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The Public Utilities Commission of Ohio

A report by the Staff of the
Public Utilities Commission of Ohio

Ohio Edison Company

The Toledo Edison Company

The Cleveland Electric Illuminating Company

Case Nos. 08-124-EL-ATA
08-125-EL-AAM

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I Executive Summary

A. Background

On October 21, 2003, FirstEnergy (FE) filed an application in Case No. 03-2144-EL-ATA (03-2144) for authority to continue and modify certain regulatory accounting practices and procedures, for tariff approvals, and to establish regulatory transition charges following the market development period (MDP). FE also requested to establish rates for generation service under Chapter 4928, Revised Code, to be effective January 1, 2006. A partial Stipulation and Recommendation was filed on February 11, 2004, resolving some issues for certain signatory parties, and a revised rate stabilization plan (RSP) was filed on February 24, 2004. On June 9, 2004, the Commission issued its Opinion and Order in 03-2144, and subsequently issued an Entry on Rehearing on August 4, 2004, a Second Entry on Rehearing on September 29, 2004, and a Third Entry on Rehearing on November 23, 2004. Among other things, the Commission approved a modified RSP for the period of January 1, 2006, through December 31, 2008, including a provision that allowed FE to seek an adjustment to its generation charge for increases in the cost of fuel.

On May 27, 2005, in accordance with the RSP, FE requested the implementation of a rider to recover its increased fuel costs for 2006 through 2008, subject to reconciliation, in Case No. 05-704-EL-ATA (05-704). However, FE subsequently filed under new Case Nos. 05-1125-EL-ATA, et al., (05-1125) two settlements entered into by FE and various parties that established a rate certainty plan (RCP) as an alternative to the generation charge adjustment rider requested in 05-704. On January 4, 2006, the Commission issued its Opinion and Order in 05-704 and 05-1125 approving the RCP, with clarifications. The Commission further modified the RCP through its January 25 and March 1, 2006 Entries on Rehearing.

On May 3, 2006, the Supreme Court of Ohio issued an opinion in *Ohio Consumers' Counsel v. Public Util. Comm.*, 109 Ohio St.3d 328, 2006-Ohio-2110 (2006), an appeal as of right from 03-2144. The Court affirmed, in pertinent part, the Commission's decision regarding its approval of a modified RSP, including its approval of the provision that authorizes FE to request an adjustment to its generation charge during 2006 through 2008 to recover increases in the cost of fuel above its 2002 fuel cost baseline.

On August 29, 2007, the Court also issued an opinion in *Elyria Foundry Co. v. Public Util. Comm.*, 114 Ohio St.3d 305, 2007-Ohio-4164 (2007), an appeal as of right from 05-704 and 05-1125. The Court affirmed the Commission's approval of the RCP, except with regard to the collection of deferred fuel costs through distribution base rates in future distribution rate cases. On this sole issue the Court remanded the case to the Commission to modify the RCP accordingly.

In response to the Court's ruling, on September 10, 2007, FE filed an Application on Remand in Case No. 07-1003-EL-ATA, proposing to establish two generation–related fuel cost recovery riders to collect the actual fuel costs incurred in 2006 through 2008 that are above the 2002 fuel

cost baseline and that are in excess of the fuel costs that have already been collected from customers via the fuel recovery mechanism.

On January 9, 2008, the Commission approved FE's Fuel Cost Recovery Rider that would recover ongoing fuel costs incurred from January 1, 2008 through December 31, 2008. However, the Commission denied FE's request to implement the Deferred Fuel Cost Recovery Rider that would recover fuel costs deferred from the inception of the fuel deferral under the RCP through December 31, 2007, plus carrying costs on the unrecovered deferred cost balance. Instead, the Commission ordered FE to file an application to establish an alternative recovery mechanism to collect the 2006-2007 deferred fuel costs and associated carrying costs.

On February 8, 2008, FE filed an Application on Remand In Case No. 08-124-EL-ATA (08-124) and Case No. 08-125-EL-AAM (08-125) to establish a recovery mechanism for fuel costs deferred during 2006-2007. FE's application was filed pursuant to a Commission order issued in Case No. 07-1003-EL-ATA on January 9, 2008, which directed FE to apply for an alternative recovery mechanism to collect the 2006-2007 deferred fuel costs and associated carrying costs previously established in Case Nos. 03-2144-EL-ATA (the rate stabilization plan (RSP) proceeding) and 05-1125-EL-ATA (the rate certainty plan (RCP) proceeding).

On April 4, 2008, the attorney examiner issued an entry in 08-124 granting motions to intervene and scheduling the hearing including testimony and discovery submission dates. The attorney examiner entry also directed that a Staff report be filed no later than June 4, 2008. Accordingly, the Commission Staff has conducted its investigation and hereby submits its findings in the Staff report as ordered in the above referenced case.

B. Summary of Recommendations – See specific section write-ups for narrative on findings and conclusions that support the following recommendations:

- Staff recommends that coal costs as reported on the required monthly submittals should be reduced by $19,526 in 2006 and $2,230,068 in 2007, reflecting the gain on coal re-sold by FE.

- Staff determination of the appropriateness of coal costs reported on the required monthly submittals for 2007 should be withheld until Staff has sufficient time to evaluate the submitted coal expense information.

- Staff recommends that FE's physical inventory adjustments for 2008 and 2009 should be evaluated as part of the evaluation to be conducted at the end of the RSP.

- Staff recommends that the Resource Fuels agreement be reviewed in the next audit and that the Commission direct the next auditor to report its findings.

- Staff recommends that the "Fuel Policies, Procedures and Practices Manual" be updated to reflect the Fuelworx system that was implemented in May 2006.

- Staff recommends that the "Fuel Policies, Procedures and Practices Manual" be changed to define spot coal and the current policies on purchasing spot coal.

- Staff recommends that FE clarify its "Fuel Policies, Procedures and Practices Manual" to indicate whether the manual is reviewed every three years or annually.

- Staff recommends that FE make any additional corrections to the "Fuel Policies, Procedures and Practices Manual" that reflect current operating procedures.

- Staff recommends that FE continue to negotiate with [redacted] and if any amount is recovered that the amount be credited to fuel costs. Staff recommends that this issue be reviewed in the next audit and that the Commission direct the next auditor to report its findings.

- Staff recommends that that FE provide the analysis it performed for the [redacted] 2007 liquidated damages. Staff recommends that this issue be reviewed in the next audit and that the Commission direct the next auditor to report its findings.

- Staff recommends Bayshore steam costs as reported on the required monthly submittals should be reduced by $11,239 in 2007, reflecting an overstatement of 26,383,469 klbs billed in error.

- Staff recommends that "Other Fuel" costs as reported on the required monthly submittals should be increased by $56,885 in 2006 and $257,905 in 2007 reflecting the cost of peaking and light-off oil.

- Staff recommends that FE shall initiate a plan of action to ensure that both the GATS and Fuelworx systems conform to each other for the purpose of FE's internal and external reporting on "as consumed" gallons.

- Staff recommends that FE should make every attempt not to forfeit supplier discounts in the future.

- Staff recommends that emission allowance costs as reported on the required monthly submittals should be decreased by $4,651,700 in 2006 and $11,497,906 in 2007, reflecting allowance auction proceeds and gains from allowance sales during 2006 and 2007 that should be credited to ratepayers in this proceeding. FE has indicated that neither allowance auction proceeds nor allowance gains were incorporated into the 2002 baseline rate. Staff has seen no evidence that would contradict this claim. Therefore, when crediting the 2006 and 2007 costs, Staff believes it would be appropriate to net FE's auction proceeds and allowance gains from 2002 against this amount.

- Staff recommends that the "Emission Allowance Practices and Guidelines", referenced in FE's "Fuel Policies, Procedures, and Practices Manual" be developed and maintained.

- Staff recommends that any and all analysis performed prior to entering into an allowance transaction should be maintained for audit purposes. This analysis should include a consideration of available options to address any projected short allowance position.

- Staff recommends that generation MWhs as reported on the required monthly submittals should be decreased by 53,404 MWhs and 42,198 MWhs for 2006 and 2007 respectively, reflecting an overstatement of generation MWhs reported during the audit period.

For purposes of this proceeding, FE is authorized to request an adjustment to its generation charge during 2006 and 2007 to recover increases in the cost of fuel above its 2002 fuel cost baseline in excess of the fuel costs that have already been collected from customers via the fuel recovery mechanism (FRM) in 2006 and 2007. The increased cost of fuel (in $/MWh) above the 2002 baseline (in $/MWh) is multiplied by the nonshopping MWh retail sales (excluding any special contracts to which the FRM does not apply) to obtain the recoverable increased fuel costs. After subtracting FRM revenues collected from customers in 2006 and 2007 from the recoverable increased fuel costs, FE is requesting $206,623,636 of deferred fuel comprising $109,748,225 for 2006 and $96,875,411 for 2007.

After calculating the fuel cost and generation MWh adjustments proposed by Staff in the recommendations above, the $109,748,225 deferral requested by FE for 2006 is reduced to $107,766,309. After calculating the fuel cost and generation MWh adjustments proposed by Staff in the recommendations above the $96,875,411 deferral requested by FE for 2007 is reduced to $89,721,766.

In aggregate, the total 2006 and 2007 fuel deferral of $206,623,636 is reduced by $9,135,561 to $197,488,075.

Staff recommends that FE recover $197,488,075 of deferred fuel for 2006 and 2007. The recovery of $197,488,075 of deferred fuel for 2006 and 2007 does not include any carrying charges or commercial activity tax the Commission may deem appropriate. In this Staff report, Staff is not commenting on carrying charge or commercial activity tax calculations nor any recovery mechanisms/recovery periods to collect the deferred fuel.

II. Coal Procurement

A. Financial Review

Staff's financial review included review of the following information provided by FE:

- Monthly coal receipts, by plant, for 2006, 2007, and July-December 2005
- Physical inventory evaluations conducted in 2005, 2006 and 2007
- Monthly coal burn and cost data for 2006 and 2007
- Journal entries for fossil coal expense as reported in the ledger, for 2006 and 2007
- Adjustments made to ledger coal expenses in 2006 and 2007
- GATS support for MWh, tons and MMBtu for coal in 2006 and 2007
- All coal related invoices for the month of March, 2007

- Fuel burn forecasts for 2006, 2007 and 2008
- Monthly projected and actual coal inventory levels for 2006 and 2007
- Coal that was re-sold by FE during 2006 and 2007
- Coal that was synfueled during 2006 and 2007

Re-Sold Coal

During 2006, FE re-sold coal that had been purchased from [redacted] This coal was delivered by [redacted] in 2006 in order to make up tonnage that it failed to deliver in 2005. Because a rate freeze was in effect during 2005, Staff believes that it is appropriate for FE to retain the profits made on this re-sale. [redacted] Staff believes that this coal was re-sold for synfuel purposes to [redacted] The difference between these increments, or [redacted] that were transacted, should be used to reduce fuel costs, for a total reduction of $19,526.

During 2007, FE re-sold coal that it had purchased from [redacted] Similar to 2006, Staff believes that the [redacted]. In 2007, [redacted]. The coal was re-purchased [redacted] Absent a showing of the rationale for re-selling the coal below the purchase price, Staff can not recommend that the difference between these increments be used to increase fuel costs. The [redacted] coal was re-sold to [redacted] at various, all positive, price differentials. Staff believes that the total value realized by these coal re-sales should be used to reduce fuel costs, for a total reduction of $2,230,068.

Synfuel

During 2006, FE purchased approximately [redacted] tons of coal as synfuel, from eight different suppliers. Total savings realized from the synfuel processing was approximately [redacted]. About [redacted] tons of the synfuel was purchased directly as synfuel, rather than run through the synfuel process. The savings achieved from the synfuel process were appropriately included in the cost of coal through the purchase price of the synfueled coal.

During 2007, FE increased its synfuel utilization to approximately [redacted] tons, from five different suppliers. The total savings realized in 2007 was approximately [redacted]. In 2007, about [redacted] tons of the synfuel was purchased directly as synfuel. As in 2006, the savings achieved through the synfuel process were included in the cost of coal through the purchase price of the synfueled coal.

Coal Invoice Review

In order to test the coal cost accounting process, Staff requested copies of all invoices for coal related costs for the month of March, 2007. This included invoices for the cost of the commodity, premiums/penalties for coal quality deviations, and all coal transportation costs (truck, rail, and barge costs, railcar lease costs, railcar repair costs, and so forth). Staff compared invoices against the costs entered by fuel accounting into the Fuelworx database for March, 2007. For some plants, every entry was reviewed. For others, entries were spot checked.

Staff's invoice review disclosed a material error associated with invoice processing for [redacted] The premium/penalty calculations for a supplier were computed incorrectly, resulting in an overpayment to the supplier of $36,385 in March for the quality of coal shipped in February. When informed of this calculation error, FE reviewed premium/penalty payments made to this supplier for other months and determined that the supplier had been overpaid by a total of $217,978 during 2007. FE contacted the supplier and immediately received a revised invoice to correct this error. Normal processing of the invoice would correct this error.

Staff found that a purchase from [redacted] for March 2007 under purchase order 2015 was paid for at [redacted], although the purchase order states that the coal should be priced at [redacted]. Because of this occurrence, Staff reviewed all purchases under purchase order 2015 for the year 2007, from the monthly coal purchase data supplied by FE. For much of the year, the coal was priced at [redacted]. However, for two months it was priced significantly higher, while a few other months were priced somewhat lower.[1] Based on this information, coal purchased under this purchase order during the year cost a total of $189,000 more than if all of the coal was purchased at [redacted]. FE's explanation for this is that the higher priced coal was coal that FE was obligated to take during 2006, but could not be delivered during 2006. The inability to take delivery was due to the CSX railroad not permitting FE to place a third train set into service until February, 2007. The third train set was necessary for FE to be able to take full delivery of the 2006 tonnage. Because of these circumstances, Staff believes that FE's decision to accept the 2006 tonnage at the higher price was reasonable.

In reviewing premium/penalty calculations, Staff found that SO_2 premiums paid for deliveries from [redacted] plant were based on the value of SO_2 emission allowances. Staff believes that a more appropriate basis would be the cost of scrubbing, because Mansfield is a scrubbed facility. The difference for the premium calculations that Staff reviewed for the 21,818 tons shipped to Mansfield in the month of March 2007 would be approximately $46,000. Based on the assumption that the same type of premium/penalty calculation was made for all of 2006 and 2007, Staff's calculations show that the additional SO_2 premium paid to [redacted]). FE explained that the [redacted] coal was originally shipped to Sammis, rather than Mansfield. Because of a 2005 NSR consent decree, it was necessary to burn much lower sulfur coal at Sammis. The [redacted] coal, even with the higher sulfur premium, was significantly below the existing market price for comparable quality coal that could have been purchased for Mansfield during 2006 and 2007. Because of these circumstances, the Staff believes that FE's decision to take the [redacted] coal to the Mansfield plant was reasonable.

Physical Inventories

The 2005 coal physical inventory was not directly applicable to coal costs under review in this proceeding. However, Staff reviewed the report of FE's internal audit of the 2005 physical inventory in order to obtain background information about any ongoing inventory issues. In 2005, the net result of the physical inventory was to increase coal inventory by [redacted]. In this

[1] Staff notes that the tonnage and cost data from the monthly coal cost data and the March 2007 Fuelworx data do not match. Rather than calculate the March 2007 amount from Fuelworx, and the balance of the amount from the monthly data, Staff chose to calculate the amount for the entire year from the monthly data.

audit, it was noted that certain plants were not in compliance with coal belt scale testing guidelines.

The 2006 coal physical inventory resulted in an increase to coal inventory of [redacted]. Although this inventory was conducted in the summer, and the results posted in the fall of 2006, FE proposed that a portion of the adjustment should not be applicable to 2006. Because the prior physical inventory was conducted mid-year 2005, it is logical that a portion of the noted discrepancy between physical and book inventory values would be applicable to 2005. Staff reviewed FE's allocation of this physical inventory adjustment, which allocated [redacted] to a decrease in fuel expense in 2006, and found it to appear appropriate. Review of the report on the internal audit of the 2006 physical inventory showed that failure to fully comply with coal belt scale testing guidelines continued to be a problem.

In 2007, a quarterly review of plant stockpiles conducted by FE showed a significant inventory deviation at the Sammis plant. This caused FE to conduct a special physical inventory evaluation for the Sammis plant in April, 2007. The result of this evaluation was an interim adjustment to the Sammis coal pile that decreased coal expense by [redacted]. The internal audit report discussing this adjustment noted that controls over the fossil plants' coal weighing equipment calibrations needed improvement.

The regular mid-year 2007 coal physical inventory evaluation resulted in an overall adjustment that decreased coal expense by [redacted]. About [redacted] of this adjustment was due to ongoing tonnage discrepancies at the Sammis plant. The internal audit report discussing this adjustment noted that the plants need to be more diligent in performing their monthly scale calibration tests and properly maintaining the conveyor belt system.

Overall, the inventory adjustments made by FE appear to be reasonable. However, Staff is concerned about the necessity for internal auditing to make ongoing recommendations for the plants to comply with belt scale guidelines. Any review of costs conducted at the end of the RSP period will need to evaluate the 2008 and 2009 physical inventories and any resulting adjustments to fuel burn.

Coal Burn Records

In order to verify the 2006 coal costs as reported on the required monthly submittals, Staff reviewed coal expense journal entries, adjustments made to ledger coal expense and GATS support for mWh, tons and mmBtu of coal burned. Based on Staff's evaluation of this information, and discussions with company personnel in 2007, the 2006 coal costs reported on the required monthly submittals appear to have been computed properly.

Staff requested similar documentation to use for verification of the 2007 coal costs. An acceptable format of verifiable coal expense information was not received for review by Staff until late in the investigation. As of the writing of this report, Staff's review was ongoing, but no discrepancies had yet been noted in the in the coal expense information.

Recommendations

Coal costs as reported on the required monthly submittals should be reduced by $18,417 in 2006 and $2,230,068 in 2007, reflecting the gain on coal re-sold by FE.

Staff determination of the appropriateness of coal costs reported on the required monthly submittals for 2007 should be withheld until Staff has sufficient time to evaluate the submitted coal expense information.

FE's physical inventory adjustments for 2008 and 2009 should be evaluated as part of the evaluation to be conducted at the end of the RSP.

B. Contract Procurement

The Staff reviewed FE's fuel contracts and found that one contract was extended and one contract expired. A summary of FE's fuel contracts is shown in Figure I.

Figure I

FIRSTENERGY LONG-TERM CONTRACT SUMMARY 2006/2007

[redacted]

The Staff reviewed the bids that were received and evaluated the bids on a $/ton basis. The Staff compared the price of coal for the two winning bids to EIA's 2007 spot market for similar coal in the Central Appalachian region. EIA's 2007 market price for 1.2 lb. SO_2 CAPP coal was in the range of $52 to $58 per ton. After its evaluation, it appears that FE awarded contracts to the bids that were within the range or slightly higher than the range of spot coal prices found in EIA's 2007 spot market price analysis for similar quality of coal.

[redacted]

Conclusions

FE had one contract expire and entered into two new agreements during the review period. The Staff compared the price of coal on a $/ton basis under the new contracts to the price of coal on a $/ton basis from EIA's 2007 spot market prices for similar coal. The Staff found the price of coal under the new agreements to be within the range or slightly higher than the range of spot coal prices found in EIA's 2007 spot market price analysis for similar quality of coal.

Recommendations

The Staff recommends that the Resource Fuels agreement be reviewed in the upcoming audit.

C. Spot Coal Procurement & Planning

Fuel Planning

FE has long-term and short-term operating objectives. One way FE achieves these objectives is by providing a reliable, environmentally responsive and economic fuel supply to each of its power plants. The Staff reviewed FE's planning processes to gain a general understanding of the kinds of analytical tools used to forecast FE's projected fuel requirements. In addition, the Staff looked at the kinds of input data and the departments that interact with the Fuel Supply Department in the planning activities.

FE prepares a five year projected coal, oil, and gas forecast each year for FE's generating stations. The results of the five year forecast or budget is used by the Fuel Supply Department to develop FE's long-term and annual fossil fuel procurement plans. This budget becomes a part of FE's Integrated Business Plan or Corporate Goals.

FE utilizes PROSYM which is a production costing model as a tool to forecast its fuel requirements. PROSYM simulates the expected generation based on unit commitment and economic dispatch of the units, fuel price forecasts, O&M costs, system load forecasts and determines when it is economical to generate, purchase, and make firm or spot sales.

The input assumptions for PROSYM come from many Departments at FE. [redacted]

[redacted]

As mentioned previously, the Fuel Supply Department takes the burn estimates from PROSYM and turns them into long and short term fossil fuel requirements utilizing a "Fuel Budgeting Spreadsheet." After the contract commitments are examined the Fuel Supply Department determines the additional coal needed by quality. [redacted] The Fuel Supply Department sends the cost back to the Financial Group and it then becomes the official budget.

Another important aspect of the long term planning process is the determination of a contract/spot mix. Based on interviews and FE's Risk Management Policy, [redacted] Spot coal is considered purchases of coal two years or less.

Short-Term Planning

The five year budget forms the basis for FE's short-term planning. The process is essentially the same as long-term planning. The Fuel Supply Department compares the budgeted fuel consumption of PROSYM to actual operating conditions every quarter paying close attention to the cost of fuel. Then, the key assumptions are updated and PROSYM is rerun to determine the spot adjustments to build, maintain, or decrease inventories.

In addition, FE utilizes a computer model or Excel program that evaluates spot coal offers. The model ranks the bids on an evaluated basis taking into consideration variables that include the following:

- Price
- Transportation
- Ash
- Sulfur
- Btu/lb
- [redacted]
- Ash disposal cost
- [redacted]

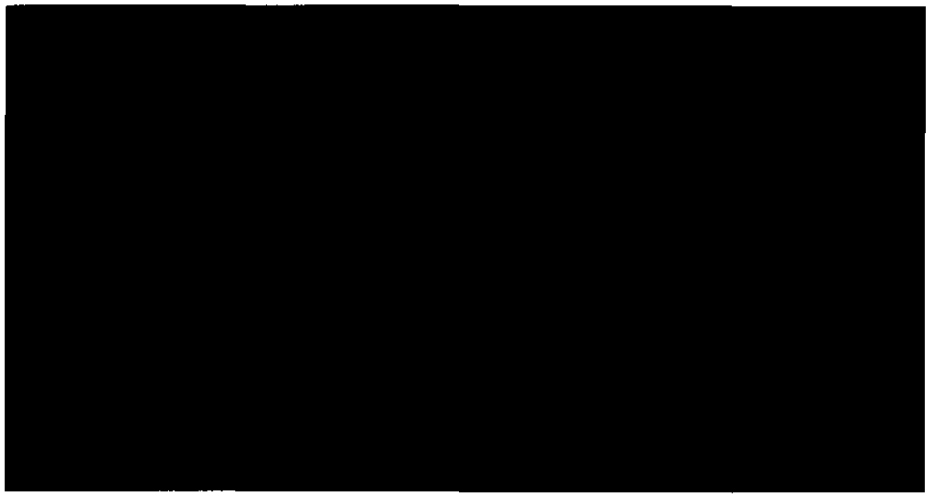
FE does not limit the amount of tons that a supplier can offer. However, the amount of tonnage purchased can be limited based on evaluated costs and other variables. In addition, FE tries to lower the price if the same tonnage is offered by another vendor. The Staff reviewed in general with Fuel Supply how the model operates and the data inputs and believes the model is a reasonable tool for evaluating spot offers.

In addition to understanding the model, the Staff asked FE to provide the model's output to review how the actual suppliers were selected. The model was not used to select spot suppliers during 2006 and 2007. However, the Staff was provided with an example of how the model would rank suppliers and it did explain the process and its usefulness.

In addition, the Staff tested FE's planning process by reviewing the budgeted and actual coal consumption for 2006 and 2007 for its generating plants. The results are shown in Figure II through Figure XVI.

The Ashtabula Station is a load following plant and cycles up and down and goes off-line frequently. Weather has an impact on the way the station is operated. During 2006, the station was under budget by [redacted] or a variance of [redacted]

Figure II



Source: Staff based on Company records

In 2007, Ashtabula was under budget by [redacted] or a variance of [redacted]. This was a result of forced outages in September and October. In addition, Fuel Supply switched from burning exclusively western coal to burning some eastern coal.

Figure III

Source: Staff based on Company records

The Bayshore Stations were both under budget and are load following plants. The variances were [redacted]. Based on data request, weather can affect the output of the stations by 10% or more.

Figure IV

Source: Staff based on Company records

Figure V

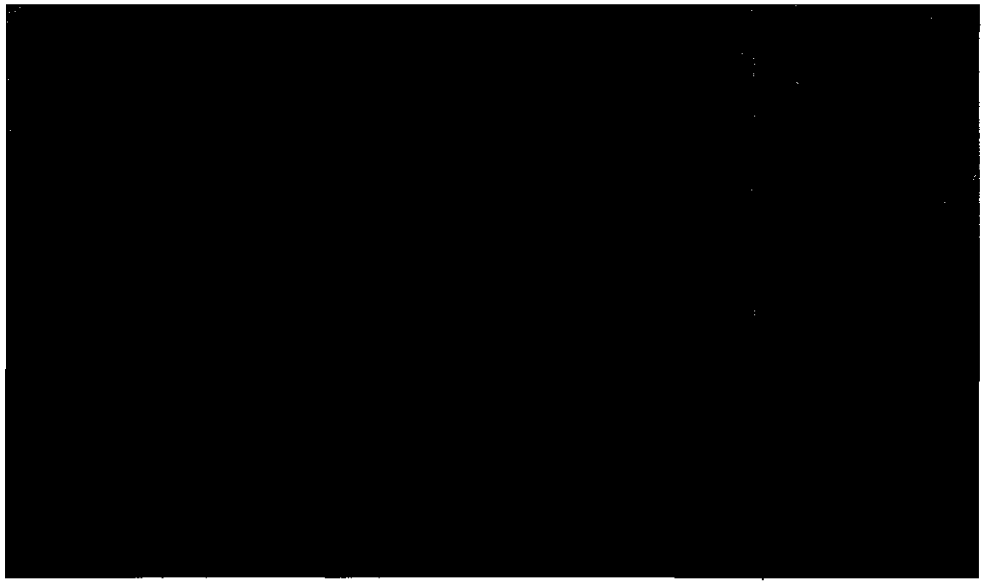
Source: Staff based on Company records

During 2006, Burger's budget to actual variance was ( ). It appears that FE switched in February to burning both eastern and western coals at the station. In 2007, the variance was . This is a result of Fuel supply increasing the amount of eastern coal being burned at the station.

Figure VI

Source: Staff based on Company records

Figure VII



Source: Staff based on Company records

Eastlakes variance was [redacted] in 2006 and [redacted] in 2007. The plant burns a combination of eastern and western coals which could account for the burn being under budget for both years.

Figure VIII

Source: Staff based on Company records

Figure IX

Source: Staff based on Company records

Lakeshore had a large budget to actual consumed tons variance of [redacted] during 2006. The station was under budget because of outages at the station in April, May, and June. Also this is a load following station. The 2007 variance of [redacted] or [redacted] is due to load following.

Figure X

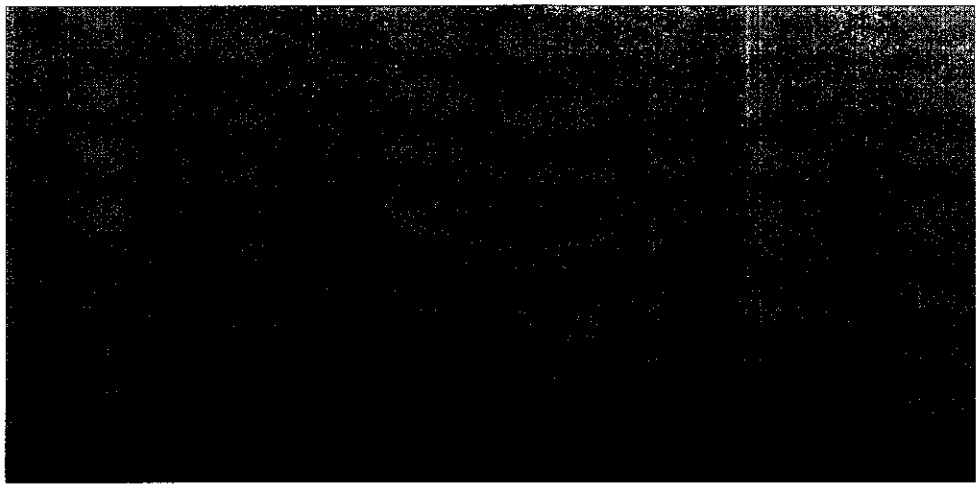
Source: Staff based on Company records

Figure XI

Source: Staff based on Company records

Mansfield is a large station and the budget to actual variance was good at ( ) in 2006. The station was over budget because of a shortened planned maintenance outage. During 2007, the station was under budget and the variance was because of forced outages in January, February, and December.

Figure XII



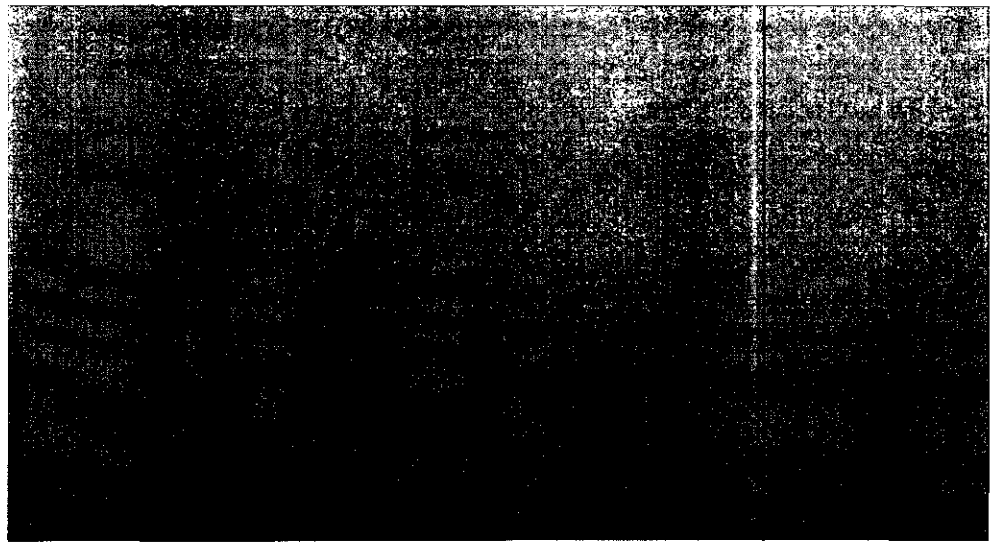
Source: Staff based on Company records

Figure XIII

Source: Staff based on Company records

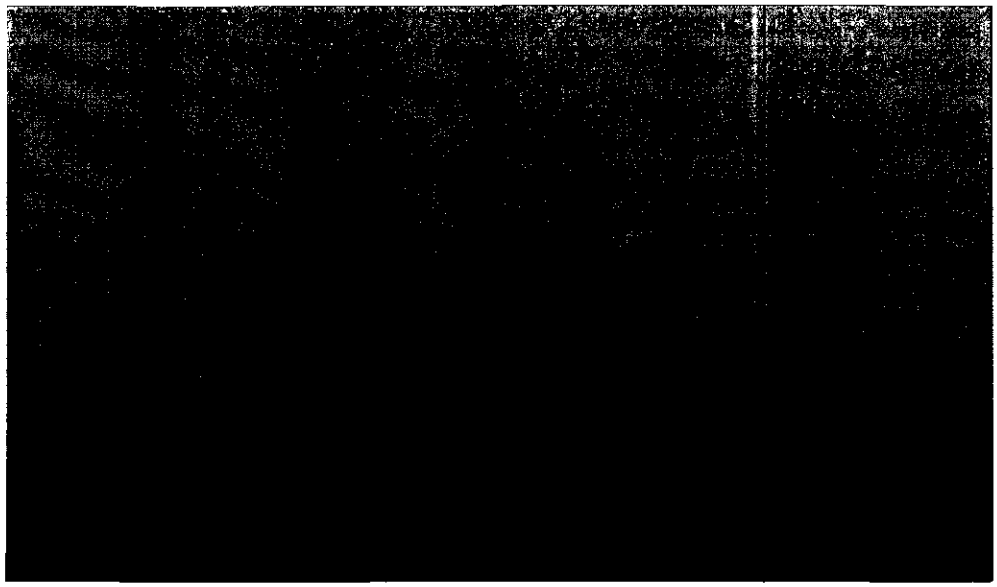
Sammis is another large plant with a variance of (. FE postponed or shortened planned outages in 2006. This caused consumed tons to increase by in September, October, and November. During 2007, Sammis was under budget with a variance of Sammis picked up additional generation because of the Mansfield outages.

Figure XIV



Source: Staff based on Company records

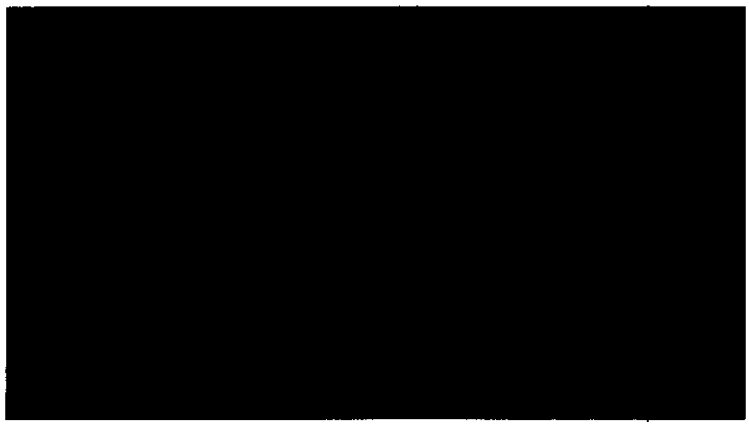
Figure XV



Source: Staff based on Company records

The budgeted versus actual coal tons consumed on a system wide basis is shown in Figure XV. As can be seen, the results were excellent for both years considering the amount of coal purchased and consumed by FE. During, 2006, the coal consumed was over budget by [redacted] and under budget by [redacted] in 2007.

Figure XVI



Source: Staff based on Company records

Conclusions

Based on its review, the Staff believes that FE has well defined planning methods in place that are supported by appropriate analytical tools.

Recommendations

The Staff has no recommendations for FE's fuel planning processes.

Policies and Procedures

FE's guidelines for the management of the Fuel Supply Department are set forth in its "Fuel Policies, Procedures and Practices Manual" that has been in effect since January 1, 2002. The manual is issued to the following departments and personnel in Fuel Supply:

- Fuel Procurement and Planning
- Fuel Services and Transportation
- Fuel Supply Department Personnel

The Mission Statement of the Fuel Supply Department is to: "perform as a world class, service oriented organization that will provide a portfolio of competitively priced fuel and fuel related services by incorporating market intelligence and recognized best practices while being flexible and responsive to customer needs in order to exceed Company expectations and maximize shareholder value."

Based on interviews, the Fuel Supply Department has internal objectives that include the following:

- Least cost solution (budget vs. actual)
- Lowest cost megawatt for fossil fuels
- Lowest cost megawatt for fuel related items (lime, ammonia, etc.)

The "Fuel Policies, Procedures and Practices Manual" is a comprehensive document that adequately defines the key guidelines for the management and operation of the Fuel Supply Department. These guidelines include the following policies and procedures:

- Policy Statements
- Department Responsibilities
- Coal Purchase Authorization Limits by Title
- Fuel Team Responsibilities
- Fossil Fuel Contracting Procedures
- Spot Fuel Procurement Procedures
- Fossil Fuel Contract Administration
- Quality Assurance
- Fossil Fuel Deliveries
- Fossil Fuel Payment Process

In addition, there are other departments included in the "Fuel Policies, Procedures and Practices Manual" that interact with the Fuel Supply Department. Their duties range from providing input in securing reliable fuel supplies to approving and authorizing payments. Several of these departments and examples of their responsibilities are listed below:

- Conversion Economics – provide the fuel burn forecast that the annual fuel purchase requirements are based upon

- Plant Personnel – member of the "Fuel Team" that develops strategies, timing, quantity, and term of fuel contracts

- Commodity Risk Management – reviews and approves coal sales based on risk management parameters then forwards its review to the Director of Fuel Supply for final approval

- Legal – contract negotiations and legal remedies to deficiencies in the terms and conditions of its fuel supply agreements

- Accounting – approves and authorizes payment to suppliers according to purchase order contract price and term

- Internal Audit – audits contracts to determine compliance with contractual terms and conditions

The "Fuel Policies, Procedures and Practices Manual" is a very detailed and well organized document. However, it appears that the manual hasn't been updated since January 1, 2002. For example, the overview states that the manual is to be reviewed on a three year basis. On pages 15 and 50 it is stated that the manual is to be reviewed annually. In addition, on pages 35, 36, 41, and 43 the manual refers to the old "Fuel Management System." However, that system was

replaced by the Fuelworx Inventory System in May 2006. Also, the manual doesn't reflect the current definition of spot coal or the current policies on purchasing spot coal.

Conclusions

Based on its review, the Staff finds "Fuel Policies, Procedures and Practices Manual" to be well organized, detailed, and beneficial. However, it appears that the manual hasn't been updated since January 1, 2002.

Recommendations

Staff recommends the following:

- FE clarify whether the "Fuel Policies, Procedures and Practices Manual" is reviewed every three years or annually
- The "Fuel Policies, Procedures and Practices Manual" is updated to reflect the Fuelworx system that was implemented in May 2006
- The "Fuel Policies, Procedures and Practices Manual" is changed to define spot coal and the current policies on purchasing spot coal
- FE make any additional corrections to the "Fuel Policies, Procedures and Practices Manual" that reflect current operating procedures

Coal Order Processing

This section of the report presents the Staff's findings and conclusions from its financial review of FE's coal order processing. A more detailed review of coal order processing is included in another section of this report. Each topic discussed addresses an important aspect of FE's processing of coal orders and also includes a description of the audit procedures that the Staff followed in its review.

FE implemented a new stand alone computerized inventory management system Fuelworx in May of 2006. Fuelworx replaced FE's older "Fuel Management System." The main purpose of Fuelworx is for fuel and transportation reporting and documentation, maintaining accurate accounting records, and approving invoices for payment. In addition, FE utilizes SAP- a General Ledger Accounting System.

There are several authorized personnel who enter different types of data into Fuelworx such as purchase order information, coal procurement data, and transportation contract specifics. Also, the power stations enter coal receipt information.

The new system offers many benefits that include the following:

- Station unit information
- Alerts to out of specification coal
- Calculates consumed coal costs
- Creates "Fuel Stock Reports"

- Creates "Fuel Stock Details Reports"

However, Fuelworx does have some limitations but its benefits may outweigh these limitations. Fuelworx cannot recalculate bonus and penalty quality adjustments which are still done separately and may be limited in the types of reports that can be generated. For example, print specific reports on quantity and dollar amounts on coal purchased. Based on the Staff's review, the change to the Fuelworx inventory system does have benefits. Fuelworx may be more efficient than the "Fuel Management System" and may improve FE's ability to monitor its fuel procurement costs.

Purchase Orders

The Fuel Procurement Department issues a Coal Purchase Order (PO) when it has decided to purchase coal from a selected vendor and after management's review and approval. Fuel Supply also coordinates the preparation of fuel for shipment, receiving and analysis reports, and schedules deliveries from suppliers. An internal Purchase Order (PO) is created from a "Master Coal Purchase and Sales Agreement." The Master Agreement and PO confirms the purchase and the current pricing and specifications. The PO also has a vendor mine code for identification. Then, all relevant PO information is entered into Fuelworx.

The Staff performed a more detailed review by tracing a PO 826 for western coal from the Master Agreement to the cost being debited to the 151 account for September 2006. A similar review was conducted for PO 2105 for eastern coal except for reviewing the Master Agreement for July 2007. This PO was compared to the "Spot Coal Summary Sheets to verify specifications."

The Staff compared PO 826 and PO 2105 developed from the Agreement and "Spot Coal Summary Sheet" to verify the following:

- Specifications
- Price
- Tons
- Size
- Shipment quality
- Shipment reject limits
- Reference for quality adjustments

The Staff found no discrepancies and also traced the PO information through Fuelworx and found no exceptions.

In addition, the Staff tracked a PO for February and March 2006 and 2 PO's for April 2006 to the "Fuel Deliveries Unloaded Sheets" from the older "Fuel Management System."

The Staff concludes that the purchase order procedures are adequate, reliable, and efficient.

Invoice and Voucher Procedures

The audit procedures followed in this area allowed the Staff to track FE's practices in processing fuel invoices and to determine if these procedures ensure that the payments made to suppliers represent the cost actually incurred.

The Staff traced the Invoice for [redacted]. The Staff also tracked the invoice for [redacted]. The staff reviewed the invoices for clerical accuracy and traced the tonnages to each Loading Manifest to the Plants Receiving and Unloading Reports. The Staff also tracked the tonnage, fuel, and freight charges entered into Fuelworx and printed fuel stock detail reports. Also, the Staff reviewed the Quality Analysis Reports.

In addition, the Staff reviewed the "Quality Premium/Penalty Invoice" for PO 826 and performed the following:

- Traced the invoice quantities to Fuelworx
- Tested the Btu adjustments for accuracy
- Tested the SO_2 adjustments for accuracy
- Tracked each adjustment to the "Fuel Stock Detail Report"

The Staff also tracked the total fuel cost and quality adjustments debited to Account 151 and credited to FERC Account 232891.

The procedures in place should adequately ensure that fuel paid for is agreement with the fuel received.

Conclusions

The Staff concludes that there are no discrepancies in the procedures in the handling of coal purchase orders, fuel invoices, quality adjustment, and entries are posted to the proper accounts.

Recommendations

The Staff has no recommendations

Spot Coal Procurement

FE participated in the spot market during 2006 and 2007. FE considers spot purchases as coal purchased for two years or less. The Staff will note that during initial interviews and responses to some data request spot coal was defined as coal purchased for one year or less. Based on data request, "spot purchases are made on an as needed basis considering existing long and short term commitments, consumption requirements, inventory levels and market conditions." FE will re-enter the spot market for reasons such as:

- Outstanding coal requirements
- Station burn increases
- Inventory building
- Force majeure occurs

As mentioned previously, the Fuel Department has goals that include the following:

- Minimizing fuel cost
- Maintaining inventories
- Getting committed coal to the power stations

In addition there aren't any plant specific contract/spot mixes for the individual power plants. Coal tonnage and pricing is done on a system wide basis.

FE uses a less formal approach for spot coal bid solicitation than it did in the past. There are no sealed bids. Coal is solicited from existing suppliers, known suppliers, and new suppliers. In addition, FE has two field personnel in the eastern coal fields and one out in the western region. The field personnel are in constant contact with the majority of the available mine sources and acquire knowledge of suppliers capable of providing various coals. FE stated that they can deal beyond the traced market because of their relationships with suppliers.

The Staff reviewed the field personnel's "Field Service Monthly Reports" for 2006 and 2007. It does appear that the field personnel develop and maintain contact with existing suppliers and potential mine sources much to the benefit of FE. Fuel Supply will also purchase coal from NYMEX, OTC, and brokers. These brokers have greater access to suppliers than in the past and can tap into a network of buyers and sellers.

FE's solicitation process also includes e-mail and telephone solicitations. In addition, any interested supplier can submit an offer to FE. One feature of its spot coal strategy is that it leaves the tonnage completely open. Based on interviews, FE prefers a masking effect by keeping FE actions in the market place anonymous and track what other utilities are doing with their field personnel.

Spot coal prices are tracked by using brokers, industry publications, and field personnel. FE also uses several forecasting services which provide an estimation of the future market price of coal. Fuel Supply reviews prices daily and compiles coal price statistics on a monthly basis. It appears that Fuel Supply's strategy for locating spot coal supplies and tracking market prices is sound.

As mentioned earlier, FE utilizes a computer model or Excel program that evaluates spot coal offers an evaluated cost basis. In addition to understanding the model, the Staff asked FE to provide all of the models output to check against the purchase orders issued by FE. However, the model was not used during 2005, 2006, and 2007 to evaluate spot bids. FE did provide an example of how the model selects and ranks vendors and it did explain the process and the model's usefulness. In addition, The Staff was informed that FE does not store bid evaluations.

FE purchased its western coal in advance of delivery and eastern coal was purchased closer to the time it was needed. FE changed it policy in 2006 [redacted]. Its appears that its strategy is to maintain an assessment of the current and changing market conditions and purchase coal when it believes conditions are favorable.

Also, FE feels they were well insulated from the United Mine Worker Agreement with the Bituminous Operators Association that expired in December 2006. The new agreement was signed by most parties in December 2006. However, there were a few Companies that went on strike for a short period but the strike had no effect on FE and no replacement coal was purchased.

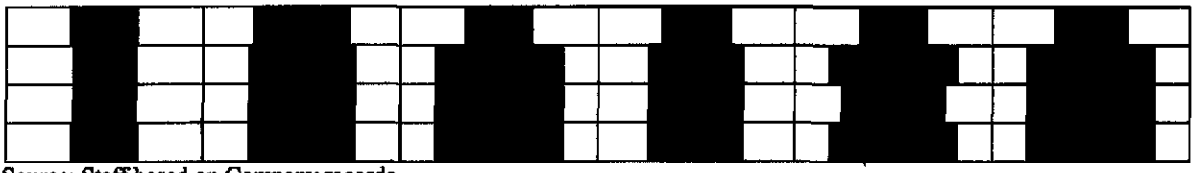
The Staff reviewed FE records on its spot coal purchases to determine the tonnage amounts, quality, and reasonableness of the prices paid for coal delivered in 2006 and 2007.

FE has changed the way it purchases spot coal as have other utilities in this competitive market. As mentioned previously, FE uses a less formal approach for spot coal bid solicitation than it did in the past. There are no sealed bids. Some utilities that once purchased spot coal on a monthly, quarterly, or yearly basis are looking to the forward markets to purchase coals well in advance of its delivery date, on an as needed basis, opportunity purchases and all with varying delivery periods. The Staff reviewed all western and eastern spot coal purchases and verified the tonnage amounts through the Fuelworx system and Purchase Orders.

The Staff agrees with FE's management that with more available data and the transparency of the tracked market that FE is obtaining more secure commitments than with the sealed bid process. FE is also avoiding undue influence on fuel prices by not purchasing coal on a monthly, quarterly, or at defined times of the year.

The following Figure XVII summarizes the Staff's best estimate of the western and eastern coal delivered to FE in 2006 and 2007.

Figure XVII

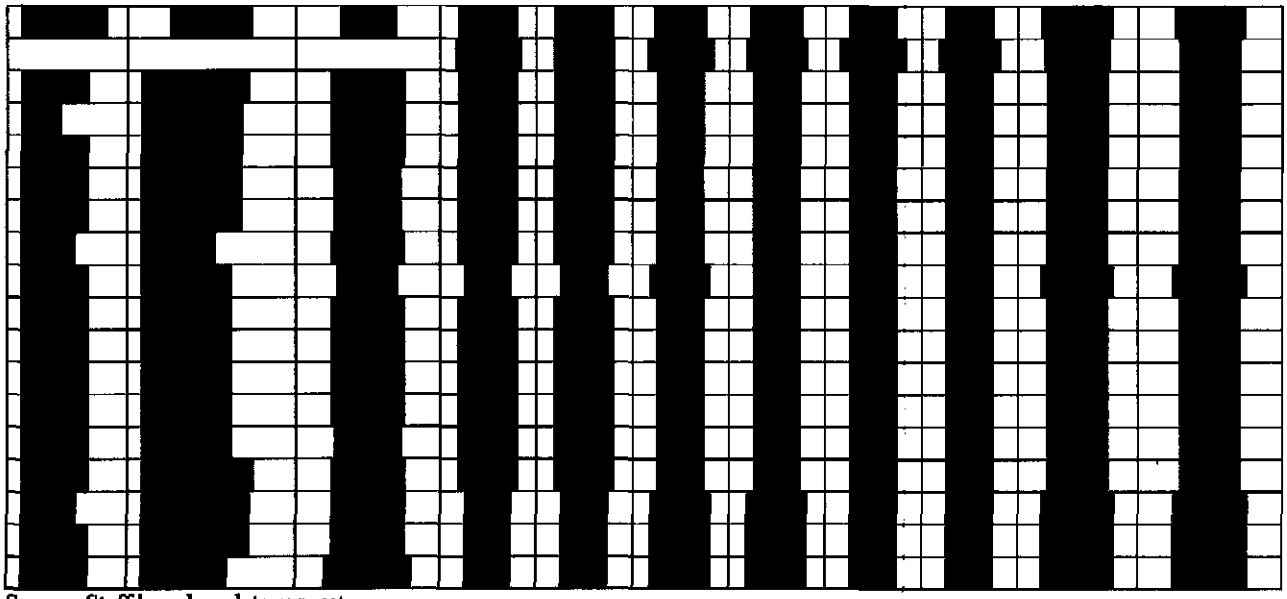


Source: Staff based on Company records

The Staff also tested supplier performance by requesting and comparing the quality specified in the Purchase Orders to the actual delivered quality for the months of June and September 2006 and June and December 2007. The data indicate that the suppliers are delivering quality slightly better than the coal specified in the Purchase Order. In the months of June and December 2007, the Btu's were slightly off specifications on several occasions. As can be seen, as the moisture increases (probably due to rain) the Btu content decreases. However, the off specification Btu would be penalized by a price reduction to the cost of coal. The sulfur content was generally better than specifications. In addition, the Staff reviewed the quality received from the majority of spot vendors through the Fuelworx spot coal data requests. A comparison of the ordered and delivered spot quality is shown in Figure XVIII through Figure XXI.

Figure XVIII

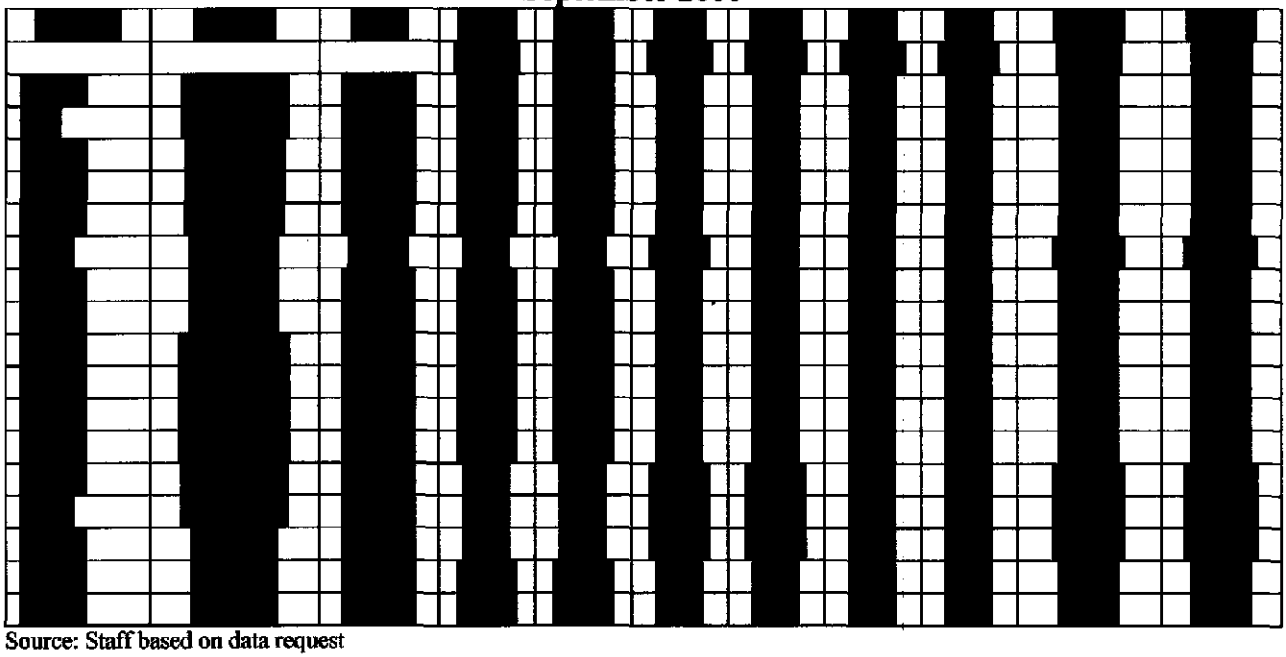
June 2006



Source: Staff based on data request

Figure IXX

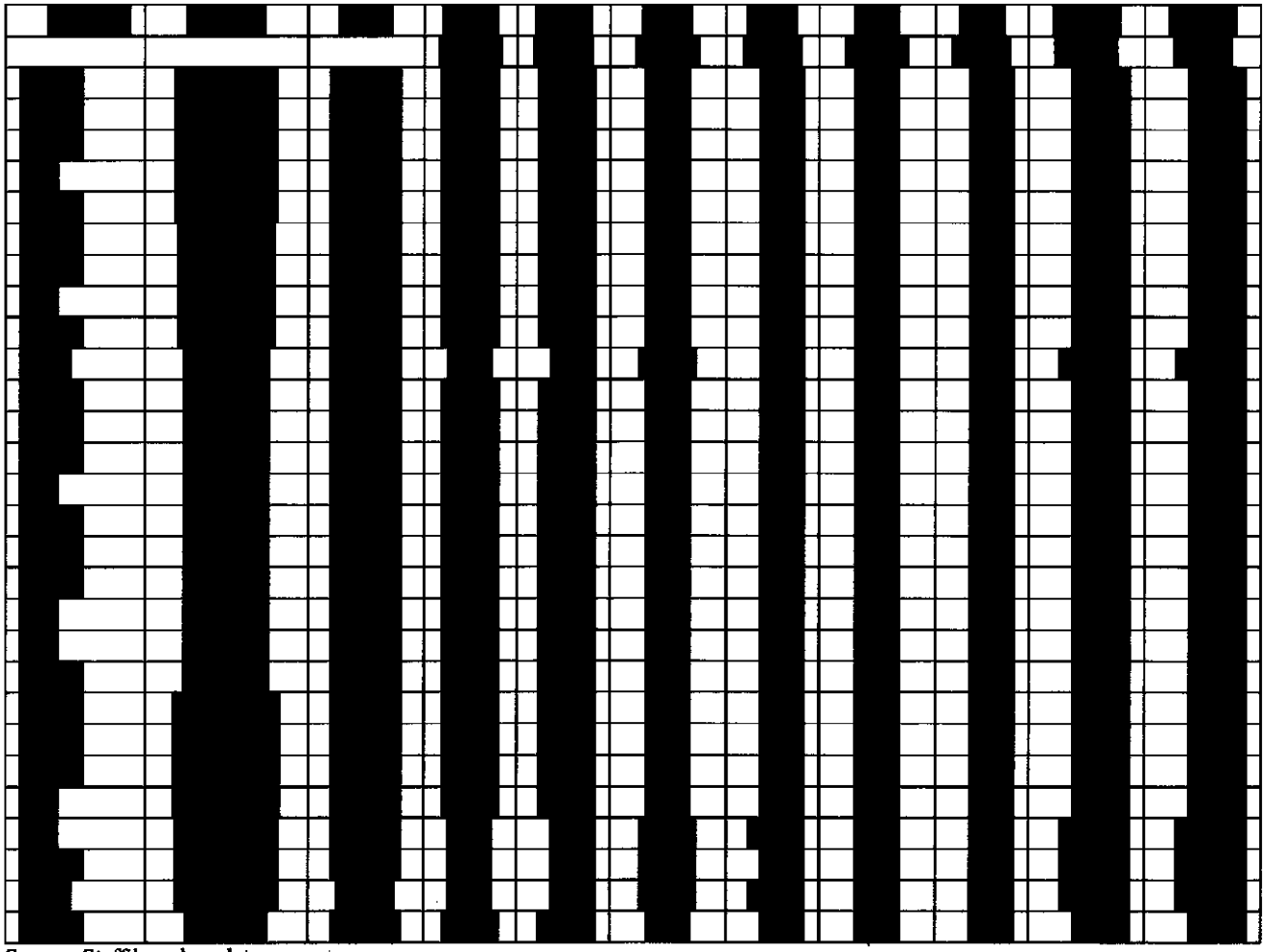
September 2006



Source: Staff based on data request

Figure XX

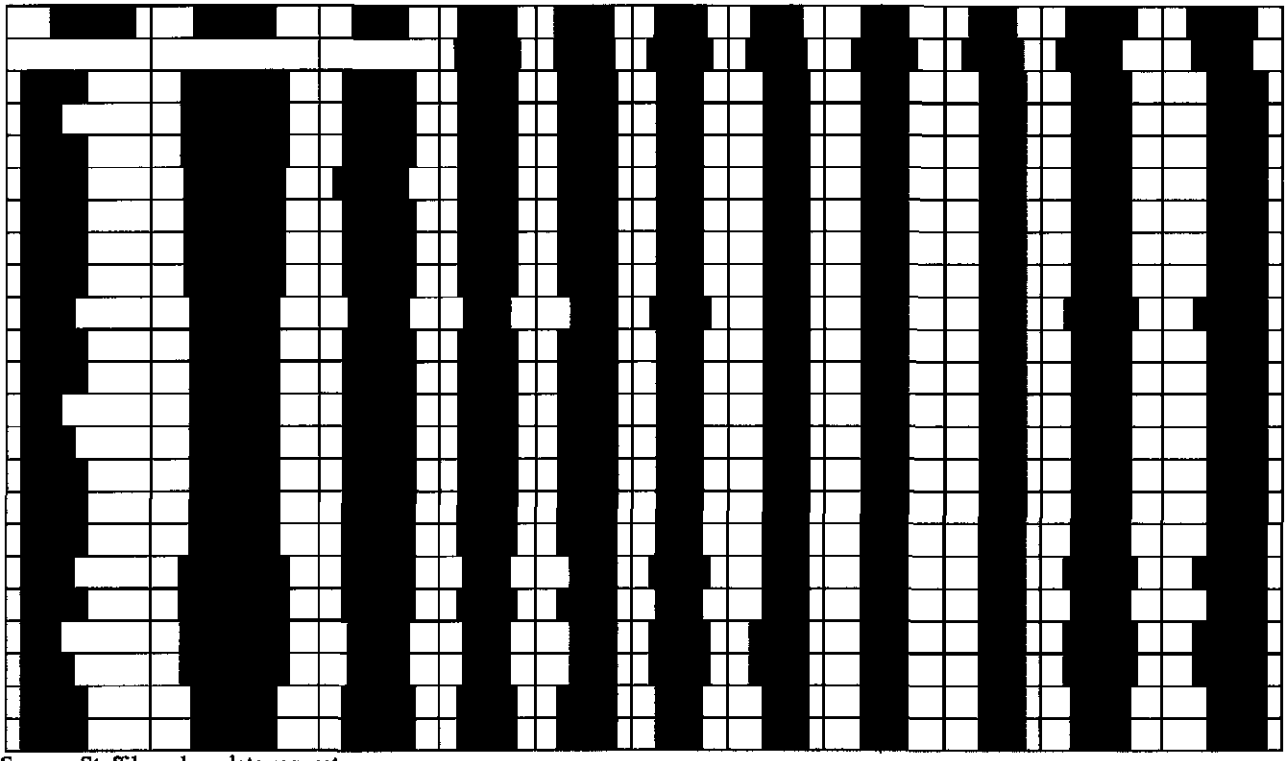
June 2007



Source: Staff based on data request

Figure XXI

December 2007



Source: Staff based on data request

Based on the Staff's review, spot vendors are delivering the quality ordered and in some instances delivering better coal than specified in the purchase order.

As mentioned above, FE uses a less formal approach for spot coal bid solicitation than it did in the past. There are no sealed bids. FE's strategy is to track published market price information, purchase coal through brokers and over-the-counter markets, trying not to influence fuel prices.

The Staff reviewed the prices that the FE paid for western and eastern spot coal purchased for 2006 and 2007. FE provided records with all the western coal purchases, dates, prices and justification documentation. The same type of records and documentation were provided for the eastern coal purchases. The Staff evaluated each western and eastern coal purchase from the published market price, Company purchase price, supplier confirmation contract, confirmed date, effective and expiration date. In addition, the price and tonnage amounts were tracked to the published market price information, supplier confirmation notice, and Purchase Orders.

Based on the Staff's review, Fuel Supply purchased some western and eastern coal above market and some below market. FE purchased its western coal below market by approximately [redacted] after netting the over and under market prices paid for spot coal. The eastern coal purchases were also below market by approximately [redacted]. FE is purchasing spot coal in an efficient manner and it coal cost appears to be reasonable.

Conclusions

The Staff concludes the following based on its review:

- No replacement coal was purchased because of the expiration of the UMWA agreement expiration
- Fuel Supply's strategy for locating spot suppliers and tracking market prices for coal is sound
- FE is receiving good quality performance from its suppliers
- FE appears to be purchasing spot coal in an efficient manner
- FE achieved some saving in its purchases of western and eastern coal

Recommendations

The Staff has no recommendations

D. Transportation

The Manager of Fuel Transportation Logistics and the Manager of Transportation, Contracting, and Strategy are responsible for procuring transportation services for moving coal to the FE generating plants. Coal delivered to the plants is transported by rail, barge, lake vessel, truck and transloaded from one form of transportation to another. The primary goal of transportation is to get the fuel to the plants in a cost effective manner to maintain inventory. The Staff discussed with management its efforts to minimize transportation costs.

Transportation is a significant portion of the total cost of delivered coal. Therefore, FE arranges its own transportation for the following reasons:

- Maintain inventories
- Balance fuel deliveries
- Better coordination between vendors, loading facilities, railroads, and plants

The Transportation Department monitors and controls transportation services in several ways. Rail shipments are monitored through its cycle of loading, departure from the mine, arrival at the generating plants, and the railcars return to the mine. Railcars are equipped with "RF Tags." Each car has a tag on its side that is read by a track reader giving FE the location of every car. FE also visits rail websites that collects data on the status of rail sets. These systems enable problems to be quickly identified. In addition, [redacted] cars to schedule an even delivery of coal. They supply [redacted] with cars and keep the system moving to avoid demurrage charges. There were no rail demurrage charges for 2006.

Barge coal is monitored through the towing companies by telephone contact and e-mails while lake vessel coal is monitored by telephone to track the location of the vessel. Transportation keeps the generating plants informed of coal movements and delivery times.

Some other strategies used by Transportation to monitor and control transportation costs are as follows:

- Set up good contracts from the beginning
- Keep abreast of the market conditions
- Cut costs out of the system
- To enter transportation contract specifics and coal movement information into the Fuelworx system to ensure that all shipments are accounted for
- Forecast the arrival of fuel
- To monitor and reduce the cycle time of barges
- To manage deliveries so no demurrage costs or detention charges are incurred

In addition, the Transportation Department utilizes negotiated tariffs for its day to day fuel movements to minimize cost and Tariff Rates for one time moves. A summary of FE's shipping contracts is shown in Figure XXII.

Demurrage

During 2006, FE paid [redacted] in coal demurrage charges associated with barge, truck, and lake vessel. Based on interviews, there is [redacted] that could be associated with one of these transportation modes. However, FE thinks that these costs were maintained in the old Fuel Management System and may not be able to locate. The breakdown of the charges by transportation mode and cost is as follows:

- Barge [redacted]
- Train
- Vessel
- Truck
- Other

The barge demurrage is for the Burger station. Barges arrive in tows that range from 2-12 barges. The station does not own or lease a towboat and personnel move the barges around with a winching system. Coal is unloaded with a clamshell bucket to maintain inventory. The material unloading rate is 2 to 3 barges per day. Based on interviews, maintaining a floating inventory is more economical because FE would incur additional towing charges if the tow delivered 2 coal barges of at a time.

Lake vessel coal is used to supplement rail coal and is usually loaded in 20,000 to 25,000 ton shipments. The demurrages charges were incurred at [redacted] because of repairs to the dock and heavy vessel traffic. The demurrage was paid because the vessel waiting time plus loading time at the port exceeded the time allowed in the contract. Based on interviews, there is no damage clause or performance clause in the contract and FE is obligated to pay demurrage charges for these occurrences.

During 2007, FE paid [redacted] in coal demurrage charges associated with barge, truck, and lake vessel. There was also an additional demurrage charge for lime in the amount of [redacted]. The breakdown by mode for these charges is as follows:

- Barge
- Train
- Lake Vessel
- Truck

[redacted]

The barge demurrage is for Burger and Sammis stations. After conducting interviews with FE personnel, the Staff concluded that the reasons for the barge demurrage charges were standing water in the barges, discharge crane failure, high water.

The lake vessel demurrage that occurred at the [redacted] terminal was due to performance problems. After further discussions, the Staff was informed that FE filed a claim and is currently negotiating with [redacted] on recovery of these charges. The Staff has informed FE that if these charges were to be recovered in full or partial that the amount be credited to fuel costs.

The train demurrage/detention charges were due to trains being held outside of FE's plants when an existing train was being unloaded.

The truck demurrage was for slow unloading at the [redacted] for coal to be moved to the Ashtabula plant.

Liquidated Damages

FE paid a total of [redacted] in liquidated damages for not shipping the minimum tonnage of rail coal to the Burger and Mansfield plants. The liquidated damages for Burger totaled [redacted] and [redacted] for Mansfield in 2006.

Figure XXII
Summary of Transportation Contracts for 2006 and 2007

Source: Staff based on Company contracts

Based on interviews and data requests, FE made an [redacted]. In 2006, there was a concern whether western coal would reach the Burger Plant because of rail maintenance out west and [redacted]. At Mansfield, the cost of river coal was cheaper and there was a favorable variance between the barge and rail rates. The Staff requested the justification analysis

for the liquidated damages for both plants. FE sent an example of the kind of justification analysis used to make their decision.

Based on interviews in 2006 and discussion with the Fuel Supply department, actual prices were substituted in the Burger analysis and a savings was realized by FE. Also, the Staff reviewed nine "Original Freight Bills" and tested the rail rate and in all instances found that the barge transportation rate was cheaper than rail for coal sent to Mansfield.

The 2007 Liquidated Damages was [redacted]. FE paid this amount for not shipping the minimum tonnage of rail coal under the contract with [redacted].

Incentive Refunds

FE had incentive refunds of [redacted] for 2006 and [redacted] for 2007 for service performance with the [redacted]. The Staff requested and verified through the Fuelworx system that the refunds for 2007 and the last seven months of 2006 were credited to fuel. The Staff was not provided with the documentation to verify [redacted] for the first five months of 2006 that would have been credited through the old "Fuel Management System" that was replaced in May 2006. However, the Staff believes that proper adjustments were made from notes made on the Fuelworx forms by FE accounting personnel.

Conclusions

Based on its review, the Staff concludes the following:

- FE's management of its transportation contracts is appropriate and reasonable
- FE receives coal by negotiated prices as opposed to tariffs
- FE properly manages its rail sets to secure an even supply of fuel
- FE has strategies in place to monitor and control transportation costs
- There were no rail demurrage charges for 2006
- FE achieved savings by not shipping the minimum tonnage of rail coal to the Burger and Mansfield Stations
- FE credited the incentive refunds to fuel
- FE is taking appropriate measures in negotiating with [redacted] for possible recovery of the lake vessel demurrage charges
- The analysis performed by FE regarding the 2007 liquidated damages with [redacted] has not been reviewed by Staff

Recommendations

The Staff recommends that FE continues to negotiate with [redacted] and if any amount is recovered that the amount be credited to fuel costs. This item should be reviewed in the next audit.

Staff recommends that FE provide the analysis they performed for the [redacted] 2007 liquidated damages. Staff recommends that this issue be reviewed in the next audit.

III. Nuclear Fuel Procurement

In the examination of the nuclear fuel costs for this case, Staff reviewed the following information pertaining to the period for Case 07-551-EL-AIR: Nuclear Operating Business Practice (NOBP), Number NOBP-NF-2002, Nuclear Fuel Procurement manual (effective 1-10-03); Fleet Engineering Organization Chart; Nuclear Fuel Contract Summary; Nuclear Fuel Cost by Month and by Unit; Nuclear Fuel Inventory Summary beginning and end of period; and Nuclear Fuel plan for the refueling requirements for the audit period for Perry Cycle 12.

Staff reviewed the following information pertaining to the period for Cases-08-124-EL-ATA and 08-125-EL-AAM: Nuclear Fuel Budget and Business Plan Process NOBP-NF-2103 (effective 10-1-07) and Nuclear Fuel Procurement Manual Number NOBP-NF-2001 (effective 1-8-08); Organization Chart for Nuclear Fuel Procurement function with reporting relationships within the organization; Nuclear Fuel Contract Summary; Nuclear Fuel Cost by Month and by Unit; Nuclear Fuel Inventory Summary beginning and end of period; and Nuclear Fuel Plan utilized for the refueling requirements for the audit period for Beaver Valley Unit 1 Cycle 19.

Staff also reviewed U.S. Nuclear Operating Plant Basic Information and other published information of the Nuclear Energy Institute, Washington, D.C.

Conclusions

As a result of Staff's review of the nuclear fuel related documents described above and discussions with company personnel, Staff finds that the nuclear fuel expenses as submitted by FE in the instant cases are representative of actual nuclear fuel expenses for the periods in question.

Recommendations

Staff has no recommendations for this area.

IV. BayShore Steam

Bay Shore Power LLC is a wholly owned subsidiary of FE, which was formed to carry out a repowering project at the Bay Shore Power Plant. A circulating fluidized bed boiler was constructed at the Bay Shore plant to provide steam to the Unit 1 turbine and generator and to supply auxiliary steam to the BP refinery, located in Oregon, Ohio. The previously existing coal fired unit 1 boiler at the plant was retired after the construction. The new boiler was tied into the existing steam and condensate systems for the Unit 1 turbine and generator.

The contractual agreement between Bay Shore Power LLC and FE – Toledo Edison, dated March 1, 1998, establishes the basis upon which steam is supplied to the Unit 1 turbine. While the agreement provides for both fixed and variable components in the payments from FE Generation Corporation to Bay Shore Power LLC for the steam that is supplied, the 2002 baseline data and the actual expenses in the application contain only the variable cost component of the steam payment. "Steam take" numbers are derived from a steam meter of actual steam

provided. The fuel costs associated with Bay Shore Unit 1, therefore, are the monthly invoices for the variable costs of steam to FE Generation Corporation from Bay Shore Power.

Staff's investigation included an audit of those invoices and the associated accounting entries, a review of the 1998 Steam Purchase Power Agreement (which includes the annual variable fees per klb) between Bay Shore Power Company and FE Generation Corporation, a review of the forecasting procedures and calculations for budget purposes, an on-site visit to Bay Shore and various interviews with Bay Shore and FE personnel.

Conclusions

The fuel costs associated with steam provided to the Bay Shore Unit 1 facility are reasonable and accurate, with the exception as noted below.

Recommendations

The May, 2007 invoice from Bay Shore Power, which represents steam provided to Bay Shore Unit 1 in April, 2007, should be adjusted to reflect an overstatement of 26,383,469 klbs billed in error. (26,383.469 X $0.426 = $11,239.36).

The reported Bay Shore Steam eligible fuel costs of $3,129,143 requested by FE for the calendar year 2006 is accurate. The reported Bay Shore Steam eligible fuel costs of $2,598,045 requested by FE for the calendar year 2007 should be adjusted to $2,586,806.

V. Gas Procurement

FE purchases natural gas for the operation of its three electric generation facilities at Richland, West Lorain and Sumpter. Expenses associated with the purchase of natural gas for the operation of these facilities are booked monthly. At Staff's request, FE provided various source documents to support the monthly natural gas expenses being requested for recovery in this case.

Conclusions

Following review of the various documents provided by FE to support the natural gas expenses being requested in this case, Staff finds the overall natural gas expenditures to be reasonable.

Recommendations

Staff has no recommendations for this area.

VII. Lime, Stabilizers, & Other Additives

Staff has investigated the FE's request for recovery of the fuel expenses associated with lime, aqueous ammonia, sodium sulfite, and Urea-NOX OUT reagent. FE's Bruce Mansfield plant consumes the bulk of the lime and aqueous ammonia costs used to reduce sulfur dioxide and nitrogen oxide emissions. Emissions at the Eastlake and Sammis facilities are reduced by the use

of Urea-NOx. The Staff reviewed a large portion of the invoices for these chemical products for the calendar years 2006 and 2007. Staff also reviewed the monthly consumption amounts of these chemical products at these generation facilities for the time period in question. At times, the monthly invoices exceed the monthly consumption amounts because FE maintains an inventory of its emission control products.

FE negotiated a special clause with respect to its lime contract since 2005. Because of this arrangement, it can be assumed that FE has paid a competitive price for this product over this time period.

Conclusions

The staff believes that the FE's expenses for lime, aqueous ammonia, sodium sulfite, urea-NOx and other stabilizers for the calendar years 2006 through 2007 are reasonable. Therefore, the Staff recommends FE recover its costs for these expenses.

Recommendations

Staff has no recommendations for this area.

VIII. Other Fuel-Oil and Ash

OIL

During the review of the light-off and peaking oil fuel costs in this case, Staff reviewed oil purchases orders by plant for each month for calendar years 2006 and 2007. Generally, for the years 2006 and 2007, all purchase invoices matched to dollars that were reported to Staff in monthly data submittals. During Staff's review of oil contracts, one particular oil contract included the ability for FE to receive a discount of 1 % on barge deliveries if paid within 10 business days. (1/10 days net 30) FE took advantage of this discount in most instances during the 2006 and 2007 timeframe. However, there were several instances when FE failed to take advantage of the discount and the discount was forfeited by FE. Although, the amount of the discount was not significant with respect to total oil costs, Staff advises that FE should make every attempt to not forfeit this 1% discount in the future.

Fuel Stock Reports-Oil Adjustments

Staff also reviewed oil inventory/fuel stock reports for years 2006 and 2007 that detailed the "as consumed" gallons and the "as consumed" costs (dollars) that FE requested for recovery in this case. The fuel stock reports are generated out of Fuelworx. Fuelworx is a computerized inventory management system that FE implemented in May of 2006. One purpose of Fuelworx is to utilize it for fuel and transportation reporting and documentation, maintaining accurate accounting records, and approving invoices for payment. This new system offers many benefits in terms of light-off and peaking oil including calculating "as consumed" oil costs and creating detailed fuel stock reports for audit verification. However, Fuelworx does have some limitations in terms of calculating "as consumed" oil gallons and costs (dollars). The Fuelworx system

cannot accept a positive burn and therefore FE has to handwrite the positive burn changes in the "adjustments column" of the fuel stock report in order to calculate an accurate "as consumed" cost. In essence, oil adjustments are "manually" moved to generation (on "as consumed" basis) in which ever way they affect inventory (increase/decrease). In auditing the fuel stock inventory reports, Staff found it difficult to ascertain that the handwritten changes in the "adjustment column" were indeed manual moves of "as consumed" generation.

In response to a data request, FE stated that the adjustments can occur under three scenarios:

1. Vendor Discounts

2. Oil Adjustments- Fuelworx cannot process a positive burn; therefore, FE enters monthly oil adjustments through the "adjustment" column and then manually moves to the generation "as consumed" column

3. Equipment Oil- removed from inventory and journalized in another account as these costs should not be included as generation costs

During discussions with company personnel, Staff learned that equipment oil is only utilized at the Mansfield plant and very few discounts occurred during the audit period. Therefore, most handwritten adjustments were in fact due to oil adjustments for manual moves of generation. Although Fuelworx is an effective system with many benefits; its limitations in this area make it difficult to ensure in an audit situation what the adjustment in inventory stock reports truly represents. After the audit was completed and during preparation of this report, FE personnel did provide Staff with a spreadsheet that was an output of Fuelworx. The spreadsheet listed the oil adjustments by plant for the audit period. For the purpose of effective internal accounting controls, Staff believes that FE should attach the "oil adjustment spreadsheet" to the inventory stock report each month so audits can be conducted more effectively and efficiently in the future.

Oil Monthly Reporting

In the required monthly reporting submitted to Staff for light-off and peaking oil cost for recovery, FE lists the gallons of oil "as consumed" and also the costs (dollars) associated with those gallons on an "as consumed' basis. From discussions with FE personnel Staff learned that the required monthly reporting submitted for cost recovery is reported in the following fashion:

The "as consumed" gallons are provided by the Accounting Staff (who receives it from the plants) from the General Accounting Tracking System (GATS) and the "as consumed" costs (dollars) are provided by Fuelworx. In many instances, when calculating the price per gallon of oil from the gallons that were provided by the GATS system with the "as consumed" costs from Fuelworx the resulting calculation was found to be erroneous given today's oil prices.

Staff, to a large extent, was satisfied with the Fuelworx model in terms of the inputs and outputs. Staff asked FE personnel to provide the gallons "as consumed" as Fuelworx calculated the gallons. The results from Fuelworx were more reliable and denoted price per gallon calculations that corresponded with oil price specification sheets provided by suppliers during the audit period. Staff believes that the GATS system and the Fuelworx system do not conform (are not in

sync) for reporting purposes in terms of "gallons" of oil consumed. Staff believes that FE should initiate a plan of action to ensure that both systems conform to each other for the purpose of FE's internal and external reporting.

In the end, what is most important - are the oil "as consumed" costs (dollars) FE is asking for recovery in this case. Staff was able to trace/verify the "as consumed" costs (dollars) requested for recovery from the Fuelworx fuel stock inventory reports with the following exceptions.

For 2006, FE understated oil costs by the following amounts:
Eastlake (July 2006) light-off oil costs by $5,958
West Lorain (July 2006) peaking oil costs by $63,686
Edgewater peaking oil costs by $47

For 2006, FE overstated oil costs by the following amount:
West Lorain (August 2006) peaking oil costs by $12,805

In total, an overall understatement of $56,885 for 2006 oil costs.

For 2007, FE understated oil costs by the following amounts:
Ashtabula (October 2007) light-off oil costs by $18,053
Bayshore 2-4 (October 2007) light-off oil costs by $18,053
Burger (October 2007) light-off oil costs by $5,158
Eastlake (October 2007) light-off oil costs by $100,583
Lakeshore (October 2007) light-off oil costs by $15,475
Mansfield (October 2007) light-off oil costs by $72,213
Sammis (October 2007) light-off oil costs by $28,370

In total, an understatement of $257,905 for 2007 oil costs.

In aggregate for 2006 and 2007, FE understated light-off and peaking oil costs by $314,790 for the audit period in question.

Conclusions

As a result of Staff's review of the light-off and peaking oil and related documents described above and discussions with company personnel, Staff finds that the oil expenses as submitted by FE in the instant cases (with exceptions noted above) are representative of actual oil expenses for the periods in question.

There were several instances during the audit period when FE failed to take advantage of a 1% discount and consequently the discount was forfeited by FE. The dollar amount of the discounts not taken was miniscule with respect to total oil costs.

Staff believes that the GATS system and the Fuelworx system do not conform for reporting purposes in terms of "gallons" of oil consumed.

Staff believes that FE should attach the "oil adjustment spreadsheet" to the inventory stock report each month so audits can be conducted more effectively and efficiently in the future.

Recommendations

Increase 2006 "Other Fuel" eligible fuel costs by $56,885 for 2006
Increase 2007 "Other Fuel" eligible fuel costs by $257,905 for 2007

FE shall initiate a plan of action to ensure that both the GATS system and Fuelworx system conform to each other for the purpose of FE's internal and external reporting on "as consumed" gallons.

FE should make every attempt to not forfeit supplier discounts in the future.

ASH

Fly Ash and Bottom Ash

Fly ash is a lightweight form of ash generated by the burning of coal in conventional pulverized coal-fired boilers. Fly ash is carried up and out of the top of the boiler with the flue gas, and is collected dry in bag houses or electrostatic precipitators.

Bottom ash is the residual formed in the bottom of the boiler. Bottom ash is typically quenched with water in the bottom of the boiler and conveyed to hydro-bins. The hydro-bins are designed to allow most of the water to drain off before loading into trucks for removal from the site.

FE has contracts in place for disposal of all fly ash and bottom ash generated. These contracts specify the cost per ton to transport the ash to the landfills, and the "tipping fee" or disposal cost for the landfill operator to handle the ash at landfill, and to compensate them for the volume of space that ash occupies after placement.

Ash Removal and Disposal Methods

FE has agreements with several contractors to haul the ash in their trucks from its coal-fired power plants. The costs of removal and disposal of the ash from its power plants are based on the locations of the power plants and their distances to the dumping locations. Therefore, the cost to remove and dispose ash varies for each power plant for each contractor. In addition to costs of disposal and removal of ash and depending on the type of the contract, FE may incur fuel and fuel related surcharges used by the contractors in their on-site equipments; administration fee for the management of dry disposal ash, costs of excavation and loading, and waiting time costs.

FE uses different methods to remove and dispose the ash. Ash disposal from Ashtabula and Lakeshore are handled in two ways. Bottom ash is loaded into dump trucks and transported to the [redacted], where it is placed with earth moving equipment. Fly ash generated at these two plants is hauled in dry pneumatic tankers from the plants to the [redacted] landfill. The fly ash is unloaded through eductor cannons into specially built disposal cells where it hardens.

Ash disposal from the Eastlake Plant is similar to Ashtabula and Lake Shore. The bottom ash is transported to Redbud in dump trucks. Disposal of fly ash from Unit 5 at Eastlake is conditioned at the Plant and hauled in dump trucks to Redbud. Fly ash from Units 1-4 is typically hauled in dry tankers similar to Ashtabula and Lake Shore, due to burning of 100% Powder River Basin Coal (PRB) or high PRB blends in these units. The additional handling issues at Redbud due to dry unloading through eductor cannons cause the disposal cost, or "tipping fee" higher for dry fly ash.

All the fly ash generated at Bruce Mansfield Plant (BMP) is currently used for stabilization of the flue gas de-sulfurization (FGD) sludge at Little Blue Run (LBR). BMP is currently upgrading the equipment in the Forced Oxidation Gypsum (FOG) Plant to convert additional tons of FGD sludge into synthetic gypsum. The synthetic gypsum is sold to National Gypsum for wallboard production. When these upgrades are in place, less FGD sludge will go to LBR. Thus, less fly ash will be required for stabilization of the material.

At the Burger Plant, fly ash is either sluiced to a storage pond or held in a storage silo prior to disposal. The cost to dispose of material from the ponds is higher due to additional handling. The fly ash is dug out of the pond with excavating equipment; piled up and is allowed to de-water, then loaded into dump trucks using a front-end loader. Once in the dump truck, the material is handled the same as material conditioned in the silo unloading equipment. The additional costs for the ponded ash are for the payment for the equipment use and time required to excavate, de-water and loading the fly ash.

Ash Sales

Ash sales are loosely divided into three categories. (1) High quality fly ash that meets specific quality requirements to be used as a substitute for cement in ready-mix concrete or other high value uses. (2) Low quality fly ash that does not meet the ready-mix concrete specifications, but may still be utilized for low value applications such as structural fills or substitutes for soil or other bulk fill materials (3) And bottom ash, which may be used as structural fill material, or for pipe bedding. Some bottom ash is also valuable for snow and ice control and other applications where a granular material is needed. In order to reduce the total cost to FE to manage all the ash generated, they attempt to use as much of the fly ash and bottom as they can in these various beneficial applications. High value applications typically generate revenues.

FE reports fly ash sales in two ways. When FE's marketer/contractor sells quality fly ash to the markets, FE receives a portion of the net revenues from the sale. FE receives a percentage of the net revenues from sales within 100 miles of the plant, and another percentage from sales made beyond 100 miles. FE also receives a percentage of revenues from sales made for low quality applications, if the net revenues exceed the costs of transporting and handling the fly ash. Often, the marketer requests that FE subsidize a project by paying for all or a portion of the transportation costs. The subsidy must not exceed the normal cost for disposal. However, the quality of the materials does not present much value. Thus, any sales from these plants usually require a subsidy from FE but this is cheaper than disposing of it otherwise.

Audit Period Review Ash Disposal Costs and Sales Including Accruals and Reversals

Staff reviewed and tested FE's ash source documents for January 2006 through August 2006 including vendors' invoices, sales invoices, fuel surcharge methodologies, ash disposal and sales contract agreements, etc. Additionally, Staff reviewed and tested FE's source documents as described above for the March 2007 through December 2007 time period.

For the purpose of accruing and reversing ash disposal related costs and sales for each plant, FE budgets such costs and sales for each month. Staff was provided a methodology that averages the prior 3 months, along with projected changes in sales and or disposal costs. The 3 month average was used to develop estimates used in monthly accruals and reversals. Staff reviewed FE's ash accruals and reversals for the entire period from January 2006 to December 2007. During the last half of 2007, FE experienced situations where FE accrued accounts payable invoice costs that had not yet been approved by FE management. Consequently there was a month lag before the invoice was paid. This issue relates to minor recordkeeping and does not affect the overall ash disposal costs or sales data in this proceeding.

Conclusions

As a result of Staff's review of the ash related documents described above and discussions with company personnel, Staff finds that ash costs and sales (including accruals and reversals) as submitted by FE are representative of ash costs and sales for the periods in question.

Recommendations

Staff has no recommendations for this area.

X. Emission Allowances

Emission Allowance Ratemaking Considerations

FE is seeking to recover sulfur dioxide (SO_2) and nitrogen oxide (NO_x) emission allowance consumption costs in this proceeding. Specifically, FE has indicated that its total emission allowance costs, representing a combination of SO_2 and NO_x allowance costs, were approximately $59 million and $38 million in 2006 and 2007 respectively.

Figure XXIII

Year	SO_2 Allowance Cost	NO_x Allowance Cost	Total Allowance Cost Recovery Sought
2006	$37,372,441	$21,945,109	$59,317,550
2007	$15,074,618	$23,011,764	$38,086,382
TOTAL	**$52,447,059**	**$44,956,873**	**$97,403,932**

These allowance costs resulted from the consumption of both $0 EPA-allocated allowances and purchased allowances that were entered into FE's allowance inventory at their purchase price. A weighted average inventory cost (WAIC) was calculated for all allowances in the inventory (based on effective vintage), and it is this WAIC at which allowances are consumed. This

approach, utilizing a weighted average for emission allowances, is consistent with how allowance costs were previously calculated in electric fuel component (EFC) proceedings.

FE participated in numerous allowance sales during 2006 and 2007. In addition, FE received auction proceeds from the annual U.S. EPA SO_2 allowance auctions in 2006 and 2007. FE's allowance-related revenues are summarized in Figure XXIV below. These revenues have not been incorporated within this rate proceeding.

Figure XXIV

Year	Auction Proceeds	SO_2 Gains	NOx Gains	Total Allowance Revenues
2006	$2,900,000	$1,700,000	$51,700	$4,651,700
2007	$1,459,986	$10,037,920	$0	$11,497,906
TOTAL	**$4,359,986**	**$11,737,920**	**$51,700**	**$16,149,606**

FE considers emission allowances to be assets of FirstEnergy Generation Corporations (Genco). EPA-allocated allowances are held by FE in a Genco account, with purchased allowances also added to this account. As allowances are sold, the gains or losses on the sales are placed in FERC Account 411.8 ("Gains from Disposition of Allowances) or 411.9 ("Losses from Disposition of Allowances"). Auction proceeds are similarly retained in FERC Account 411.8. FE does not perceive a basis for addressing the allowance gains in this ratemaking proceeding as the gains are maintained on the Genco books. Conversely, FE places the costs of consumed allowances in FERC Account 509 and treats them as part of the total fuel expense for which they are seeking recovery in this rate proceeding.

Emission Allowance Policies and Procedures

FE does not currently have any documented policies or procedures guiding its emission allowance management activities. Rather it has an objective of maintaining allowance inventories that match its projected need for allowances during the immediate calendar year. This comparison of allowances-held to allowances-needed is generally performed on a quarterly basis and is one component of larger periodic modeling runs. If a model run shows a projected long position on allowances, FE will look to sell those excess allowances. Conversely, if the model shows a short position, FE looks to purchase allowances. During any given calendar year, FE can assume the role of allowance buyer, seller, or both, depending on projected operating conditions and allowance inventory balances.

SO_2 Allowance Activity 2006 and 2007

In 2006 and 2007, U.S. EPA allocated approximately 240,000 SO_2 allowances per year to FE. Actual annual consumption during these years was approximately 230,000 allowances.

As shown in Figure XXIII above and in Figure XXVII below, FE's SO_2 allowance costs were significantly higher in 2006 when compared to 2007. This was not the result of increased allowance consumption, as the number of SO_2 allowances consumed during these two years was similar as illustrated below in Figure XXV. Instead, the difference in annual costs was a function of consuming more expensive allowances, reflected by the higher WAIC in 2006 (Figure XXVI).

The 2006 WAIC was higher due to allowance purchases at the beginning of the year that coincided with a spike in the allowance market (Figure XXVIII). These particular purchases were prompted largely by FE's projections for increased SO_2 emissions associated with fuel considerations. Due to concerns regarding the economic availability of low sulfur western coals at this time, FE assumed greater utilization of eastern coals with higher sulfur contents.

In addition to the purchases in early 2006, FE also purchased allowances during the fourth quarter of 2007. Staff compared the purchase prices with a market price indicator for the applicable time periods, and the purchase prices appear to be generally consistent with market conditions at the time.

NO_x Allowance Activity 2006 and 2007

The U.S. EPA allocated approximately 14,300 NO_x allowances to FE in both 2006 and 2007. Compared with consumption during this period of approximately 23,000 allowances per ozone season, FE is generally in a short position on NO_x allowances absent any allowance purchases and/or further reductions in NO_x emissions.

FE's NO_x allowance consumption was similar in 2006 and 2007. As shown in Figures XXIX thru XXXI below, there were minimal variations in the number of NO_x allowances consumed monthly, the monthly WAIC for the NO_x allowance inventory, and the overall monthly NO_x allowance cost.

Staff spot-checked several NO_x transactions in which FE participated during this period, comparing the transaction price to market conditions at the time, and no concerns were identified.

For 2006 and 2007, FE's monthly NO_x allowance consumption costs during the 5 month ozone seasons averaged just over $4 million.

Conclusions

Staff is not commenting on the accounting treatment applied to allowance auction proceeds or gains from the sale of allowances. However, based on its review, Staff finds that there is an asymmetrical ratemaking treatment of SO_2 and NO_x allowance gains and costs in this proceeding. FE is seeking recovery of the cost of consumed SO_2 and NO_x allowances, but it is not proposing to credit any allowance auction proceeds or gains from the sale of emission allowances in this proceeding. This imbalance seems inappropriate and should be rectified.

Staff also believes that there is inadequate documentation supporting FE's emission allowance policies, thereby resulting in an insufficient audit trail. This lack of documentation may have been acceptable during a period of frozen rates, but it becomes problematic during a rate proceeding where cost recovery is sought.

Recommendations

Staff believes that the allowance auction proceeds and gains from allowance sales during 2006 and 2007 should be credited to ratepayers in this proceeding. As indicated in Figure XXIV

above, this amount is approximately $16.15 million. FE has indicated that neither allowance auction proceeds nor allowance gains were incorporated into the 2002 rate which represents the baseline for comparative purposes in this proceeding. Staff has seen no evidence that would contradict this claim. Therefore, when crediting the $16.15 million, Staff believes it would be appropriate to net FE's auction proceeds and allowance gains from 2002 against this amount.

Staff further believes that additional documentation pertaining to FE's allowance management activities should be developed and maintained. The "Emission Allowance Practices and Guidelines", referenced in FE's Fuel Policies, Procedures, and Practices Manual but never developed, should be completed. Further, any and all analysis performed prior to entering into an allowance transaction should be maintained for regulatory audit purposes. This analysis should include a consideration of available options to address any projected short allowance position.

Figure XXV

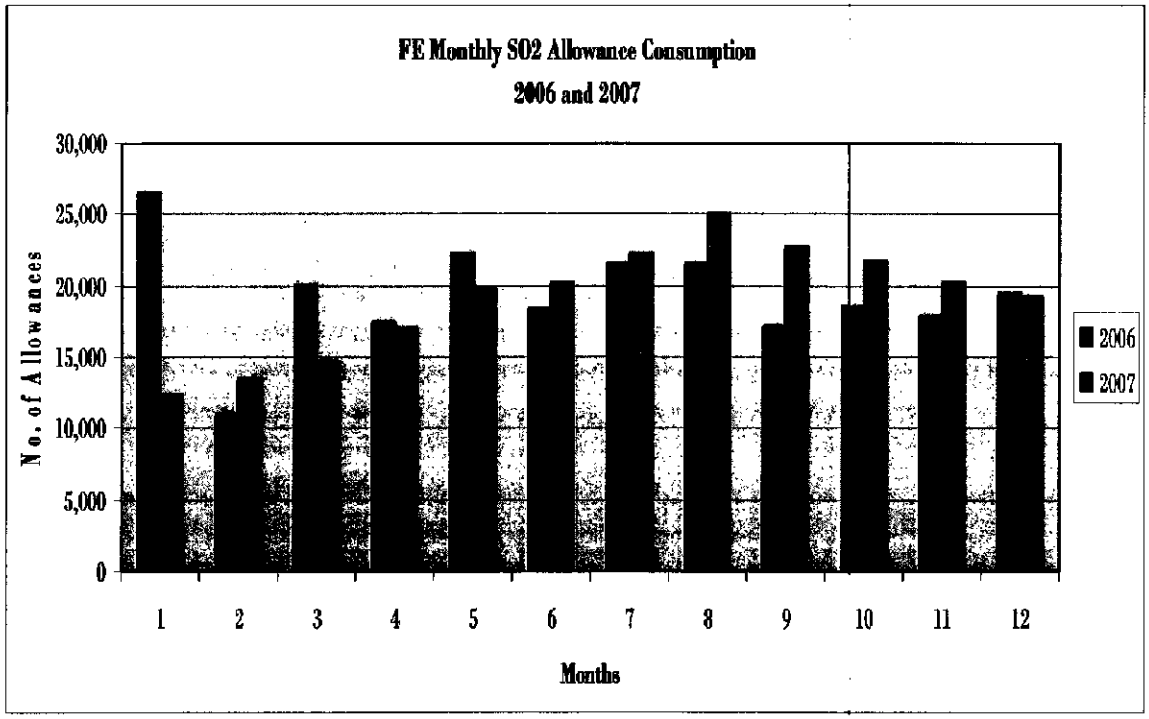


Figure XXVI

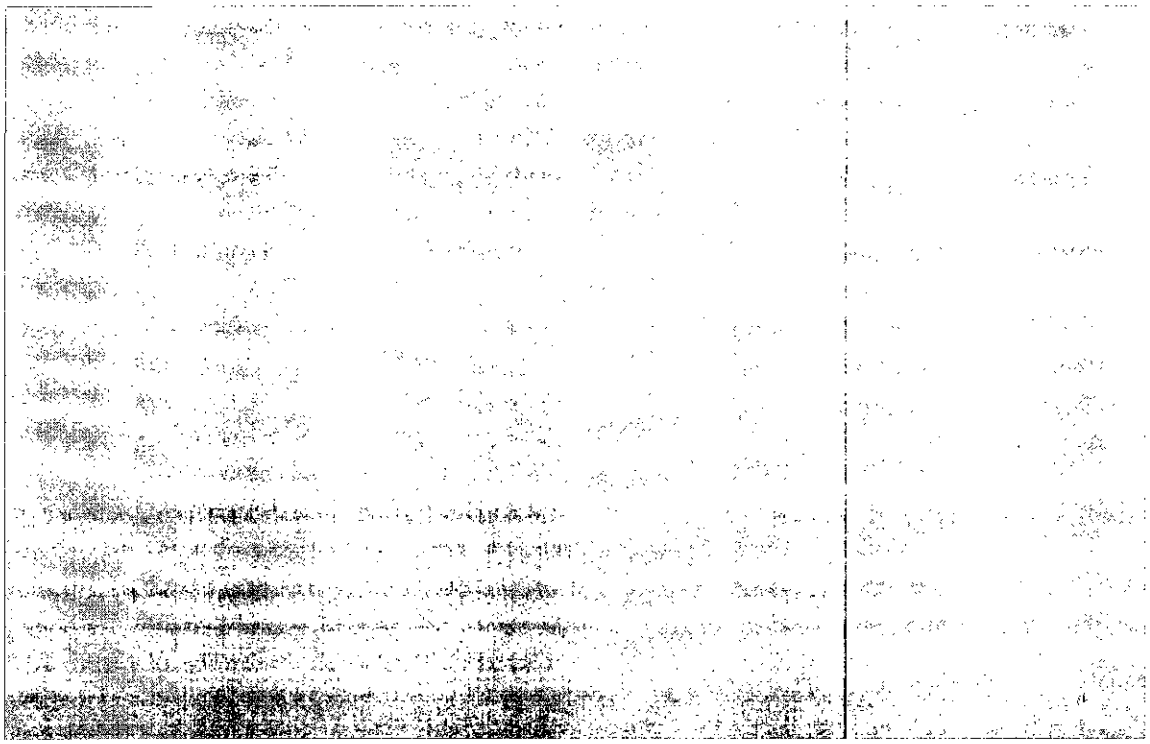


Figure XXVII

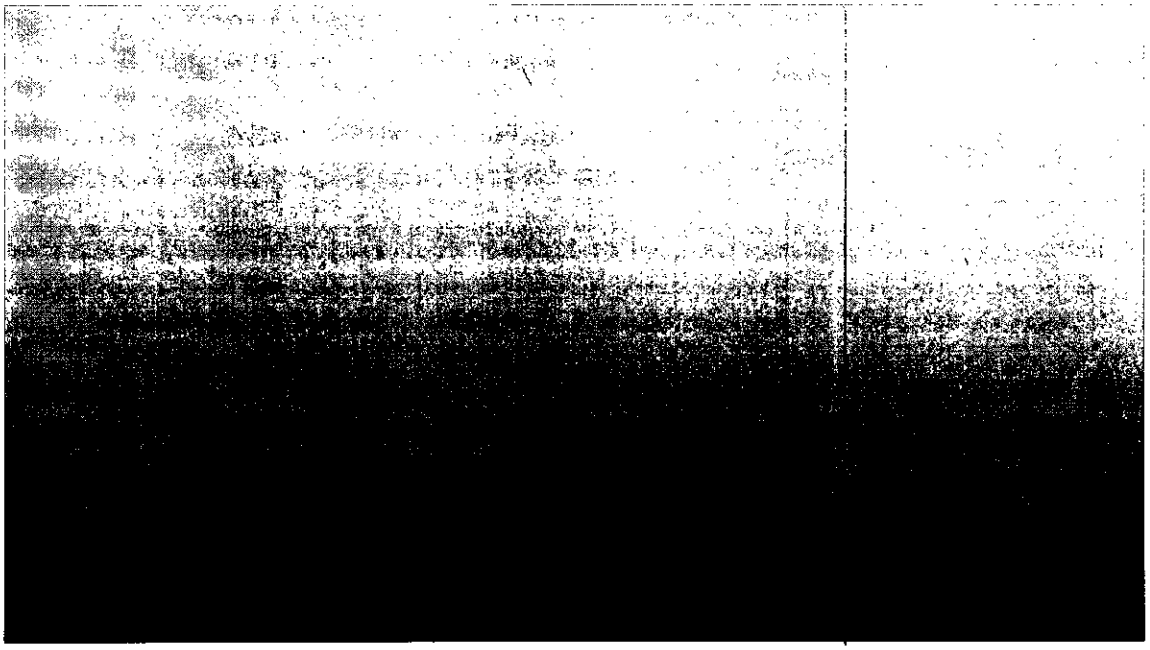


Figure XXVIII

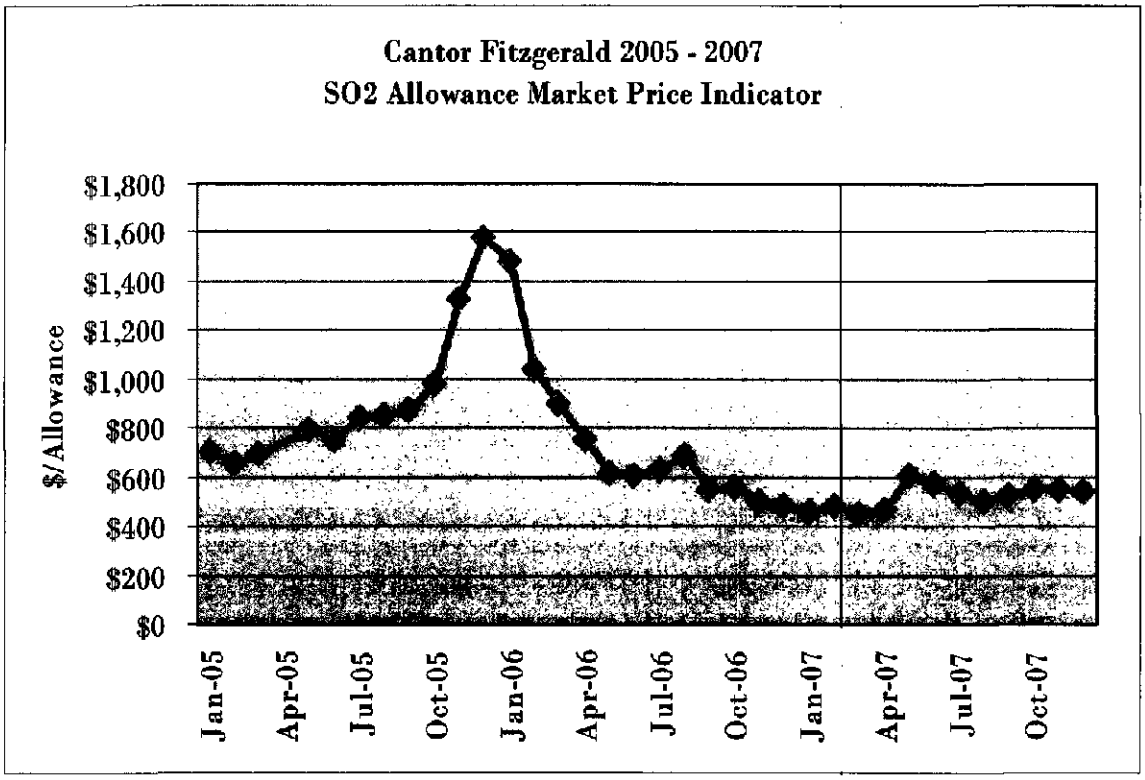


Figure XXIX

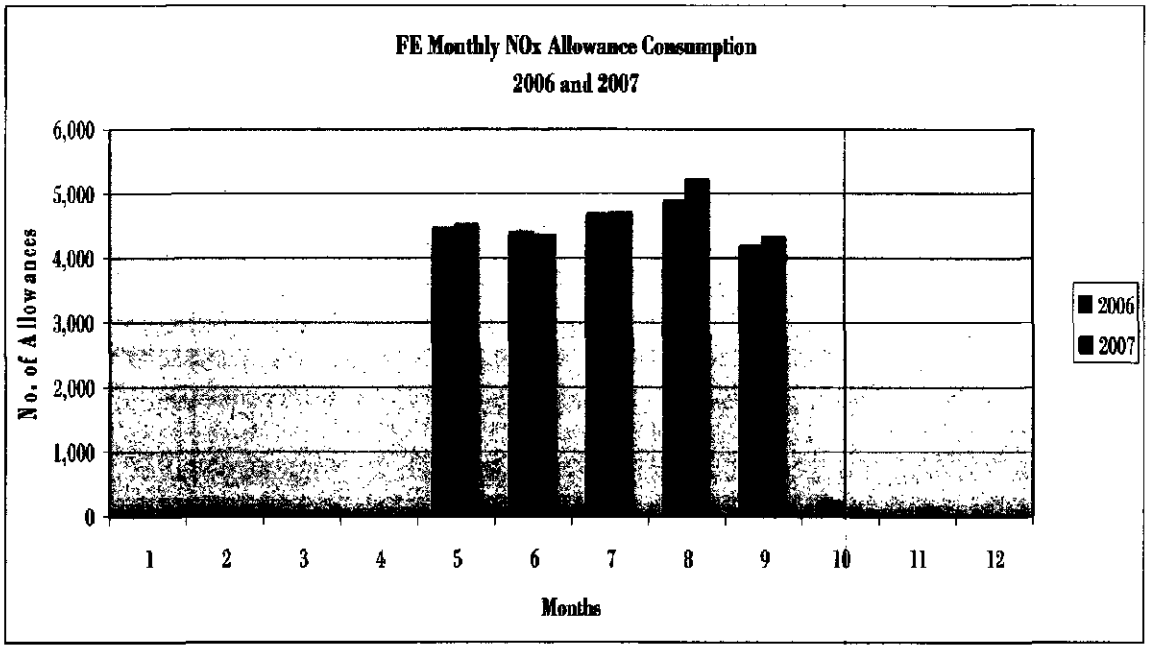


Figure XXX

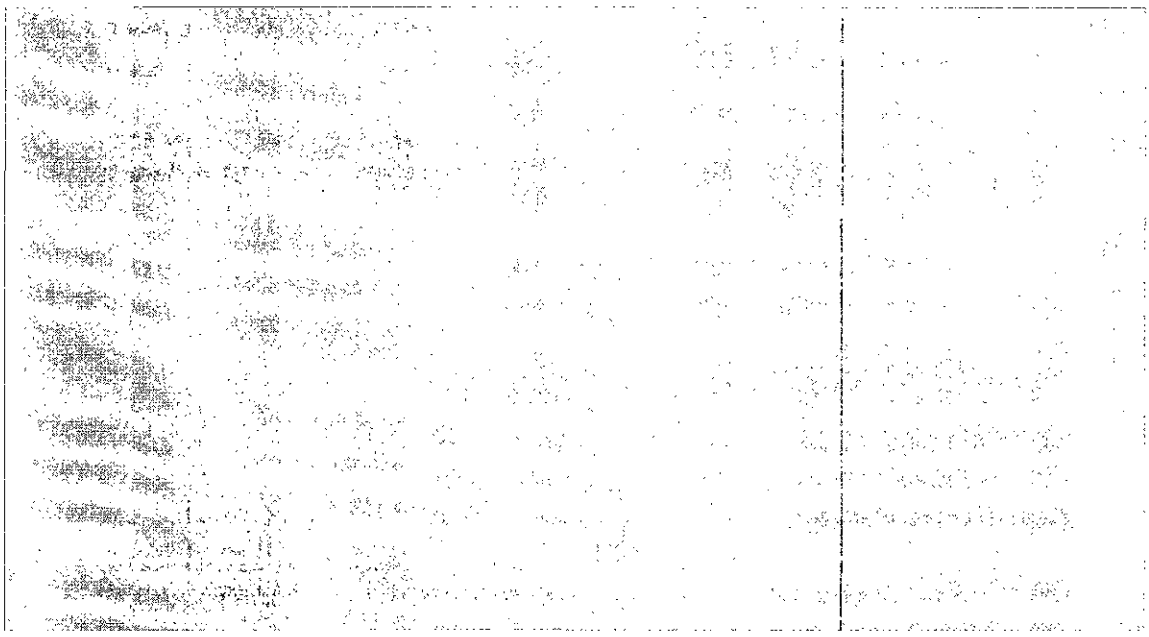
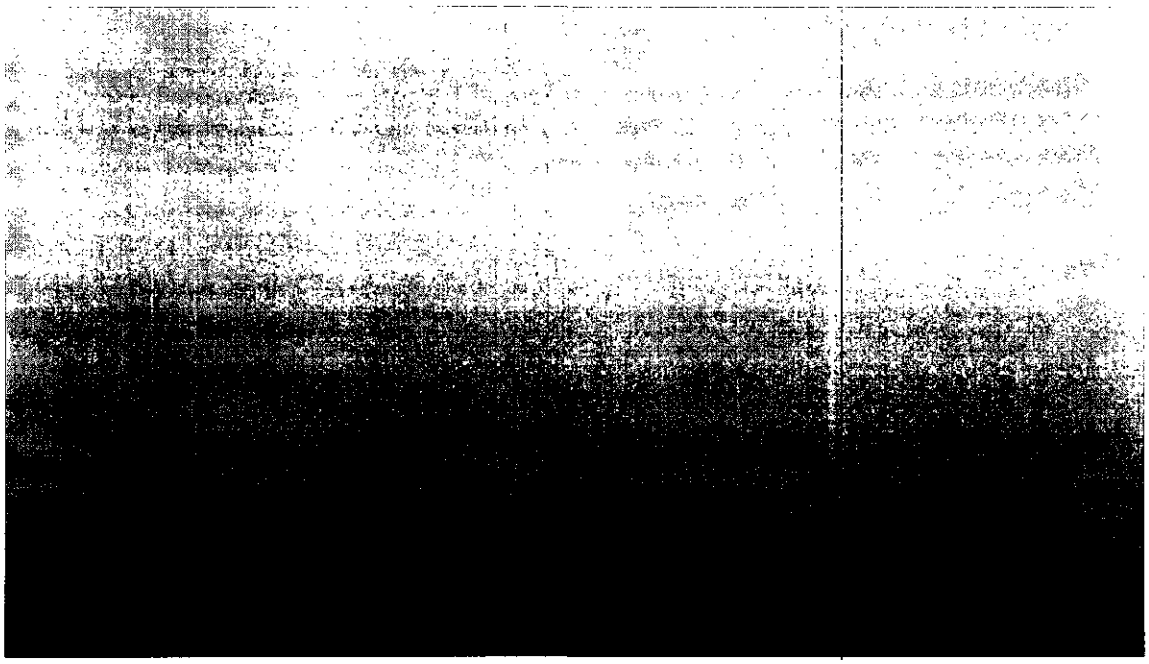


Figure XXXI



VII. Generation MWH

The total fuel deferral is designed to recover costs in excess of the 2002 baseline fuel cost as established in the Rate Stabilization Plan in Case No. 03-2144-EL-ATA, et al. The baseline amount for fuel costs and generation was not separated or developed on an individual operating

company basis, but rather on a system-wide basis. In the examination of the generation portion of the fuel deferral for this case, Staff reviewed total generation dispatched on a system-wide basis for calendar years 2006 and 2007.

The review of generation MWhs included nuclear, fossil, combustion/gas turbine & diesel generators, and gross pumped storage. For calendar years 2006 and 2007, Staff compared and tested monthly data on generation in MWhs that FE reported to this Commission with the monthly data FE reported to the US Department of Energy, Form EIA-906-Power Plant Report.

During the review of the data on generation in MWHs that FE reported to this Commission and to the DOE, Staff noticed certain combustion turbines and/or generators were reported as having negative output or negative generation. In response to data requests, FE concurred with Staff's understanding that all power plants use some amount of electricity for running their station auxiliaries. In the case of the combustion turbine plants or generators, they can remain idle for extended periods of time and still consume power to run their station auxiliaries, referred to as "off-line station use." Accordingly, as monthly gross output for some units was zero and station auxiliary units were consuming power; subtracting the power consumed by the "off-line station use" resulted in a negative net output for reporting purposes. Staff found in its review that all "off station use" was properly accounted for and subtracted from total net generation.

Audit Period Review

During its review and comparison to DOE EIA-906 reports, Staff found some minor reporting inconsistencies between the DOE reports and FE submittals to Staff. In response to Staff's data requests and required monthly submittals to the Commission, FE reported that for 2006, its total generation was 81,372,577 MWhs. During 2006, FE's total generation as reported on DOE EIA-906, year to date, was 81,319,17 MWhs. Therefore, Staff concludes that for the year 2006, FE overstated its power generation by 53,404 MWhs.

Similarly, FE reported in required monthly submittals that for year 2007, its total monthly power generation was 80,489,481 MWhs. During its review and comparison to the DOE-Form EIA-906-Reports, Staff found that during year 2007, FE's total generation as reported on DOE EIA-906, year to date, was 80,447,283 MWhs. Therefore, Staff concludes that during the year 2007, FE overstated its power generation by 42,198 MWhs.

Conclusions

Based on Staff's review, Staff concludes (except for the findings as noted above) that the MWhs of generation as submitted by FE in required monthly reporting are representative of actual MWh generation for the 2006 and 2007 audit period.

Recommendations

Staff recommends a decrease of 95,602 MWhs to the 2006 and 2007 company requested MWh generation comprising 53,404 and 42,198 MWhs for the years 2006 and 2007, respectively.