

UNITED STATES OF AMERICA
BEFORE THE
NUCLEAR REGULATORY COMMISSION

In the Matter of) Docket No. 50-458
Gulf States Utilities Co., et al.) ASLBP No. 93-630
(River Bend Station, Unit 1))

AFFIDAVIT OF WERNER T. ULLRICH
ON BEHALF OF
CAJUN ELECTRIC POWER COOPERATIVE, INC.

County of Ball and)
State of Kentucky) ss:
)

WERNER T. ULLRICH, being duly sworn, deposes and says:

1. My name is Werner T. Ullrich. My business address is United Energy Services Corporation, Green Hills Corporate Center, P.O. Box 1616, Reading, PA 19603.

2. I am a Senior Management Consultant specializing in commercial nuclear and Department of Energy nuclear site management and operations. I earned a Bachelor of Science degree in Electrical Engineering from Drexel University in 1957. In addition, I have completed a Vitro Nuclear Engineering Course (sponsored by PECO Energy Company) and graduate level courses at both Drexel University (Atomic Physics and Electrical Engineering) and Pennsylvania State University (Advanced Mathematics). In 1983, I completed the Executive Development Program at Cornell University.

3. I joined PECO Energy Company after graduation in 1957 and worked in various engineering and management positions until 1990. From 1971 to 1983, I was Station Superintendent (or Plant Manager) for the Peach Bottom Atomic Power Station. As Station Superintendent, I was responsible for the safe and reliable operation of the facility. Responsibilities included operations, maintenance, radiological protection, chemistry, security, budget and staffing. I was also the principle interface with the NRC inspectors and corporate engineering and quality organizations. Between 1983 and 1990, I held various corporate and Limerick Station line and support management positions related to the start-up of Limerick Unit 2 and operation of both Peach Bottom and Limerick. During 1991, I was

employed with the Tennessee Valley Authority as Field Services Manager for the restart of Browns Ferry Unit 3.

4. My affidavit is sponsored by Cajun Electric Power Cooperative, Inc. ("Cajun"). Cajun has a thirty percent ownership interest in River Bend Station related to its \$1.6 billion investment in the facilities.

5. In this affidavit, I discuss the relationship of reduced nuclear plant Operation and Maintenance (O&M) expenditures to a plant's safety performance. Based on my analysis of industry data and my personal experience I believe that reduced O&M funding (excluding fuel) of a nuclear plant over a period of years will cause a reduction in the plant's safety performance. Furthermore, once a plant's safety performance has declined, significantly increased funding is required to re-establish the plant's safety performance to an acceptable level.

6. If a decision is made to permanently shutdown and decommission the plant, significant funds are still needed to maintain the plant in a safe shutdown condition until full decommissioning is completed. Recent industry experience has shown that the cost of totally decommissioning a facility is significantly more than the decommissioning costs estimated in accordance with NRC guidelines.

RELATION BETWEEN O&M FUNDING AND SAFETY PERFORMANCE

7. The term "safety performance" in this affidavit is used in the same context as used by the U.S. Nuclear Regulatory Commission (NRC) Directive 8.6 [Systematic Assessment of Licensee Performance (SALP)] Policy and Objectives. The inspection reports and SALP reports issued by the NRC provide information regarding a licensee's performance with respect to meeting the NRC regulations as well as the NRC's concerns regarding the licensee's ability for long term safe operation and control of the facility to protect the public health and safety and property interests. The NRC's average SALP ratings are a measure of a plant's safety performance. Once a plant's rating in an area drops below the Category 2 rating, the NRC's confidence regarding the plant's performance in that area is reduced significantly. Likewise, once a plant's average SALP rating drops below Category 2, it is safe to assume that the NRC's overall confidence in the plant's ability to continue long term safe operation is diminished.

8. A plant's O&M budget has a significant impact on the plant's ability to maintain its safety performance. Adequate funding is required to meet regulatory requirements and industry standards of excellence. A plant's O&M budget excluding fuel cost is used primarily to pay the salaries of the plant staff, to provide for support services either internally (from within the company) or externally (from contractors), to purchase materials such as spare parts and chemicals, to provide for other services such as waste disposal, water usage, building cleaning

services, telephones, etc., and to pay the fees assessed by INPO, NRC, and various state and local governments. Many of these costs are not easily controllable by the utility or plant staff. Reduced funding generally results in reduction of the variable costs that are more easily controllable by the plant management. In most cases, this impacts administrative and engineering staffing and workload; limits the amount of internal or external services purchased; and extends time schedules for implementation or completion of costly corrective actions, mandated NRC studies and programs, and discretionary preventive and corrective maintenance. It may also impact discretionary training for the plant staff. When O&M budgets are reduced, staff workload typically increases because purchased services such as engineering support and vendor support is curtailed.

9. Reduction of O&M funding also stimulates middle management to look for departmental activities that can be eliminated or curtailed without immediate detrimental effects. This may result in a reduction of the number and scope of the self-assessments conducted, less attention given to management oversight activities, and less emphasis placed on the identification and correction of the root cause of problems. When staff reductions are initiated due to budget limitations, reductions initially impact the training department, quality assurance organizations, administrative staff, and support staff such as security and technical support. Reduction of staffing in these groups has the potential for decreasing the effectiveness of training and quality oversight and transferring more of the workload to other groups that are more directly involved in the day-to-day operation of the facility. Typically, when a utility is forced to reduce O&M budgets, capital budgets are also reduced. This means that only the most important modifications mandated by the NRC or required for continued plant operation are funded, engineered and installed.

10. Generally, reduced O&M and capital funding over a period of years has the potential to create any or all of the declining performance indicators cited as NRC concerns associated with poor SALP ratings.

RIVER BEND FUNDING AND SAFETY PERFORMANCE

11. I have reviewed the River Bend SALP ratings and O&M (excluding fuel) funding information. I have also reviewed River Bend's last two SALP Reports.

12. The March 8, 1994 River Bend SALP Report and NRC transmittal letter indicates a declining safety performance at River Bend for the last two SALP periods which cover the period from April 1, 1991 to January 29, 1994. The SALP ratings reported by the NRC averaged 1.67 in 1991, 1.89 in 1992, and 2.50 in 1994. The NRC stated that "the reasons for this overall decline in performance have been the lack of clear management expectations, oversight, and control of plant activities. In addition, management's willingness to live with degraded hardware

and equipment problems contributed to the willingness of operators to work around problems. This attitude resulted in frustration of the operations staff when questioning and aggressively pursuing potential plant issues and has resulted in an ineffective corrective action program. In addition, engineering's poor support to other organizations contributed to the untimely resolution of emergent issues and equipment problems." This SALP Report provides reasons for the declining performance at River Bend. A marginally acceptable SALP rating of 2.5 followed by a significant operational event or violation of NRC regulations, causes the NRC to lose confidence that the facility would be operated in a manner to assure that the health and safety of the public would be protected. The NRC's loss of confidence in the ability of the plant to operate safely would result the plant being placed on the NRC's problem plant list or being shutdown.

13. The average River Bend O&M funding without fuel during the last five years (1989 to 1993 in 1993 dollars) was 143 million dollars per year. The funding for Clinton during this same period was 105 million dollars per year or 38 million dollars less than the funding at River Bend. Clinton's SALP ratings improved steadily from 1990 (2.00) to 1993 (1.33). Clinton was chosen as the comparison plant since it is similar in size and design to River Bend. Based on these funding comparisons, the deteriorating performance at River Bend prior to 1993 was not caused by inadequate O&M budgets. It appears that the higher River Bend funding was required just to maintain marginal safety performance given the plant management, staffing and other conditions, as well as corporate policies and direction that controlled the plant during that period.

14. Based on the declining performance noted at River Bend in the March 8, 1994 letter, aggressive remedial action by Entergy Operations, Inc. was required to avoid an NRC shutdown order and improve River Bend's safety performance. The actions taken included the development and completion of the River Bend Near-Term Performance Improvement Plan and the development and implementation of the three-year Long-Term Performance Improvement Plan. The O&M (excluding fuel) funding for River Bend apparently exceeded the original budget by approximately 20 percent as a result of these improvement plans, plant transients, and unplanned plant shutdowns.

15. One of the stated goals of the Long-Term Performance Improvement Plan is to reduce the three-year average production costs (which include fuel costs) from 41.7 mills/KwHr in 1994, to 26.6 mills/KwHr in 1996. These numbers must be compared to the River Bend 1991 through 1993 three year average production costs of 48.38 mills per KwHr. Clinton's three year average production costs during this same time interval was 27.59 mills/KwHr. To achieve the 26.6 mills/KwHr goal, the River Bend capacity factors will have to be near the industry average (72% during the 1991 through 1993 three year period) and the O&M without fuel funding will have to decrease significantly. Only

if the Long-Term Performance Improvement Plan achieves the desired improvements in the performance of the plant staff and equipment will the planned reduction in funding (reductions in staffing and support services) not result in a decline in the safety performance of the facility. If the Long-Term Performance Improvement Plan is unsuccessful or ineffective even in a few areas, O&M funding will continue at relatively high levels and River Bend's marginal performance will not improve and may decline.

16. In summary, I believe that River Bend's performance prior to 1994 was marginally acceptable in the eyes of the NRC and the plant would have been placed on the NRC problem plant list had not the operation of the plant been transferred to Entergy. Entergy has taken steps to improve the safety performance of the plant. This has required increased funding which at this time is being provided by Gulf States Utilities. If the Performance Improvement Plans are successful, and adequate O&M funding continues, the safety performance and SALP rating at River Bend will improve. If the Performance Improvement Plans are ineffective and do not produce improved performance of River Bend's managers, staff, and equipment, funding levels will not be adequate to improve and maintain improved safety performance at River Bend. If O&M funding decreases for a period of time for any reason, the likely result will be declining safety performance and safety margins and placement of the plant on the NRC's problem plant list. The declining safety performance could also result in a significant operational event and the issuance of an NRC shutdown order.

FINANCIAL CONSEQUENCES OF RIVER BEND SHUTDOWN

17. A management consulting firm, Towers Perrin, hired by the Nuclear Energy Institute (NEI) recently issued a report based on a survey and interviews with nuclear officials and top management at all 44 nuclear utilities. Utilities with experience of having a plant on the NRC's "watch list" were asked to estimate the capital and operating and maintenance cost and person-hours "to get off the watch list beyond what would have otherwise been spent." The twenty-two capital cost response estimates ranged from \$0 to \$1.5 billion. The four responses regarding extra person-hours expended ranged from 250,000 to 1,540,000 person-hours. Additional O&M expenditure estimates provided by 20 responses ranged from \$40,000 to \$200,000,000. Perry was the first plant to receive an NRC "trending" letter in late 1993. In response to NRC concerns, an aggressive plan was developed to improve management, operations, and plant material conditions at Perry. The plan was estimated to cost \$60 million over three years.

18. In general, the data indicates that significant increases in O&M expenditures are required for plants which are identified by the NRC Senior Managers as problem plants. Improvements in multiple areas are required to restore the NRC's confidence that the plant can be operated safely without high

levels of NRC attention. For these problem plants, even after getting off the problem plant list, O&M funding levels remain at the watch list funding levels for several years. Some reductions (10 to 15 %), seem to occur after some time, however, the O&M funding never returns to the pre-watch list ranges. This fact seems to indicate that the plant's O&M funding prior to being placed on NRC watch list was inadequate and was a contributor to the poor safety performance.

19. Some plants on the NRC watch list have been able to remain in operation. In some cases, the utility has removed the plant from service voluntarily in order to avoid an NRC shutdown order. In many of these cases, the NRC then issues a Confirmatory Action Letter which requires the plant to remain shutdown until the NRC gives the approval for a restart. Essentially, this places the plant in the same position as a shutdown order. Whether the plant is shutdown by NRC Order, Confirmatory Action Letter, or by the utility, the financial impact is the same.

20. River Bend is presently increasing expenditures to implement a Performance Improvement Plan. Near the end of 1993, the NRC expressed concerns regarding the decline of the safety performance at River Bend. O&M funding levels for River Bend, which have consistently been high (143 million dollars per year average) will probably increase further before returning to a level near 120 million dollars per year after the Long-Term Performance Improvement Plan is completed. As I indicated earlier, if this level of funding is not available, the River Bend safety performance will not improve or will again decline.

21. If sufficient funding is not provided to continue the operation of River Bend and the plant is permanently shutdown, the plant ceases to generate revenue while continuing to spend funds to maintain the plant's systems and programs as required by the Operating License and Technical Specification. Without planning for such a premature shutdown, it could take one to two years to obtain regulatory relief and a Possession-Only License that permits significant reductions in plant staffing, maintenance, testing, training, programs, and O&M costs. It is estimated that a plant which is permanently shut down on short notice without adequate planning could spend about \$100 million dollars prior to receipt of a Possession-Only License.

22. Industry experience indicates that it takes over one year to develop a decommissioning plan for a nuclear facility. Decommissioning cannot start until the plan is approved by the NRC. Decommissioning costs being experienced by plants that have permanently shut down are higher than the estimated costs generated in accordance with NRC guidelines. The real cost of decommissioning River Bend is very difficult to estimate, since River Bend does not have access to a Low Level Waste burial ground at this time. Also, expenditures will continue to be incurred since DOE will not be able to accept all the fuel at the site until about the year 2030. In any case, the

real total decommissioning costs for River Bend will certainly exceed the \$382 million estimated by the GSU 1991 study. Funding the total decommissioning of a nuclear facility will require average funding of at least \$20 million per year for about 30 years.

CONCLUSIONS

23. River Bend's safety performance prior to 1994 was marginally acceptable in the eyes of the NRC. Entergy's aggressive action in providing new managers and implementing the improvement plans increased the NRC's confidence in River Bend sufficiently to keep the plant off the NRC problem plant list. These actions taken by Entergy have required increased funding above the budgets for O&M and capital expenses during 1994. In my opinion, these high levels of funding will have to continue if Entergy wishes to complete the Long Term Performance Improvement Plan as scheduled. If this funding is not provided for any reason, the Long Term Performance Improvement Plan will not be successful or will not be completed as scheduled, and the safety performance will not improve. Even if the Long Term Performance Improvement Plan is successful, and if O&M funding is reduced to less than about \$120 million per year, the plant's safety performance will again decline over a period of years. Declining safety performance increases the potential for the plant to experience a significant safety event and eventually results in a plant shutdown or, at a minimum, placing the plant on the NRC watch list.

24. Costs associated with getting a plant off the NRC problem plant lists are significant. If only limited funding is available, this cannot be achieved.

25. If a decision is made to permanently shutdown the plant, costs continue at significant levels for over one year if planning for a permanent shutdown and decommissioning has not been completed prior to shutdown. Total costs for maintenance of the Operating License for the shutdown plant until a Possession-Only License is issued are estimated to be about \$100 million.

26. Industry experience has indicated that decommissioning a nuclear facility is a long drawn out process that requires funding over a 30 year period in the range of \$20 million per year.

27. GSU may not be able to provide the significant long term funding needed to maintain River Bend in safe operation or support permanent shutdown and decommissioning if there is a determination adverse to GSU in the Cajun litigation. Some other source of funding should be committed to River Bend in the event

that GSU is unable to adequately fund the operating, shutdown, or decommissioning cost of River Bend.

Werner T. Ullrich
WERNER T. ULLRICH

SUBSCRIBED AND SWORN TO BEFORE ME THIS
19th DAY OF JANUARY, 1995

Monna McLean
Notary Public

My Commission Expires: 6 7 97

Attachment B