipment. It consists of piping, valves and heat exchangers. At River Bend, the service water system was originally an open system which shared cooling towers and piping with the Circulation Water System (which removes heat from the condensers). After years of problems with the system, the Company decided it was necessary to replace it. It was the time it took to do the replacement work during RFO-4 which is at issue.

20 Dr. Jacobs' associate at GDS, Samuel H. Hobbs, Jr. separately analyzed the Company's management of its refueling outages. Mr. Hobbs has a BS degree in physics from Vanderbilt, a Masters in Nuclear Engineering from the Georgia Institute of Technology, and an MBA degree from the University of Houston. He is a registered professional engineer with more than 23 years of experience in the nuclear power industry.

In Mr. Hobbs testimony, which Dr. Jacobs adopted as his own at the hearings, Mr. Hobbs explained in great technical detail how the lack of oversight and intervention by the Company in management of the proper water chemistry in the service water system facilitated the replacement and massive work which the Company was forced to undertake in RFO-4. This testimony and the other evidence in the case below is quite technical and extensive. The Commission found it credible and relied upon it to find imprudence on the part of the Company.

was improperly planned provides solid support for the Commission to find imprudence. After our review of the record, we determine that the Commission's imprudence disallowances for RFO-4 were not arbitrary, capricious, nor based upon any error of law, and were fully supported by the record.

During Refueling Outage Five ("RFO-5"), there were two maintenance orders which caused extensions to the outage which the Commission found to be imprudent. The first involves the Motor Operated Valves ("MOV") damaged during the outage, and the second involves the low flow alarms associated with the ventilation systems.

The first activity, the unplanned replacement of the 24B MOV, from a legal standpoint, presents the issue of whether the Company is liable for the acts of its vendor, Entertech. The Company asserts that the valve failed due to the vendor's design defect. Testimony at the hearing supported this conclusion. The MOV should have been able to withstand the full torque of ten thousand foot-pounds and the vendor assured GSU the valve could do so. However, the Company determined after the valve disc was driven through the valve seat during its initial operation that the failure occurred either because of an "improper valve seat" or an erroneous calculation by the vendor. The vendor submitted calculations which supported the valve's ability to operate in a "torque-seated mode." [21]

Mr. Hobbs testified the ultimate responsibility lies with the utility to check the vendor's calculations to ensure that the parts procured are suitable. In fact, the NRC requires utility companies to have quality assurance programs, and whether they are in-house or contracted-out, the utility remains responsible for quality assurance. The NRC requires that a utility's quality assurance program concerning parts and equipment include design control measures; the NRC

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21 However, according to the Commission Staff expert witness, Mr. Hobbs, testimony also adopted by Dr. Jacobs, the valve came with "valve stops," which when installed would ordinarily absorb part of the torque. However, they were unable to be used because they were not properly qualified. Had the Company not relied upon the vendor's calculations, the Company would have realized that the stops were needed and they could have been installed.

specifically requires that a utility "shall provide for verifying or checking the adequacy of the design." Thus, even though the vendor may have made erroneous calculations, or improper assurances about the valve's abilities, it was ultimately up to GSU to ensure that the valve could do the job.

Conversely, the Company argues that when equipment fails due to some design defect, it is the fault of the vendor and not the Company; thus, the Company should not have to bear the replacement power costs. Rather the Company would have the Commission allow the risk of defectively designed parts to fall on the ratepayer. Company expert, Mr. Sellman, explained the Company's position on vendor fault in his testimony:

> We procure a lot of parts. This valve being one that--I don't know what this valve cost. It probably cost something on the order of ten thousand dollars. If, as we procured those parts, we required each vendor to provide us some kind of guarantee that this valve or this component would, in fact, never result in any plant downtime, and if it did, to reimburse us for that downtime, then instead of paying ten thousand dollars for the valve, the vendor would probably try to charge us a couple of million dollars for the valve; because downtime is very expensive at a nuclear plant.

Dir. Test. Sellman at p. 1692, L.P.S.C. (3/07/96).

However, the Commission found GSU is accountable for the vendor's imprudence, reasoning that "ratepayers have absolutely no control over GSU's contractors or vendors. Therefore, as between GSU and the ratepayers, GSU alone is in a position to select the vendors and control their conduct." *Order U-19904-D* at p. 30. Additionally, evidence in the record supported that the fault for the delay in replacing the valve was not entirely with the vendor.

We find the Commission's conclusion reasonable; as between the ratepayer and the Company, it is the Company who is in a position to choose vendors carefully and pursue the vendor for any damage caused by defective parts. The authority cited by the Commission in the Order fully supports its conclusion that the Company should bear the burden of vendor negligence rather than passing such losses through on ratepayer bills. Likewise we agree with the Pennsylvania Supreme Court that if we held otherwise, the utility would have no incentive to

pursue the tortfeasor, in this instance a negligent vendor, as the utility will have already received full compensation through rates charged to its customers. *Pennsylvania Power Co. v. Pennsylvania Pub. Util. Comm'n.*, 625 A.2d 719, 724 (1993) (quoting *Pennsylvania Pub. Util. Comm'n. v. Philadelphia Electric Co.,* 561 A.2d 1224, 1228 (1989)).

The second outage extension at issue during RFO-5 involved the low flow alarms in the reactor's cooling and ventilation system.[22] These alarms allow the operator to know if the ventilation system is not circulating air to cool the system at a sufficiently high rate. During RFO-5, the Company decided to modify the ventilation system in the drywell to increase the cooling flow, including increasing the number of fans run in the system from four to five. The work was done while the drywell was open. Once the drywell was closed the low flow alarms sounded even though the system had been flow balanced and adequate flow was known to exist. Afterwards the Company determined that setpoint changes should have been made to clear the alarms and address the new flow characteristics. Mr. Hobbs explained that the change "meant that the air flow being delivered by any of the five individual fans was less than had been delivered by any of the four individual fans in the mode of operation prior to the modification." *Dir. Test. Hobbs* p. 47, L.P.S.C (6/30/95). Additionally, Mr. Hobbs opined that configuring the flow alarms with the drywell open, when they would be operating while the unit was closed, was "inadequate engineering practice." *Id.* at 49. "It may sound as if closing the airlock door was a subtle shift, but it is exactly this kind of consideration that separates adequate engineering practice from inadequate engineering practice." *Id.* Mr. Hobbs concluded that proper consideration to actual operating conditions was lacking.

Based upon the evidence, the Commission found imprudence and disallowed the excess replacement power costs attributed to the Company's inadequate preparation and execution of

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22 A drywell is the inner area of the containment structure immediately around the reactor pressure vessel. The ventilation system in this drywell area is at issue.

this task, totaling 10 hours. After review of the record, we have determined that the Commission's imprudence disallowances for RFO-5 were not arbitrary, capricious, nor based upon any error of law, and were fully supported by the record.

The Company argued that six outages or extensions occurring during the review period were caused by mere unpredictable mechanical failures for which the Company should not be considered imprudent. Of these six, four were related to seal failures, one was attributable to a failed relay switch, and the last was attributed to reactor vessel transmitters.[23]

The Commission found that River Bend suffered nine reactor recirculation pump ("RRP") seal failures between 1986 and December 1992, due to the defective design of the 750-A RRP seal. Dr. Jacobs demonstrated that a new design existed which could have reduced the frequency of outages due to seal problems as early as 1991, and that although the Company was aware of the opportunity to switch seal designs at that point, it did not do so. The Commission relied upon the evidence submitted through Dr. Jacobs in its finding that the Company had the opportunity to replace the defective seal design by June 1991, after the Company had compiled an extensive record of seal failures, and had full knowledge of the 750-A seal's defective design. The Commission stated that the Company's records confirmed that "River Bend's experience with the 750-A seal was intolerable," yet even though a newly designed seal was available by 1991, the 750-C seal, the Company did not replace the 750-A.

Eventually, in 1993 when the Company did replace this seal design, the replacement design was composed of a material which was incompatible with River Bend's system, against advice of the vendor and the Company's consulting firm. Thus, after replacing the 750-A seal with the N-7500 tungsten-carbide seal, River Bend experienced another forced outage due to the failure of the new seal. Dr. Jacobs opined that the new seal had failed because the Company had

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23 The seal failure outages are 92-07, 93-03, a portion of 93-04, and 94-04; the outage caused by the failure of the relay switch was 93-08; and finally, outage 94-03 was caused by a vessel transmitter scram. The only imprudent outage disallowance which the trial court affirmed was outage 94-03.

chosen a tungsten-carbide seal when the vendor, as well as the Company's hired consulting firm, advised GSU to purchase a seal made of silicon-carbide. Further, Dr. Jacobs explained that if the Company would have conducted the proper analysis and listened to the recommendation of the seal manufacturer, and its consultants, the last seal-related outage would not have occurred.

Based upon these findings, the Commission concluded that the replacement power costs associated with these four outages, all occurring after December 1992, were imprudently incurred. Thus, the Commission disallowed replacement power costs for the outages after December 1992 attributable to the failure of the defective 750-A seal and the N-7500 tungsten-carbide seal. After review of the record, we have determined that the Commission's imprudence disallowances for the Company's imprudence regarding seal failures were not arbitrary, capricious, based upon any error of law, and were fully supported by the record.

River Bend suffered a 42 day, 1,024.7 hour, forced outage on September 8, 1994, after the reactor vessel transmitters sent a scram signal automatically shutting down the plant. The transmitters serve the purpose of letting the operators know if the water level in the boiling water reactor reaches a dangerous level. There are four such transmitters placed at even intervals around the inner circumference of the vessel. In order for the plant to "trip," and shut down due to these transmitters, two of the four must send a signal indicating a dangerous condition. This outage occurred when two of the four sent a false signal shutting down the reactor.

The Commission found that several factors contributed to the outage and the finding of imprudence. First, Dr. Jacobs explained that the transmitters which gave the false signals were improperly installed.[24] Second, a "half-scram" occurred previously which should have allowed the

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24 The transmitters are supposed to include a "damping card" which when set properly will filter out spurious process noise. Within the vessel certain ordinary functions and occurrences can cause this excess noise which at times can become extreme and generate the "noise spike" which occurred here. When the noise spike is produced, if the transmitter is not set to properly filter out the excess noise, then it will react to it as if it were a danger signal. When two transmitters react this way the plant shuts down. In this case, two of the transmitters were improperly damped and also reacted to the noise, shutting down the plant.

Company to foresee and prepare for the possibility of a similar event. However, the Company did not take proper precautions.

GSU admitted that the two transmitters were improperly installed. However, the Company argued that even had it properly installed the transmitters, the shut-down still would have occurred. GSU asserted that even had the transmitters been properly damped, the process noise spike which caused both of the transmitters to respond could not have been expected; and therefore, the damping would not have been set to account for it. However, the Company's evidence submitted to prove this point, calculations done by the Company in preparation for the fuel review, were not found credible by the Commission. Instead, the Commission concluded that the Company was well aware that spurious process noise could cause a scram of this sort, yet did not properly protect against that occurrence. *Order U-19904-D* at p. 38.

Also, the Company argued that mitigation was appropriate for a portion of the 42 day outage because a cracked fuel assembly had been replaced in the core during the outage and the assembly could not have made it under normal operation until the next planned refueling outage. However, the Commission found that the Company did not carry its burden to prove that the leaking fuel assembly caused a necessary extension and therefore denied the Company any mitigating credit against the disallowance for the outage.

We have reviewed the evidence in the record concerning this outage caused by the transmitter scram and have found that the Commission had ample evidence upon which to base its conclusion that the Company's imprudence caused this outage, and that the Company failed to prove that mitigation, for replacement of the fuel assembly, was warranted. Further, we find no error of law, indication of arbitrary or capricious action, or abuse of discretion.

A forced outage occurred on October 14, 1993, labeled outage 93-08 when, during a routine safety test, the turbine "tripped," shutting the plant down. The trip was caused by a non-functional by-pass switch. Ordinarily, this test is conducted to ensure the working order of the

safety system for the turbine, so that in the event that there is a condition dangerous for turbine operation, it will automatically shut down. The mechanism uses a "K-15 relay," which allows a trip signal to cross the relay, actuate the trip mechanism, and shut down the turbine. When conducting the test to simulate a real danger signal, ensuring that the mechanism will respond to an actual danger indicator, a false signal is sent to the circuitry without actually shutting down the plant. The K-15 relay is supposed to be opened during the testing to block the trip signal so that the circuitry can be tested without causing an actual trip. However, on this occasion, the K-15 relay failed to open and block the signal.

The Commission found that an identical event occurred in 1989 and the Company could have avoided this second outage through a properly installed by-pass switch which the Company made a commitment to install to the NRC after the 1989 event.[25] *Surrebuttal Test. of Dr. Jacobs*, L.P.S.C. (11/22/95). The by-pass switch would have allowed the plant to operate without a shutdown in the event of a K-15 relay failure of the type which occurred causing this outage. *Order U-19904-D* at p .36, *see Rebuttal Test. Dr. Jacobs.* Based upon these findings, the Commission concluded that the replacement power costs associated with this forced outage were imprudently incurred and disallowed replacement power costs. After our review of the record, we have determined that the Commission's imprudence disallowance was not arbitrary, capricious, or based upon any error of law, and was supported by the record.

Outage 93-06 occurred July 13, 1996, initially due to a leak, but the Commission determined that it was extended unnecessarily by 144 hours due to high temperature in the drywell caused by the mispositioning of four insulation panels. Because this was not an isolated

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25 Dr. Jacobs stated that after the "nearly identical" event which occurred in 1989, GSU decided to install a bypass switch that would temporarily block the turbine trips that could occur during turbine testing if the K-15 failed in the closed position. The bypass switch actually installed was not in use at the time of the trip in October of 1993. "As one of the corrective actions identified by GSU in LER, 89-008, GSU committed to the NRC to install the bypass switch." *Surrebuttal Test. Dr. Jacobs* p.56, L.P.S.C. (11/22/95), see also *Cross Test. Jacobs*, L.P.S.C. (12/4/95).

incident, i.e. the same error was made at least two times prior to this outage, the Commission found that the Company's corrective action plan was insufficient, and the failure after two events to institute effective corrective action was imprudent. *Order U-19904-D* at p. 35. Based upon these findings, the Commission concluded that the replacement power costs associated with this outage extension were imprudently incurred and disallowed replacement power costs.

After our exhaustive review of the record, we have determined that the trial court was in error to conclude that the Commission applied an improper prudence standard. We therefore reverse the trial court's ruling which reversed the Commission on approximately $9.147 million in disallowances and reinstate the order of the Commission requiring the Company to refund approximately $10.951 million to its ratepayers for replacement fuel costs incurred due to the Company's imprudence in causing outages and outage extensions at River Bend.

II. FAILURE TO UPGRADE THE CAPACITY AT RIVER BEND

The Commission ordered a $1.459 million imprudence disallowance refund based on the Company's failure to upgrade the capacity of River Bend, which the district court reversed, saying "this is an unreasonable decision based on the evidence and this court will overrule the Commission's decision on the uprate." In his written reasons for judgment, the trial judge gave no further explanation and simply reversed the disallowance of $1.459 million associated with the Company's decision regarding an uprate of the capacity of River Bend. For the reasons that follow, we determine that the trial court erred in finding the Commission's order unreasonable and therefore, also reverse this portion of the trial court's ruling.

"Because ratepayers have only one power supplier, they are dependent on that supplier's management to make reasonable attempts to minimize costs through prudent decision-making." *Gulf States Util.Co.*, 96-2046 p. 13, 689 So.2d at 1346. If a utility identifies potential savings to the ratepayer, the utility is obligated to make the expenditures to accomplish those savings because the utility operates under a regulatory obligation to provide service at a reasonable cost.

Order U-19904-D at p. 15. The Commission reasoned that because the Company recognized the benefits of upgrading the capacity of River Bend, in both megawatt hour output and megawatt capacity, in the late 1980's and identified the amount of savings that ratepayers would realize from such a project, the Company should have instituted the planned uprate. All savings realized from the uprating of the capacity of River Bend, which the Company acknowledged would have been significant with respect to fuel costs, would have benefitted the ratepayers. This is so because the Commission in two prior orders ruled that the entire uprate of River Bend would be allocated to the "regulated portion" of River Bend. *Id.* (citing *Orders No. U-172820-J and U-17282-K).*

The Company fully recognized that the savings through the uprate of River Bend's capacity would have been significant for the ratepayer, as the Company's records dating to the late 1980's document this conclusion. Other Company documents dating to 1991 estimated that a 47 MW uprate would cost between $5.185 to $10 million, and would provide about $17.42 million in savings from 1994 through 1999, and one document even projected up to $6 million in annual savings.

The Commission found that the Company did not provide a rationale for its decision not to go forward with the uprate, could not provide any contemporaneous documentation of its decision-making process, nor provide any studies indicating that a five percent uprate would not be economic. *Order U-19904-D* at p. 15. The Company's witnesses did no more to illuminate the Company's decision-making process to not take advantage of such fuel savings through an uprate.

The Commission concluded that the Company did not carry its burden with regard to this issue, and decided to reject the hearing officer's recommendation and to adopt the recommendation of the Commission's Staff expert witness, Lane Kollen of Kennedy and Associates, and disallow the $1.459 in "excessive fuel costs" associated with the Company's

failure to uprate River Bend.[26]

We find the Commission's imprudence determination to be supported by the evidence in the record demonstrating that the Company failed to uprate River Bend's capacity after having proven that ratepayers would realize significant savings from such a venture and the project overall would have been economically advantageous. This reasoning applies the proper prudence standard and the disallowance is not arbitrary, capricious, and was fully supported by the record. Therefore, the trial court erred in reversing the Commission's Order. Hence, the ruling of the district court is reversed and set aside.

III. NUCLEAR FUEL INVENTORY COSTS AT RIVER BEND

The Company began to stockpile uranium in the early 1970's to ensure that it would have enough fuel to power the four nuclear power plants which it originally planned to build. However, when the Company's plans changed, and three of the four units were canceled, the Company retained more uranium than was needed to fuel the remaining facility at River Bend.

The Commission found the retention of this excess uranium imprudent and disallowed the fuel clause charges associated with the uranium storage. The district court affirmed the Commission's Order as to the entire $3.597 million in refunds arising from the Company's imprudence in retaining nuclear fuel for River Bend. In his oral reasons for decision the district judge found that the Commission had a reasonable basis to make a ruling, stating that "at some point in the last number of years, it became obvious that the price was dropping, and therefore,

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26 We note that Commission Staff Expert, Lane Kollen, whose opinion and recommendation the Commission adopted, corrected his surrebuttal testimony while on the stand, changing the amount he recommended for a disallowance for the Company's imprudence in failing to uprate the capacity of River Bend from $1.459 million to $1.450 million. The Commission stated in the Order that "Mr. Kollen's recommendation is adopted, and the Commission will disallow excessive fuel costs of *$1.459 million* associated with GSU's failure to uprate River Bend capacity." *Order U-19904-D* at p.15 (emphasis added). Although we notice this apparent discrepancy, we are unable to tell from the record whether the discrepancy between the final Order and Mr. Kollen's testimony is an intentional deviation from Mr. Kollen's recommendation or whether it is a clerical error. However, since neither party raised the issue or assigned it as an error, either here or below, we decline to address it here.

the PSC is correct, that at some point in time the excess should have been sold off, and the benefit should have gone to the ratepayers." For the reasons that follow, we agree with the trial judge's ruling and affirm this portion of his order.

The Company argues that the Commission committed legal error in its prudence review by viewing the Company's actions through impermissible hindsight. Rather, the Company asserts that the Commission should have adopted the hearing examiner's recommendation and found its actions prudent. After hearing testimony from expert witnesses from both the Company and the Commission Staff, the hearing examiner found the Company's management of its nuclear fuel reserves prudent because the market projections that were available at that time forecasted an increased price for uranium. Documents and testimony introduced through Mr. Frank B. Rives, the Director of Nuclear Fuels at Entergy Operations, Inc., the Company's expert witness, support that the decision to store excess uranium rather than retaining it was prudent due to the market predictions of a dramatic price increase to $90.00 per pound. The Company argues that the hearing examiner's recommendation was correct because had the projections materialized, retention rather than reduction of its nuclear inventory would have been prudent. The Company further argues that the Commission can only arrive at a finding of imprudence by the use of impermissible hindsight in its consideration of the Company's decision to retain the fuel as it is only with hindsight that the Commission could expect the Company to know that the market would not escalate but actually drop.

The Commission rejected the hearing examiner's recommendation, stating that the hearing examiner's conclusion was unsupported by the record and erroneous because he relied "on his undocumented recollections of testimony given in other cases in the 1970's that uranium was in short supply," and his conclusion was based on "the wrong time period," i.e. the early 1970's. Rather, the relevant time period under review by the Commission is after the Company decided not to build the other reactors, after the Three Mile Island accident, in the late 1970's and early

1980's, “when there was an ample supply of uranium.”

Additionally, the Commission found that the Company failed to carry its burden of proof. The Commission properly stated “Louisiana law requires GSU to demonstrate that it had a reasonable process for its nuclear fuel procurement decisions.” After its review of the record, the Commission found that the Company made “no attempt” to carry its burden of demonstrating the reasonableness of its actual decision making processes below. The Company “provided no evidence to support the prudence of its decision not to dispose of more uranium after three of its nuclear units were canceled.” *Order U-19904-D* at p. 17. The Company provided “no studies, memoranda, or other documents to support the prudence of its decisions,” during the relevant time period. Discrediting the opinion of Mr. Frank Rives, the Company expert, the Commission found that Mr. Rives admitted to being unfamiliar with the Company’s decision making processes during the time period under review, and that he did not know who made the decisions, and did not have any personal knowledge of the Company’s assumptions or expectations as to the benefit or detriment of holding onto excess uranium. *Id.* at 17. Mr. Rives was the only witness for the Company on the issue of the Company’s decision making processes during the relevant time period, after the cancellation of the three nuclear plants. No other testimony was introduced to illuminate the Company’s reasons for acquiring additional uranium under existing commitments, or for retaining fuel in an amount in excess of its needs once the other three plants were cancelled. Thus, the Commission concluded that the Company had not carried the burden of establishing that it acted as a prudent utility with respect to decisions regarding nuclear fuel acquisition and retention.

The Commission emphasized that the Company’s nuclear fuel costs, during the review period, were higher than those of “virtually every other utility in the country.” *Order U-19904-D* at p. 16. River Bend had an average nuclear fuel cost of 13.01 mills per kilowatt hour, approximately two mills higher than the next highest unit with a capacity equivalent to that of

River Bend, and "almost more than double the mean fuel cost of all the units in the country." *Ibid*. Therefore, the Company's customers paid for $21 million more in nuclear fuel costs than they should have. The Commission Staff's expert witness, Mr. Lane Kollen, Vice President of J. Kennedy & Associates, Inc., an economic utility consulting firm, quantified the excess expense caused by retention of excess uranium at $3.597 million.

Based on the Company's failure to demonstrate a reasonable basis for its nuclear fuel retention decisions, the Commission found imprudence and disallowed the related fuel charges. Reluctantly relying on Mr. Kollen's quantification of the associated expenses, the Commission wrote "Mr. Kollen's recommendation is modest" but ultimately held "[t]he modest disallowance proposed by Mr. Kollen is accepted, and the Commission will disallow excessive fuel costs of $3.597 million associated with the Company's canceled nuclear units and speculation in the uranium market." *Order U-19904-D* at p. 18.

After our extensive review of the record, we agree with the trial court's determination that the Commission had a reasonable basis upon which to rest this disallowance and we find no errors of law. Further, we find that the Commission's decision was not arbitrary, capricious or an abuse of authority; and we therefore affirm.

IV. EXCESSIVE COAL COSTS ASSOCIATED WITH THE NELSON 6 STATION

The Commission disallowed a total of $1.191 million in excessive coal costs associated with the Company's imprudence regarding its Nelson 6 Station. The district court affirmed the Commission's order with respect to the total $1.191 million stating that the Commission had a reasonable basis, considering all of the evidence, with which to support its decision. We agree with the trial judge's conclusion and affirm his ruling.

The Commission based its disallowance on the Company's imprudent price renegotiation of its Kerr-McGee coal supply contract in 1991 which consequently made operation of the Nelson 6 more expensive, at a time when cheaper sources were available. The Commission found that

the Company presented no witnesses that could attest to the Company's decisionmaking process during the relevant time period. Witnesses produced only testified to an "after-the-fact explanation" which the Commission found did not "withstand scrutiny." *Order U-19904-D* at p. 21. Thus, the Commission concluded that since the Company could not supply contemporaneous documentation of any of its decisionmaking processes with regard to the Kerr-McGee contract decisions, which its own consultant witness testified that a prudent utility would do, it failed to carry its burden under the prudence inquiry to show a reasonable decisionmaking process. *See Test. Schwartz,* L.P.S.C. (10/06/96).

The Company presented its expert witness, Mr. Seth Schwartz, who testified that the Company did not provide him with any contemporaneous documentation or analysis recording the Company's decisions regarding the renegotiation of the coal requirements contract. *Test. Schwartz at* p.1565, L.P.S.C. (10/06/96). Mr. Roy Giangrosso, Entergy's Director of Coal Supply, testified that his analysis of the redetermination was a reconstruction made three years after the negotiation took place.[27] *Cross Test. Giangrosso at* p. 2548, L.P.S.C. (3/13/95).

After reviewing the testimony and other evidence from the proceedings below, we find the Commission did not act arbitrarily or capriciously, but had a reasonable basis to determine that GSU did not carry its burden of showing the reasonableness of its decision-making process under the prudence analysis. We therefore affirm the trial court's ruling with respect to this portion of the imprudence disallowances.

V. GAS INVENTORY CARRYING COSTS AT "SPINDLETOP" AND THE BASE RATE ELECTRICITY COSTS BOTH "SPINDLETOP" AND NISCO

This issue encompasses two of three disallowances ordered by the Commission.[28]

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27 Mr. Giangrosso further testified that aside from industry publications which he believed were considered, "there's no document that demonstrates or memorializes what was done and how it was done." *Cross Test. Giangrosso* at p. 1551, L.P.S.C. (3/13/95).

28 One disallowance, totaling $14.269 million, was not appealed by the Company to the district court.

The first issue which we address is the $7.58 million in gas inventory charges from Spindletop, and the second, involves both the $2.172 million disallowance associated with the rebilling of the cost of electricity supplied to Spindletop and the $.121 in base rate charges for the Nelson Industrial Steam Company ("NISCO").

Generally, as to the first issue, the Company entered into a contract with Sabine Gas Transmission ("SGT") to construct and operate a gas storage facility known as "Spindletop." Based on the terms of the transaction between the Company and SGT, and expert testimony at the hearings, the Commission found that the Company effectively owns the facility.[29] The Commission ordered a refund of $7.58 million due to the improper inclusion of gas inventory charges from this facility in the monthly fuel clause charges. The Company labeled the expenses "carrying charges" on the gas inventory at Spindletop and passed-through these expenses to its customers in fuel clause charges since July, 1992. The Commission found this practice objectionable because the expenses, which are not truly fuel expenses although they are related to fuel, are not properly recoverable through the use of the fuel clause. Rather, because these costs are considered predictable, known, or measurable costs, they are properly base rate charge items and the Company is required to bring the expenses before the Commission for its approval and inclusion in the base rate in an annual base rate proceeding. The Commission evaluates the Company's total revenue requirements and determines if such expenses warrant an increase in rates only in base rate proceedings. The Commission explained that to allow the Company to use the fuel clause to pass through these costs directly to customers would allow the Company to circumvent the ratemaking process.

The second issue encompasses two disallowances; the $2.172 million disallowance

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29 Expert witness, Lane Kollen of Kennedy & Associates, testified that the transaction is no more than a third party financing arrangement, and the Commission relied upon his opinion in reaching its conclusion. *Dir. Test. Kollen* at p. 45, L.P.S.C. (12/4/95).

associated with the rebilling of the base rate cost of electricity supplied to Spindletop and the $.121 in base rate charges for NISCO. Essentially, the Company supplies electric service to Spindletop and NISCO, The arrangement between the facilities and GSU allows the facilities to bill what it pays for electricity back to the Company as part of the cost of services provided to GSU. The Company then reimburses the facilities for the amount originally paid to the Company for their electric service. This amount, which the Company repays to the facility, is then recouped by the Company by inclusion in the fuel charges passed-through to ratepayers. The Commission disallowed these costs stating that "GSU should not have the ability to unilaterally charge ratepayers base rate charges in the fuel clause. GSU conceded that the amount in question is a base rate charge that has been billed through the fuel clause." *Order U-19904-D* at p. 18. The Commission explained "[t]he rationale for disallowing both the NISCO and the Spindletop base rate charges is the same--base rate costs should not be billed through the fuel clause." *Id.* Making the activity even more objectionable to the Commission, during part of the review period the Company was under a base rate freeze, which would have precluded the Company even from recouping these expenses properly through a base rate increase. Thus, inclusion of these charges during the freeze through the use of the fuel clause effectively circumvented the effects of the base rate freeze. GSU sought and obtained the base rate freeze after a base rate increase, and as a result, GSU agreed not to seek another rate increase prior to December 31, 1992. *Order U-19904-D* at p. 19 (citing *Order 17282-J* at p. 32.) Thus, the decision to funnel these costs, only properly recoverable in base rates, through the fuel clause charge, effectively circumvented both the rate freeze in effect during much of the review period and the proper ratemaking processes. The district court found that the Commission had a reasonable basis upon which to make this determination and affirmed the Commission's disallowance.

The Company argues that the Commission's disallowance is arbitrary in that no basis in fact or law exists for the Commission's determination that the Company is not entitled to recover

fuel transportation costs through use of the fuel clause. The Company argues that the reasons given by the Commission--the classification of the costs, circumvention of the rate freeze and ratemaking process and the relationship between the Company and the supplier--fail to support the ordered refunds. Essentially, the Company asserts that the characterization of the relationship between SGT and GSU is an improper basis upon which to order a refund. The Company argued that Spindletop is no more than an ordinary service provider to the Company and that Spindletop and NISCO just happen to also be electric service customers as well as suppliers. As such, whenever the Company pays a legitimate fuel bill to a supplier and records that payment as an expense, whether that supplier is a customer or not, the Company is paying the cost of electricity incurred by the supplier as the supplier will include in its price of service the total costs of operation. Thus, the only difference with regard to these facilities is that these two suppliers itemized their bills.

The Commission considered these explanations through the testimony of the Company's expert on the matter, Mr. Kenneth F. Gallagher, as well as the Staff's expert, Mr. Lane Kollen. After consideration of the evidence, the Commission found that the facility was in fact effectively an asset of GSU. As an asset, the facility's electric service cannot be billed to the ratepayers because the Company's utilization of electricity at its own plants is not properly categorized as a fuel expense, but is rather an operational expense which can only be included in the base rate. The Commission's decisions regarding interpretation of its own rules and orders are entitled to great weight, and will not be disturbed on appeal unless shown to be arbitrary, capricious or abusive of authority. *See Central Louisiana Elec. Co., Inc.*, 370 So.2d 497.

> The Commission is an expert within its own specialized field and its interpretation and application of its own General Orders, as distinguished from legislative statutes and judicial decisions deserve great weight, because the Commission is in the best position to apply its own General Orders.

Dixie Elec. Membership Corp. v. Louisiana Pub. Serv. Comm'n., 441 So.2d 1208, 1210 (La. 1983) (citing *Central Louisiana Elec. Co., Inc.*,370 So.2d 497).

The trial court found a reasonable basis in the record to support the Commission's conclusions with respect to these issues and affirmed. Likewise, we find a reasonable basis in the record to support the Commission's findings and conclusions, and have found no error of law in the Commission's interpretation of its own rules and order. Accordingly, since the Commission's Order has not been shown to be arbitrary, capricious or abusive of its authority, we agree with the trial court, and affirm his ruling.

DECREE

For the reasons set forth, the district court judgment affirming part and reversing part of Commission Order U-19904-D, which found Gulf States to have been imprudent and which required Gulf States to refund to its ratepayers $34.2 million, is affirmed in part and reversed in part. That portion of the district court ruling ordering Gulf States to refund $8.795 million in a one-time credit to customer bills is hereby affirmed. The portion of the trial judge's ruling in which he reversed the Commission's finding of imprudence with regard to the outages and outage extensions at River Bend, is hereby reversed and set aside. Finally, the portion of the trial court ruling reversing the Commission's disallowance of $1.459 million based upon its finding of imprudence with respect to Gulf State's failure to uprate River Bend is also reversed and set aside. Accordingly, in all other respects the ruling of the trial court is affirmed.