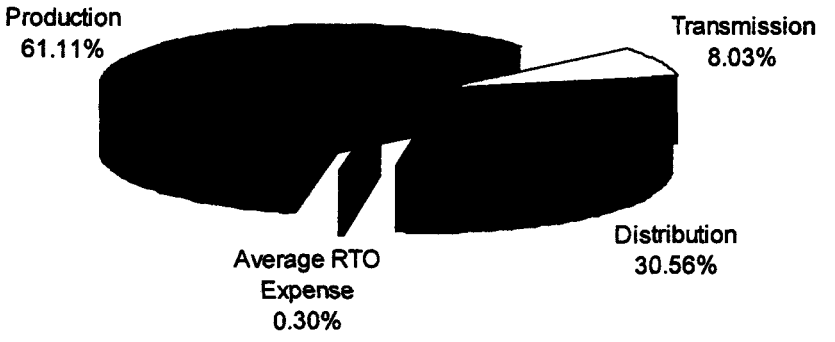
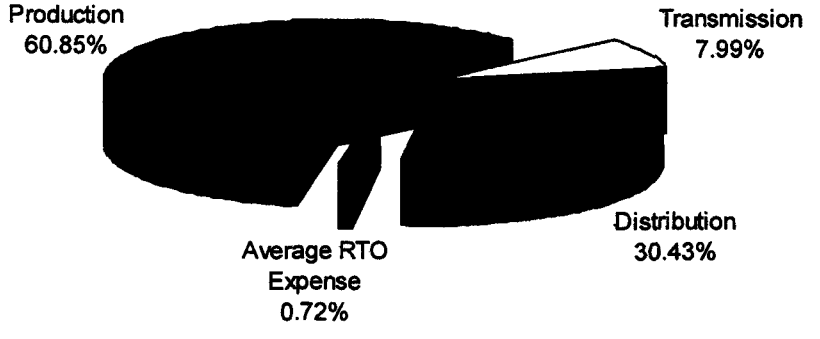
**Figure 5**
**Average Retail Bill Impact: Nationwide**
**(% of Total $/kWh)**




A second example was calculated using a smaller footprint. Here Staff applied the same analysis of new charges for the Desert Southwest footprint and demonstrated that an RTO could operate for an added charge of 0.72 percent (or five one-hundredths of one cent, $0.0005, per kWh) of a retail customer's bill (see Figure 6). The observation to be drawn from this analysis is that the size of the organization's footprint will matter; however, the impact to customers should be less than one percent.

**Figure 6**
**Average Retail Bill Impact: Desert Southwest**
**(% of Total $/kWh)**




**Conclusion**

In summary, there is significant investment required to develop an RTO. However, the actual revenue requirement of the organization necessary for it to recover its operating expenses, return of debt expense, depreciation and taxes (other than income) is far less significant and has a relatively small impact on retail customers. For this

relatively small incremental charge, customers gain all the benefits of independence and reliability associated with the new RTO.

## VI. Study Insights

In the course of developing the Study, Staff interviewed several industry consultants and members of current RTO management. In these interviews, respondents shared their lessons learned and insights on RTO formation. Despite the variety of circumstances under which the current RTOs and ISOs developed, many had common experiences.

While each existing transmission organization had similar operational requirements, costs differed in key areas, namely computer hardware and software expenditures, management of the transmission organization, outside consulting fees and operations center/building. Many respondents noted that there were lessons to be learned from their own start-up experience and that a new entity should have a smoother, less expensive development stage. Respondents indicated several factors are important to a smoother roll-out: (1) have a clear business plan prior to hiring a software contractor; (2) attempt to utilize existing modular software; and (3) add functions gradually, rather than beginning with full-scale Day Two operations.

Primarily, respondents noted that delay is expensive. Cost overruns, particularly in software design, result from changing plans mid-course. Prolonged delay also increases the amount of interest paid on debt before operations commence and the RTO has a revenue stream. Conversely, full Day Two operations implementation at the organization's inception on an aggressive timeline is costly both in the amount spent hiring outside consultants and in the number of software re-works required after operations commence. The entities that developed in stages, moving from Day One to Day Two while adding functionality to meet their members' needs, reported less cost overrun and fewer required reconfigurations. Staff finds that, if developing RTOs apply the lessons learned by existing RTOs, their formation costs can remain on the low end of the cost ranges while moving to a Day Two RTO with only incremental cost additions.[45] Similarly, RTOs that grew out of tight power pools with long-established working relationships among members were able to grow from a Day One to a Day Two RTO incrementally with greater cost efficiency. Those entities without existing relationships spent more on the front end to make their IT and communications systems compatible.

Additionally, a gradual approach from Day One operations to a full Day Two

[45] This can be seen in Figure 2, where the higher end of the investment cost range reflects some entities that undertook an immediate full Day Two effort to commence operations.

market may be less expensive due to the advent of modular computer systems. These systems can overlay additional functions as required for locational marginal pricing (LMP) and market operations on top of the Day One system. This software is becoming increasingly standardized and available off-the-shelf. However, it should be recognized that software expenditures will continue to be one of the largest portions of an RTO's budget. A consultant to the Commission, Dave Turner of Gestalt LLC cautioned that, while commercially available software exists, it is not one-stop shopping. He noted that such products will almost always require some customization, perhaps significant. This invariably means costs will be higher than the retail price tag, but typically lower than entirely customized software. Mr. Turner warned that costs can grow exponentially when requirements shift or design changes are introduced in the build, test or deploy stages. Similarly, respondents indicated several factors that can lead to cost increases for IT systems: (1) lack of clear business plan and project management; (2) over-customization of software; (3) incomplete system design; (4) excessive changes during development, and (5) implementation delays.

Staff believes an organization beginning today and taking a lessons learned approach from previously formed organizations will experience costs at the lower end of the investment cost range, similar to SPP's recent experience, and likely incur costs in the range of approximately $50 to $70 million in investment and operating costs of $50 to $70 million.

This Study also highlights the need for RTO and ISO data to be presented in a common format. Much of the imprecision in the results stems from the data submitted by the participating organizations, and Staff's assumptions and allocations of costs. With more consistent and precise data, a clearer picture of the up-front investment and ongoing expenditures required would emerge. The Uniform System of Accounts, designed for the traditional vertically-integrated utility, is not always aligned with the functions of an ISO or RTO. Staff recommends review of the reporting requirements and possible standardization to facilitate cost oversight by the public and the Commission.

# Exhibit 1

**Summary Findings from Benefit Studies for RTOs and Competition**

| Study (Author) | Date | Benefit Type | Savings | Comment |
|---|---|---|---|---|
| DOE's National Transmission Grid Study (DOE) | 5/2002 | Consumer benefit of competition already attained | $13 bn/year | Relieving transmission constraints would significantly add to customer benefits |
| SEARUC study of SMD in Southeast (Charles River Associates) | 11/2002 | improved power dispatch and increased reserve sharing | $1.1 bn in net benefits in Southeast. $1.8 bn in Eastern Interconnect | Net benefits assume that SMD includes participant funding for new transmission facilities. Finding of net benefits differs by sub-region |
| RTO West (Tabors Caramanis and Associates) | 3/2002 | Elimination of pancaked rates and loss charges, Better dispatch across a wider region and Better reserve sharing | Net benefits in RTO West $305 mm/year Net benefits for whole Western Interconnect $410 mm | Benefits to electricity buyers about $1.3 bn/year Lower net revenues to generators of about $900 mm |
| Center for the Advancement of Energy Markets Competition in PJM (Ron Sutherland) | 9/2003 | PJM customer savings in end-use prices paid in 2002 and projects future savings | $3.3 bn in 2002 $28.5 bn present value of future | Wholesale market benefits primarily from centralized economic dispatch, with some reduced forced outage rates & higher availability |
| MISO, PJM and SPP on Single RTO Market (Energy Security Analysis, Inc.) | 7/2002 | Elimination of pancaked transmission rates and loss charges. Better dispatch across a wider region. Better reserve sharing | $7 bn over ten years | |

| Study (Author) | Date | Benefit Type | Savings | Comment |
|---|---|---|---|---|
| PJM Study of single Northeastern RTO (PJM) | 1/2002 | | $299 mm/ year | Net generators costs of $37 mm |
| NYISO and ISO-NE combination and single Northeastern RTO (NYISO and ISO-NE) | 5/2002 | | Single Northeastern RTO more than $200 mm/year NY and NE about $120/year | |
| FERC Environmental Impact Statement for 888 | 1996 | Open transmission access and competition through 2010 | $3.76 - $5.37 bn/ year (1995 dollars) | |
| FERC Economic Assessment of RTO Policy (ICF) | 2002 | 3 Scenarios: A) Transmission Only - reduced transmission barriers and better sharing of reserves across regions B) RTO Policy Case, with generation efficiencies; and C) Demand Response | In 2010 (in 2000 $s) A) $0.8 bn/year (0.7%) B) $5.2 bn/year (4.8%) C) $7.5 billion/year (6.9%) | Present Value 2002-2020 from $6.2 bn (0.6%) to $60 bn (5.6%) for three scenarios |
| Center for Study of Competitive Markets Operating Efficiencies Study (Markiewicz, Rose and Wolfram) | 7/2004 | Measured historical improvements in operating efficiency of utility owned plants operating in competitive markets as compared with owned plants in regulated markets and with Muni- owned plants | Restructured IOUs 10% more efficient in non-fuel expenses & 5% in employment, vs. unrestructured IOUs 13% in non-fuel expenses & 10% in employment vs. Munis. | Based on historical experience of utilities under restructuring using annual operating data on generation plants for the period 1981 through 1999 |

# Quotes Regarding the Benefits of Competition from Order 888

| Table of Order 888 Discussion of Benefits and Costs of Markets | |
|---|---|
| **Quantifiable Benefits** | • $3.8 to $5.4 Billion |
| **Qualitative Benefits** | • Better use of existing assets and institutions<br>• New Market Mechanisms<br>• Technical Innovation<br>• Less Rate Distortion |

***Quantified Benefits of $3.8 to $5.4 Billion*** (from Page 3)

The Commission estimates the potential quantitative benefits from the Final Rule will be approximately $3.8 to $5.4 billion per year of cost savings, in addition to the non-quantifiable benefits that include better use of existing assets and institutions, new market mechanisms, technical innovation, and less rate distortion.

**Types of Benefits of Competition** (from *Section 5.2.6.1. Economic Benefits*)

[O]ther industries that have undergone large shifts in regulation (natural gas, telecommunications, railroads, airlines, and trucking) . . . . have gained efficiency in four general ways:

- **Better use of existing assets and institutions.** Market forces remove rigidities that are associated with highly regulated industries, allowing better allocation of resources and fuller use of the transmission network. Competitive pressure encourages companies to make better use of their assets.
- **New market mechanisms.** As markets take hold, they allow people to trade not only the goods and services that were traditionally regulated, but also a wide range of other goods and services. For instance, spot markets allow shorter term trading; futures and derivative markets allow more sophisticated approaches to managing risk. . .
- **Technical innovation.** Companies develop new methods of providing goods and services. In some cases, this means developing industry-specific technologies. It also can mean adapting existing technologies from other industries. . . . Regulated industries often have a pent-up potential for technical innovation that arises because no one has tried to adapt existing technologies from other industries. . .
- **Less rate distortion.** As the basic commodities or services sold in an industry become more competitive, it becomes ever harder to maintain rate structures that prevent efficient use of the transportation system. The proposed rule does not directly address transmission rates, but future competition arising from non-discriminatory open access is likely to increase pressure on inefficiencies in transmission rates.

These types of efficiency gain are not mutually exclusive. For instance, improved market structures are the mechanism through which resources are better allocated—though better markets also add value in ways that were unimagined at the beginning of market-oriented regulation.

[1] Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities and Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Statutes & Regulations, Regulations Preambles January 1991-June 1996 ¶ 31,036 (1996), order on reh'g, Order No. 888-A, 62 Fed. Reg. 12,274 (March 14, 1997), FERC Statutes & Regulations, Regulations Preambles July 1996-December 2001 ¶ 31,048 (1997), order on reh'g, Order No. 888-B, 81 FERC ¶ 61,248 (1997), order on reh'g, Order No. 888-C, 82 FERC ¶ 61,046 (1998), aff'd in relevant part sub nom. Transmission Access Policy Study Group, et al. v. FERC, 225 F.3d 667 (D.C. Cir. 2002), aff'd sub nom. New York v. FERC, 535 U.S. 1 (2002).

# Quotes Regarding the Benefits of RTOs from Order 2000[2]

| Table of Order 888 Discussion of Benefits of Markets | |
|---|---|
| **Impediments to Competition Benefits** | • Engineering and economic inefficiencies<br>• Continuing opportunities for transmission owners to unduly discriminate on behalf of their affiliates |
| **Qualitative Benefits** | • Increased efficiency through elimination of regional transmission pricing and rate pancaking<br>• Improved congestion management<br>• More accurate estimates of ATC<br>• Effective management of parallel path flows<br>• Efficient planning for transmission and generation investments<br>• Increased coordination among states<br>• Reduced transaction costs<br>• Facilitation of state deregulation<br>• Development of environmentally preferred generation<br>• Improved grid reliability<br>• Less discrimination |
| **Cost/Benefit Tradeoffs** | • Organizational flexibility to manage costs |

***Impediments to the Achievement of Competitive Benefits*** (from Page 32)

[T]here remain important transmission-related impediments to a competitive wholesale electric market ... [in] two broad categories: (1) the engineering and economic inefficiencies inherent in the current operation and expansion of the transmission grid, and (2) continuing opportunities for transmission owners to unduly discriminate in the operation of their transmission systems so as to favor their own or their affiliates' power marketing activities.

***Types of Benefits of Competition*** (from Pages 89-90)

We conclude that RTO's will provide the benefits ... includ[ing]: increased efficiency through regional transmission pricing and the elimination of rate pancaking; improved congestion management; more accurate estimates of ATC; more effective management of parallel path flows; more efficient planning for transmission and generation investments; increased coordination among state regulatory agencies; reduced transaction costs; facilitation of the success of sate retail access programs; facilitation of the development of environmentally preferred generation in sates with retail access programs; improved grid reliability; and fewer opportunities for discriminatory transmission practices.

***Cost/Benefit Tradeoffs*** (from Page 96)

We also recognize that there are those who worry that the costs of establishing an RTO will outweigh the benefits. We believe this concern fails to account for the flexibility we have built into this rule. While many look at the high costs involved with respect to establishing some existing ISOs and PXs, this rule does not require an RTO to follow any specific approach ... allowing significant flexibility with respect to how and, in

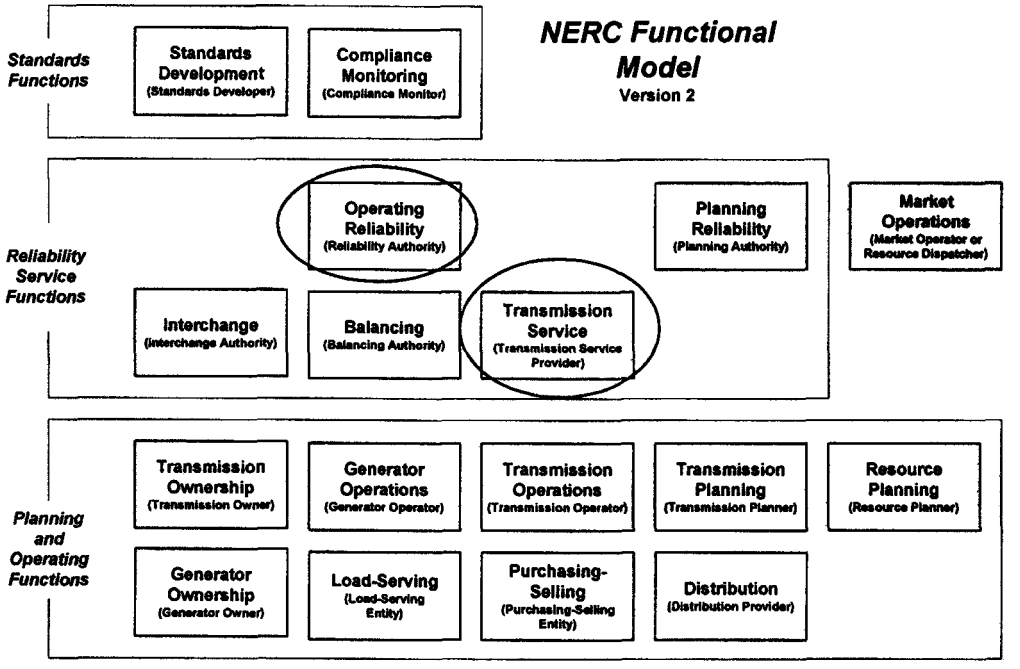
[2] Regional Transmission Organizations, Order No. 2000, 65 Fed. Reg. 809 (Jan. 6, 2000), FERC Statutes & Regulations, Regulations Preambles July 1996-December 2000 ¶ 31,089 (1999), order on reh'g, Order No. 2000-A, 65 Fed. Reg. 12,088 (Mar. 8, 2000), FERC Statutes & Regulations, Regulations Preambles July 1996-December 2000 ¶ 31,092 (2000), aff'd sub nom. Public Utility District. No. 1 of Snohomish County, Washington v. FERC, 272 F.3d 607 (D.C. Cir. 2001).

some cases, when the minimum characteristics and functions are satisfied.... T]he flexibility built into the Final Rule will allow RTOs to create streamlined organizational structures that are not overly costly.

# Exhibit 2

# Exhibit 2

## NERC Reliability Functional Model
## Functional Model Diagram (Approved 2/10/2004)




| *Function Name* | *Responsible Entity* |
|---|---|
| Operating Reliability Function | Reliability Authority |
| Planning Reliability Function | Planning Authority |
| Balancing Function | Balancing Authority |
| Interchange Function | Interchange Authority |
| Transmission Service Function | Transmission Service Provider |
| Transmission Ownership Function | Transmission Owner |
| Transmission Operations Function | Transmission Operator |
| Transmission Planning Function | Transmission Planner |
| Resource Planning Function | Resource Planner |
| Distribution Function | Distribution Provider |
| Generator Ownership Function | Generator Owner |
| Generator Operations Function | Generator Operator |
| Load-serving Function | Load-serving Entity |
| Purchasing-Selling Function | Purchasing-Selling Entity |
| Market Operations Function | Market Operator (or Resource Dispatcher) |
| Standards Development Function | Standards Developer |
| Compliance Monitoring Function | Compliance Monitor |

* The circled authorities represent Staff's identification for Day One purposes.

# Exhibit 3

## RTO Investment Cost

| | | PJM | MISO | ERCOT | SPP | SPP (non-market) |
|---|---|---|---|---|---|---|
| (1) | Transmission Service Provider | $ 35,198,875 | $ 55,385,085 | $ 59,740,106 | $ 22,307,139 | $ 1,466,682 |
| (2) | Transmission Support | $ 15,474,219 | $ 26,851,278 | $ 18,034,749 | $ 3,040,533 | $ 3,040,533 |
| (3) | Reliability | $ 1,269,955 | $ 10,142,315 | $ 4,508,687 | $ 5,670,751 | $ 5,670,751 |
| (4) | Management | $ 10,884,899 | $ 7,029,747 | $ 1,011,331 | $ 2,256,707 | $ 2,256,707 |
| (5) | Building | $ 11,046,712 | $ 15,776,744 | $ 30,655,674 | $ 5,059,774 | $ 5,059,774 |
| (6) | Total | $ 69,674,160 | $ 117,185,169 | $ 113,950,547 | $ 38,334,905 | $ 17,494,447 |
| (7) | Number of Employees | 263 | 187 | 188 | 140 | 109 |

## Estimated Annual Operating Expense

| | | | | | | |
|---|---|---|---|---|---|---|
| (8) | Est. Labor Cost(Avg. Ann. Sal.)1/ | $ 34,852,639 | $ 21,910,268 | $ 17,870,915 | $ 19,291,633 | $ 15,061,253 |
| (9) | Depreciation 2/ | $ 12,722,689 | $ 15,461,463 | $ 18,671,120 | $ 6,992,344 | $ 2,824,253 |
| (10) | O&M 3/ | $ 9,768,517 | $ 13,039,723 | $ 7,378,749 | $ 5,037,724 | $ 2,943,063 |
| (11) | Other Expenses 4/ | $ 16,025,950 | $ 13,141,326 | $ 12,954,043 | $ 1,536,570 | $ 1,199,492 |
| (12) | Interest Expense 5/ | $ 4,431,897 | $ 9,303,627 | $ 7,323,049 | $ 2,438,711 | $ 1,125,762 |
| (13) | Total (Sum (1) through (5)) | $ 77,801,693 | $ 72,856,407 | $ 64,197,876 | $ 35,296,983 | $ 23,153,824 |

1/ Salaries, associated benefits and labor related taxes. MISO salaries exclude MAPPCOR Contract Expense.

2/ Non-EMS software (3 yrs), Non-EMS Hardware (5 yrs), EMS (7 yrs), Building (15 yrs).

3/ PJM is Materials and Supplies and Hardware Lease Expense per FTE.
MISO O&M consists of Departmental Occupancy and Supplies Expenses only (2002)
ERCOT O&M includes EOY 2002 Admin costs/FTE plus all Software License Expense.
SPP is directly identifed Admin and L&M Costs.

4/ Includes Labor related expenses (meals, lodging, travel, training, etc.) and Non-Labor related (e.g., insurance expenses, property tax, bank fees, and SAS 70 II audits).
MISO expense excludes amortized component of deferred start-up cost (over 7 years).
ERCOT includes Facility and Equipment expenses, and Consulting and Legal services.

5/ Interest Expense Only (PJM/ERCOT/SPP - 7%, MISO - 8.5% of Investment). RTOs use Depreciation to cover principal retirement. Reflects interest calculated taking into account first year Day One investment paid.

# PJM Summary

## RTO Investment Cost

| | | | References |
|---|---|---|---|
| (1) | Transmission Service Provider | $ 35,198,875 | Page 3 - PJM Day One Capital: Total Column (A) |
| (2) | Transmission Support | $ 15,474,219 | Page 3 - PJM Day One Capital: Total Column (B) |
| (3) | Reliability | $ 1,269,955 | Page 3 - PJM Day One Capital: Total Column (C) |
| (4) | Management | $ 6,684,399 | Page 3 - PJM Day One Capital: Total Column (D) |
| (5) | Building | $ 11,046,712 | Page 3 - PJM Day One Capital: Total Column (E) |
| (6) | **Total** | $ 69,674,160 | Sum (1) through (5) |

(7) Number of Employees 263 Page 4 - PJM Day 1 FTEs: Column (B) Total

## Estimated Annual Operating Expense

| | | | |
|---|---|---|---|
| (8) | Est. Labor Cost(Avg. Ann. Sal.)1/ | $ 34,852,639 | Page 5 - PJM Day One OpEx: Column (B), Line (3) |
| (9) | Depreciation 2/ | $ 12,722,689 | Page 5 - PJM Day One OpEx: Column (B), Line (1) |
| (10) | O&M 3/ | $ 9,768,517 | Page 5 - PJM Day One OpEx: Column (B), Sum Lines (4) and (5) |
| (11) | Other Expenses 4/ | $ 16,025,950 | Page 5 - PJM Day One OpEx: Column (B), Sum Lines (6) and (7) |
| (12) | Interest Expense 5/ | $ 4,431,897 | Page 5 - PJM Day One OpEx: Column (B), Line (2) |
| (13) | **Total** | $ 77,801,693 | Sum (8) through (12) |

## Estimated PJM Day 1 Capital Investment

| *Portion of System Investment Attributable to Each RTO Day 1 Function* | (A) Transmission Service Provider | (B) Transmission Support | (C) Reliability | (D) Management | (E) Building | Sum (A)-(E) Total |
|---|---|---|---|---|---|---|
| **ACES / TMS** | | | 106,417 | | | **106,417** |
| **Buildings** | | | | | 10,600,000 | **10,600,000** |
| **Business Continuity** | 5,772,673 | | | | | **5,772,673** |
| **Combined OASIS / EES Interface** | 672,678 | | | | | **672,678** |
| **Control Center Infrastructure** | | | | | 446,712 | **446,712** |
| **Data Publication Extension** | | 272,509 | | | | **272,509** |
| **Energy Management System** | 25,994,325 | 11,451,914 | | | | **37,446,239** |
| **Enterprise Security** | | | | 3,837,498 | | **3,837,498** |
| **Grid Accounting** | | 34,551 | | | | **34,551** |
| **Independent Generator Communications** | | | 1,163,538 | | | **1,163,538** |
| **Internet Network Architecture** | | | | 377,152 | | **377,152** |
| **Network Infrastructure Upgrade** | | | | 1,155,092 | | **1,155,092** |
| **OASIS** | 748,027 | 1,496,050 | | | | **2,244,077** |
| **Operator Training Simulator** | 128,219 | | | | | **128,219** |
| **PJM Information Warehouse** | 1,882,953 | 2,219,195 | | 941,477 | | **5,043,625** |
| **PJM Manuals** | | | | 141,144 | | **141,144** |
| **PJM Manuals Enhancements** | | | | 232,037 | | **232,037** |
| **Totals** | **35,198,875** | **15,474,219** | **1,269,955** | **6,684,399** | **11,046,712** | **69,674,160** |

## Estimated PJM Day 1 Staff

| (A) | (B) | (C) | (D) | (E) |
|---|---|---|---|---|
| | Based on 2004 Annual Budget | | | |
| | Directly Attributable to Day 1 Functions | Not Attributable to Day 1 Functions | Management / Support Functions | Total |
| **System Operations** | 114 | | | **114** |
| **Transmission Planning** | | 38 | | **38** |
| **Market Services** | | 52 | | **52** |
| **Information Technology** | | | 129 | **129** |
| **Corporate Services** | | | 39 | **39** |
| **Finance** | | | 87 | **87** |
| **Market Monitoring** | | 10 | | **10** |
| **Office of the President** | | | 24 | **24** |
| **Subtotal** | **114** | **100** | **279** | **493** |
| **Management Allocation** | 149 | 130 | (279) | **0** |
| **Totals** | **263** | **230** | **0** | **493** |

## Estimated PJM Annual Day 1 Revenue Requirement

| (A) Expense Type | Footnote | (B) 2004 Estimate | (C) 2005 Estimate |
|---|---|---|---|
| (1) Depreciation | 1 | 12,722,689 | 15,400,709 |
| (2) Interest | 2 | 4,431,897 | 4,936,447 |
| (3) Compensation | 3 | 34,852,639 | 49,997,229 |
| (4) Hardware Lease Expense | 4 | 3,149,064 | 4,844,601 |
| (5) Materials & Supplies | 4 | 6,619,453 | 10,994,935 |
| (6) Other or Outside Services Correlated with Staff Levels | 5 | 8,614,841 | 12,054,417 |
| (7) Other or Outside Services *NOT* Correlated with Staff Levels | 6 | 7,411,109 | 9,060,998 |
| (8) Total | | 77,801,693 | 107,289,336 |
| (9) Net Energy for Load Forecast | 7 | 349,000,000 | 700,000,000 |
| (10) Day 1 OpEx Rate Per Megawatt Hour | | $ 0.2229 | $ 0.1533 |

***Footnotes***

1 Calculated as 85% of Day 1 non-building, non-EMS investment depreciated over three-year software useful life plus 15% of Day 1 non-building, non-EMS investment depreciated over five-year hardware useful life plus Day 1 building investment depreciated over

2 Calculated as average unpaid Day 1 Capital Investment times estimated 7.00% interest rate.

3 Based on pro ration of PJM's total budgeted 2004 Compensation for PJM's System Operations staff plus pro rated management staff totaling 263 in 2004 and 328 in 2005.

4 Calculated as pro rated portion of 2004 budgeted expense associated with staff allocated to Day 1 Operations.

5 Calculated as pro rated portion of annual budgeted expenses for lodging, travel, meetings, meals, training, telecommunications, buildings maintenance and utilities associated with staff allocated to Day 1 Operations.

6 Represents annual budget for insurance, board expenses, annual member meeting, audit fees, property and school taxes, and bank fees that do not vary by staff number or customer transaction volumes.

7 Based on PJM's annual budget assumptions and volume forecasts on PJM Finance Committee page of web site.

# Midwest ISO Summary

## RTO Investment Cost

| | | | References |
|---|---|---|---|
| (1) | Transmission Service Provider | $ 55,385,085 | Page 7 - MISO Capital Assets: Total Column (D) |
| (2) | Transmission Support | $ 28,851,278 | Page 7 - MISO Capital Assets: Total Column (E) |
| (3) | Reliability | $ 10,142,315 | Page 7 - MISO Capital Assets: Total Column (F) |
| (4) | Management | $ 7,029,747 | Page 7 - MISO Capital Assets: Total Column (G) |
| (5) | Building | $ 15,776,744 | Page 7 - MISO Capital Assets: Total Column (C), Line (8) |
| (6) | **Total** | $ 117,185,169 | Sum Lines (1) through (5) |

(7) Number of Employees 187 Page 8 - MISO Headcount: Line (11)

## Estimated Annual Operating Expense

| | | | |
|---|---|---|---|
| (8) | Est. Labor Cost(Avg. Ann. Sal.)1/ | $ 21,910,268 | Page 9 - MISO Op Expense, Line (1) divided by 227 times Line (7), above |
| (9) | Depreciation 2/ | $ 15,461,463 | Page 7 - MISO Capital Assets: Column (C), Line (32) |
| (10) | O&M 3/ | $ 13,039,723 | Page 9 - MISO Op Expense: Column (D), Sum Line (3) and Line (5) |
| (11) | Other Expenses 4/ | $ 13,141,326 | Page 9 - MISO Op Expense: Column (D), Sum Line (2), Line (4), and Line (6) |
| (12) | Interest Expense 5/ | $ 9,303,627 | Line (6) multiplied by 2 less Line (9), divided by 2, multiplied by 8.5%. |
| (13) | **Total** | $ 72,856,407 | Sum Lines (8) through (12) |

**Midwest ISO Assets - 2002 Data**

| | Account | Description | (A) Ending Balance (through Q3 2003) | (B) Allocated to Day 1 | (C) TSP | (D) TSP Support | (E) Reliability | (F) Management |
|---|---|---|---|---|---|---|---|---|
| (1) | 35203 | Leasehold Improvements - Transmission | $ 523,325.32 | $ 523,325 | $ 239,106 | $ 126,320 | $ 157,900 | |
| (2) | 35301 | Computer Hardware - Transmission | $ 13,012,919.71 | $ 13,012,920 | $ 5,945,558 | $ 3,141,050 | $ 3,926,312 | |
| (3) | 35303 | Computer Software - Transmission | $ 61,172,915.29 | $ 61,172,915 | $ 40,026,722 | $ 21,146,193 | | |
| (4) | 35307 | Telecommunications Equipment | $ 8,165,925.41 | $ 8,165,925 | $ 2,934,481 | $ 1,550,292 | $ 1,937,865 | $ 1,743,287 |
| (5) | 35311 | Computer Hardware - Transmission | $ 4,859,786.79 | $ 4,859,787 | $ 2,407,184 | $ 862,953 | $ 1,589,650 | |
| (6) | 38900 | Land and Land Rights - General | $ 1,800,000.00 | $ 1,800,000 | $ 646,842 | $ 341,728 | $ 427,160 | $ 384,270 |
| (7) | 39003 | Leasehold Improvements - General | $ 6,214,349.05 | $ 6,214,349 | $ 2,233,169 | $ 1,179,787 | $ 1,474,734 | $ 1,326,659 |
| (8) | 39011 | **Buildings - General Leased** | $ 15,776,743.50 | $ 15,776,744 | | | | |
| (9) | 39013 | Leasehold Improvements - General | $ - | $ - | $ - | $ - | $ - | $ - |
| (10) | 39100 | Office Furniture and Fixtures | $ 2,628,986.20 | $ 2,628,986 | $ 944,744 | $ 499,110 | $ 623,888 | $ 561,244 |
| (11) | 39110 | Office Furniture and Fixtures | $ 20,255.00 | $ 20,255 | $ 7,279 | $ 3,845 | $ 4,807 | $ 4,324 |
| (12) | 39700 | Communication Equipment - General | $ 559,367.57 | $ 559,368 | | | | $ 559,368 |
| (13) | 39710 | Communication Equipment - General | $ 520,715.55 | $ 520,716 | | | | $ 520,716 |
| (14) | 39801 | Computer Hardware - General | $ 1,504,847.60 | $ 1,504,848 | | | | $ 1,504,848 |
| (15) | 39803 | Computer Software - General | $ 425,031.75 | $ 425,032 | | | | $ 425,032 |
| (16) | | **Total** | $ 117,185,168.74 | $ 117,185,169 | $ 55,385,085 | $ 28,851,278 | $ 10,142,315 | $ 7,006,791 |
| | | | | 100.00% | | | | |

**Depreciation Calculation**

| | Rate (yrs) | | Allocated Dollars | Ann. Depreciation |
|---|---|---|---|---|
| (17) | 5 | Leasehold Improvements - Transmission | $ 523,325.32 | $ 104,665 |
| (18) | 7 | Computer Hardware - Transmission | $ 13,012,919.71 | $ 1,858,989 |
| (19) | 7 | Computer Software - Transmission | $ 61,172,915.29 | $ 8,738,988 |
| (20) | 5 | Telecommunications Equipment | $ 8,165,925.41 | $ 1,633,185 |
| (21) | 7 | Computer Hardware - Transmission | $ 4,859,786.79 | $ 694,255 |
| (22) | 0 | Land and Land Rights - General | $ 1,800,000.00 | $ - |
| (23) | 5 | Leasehold Improvements - General | $ 6,214,349.05 | $ 1,242,870 |
| (24) | 15 | Buildings - General Leased | $ 15,776,743.50 | $ - |
| (25) | 5 | Leasehold Improvements - General | $ - | $ - |
| (26) | 5 | Office Furniture and Fixtures | $ 2,628,986.20 | $ 525,797 |
| (27) | 5 | Office Furniture and Fixtures | $ 20,255.00 | $ 4,051 |
| (28) | 5 | Communication Equipment - General | $ 559,367.57 | $ 111,874 |
| (29) | 5 | Communication Equipment - General | $ 520,715.55 | $ 104,143 |
| (30) | 5 | Computer Hardware - General | $ 1,504,847.60 | $ 300,970 |
| (31) | 3 | Computer Software - General | $ 425,031.75 | $ 141,677 |
| (32) | | | $ 117,185,169 | $ 15,461,463 |

MISO Headcount
December 31, 2002

| | | |
|---|---|---|
| (1) | Admin/Exec | 2 |
| (2) | Finance/Shared Services | 27 |
| (3) | Operations | 108 |
| (4) | Planning | 20 |
| (5) | IT | 54 |
| (6) | Legal/Reg | 13 |
| (7) | Market Ops | 3 |
| | | 227 |
| | Less: | |
| (8) | Market Ops | 3 |
| (9) | Transmission Planning | |
| (10) | MAPP FTE's | 37 |
| (11) | Day 1 Headcount | 187 |

**MISO Annual Operating Expense**

| | (A) Dec-02 | (B) Annualized | (C) 2002 Form 1 | (D) "Day 1" | (Basis) |
|---|---|---|---|---|---|
| (1) Salaries/benefits | $ 2,216,413 | $ 26,596,956 | $ 24,530,838 | $ 26,596,956 | Annualized |
| (2) Outside services | $ 977,323 | $ 11,727,876 | $ 8,910,654 | $ 8,910,654 | Actual |
| (3) Occupancy | $ 296,001 | $ 3,552,012 | $ 3,214,346 | $ 3,552,012 | Annualized |
| (4) Insurance | $ 276,336 | $ 3,316,032 | $ 2,982,254 | $ 2,982,254 | Actual |
| (5) Supplies/other | $ 1,054,251 | $ 12,651,012 | $ 9,487,711 | $ 9,487,711 | Actual |
| (6) Taxes | $ 64,586 | $ 775,032 | $ 1,248,418 | $ 1,248,418 | Actual |
| (7) Sub-total | $ 4,884,910 | $ 58,618,920 | $ 50,374,221 | $ 52,778,005 | |
| (8) Depreciation | $ 1,323,916 | $ 15,886,992 | $ 14,300,334 | $ 15,886,992 | Annualized |
| (9) Amortization | $ 818,252 | $ 9,819,024 | $ 9,819,026 | $ 9,819,026 | Actual |
| (10) Interest Expense | $ 592,389 | $ 7,108,668 | $ 9,399,340 | $ 9,399,340 | Actual |
| (11) Sub-total | $ 2,734,557 | $ 32,814,684 | $ 33,518,700 | $ 35,105,358 | |
| (12) TOTAL | $ 7,619,467 | $ 91,433,604 | $ 83,892,921 | $ 87,883,363 | |
| **Less:** | | | | | |
| (13) Market Ops | $ 79,777 | $ 945,582 | | $ 945,582 | |
| (14) Transmission Planning | $ 260,580 | $ 3,126,960 | | $ 3,126,960 | |
| (15) MAPPCOR Contract Expense | | $ 6,054,995 | | $ 6,054,995 | |
| (16) Total MISO Day 1 Expenses | | | | $ 77,755,826 | |
| (17) Load - MWh of peak demand | | | | 569,642,179 | |
| (18) Cost/MWh of peak demand | | | | $ 0.1365 | |
| (19) Load - MWh of energy | | | | 343,816,582 | |
| (20) Cost/MWh of energy | | | | $ 0.2262 | |

# ERCOT Summary

## RTO Investment Cost

| | | | References |
|---|---|---|---|
| (1) | Transmission Service Provider | $ 59,740,106 | Page 11 - ERCOT Assets 2002: Column (C), Line (7) |
| (2) | Transmission Support | $ 18,034,749 | Page 11 - ERCOT Assets 2002: Column (D), Line (7) |
| (3) | Reliability | $ 4,508,687 | Page 11 - ERCOT Assets 2002: Column (E), Line (7) |
| (4) | Management | $ 1,011,331 | Page 11 - ERCOT Assets 2002: Column (F), Line (7) |
| (5) | Building | $ 30,655,674 | Page 11 - ERCOT Assets 2002: Column (G), Line (2) |
| (6) | **Total** | $ 113,950,547 | Sum Lines (1) through (5) |
| (7) | Number of Employees | 188 | Page 12 - ERCOT 2002 FTEs: Column (E), Line (30) |

## Estimated Annual Operating Expense

| | | | |
|---|---|---|---|
| (8) | Est. Labor Cost(Avg. Ann. Sal.)1/ | $ 17,870,915 | Page 13 - ERCOT Op Expense, Column (D), Line (6) divided by 296, times Line (7), above |
| (9) | Depreciation 2/ | $ 18,671,120 | Page 11 - ERCOT Assets 2002: Column (H), Line (6) |
| (10) | O&M 3/ | $ 7,378,749 | Page 13 - ERCOT Op Expense, Column (D), Line (10) divided by 296, times Line (7) above, plus ERCOT Op Expense, Column (D), Line (11) |
| (11) | Other Expenses 4/ | $ 12,954,043 | Page 13 - ERCOT Op Expense, Column (D), sum of Line (8) and Line (9), times allocated labor ratio (188/296) |
| (12) | Interest Expense 5/ | $ 7,323,049 | Line (6) multiplied by 2 less Line (9), divided by 2, multiplied by 7%. |
| (13) | **Total** | $ 64,197,876 | Sum Lines (8) through (12) |

## ERCOT Capital Assets by Function - 2002

| (A) Asset | (B) EOY 2002 | (C) TSP | (D) TSP Support | (E) Reliability | (F) Management | (G) Total (C) - (F) | Depr. Rate | (H) Depreciation |
|---|---|---|---|---|---|---|---|---|
| (1) Computer Equipment and software | $ 124,576,000 | $ 57,560,110 | $ 17,376,637 | $ 4,344,159 | $ 410,000 | | 5 | $ 15,938,181 |
| (2) Buildings and leasehold | $ 48,170,000 | $ 18,543,249 | $ 5,597,962 | $ 1,399,490 | $ 5,114,973 | $ 30,655,674 | 15 | $ 2,043,712 |
| (3) Furniture and fixtures | $ 5,286,000 | $ 2,034,868 | $ 614,300 | $ 153,575 | $ 561,298 | | 5 | $ 672,808 |
| (4) Land and improvements | $ 248,000 | $ 95,469 | $ 28,821 | $ 7,205 | $ 26,334 | | 0 | |
| (5) Vehicles | $ 129,000 | $ 49,659 | $ 14,991 | $ 3,748 | $ 13,698 | | 5 | $ 16,419 |
| (6) Total | $ 178,409,000 | $ 78,283,355 | $ 23,632,711 | $ 5,908,178 | $ 6,126,303 | $ 113,950,647 | | $ 18,671,120 |
| (7) | | $ 59,740,106 | $ 18,034,749 | $ 4,508,687 | $ 1,011,331 | | | |
| (8) Depreciation and amortization | $ (43,207,000) | | | | | | | |
| (9) | $ 135,202,000 | | | | | | | |
| (10) CWIP | $ 85,000 | | | | | | | |
| (11) Systems under development | $ 11,799,000 | | | | | | | |
| | $ 147,086,000 | | | | | | | |

# ERCOT Staffing Summary by Division and Department
## FY 2002

| | (A) | | (B) | (C) |
|---|---|---|---|---|
| | Corporate Administration | | | |
| (1) | 101 | Executive Administration | 7 | |
| (2) | 110 | Finance | 10 | |
| (3) | 120 | General Counsel | 4 | |
| (4) | 130 | Human Resources | 3 | |
| (5) | 140 | NERC Compliance | 4 | |
| (6) | 150 | Stakeholder Services | 3 | |
| (7) | 160 | Corporate Communications | 2 | |
| (8) | 170 | Market Rules | 2 | |
| (9) | | TOTAL | 35 | |
| | Information Technology | | | |
| (10) | 300 | CIO Administration | 0 | |
| (11) | 301 | Technology Services Administrat | 2 | |
| (12) | 310 | System Engineering & Administr | 43 | 15 |
| (13) | 320 | EMS | 11 | |
| (14) | 321 | IT Operations | 0 | |
| (15) | 325 | Facilities | 0 | |
| (16) | 330 | Network | 22 | 8 |
| (17) | 340 | Commercial Applications | 14 | |
| (18) | 345 | EMMS Development | 0 | |
| (19) | 350 | Project Management | 2 | |
| (20) | 353 | Market Technology Service | 0 | |
| (21) | 354 | Data Warehousing | 0 | |
| (22) | 355 | Development & Architecture | 0 | |
| (23) | 356 | Transaction Services | 0 | |
| (24) | 357 | Corporate Applications | 0 | |
| (25) | 358 | Web and Data Services | 0 | |
| (26) | 359 | Settlement and Billing | 0 | |
| (27) | 360 | Data Management | 0 | 0 |
| (28) | 370 | Cyber Security | 0 | |
| (29) | 371 | Physical Security | 0 | |
| (30) | 385 | IT Delivery | 0 | |
| (31) | 390 | IT Operations 2 | 0 | |
| (32) | 395 | EMMS Production | 0 | |
| (33) | | TOTAL | 94 | |

| | (D) | | (E) | (F) |
|---|---|---|---|---|
| | System Operations | | | |
| | 201 | Chief Operating Officer Administration | 0 | |
| | 400 | COO Administration | 0 | |
| | 401 | Technical Operations Administration | 1 | |
| | 410 | [redacted] | [redacted] | |
| | 420 | [redacted] | [redacted] | |
| | 425 | [redacted] | [redacted] | |
| | 430 | System Planning | [redacted] | |
| | 440 | Resource Planning | 0 | |
| | | TOTAL | 83 | |
| | Market Operations | | | |
| | 500 | CMO Administration | 0 | 0 |
| | 501 | Settlements Administration | 4 | |
| | 505 | Galvin PM | 0 | |
| | 510 | Customer Solutions Support | 4 * | |
| | 520 | Registration | 17 | [redacted] |
| | 530 | Settlement Metering | 18 | |
| | 540 | Load Profiling and Data Aggregation | 6 | |
| | 550 | Settlements and Billing | 14 | |
| | 560 | Client Relations | 17 | |
| | 570 | REP/ESI-ID of Record | 0 | |
| | 580 | Renewables and TCR | 4 | |
| | 605 | Gruber PM | 0 | |
| | 630 | Retail Documentation and Reporting | 0 * | |
| | 640 | Retail Testing and Quality Control | 0 * | |
| | 650 | Retail Client Services | 0 * | |
| | 660 | Wholesale Client Services | 0 * | |
| | | TOTAL | 84 | |
| | | | | Avg. Ann. Sal. |
| | | **ERCOT TOTAL** | **296** | $ 94,868 |
| | | **ERCOT Day One** | **188** | |

| | | | | | | | 0.64 | |
|---|---|---|---|---|---|---|---|---|
| Direct Day One Labor | 101 | 34% | Allocated Day 1 Labor | | | 188 | 64% | 188 |
| TSP | 53 | 29% | 6 | 54 | = | 114 | 38% | 60% |
| TSP Support | 16 | 9% | 2 | 16 | = | 34 | 12% | 18% |
| Reliability | 4 | 2% | 0 | 4 | = | 9 | 3% | 5% |
| Management | 29 | 15% | 3 | | = | 31 | 11% | 17% |
| Allocated to ALL | 22 | | | | | | | |
| Allocated Staff Support Control | | | 75 | | | | | |

**Electric Reliability Council of Texas, Inc.**
**Statements of Activity**
**(in 000's)**

| | (A) | (B) 12/31/2000 Actual | (C) 12/31/2001 Actual | (D) 12/31/2002 Actual | (E) 12/31/2003 Actual-Unaudited |
|---|---|---|---|---|---|
| (1) | Operating Revenues: | | | | |
| (2) | Transaction Fees | $ 42,167 | $ 59,958 | $ 61,456 | $ 93,991 |
| (3) | Membership Fees and other | $ 1,681 | $ 5,507 | $ 3,630 | $ 3,252 |
| (4) | Total Operating Revenue | $ 43,848 | $ 65,465 | $ 65,086 | $ 97,243 |
| (5) | Operating Expenses | | | | |
| (6) | Salaries and Related Benefits | $ 7,702 | $ 21,382 | $ 28,081 | $ 35,920 |
| (7) | Depreciation and Amortization | $ 289 | $ 11,242 | $ 31,480 | $ 38,091 |
| (8) | Facility and Equipment Costs | $ 2,005 | $ 7,170 | $ 6,347 | $ 8,175 |
| (9) | Consulting and Legal Services | $ 4,459 | $ 6,886 | $ 14,008 | $ 12,089 |
| (10) | Administrative and Other | $ 2,944 | $ 7,056 | $ 4,811 | $ 5,392 |
| (11) | IT Maintenance and Licensing | $ 1,042 | $ 428 | $ 4,317 | $ 5,383 |
| (12) | Total Operating Expenses | $ 18,441 | $ 54,164 | $ 89,044 | $ 105,050 |
| (13) | Income From Operations | $ 25,407 | $ 11,301 | $ (23,958) | $ (7,807) |
| (14) | Other Income | | | | |
| (15) | Interest Income | $ 331 | $ 370 | $ 1,208 | $ 433 |
| (16) | Interest Expense | $ - | $ (1,471) | $ (5,448) | $ (8,533) |
| (17) | Change in unrestricted net assets | $ 25,738 | $ 10,200 | $ (28,198) | $ (15,907) |
| (18) | Full Time Employees | 134 | 267 | 296 | 380 |

# SPP Summary

## RTO Investment Cost

| | | | References |
|---|---|---|---|
| (1) | Transmission Service Provider | $ 22,307,139 | Page 15 - SPP Fixed Assets: sum Col. (C) Line (16), Col. (C) Line (24) and Col. (F) Line (16) |
| (2) | Transmission Support | $ 3,040,633 | Page 15 - SPP Fixed Assets: sum Col. (G) Line (16) and Col. (D) Line (24) |
| (3) | Reliability | $ 5,670,751 | Page 15 - SPP Fixed Assets: sum Col. (D) Line (16), Col. (H) Line (16) and Col. (F) Line (24) |
| (4) | Management | $ 2,256,707 | Page 15 - SPP Fixed Assets: sum Col. (B) Line (16) and Col. (E) Line (24) |
| (5) | Building | $ 5,059,774 | Page 16 - SPP Building Costs: Column (E) Line (16) |
| (6) | **Total** | $ 38,334,905 | Sum Lines (1) through (5) |

(7) Number of Employees 140 Page 19 - SPP Op Budget: Column (H) Line (117)

## Estimated Annual Operating Expense

| | | | |
|---|---|---|---|
| (8) | Est. Labor Cost(Avg. Ann. Sal.)1/ | $ 19,291,633 | Page 19 - SPP Op Budget: Column (H) Line (116) |
| (9) | Depreciation 2/ | $ 6,992,344 | Sum Lines (1) through (4), divded by 5 years, plus Line (5) divided by 15 years |
| (10) | O&M 3/ | $ 5,037,724 | Page 19 - SPP Op Budget: Sum Column (J) Line (116) and Column (K) Line (116) |
| (11) | Other Expenses 4/ | $ 1,536,570 | Line (8) times 7.65%, plus Line (7) times $7,000 times 6.2% |
| (12) | Interest Expense 5/ | $ 2,438,711 | Line (6) multiplied by 2 less Line (9), divided by 2, multiplied by 7%. |
| (13) | **Total** | $ 35,296,983 | Sum Lines (8) through (12) |

# SPP (non-market) Summary

## RTO Investment Cost

| | | | References |
|---|---|---|---|
| (14) | Transmission Service Provider | $ 1,466,682 | Page 15 - SPP Fixed Assets: sum Col. (C) Line (24) and Col. (F) Line (16) |
| (15) | Transmission Support | $ 3,040,633 | Page 15 - SPP Fixed Assets: sum Col. (G) Line (16) and Col. (D) Line (24) |
| (16) | Reliability | $ 5,670,751 | Page 15 - SPP Fixed Assets: sum Col. (D) Line (16), Col. (H) Line (16) and Col. (F) Line (24) |
| (17) | Management | $ 2,256,707 | Page 15 - SPP Fixed Assets: sum Col. (B) Line (16) and Col. (E) Line (24) |
| (18) | Building | $ 5,059,774 | Page 16 - SPP Building Costs: Column (E) Line (16) |
| (19) | **Total** | $ 17,494,447 | Sum Lines (1) through (5) |

(20) Number of Employees 109 Page 19 - SPP Op Budget: Column (H) Line (118)

## Estimated Annual Operating Expense

| | | | |
|---|---|---|---|
| (21) | Est. Labor Cost(Avg. Ann. Sal.)1/ | $ 15,061,253 | Page 19 - SPP Op Budget: Column (H) Line (122) |
| (22) | Depreciation 2/ | $ 2,824,253 | Sum Lines (14) through (17), divded by 5 years, plus Line (18) divided by 15 years |
| (23) | O&M 3/ | $ 2,943,063 | Page 19 - SPP Op Budget: Sum Column (J) Line (119) and Column (K) Line (119) |
| (24) | Other Expenses 4/ | $ 1,199,492 | Line (21) times 7.65%, plus Line (20) times $7,000 times 6.2% |
| (25) | Interest Expense 5/ | $ 1,125,762 | Line (19) multiplied by 2 less Line (22), divided by 2, multiplied by 7.0%. |
| (26) | **Total** | $ 23,153,824 | Sum Lines (21) through (25) |

**Southwest Power Pool - 2003**
**Investment Cost**

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) |
|---|---|---|---|---|---|---|---|---|---|
| | Sum of 12/31/2003 Ending Cost | Function | | | | | | | |
| | Project | Management | Market | Reliability | Split | Transmission Service Provision | Transmission Support | Regional Reliability | Total |
| (1) | Administration | $1,035,567.98 | | | | | | $29,463.24 | $1,065,031.22 |
| (2) | AEP Project | | | | | $44,095.00 | | | $44,095.00 |
| (3) | Business Continuity | | | $259,690.27 | | | | | $259,690.27 |
| (4) | Business Systems | $168,171.56 | | | | | | | $168,171.56 |
| (5) | Computer Room Expansion | | | | $1,246,447.20 | | | | $1,246,447.20 |
| (6) | Control Room Infrastructure | | $26,200.00 | | $631,476.35 | | $42,666.00 | | $700,342.35 |
| (7) | EMS Enhancements | | | $1,621,434.78 | $444,803.38 | | | | $2,066,238.16 |
| (8) | EMS Implementation | | | $2,692,652.00 | $36,500.00 | | | | $2,729,152.00 |
| (9) | Enhance Energy Scheduling | | | | | | $2,727,441.62 | | $2,727,441.62 |
| (10) | Enterprise Security | $39,841.00 | | | $273,106.12 | $55,031.00 | | | $367,978.12 |
| (11) | IT Architecture | | | | $196,139.06 | | | | $196,139.06 |
| (12) | Market Systems | | $20,814,257.75 | | | | | | $20,814,257.75 |
| (13) | OASIS | | | | | $637,794.32 | | | $637,794.32 |
| (14) | Operating Reserve Sharing | | | $85,402.00 | | | | | $85,402.00 |
| (15) | Transmission Planning | | | $166,950.00 | | | | | $166,950.00 |
| (16) | Total | $1,243,580.54 | $20,840,457.75 | $4,826,129.05 | $2,828,472.11 | $736,920.32 | $2,770,107.62 | $29,463.24 | $33,275,130.63 |

| | | Split Items | TSP | SubPort | Management | Reliability |
|---|---|---|---|---|---|---|
| (17) | Computer Room Expansion | $1,246,447.20 | $ 321,590 | $ 119,171 | $ 146,163 | $ 359,223 |
| (18) | Control Room Infrastructure | $631,476.35 | $ 162,924 | $ 60,374 | $ 226,178 | $ 181,990 |
| (19) | EMS Enhancements | $444,803.38 | $ 114,762 | $ 42,527 | $ 159,823 | $ 128,191 |
| (20) | EMS Implementation | $36,500.00 | $ 9,417 | $ 3,490 | $ 13,074 | $ 10,519 |
| (21) | | | $ - | $ - | $ | $ - |
| (22) | Enterprise Security | $273,106.12 | $ 70,463 | $ 26,111 | $ 97,823 | $ 78,709 |
| (23) | IT Architecture | $196,139.06 | $ 50,605 | $ 18,753 | $ 70,275 | $ 56,527 |
| (24) | TOTAL | $2,828,472.11 | $ 729,761 | $ 270,426 | $ 1,013,336 | $ 815,159 |

37.37%

**SPP Lease Data**

| | (A) Period | (B) Prior Rent per Month | (C) Scheduled Rate Increase | (D) Current Rent Rate | (E) Total Rent for the Period | (F) Annual Cost per Sq. Ft. |
|---|---|---|---|---|---|---|
| (1) | Jan - Sept. 2003 | $ 47,625 | - | | $ 428,629 | $ 15.13 |
| (2) | Oct. 2003 - Oct. 2004 | $ 47,625 | 3% | $ 49,054 | $ 588,651 | $ 15.58 |
| (3) | Oct. 2004 - Oct. 2005 | $ 49,054 | 3% | $ 50,526 | $ 606,311 | $ 16.05 |
| (4) | Oct. 2005 - Oct. 2006 | $ 50,526 | 3% | $ 52,042 | $ 624,500 | $ 16.53 |
| (5) | Oct. 2006 - Oct. 2007 | $ 52,042 | 3% | $ 53,603 | $ 643,235 | $ 17.03 |
| (6) | Oct. 2007 - Oct. 2008 | $ 53,603 | 3% | $ 55,211 | $ 662,532 | $ 17.54 |
| (7) | Oct. 2008 - Oct. 2009 | $ 55,211 | 3% | $ 56,867 | $ 682,408 | $ 18.07 |
| (8) | Oct. 2009 - Oct. 2010 | $ 56,867 | 3% | $ 58,573 | $ 702,880 | $ 18.61 |
| (9) | Oct. 2010 - Oct. 2011 | $ 58,573 | 3% | $ 60,331 | $ 723,967 | $ 19.17 |
| (10) | 2012 | $ 60,331 | 3% | $ 62,140 | $ 745,686 | $ 19.74 |
| (11) | 2013 | $ 62,140 | 3% | $ 64,005 | $ 768,056 | $ 20.33 |
| (12) | 2014 | $ 64,005 | 3% | $ 65,925 | $ 791,098 | $ 20.94 |
| (13) | 2015 | $ 65,925 | 3% | $ 67,903 | $ 814,831 | $ 21.57 |
| (14) | 2016 | $ 67,903 | 3% | $ 69,940 | $ 839,276 | $ 22.22 |
| (15) | 2017 | $ 69,940 | 3% | $ 72,038 | $ 864,454 | $ 22.89 |
| (16) | | | **Net Present Value =** | **$421,647.86** | **$5,059,774.27** | 10% |

| | | | |
|---|---|---|---|
| (17) | **(A) Total Rent for the REMAINING Life of the Lease** | $ 6,408,798 | Sum of Rents from 1/2003 to 1/2012 |
| (18) | **(B) Average MONTHLY Rent for the REMAINING Life of** | $ 61,036 | (A) divided by 105 months |
| (19) | **(C) Square Footage Occupied** | $ 37,773 | |
| (20) | **(D) Average ANNUAL Cost per Square Foot** | $ 19.39 | ((B)*12)/(C) |

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | Sum of FTEs | Corporate Function | | | | | | |
| 4 | Departmental Function | Management | Markets | Regional Reliability | Reliability | Transmission Service Provider | Transmission Support | Grand Total |
| 5 | ADMINISTRATIVE | 7.85 | | | | | | 7.85 |
| 6 | BUSINESS APPLICATIONS | 0.2 | | | | 1 | | 1.2 |
| 7 | BUSINESS ARCHITECTURE & STRATEGY | 1.1 | | | | | | 1.1 |
| 8 | BUSINESS INFRASTRUCTURE | 6.1 | | | | | | 6.1 |
| 9 | BUSINESS PROJECT MANAGEMENT | 0.2 | | | | | | 0.2 |
| 10 | CHANGE MANAGEMENT | 1.5 | | | | | | 1.5 |
| 11 | COMPLIANCE | | | 1 | | | | 1 |
| 12 | CORPORATE AFFAIRS | 0.25 | | | | | | 0.25 |
| 13 | CUSTOMER RELATIONS | 0.7 | | | | | | 0.7 |
| 14 | EMS APPLICATIONS | | | | 4 | 0.5 | | 4.5 |
| 15 | ENGINEERING MANAGEMENT | 1.75 | | | 0.5 | | | 2.25 |
| 16 | FINANCE & ACCOUNTING | 4.55 | | | | | | 4.55 |
| 17 | FINANCIAL ANALYSIS & PROCESS IMPROVEMENT | 1 | | | | | | 1 |
| 18 | GOVERNMENT RELATIONS | 0.5 | | | | | | 0.5 |
| 19 | HUMAN RESOURCES | 2 | | | | | | 2 |
| 20 | INTERCONNECTION ENGINEERING | | | | | 2 | | 2 |
| 21 | IT MANAGEMENT | 2.2 | | | | | | 2.2 |
| 22 | LEGAL | 1.5 | | | | | | 1.5 |
| 23 | MARKET ANALYSIS | | 4 | | | | | 4 |
| 24 | MARKET MANAGEMENT | | 2.25 | | | | | 2.25 |
| 25 | MARKET OPERATIONS | | 7.75 | | | | | 7.75 |
| 26 | MARKET SUPPORT | | 13.2 | | | | | 13.2 |
| 27 | MEMBER RELATIONS | 0.3 | | | | | | 0.3 |
| 28 | NETWORK MODELS | | | | 2.5 | 0.5 | | 3 |
| 29 | OFFICE & FACILITIES | 2.5 | | | | | | 2.5 |
| 30 | OPERATIONS ENGINEERING | | | 0.25 | 2.95 | 2 | | 5.2 |
| 31 | OPERATIONS MANAGEMENT | 0.35 | | | | | | 0.35 |
| 32 | REGIONAL SUPPORT & SCHEDULING | | | 0.5 | | | | 0.5 |
| 33 | RELIABILITY AUTHORITY | | | 0.25 | 8.05 | | | 8.3 |
| 34 | RELIABILITY ENGINEERING | | | 2 | | | | 2 |
| 35 | SCHEDULING | | | 1 | | | 9.45 | 10.45 |
| 36 | SETTLEMENTS | | 3 | | | 2.85 | | 5.85 |
| 37 | TARIFF ADMINISTRATION | 2 | | 0.25 | | 11.85 | | 14.1 |
| 38 | TECH SUPPORT | | | | 1.75 | 0.5 | 1 | 3.25 |
| 39 | TRAINING | 0.5 | 0.5 | | | | | 1 |
| 40 | TRANSMISSION ENGINEERING | | | | | 4 | | 4 |
| 41 | TRANSMISSION PLANNING | | | | 6.5 | | | 6.5 |
| 42 | TRANSMISSION POLICY | 2 | | | | 3 | | 5 |
| 43 | TREASURY | 0.1 | | | | | | 0.1 |
| 44 | Grand Total | 39.15 | 30.7 | 5.25 | 26.25 | 28.2 | 10.45 | 140 |
| 45 | | | | | | | | |

| | | |
|---|---|---|
| Mgmt FTEs | 39.15 | 36% |
| TSP FTEs | 28.2 | 26% |
| Reliability FTEs | 31.5 | 29% |
| Transmission Support FTEs | 10.45 | 10% |
| Total Non-market FTEs | 109.3 | |
| Markets FTEs | 30.7 | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **SPP Budget** | | | | | | | Salary, Travel, Meetings, Comm | NERC | Admin 1,270,347 | L&M 3,767,368 | Services 7,573,680 | | |
| 2 | Personnel | Corporate Function | Departmental Function | Op Budget | FTEs | | | 19,291,638 | 800,000 | 492,647 | 1,148,389 | | | |
| 3 | Accounting | Management | ADMINISTRATIVE | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 4 | Carl Monroe | Management | ADMINISTRATIVE | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 5 | Cheryl Robertson | Management | ADMINISTRATIVE | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 6 | Customer Service | Management | ADMINISTRATIVE | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 7 | HR | Management | ADMINISTRATIVE | 528,137 | 3 | 2.14% | | 413,392 | | 10,557 | 24,608 | 79,580 | | |
| 8 | Karen Thomas | Management | ADMINISTRATIVE | 112,139 | 0.75 | 0.54% | | 103,348 | | 2,639 | 6,152 | | | |
| 9 | Keith Dover | Management | ADMINISTRATIVE | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 10 | Nick Brown | Management | ADMINISTRATIVE | 989,839 | 0.75 | 0.54% | | 103,348 | | 780,339 | 6,152 | 100,000 | | |
| 11 | Stacy Duckett | Management | ADMINISTRATIVE | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 12 | Tom Dunn | Management | ADMINISTRATIVE | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 13 | Accounting | Transmission Service Provider | BUSINESS APPLICATIONS | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 14 | Kevin Perry | Management | BUSINESS APPLICATIONS | 29,904 | 0.2 | 0.14% | | 27,559 | | 704 | 1,641 | | | |
| 15 | Kevin Perry | Management | BUSINESS ARCHITECTURE & S | 44,856 | 0.3 | 0.21% | | 41,339 | | 1,056 | 2,461 | | | |
| 16 | Security | Management | BUSINESS ARCHITECTURE & S | 119,615 | 0.8 | 0.57% | | 110,238 | | 2,815 | 6,562 | | | |
| 17 | Infrastructure | Management | BUSINESS INFRASTRUCTURE | 619,702 | 4 | 2.86% | | 551,190 | | 14,076 | 32,811 | 21,625 | | |
| 18 | Kevin Perry | Management | BUSINESS INFRASTRUCTURE | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 19 | Security | Management | BUSINESS INFRASTRUCTURE | 304,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | 5,000 | | |
| 20 | Kevin Perry | Management | BUSINESS PROJECT MANAGEI | 29,904 | 0.2 | 0.14% | | 27,559 | | 704 | 1,641 | | | |
| 21 | Keith Dover | Management | CHANGE MANAGEMENT | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 22 | Tech Developmer | Management | CHANGE MANAGEMENT | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 23 | Ron Ciesiel | Regional Reliability | COMPLIANCE | 359,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | 210,000 | | |
| 24 | Stacy Duckett | Management | CORPORATE AFFAIRS | 59,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | 22,000 | | |
| 25 | RJ Robertson | Management | CUSTOMER RELATIONS | 104,663 | 0.7 | 0.50% | | 96,458 | | 2,463 | 5,742 | | | |
| 26 | Applications | Reliability | EMS APPLICATIONS | 448,557 | 3 | 2.14% | | 413,392 | | 10,557 | 24,608 | | | |
| 27 | Applications | Transmission Service Provider | EMS APPLICATIONS | 608,248 | 0.5 | 0.36% | | 68,899 | | 1,759 | 537,590 | | | |
| 28 | Ops Engineering | Reliability | EMS APPLICATIONS | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 29 | Bruce Rew | Management | ENGINEERING MANAGEMENT | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 30 | Les Dillahunty | Management | ENGINEERING MANAGEMENT | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 31 | Planning | Reliability | ENGINEERING MANAGEMENT | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 32 | Sherry Jensen | Management | ENGINEERING MANAGEMENT | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 33 | Accounting | Management | FINANCE & ACCOUNTING | 598,077 | 4 | 2.86% | | 551,190 | | 14,076 | 32,811 | | | |
| 34 | Tom Dunn | Management | FINANCE & ACCOUNTING | 82,236 | 0.55 | 0.39% | | 75,789 | | 1,935 | 4,512 | | | |
| 35 | Accounting | Management | FINANCIAL ANALYSIS & PROCE | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 36 | Les Dillahunty | Management | GOVERNMENT RELATIONS | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 37 | Nick Brown | Management | GOVERNMENT RELATIONS | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 38 | HR | Management | HUMAN RESOURCES | 323,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | 24,000 | | |
| 39 | Tariff Studies | Transmission Service Provider | INTERCONNECTION ENGINEER | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 40 | Applications | Management | IT MANAGEMENT | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 41 | Carl Moncoe | Management | IT MANAGEMENT | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 42 | Infrastructure | Management | IT MANAGEMENT | 96,384 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | 21,625 | | |
| 43 | Kevin Perry | Management | IT MANAGEMENT | 29,904 | 0.2 | 0.14% | | 27,559 | | 704 | 1,641 | | | |
| 44 | Tech Developmer | Management | IT MANAGEMENT | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 45 | Laurie Guinn | Management | LEGAL | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 46 | Stacy Duckett | Management | LEGAL | 134,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | 60,000 | | |
| 47 | Market Dev and A | Markets | MARKET ANALYSIS | [illegible] | 1 | [illegible] | | [illegible] | | 14,076 | 32,811 | 300,000 | | |
| 48 | Market Dev and A | Markets | MARKET MANAGEMENT | [illegible] | 0.5 | [illegible] | | [illegible] | | 1,759 | 4,101 | | | |
| 49 | Richard Dillon | Markets | MARKET MANAGEMENT | [illegible] | 1 | [illegible] | | [illegible] | | [illegible] | 8,203 | | | |
| 50 | Tech Developmer | Markets | MARKET MANAGEMENT | [illegible] | 0.75 | [illegible] | | [illegible] | | [illegible] | 6,152 | | | |
| 51 | Carl Monroe | Markets | MARKET OPERATIONS | [illegible] | 0.25 | [illegible] | | [illegible] | | [illegible] | 2,051 | | | |
| 52 | Market Dev and A | Markets | MARKET OPERATIONS | [illegible] | 0.5 | [illegible] | | [illegible] | | 1,779,933 | 4,570,000 | | | |
| 53 | Market Operation | Markets | MARKET OPERATIONS | [illegible] | 1 | [illegible] | | [illegible] | | [illegible] | 57,419 | | | |
| 54 | Applications | Markets | MARKET SUPPORT | [illegible] | 1 | [illegible] | | [illegible] | | [illegible] | 20,507 | | | |
| 55 | Customer Service | Markets | MARKET SUPPORT | [illegible] | 1 | [illegible] | | [illegible] | | [illegible] | 13,945 | | | |
| 56 | Infrastructure | Markets | MARKET SUPPORT | [illegible] | 1 | [illegible] | | [illegible] | | [illegible] | 10,253 | 21,625 | | |
| 57 | Karen Thomas | Markets | MARKET SUPPORT | [illegible] | 0.25 | [illegible] | | [illegible] | | 880 | 2,051 | | | |
| 58 | Market Dev and A | Markets | MARKET SUPPORT | [illegible] | 1 | [illegible] | | [illegible] | | [illegible] | 8,203 | | | |
| 59 | Tech Developmer | Markets | MARKET SUPPORT | [illegible] | [illegible] | [illegible] | | [illegible] | | [illegible] | 41,014 | | | |
| 60 | Training | Markets | MARKET SUPPORT | [illegible] | [illegible] | [illegible] | | [illegible] | | [illegible] | 12,304 | | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | RJ Robertson | Management | MEMBER RELATIONS | 44,856 | 0.3 | 0.21% | | 41,339 | | 1,056 | 2,461 | | | |
| 62 | Applications | Reliability | NETWORK MODELS | 734,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | 660,000 | | |
| 63 | Applications | Transmission Service Provider | NETWORK MODELS | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 64 | Ops Engineering | Reliability | NETWORK MODELS | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 65 | Security | Management | OFFICE & FACILITIES | 154,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | 5,000 | | |
| 66 | Telecomm | Management | OFFICE & FACILITIES | 224,278 | 1.5 | 1.07% | | 206,696 | | 5,278 | 12,304 | | | |
| 67 | Lanny Nickell | Reliability | OPERATIONS ENGINEERING | 29,904 | 0.2 | 0.14% | | 27,559 | | 704 | 1,641 | | | |
| 68 | Ops Engineering | Regional Reliability | OPERATIONS ENGINEERING | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 69 | Ops Engineering | Reliability | OPERATIONS ENGINEERING | 411,178 | 2.75 | 1.96% | | 378,943 | | 9,677 | 22,558 | | | |
| 70 | Ops Engineering | Transmission Service Provider | OPERATIONS ENGINEERING | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 71 | Carl Monroe | Management | OPERATIONS MANAGEMENT | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 72 | Lanny Nickell | Management | OPERATIONS MANAGEMENT | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 73 | Lanny Nickell | Regional Reliability | REGIONAL SUPPORT & SCHED | 44,856 | 0.3 | 0.21% | | 41,339 | | 1,056 | 2,461 | | | |
| 74 | Security | Regional Reliability | REGIONAL SUPPORT & SCHED | 29,904 | 0.2 | 0.14% | | 27,559 | | 704 | 1,641 | | | |
| 75 | Customer Service | Reliability | RELIABILITY AUTHORITY | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 76 | Lanny Nickell | Reliability | RELIABILITY AUTHORITY | 829,904 | 0.2 | 0.14% | | 27,559 | 800,000 | 704 | 1,641 | | | |
| 77 | Reliability Coor | Regional Reliability | RELIABILITY AUTHORITY | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 78 | Reliability Coor | Reliability | RELIABILITY AUTHORITY | 1,009,255 | 6.75 | 4.82% | | 930,133 | | 23,753 | 55,369 | | | |
| 79 | Training | Reliability | RELIABILITY AUTHORITY | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 80 | Planning | Regional Reliability | RELIABILITY ENGINEERING | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 81 | Applications | TSP Support | SCHEDULING | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 82 | Customer Service | TSP Support | SCHEDULING | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 83 | Lanny Nickell | TSP Support | SCHEDULING | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 84 | Scheduling | Regional Reliability | SCHEDULING | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 85 | Scheduling | TSP Support | SCHEDULING | 1,426,633 | 7 | 5.00% | | 964,582 | | 24,632 | 57,419 | 380,000 | | |
| 86 | Training | TSP Support | SCHEDULING | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 87 | Accounting | Markets | SETTLEMENTS | 550,557 | 3 | 2.14% | | 413,392 | | 10,557 | 126,608 | | | |
| 88 | Accounting | Transmission Service Provider | SETTLEMENTS | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 89 | Applications | Transmission Service Provider | SETTLEMENTS | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 90 | Infrastructure | Transmission Service Provider | SETTLEMENTS | 59,005 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | 21,625 | | |
| 91 | Tom Dunn | Transmission Service Provider | SETTLEMENTS | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 92 | AEP Project | Management | TARIFF ADMINISTRATION | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 93 | Applications | Transmission Service Provider | TARIFF ADMINISTRATION | 373,798 | 2.5 | 1.79% | | 344,494 | | 8,797 | 20,507 | | | |
| 94 | Customer Service | Transmission Service Provider | TARIFF ADMINISTRATION | 299,039 | 2 | 1.43% | | 275,595 | | 7,038 | 16,406 | | | |
| 95 | Infrastructure | Transmission Service Provider | TARIFF ADMINISTRATION | 59,005 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | 21,625 | | |
| 96 | Lanny Nickell | Transmission Service Provider | TARIFF ADMINISTRATION | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 97 | Tariff Administrati | Regional Reliability | TARIFF ADMINISTRATION | 50,080 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | 12,700 | | |
| 98 | Tariff Administrati | Transmission Service Provider | TARIFF ADMINISTRATION | 1,009,255 | 6.75 | 4.82% | | 930,133 | | 23,753 | 55,369 | | | |
| 99 | Training | Transmission Service Provider | TARIFF ADMINISTRATION | 37,380 | 0.25 | 0.18% | | 34,449 | | 880 | 2,051 | | | |
| 100 | Infrastructure | Reliability | TECH SUPPORT | 208,524 | 1.25 | 0.89% | | 172,247 | | 4,399 | 10,253 | 21,625 | | |
| 101 | Infrastructure | TSP Support | TECH SUPPORT | 96,409 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | 21,650 | | |
| 102 | Telecomm | Reliability | TECH SUPPORT | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 103 | Telecomm | Transmission Service Provider | TECH SUPPORT | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 104 | Telecomm | TSP Support | TECH SUPPORT | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 105 | Katie Duncan | Management | TRAINING | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 106 | Katie Duncan | Markets | TRAINING | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 107 | Tariff Studies | Transmission Service Provider | TRANSMISSION ENGINEERING | 598,077 | 4 | 2.86% | | 551,190 | | 14,076 | 32,811 | | | |
| 108 | Planning | Reliability | TRANSMISSION PLANNING | 1,179,532 | 6.5 | 4.64% | | 895,683 | | 22,873 | 260,976 | | | |
| 109 | Bruce Rew | Management | TRANSMISSION POLICY | 518,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | 444,000 | | |
| 110 | Jeff Price | Transmission Service Provider | TRANSMISSION POLICY | 699,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | 550,000 | | |
| 111 | Les Dillahunty | Management | TRANSMISSION POLICY | 74,759 | 0.5 | 0.36% | | 68,899 | | 1,759 | 4,101 | | | |
| 112 | Pat Bourne | Management | TRANSMISSION POLICY | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 113 | Roy Sundman | Transmission Service Provider | TRANSMISSION POLICY | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 114 | Tariff Studies | Transmission Service Provider | TRANSMISSION POLICY | 149,519 | 1 | 0.71% | | 137,797 | | 3,519 | 8,203 | | | |
| 115 | Tom Dunn | Management | TREASURY | 14,952 | 0.1 | 0.07% | | 13,780 | | 352 | 820 | | | |
| 116 | | | | 32,703,037 | 140 | 100.00% | | 19,291,633 | 800,000 | [illegible] | [illegible] | [illegible] | | |
| 117 | | | | | | | SPP Heavy Staff | 140 | | | | | | |
| 118 | | | | | | | SPP lite Staff | 109.3 | | [illegible] | [illegible] | | Mkts | |
| 119 | | | | | | | | | | [illegible] | [illegible] | | | |
| 120 | | | | | | | | $ 137,797 | | | | | SPP Lite O&M | |
| 121 | | | | | | | | | | | | | | |
| 122 | | | | | | | Lite Staffing $'s | 15,061,253 | | | | | | |

| | (Ann. Peak in MW) (A) 2001 | (B) 2002 | (C) 2003 | (D)=Avg. (A),(B),(C) 3 year Avg. ** |
|---|---|---|---|---|
| CAISO | 38,975 | 42,352 | 42,581 | 41,303 |
| PJM | 54,014 | 63,762 | 61,499 | 59,758 |
| MISO * | | 71,600 | | 71,600 |
| SPP | 36,563 | 36,249 | 38,321 | 37,044 |
| ERCOT | 55,719 | 56,246 | 59,993 | 57,319 |
| | | | **High** | **71,600** |
| | | | **Low** | **37,044** |

* Load data has not been obtained for MISO for the 3 year period. While MISO began RTO operation in 2001, it did not fully record through public information the RTO load as compared to individual loads of the participating utilities.

** A three year average of the peak RTO loads was used in order to smooth any anomalous years.

| | Net Energy Load in kWhs (E) | Ann. Expenses (F) | $/MWh (G) = ((E)/(F))*1000 |
|---|---|---|---|
| PJM | 349,000,000,000 | $ 77,801,693 | $ 0.223 |
| MISO | 343,816,582,000 | $ 72,856,407 | $ 0.212 |
| SPP-H 1/ | 217,420,601,200 | $ 35,296,983 | $ 0.162 |
| SPP-L 1/ | 217,420,601,200 | $ 23,153,824 | $ 0.106 |
| ERCOT 2/ | 286,206,895,200 | $ 64,197,876 | $ 0.224 |

1/ SPP Calculated at 67% load factor

2/ Estimate ERCOT 2003 Energy per 2003 Annual Report

## Retail Costs and RTO Impact

| (in cents per kWh) | 2000 | | 2001 | | 2005 (Fcst) | | Average |
|---|---|---|---|---|---|---|---|
| Production | 4.20 | 62% | 4.10 | 62% | 3.90 | 60% | 61% |
| Transmission | 0.50 | 7% | 0.50 | 8% | 0.60 | 9% | 8% |
| Distribution | 2.10 | 31% | 2.00 | 30% | 2.00 | 31% | 31% |
| Avg. End-use Prices | 6.80 | 100% | 6.60 | 100% | 6.50 | 100% | 100% |

Source: EIA/Annual Energy Outlook 2003, page 131 - Prices by Service Category

| Retail Sales of Electricity | | Avg. RTO Exp. | Avg Revenue from Retail (Million Dollars) | | | | Avg Revenue from Retail Cents/kWh | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EOY 2002 | $ 62,538,240 | | | | | | | | |
| Region | GWh's | Avg. RTE Exp. | Total | Production | Transmissior | Distribution | Total | Production | ransmissio | Distribution |
| State | (A) | (B) 1/ | (C) | (D)=(C)*61% | (E)=(C)*8% | (F)=(C)*31% | (G)=(A)/(C) | (H)=(A)/(D) | (I)=(A)/(E) | (J)=(A)/(F) |
| **New England** | **116,614** | **$ 0.0005** | **$ 11,845** | **$ 7,260** | **$ 954** | **$ 3,631** | **$ 0.1016** | **$ 0.0623** | **$ 0.0082** | **$ 0.0311** |
| Connecticut | 30,906 | $ 0.0020 | 3,007 | $ 1,843 | $ 242 | $ 922 | $ 0.0973 | $ 0.0596 | $ 0.0078 | $ 0.0298 |
| Maine | 9,636 | $ 0.0065 | 1,095 | $ 671 | $ 88 | $ 336 | $ 0.1136 | $ 0.0696 | $ 0.0091 | $ 0.0348 |
| Massachussetts | 52,410 | $ 0.0012 | 5,338 | $ 3,272 | $ 430 | $ 1,636 | $ 0.1018 | $ 0.0624 | $ 0.0082 | $ 0.0312 |
| New Hampshire | 10,490 | $ 0.0060 | 1,100 | $ 674 | $ 89 | $ 337 | $ 0.1049 | $ 0.0643 | $ 0.0084 | $ 0.0321 |
| Rhode Island | 7,544 | $ 0.0083 | 693 | $ 425 | $ 56 | $ 213 | $ 0.0919 | $ 0.0563 | $ 0.0074 | $ 0.0282 |
| Vermont | 5,629 | $ 0.0111 | 612 | $ 375 | $ 49 | $ 188 | $ 0.1087 | $ 0.0666 | $ 0.0088 | $ 0.0333 |
| **Middle Atlantic** | **358,811** | **$ 0.0002** | **$ 34,414** | **$ 21,094** | **$ 2,771** | **$ 10,548** | **$ 0.0959** | **$ 0.0588** | **$ 0.0077** | **$ 0.0294** |
| New Jersey | 74,460 | $ 0.0008 | 6,930 | $ 4,248 | $ 558 | $ 2,124 | $ 0.0931 | $ 0.0571 | $ 0.0075 | $ 0.0285 |
| New York | 143,564 | $ 0.0004 | 16,208 | $ 9,935 | $ 1,305 | $ 4,968 | $ 0.1129 | $ 0.0692 | $ 0.0091 | $ 0.0346 |
| Pennsylvania | 140,787 | $ 0.0004 | 11,276 | $ 6,912 | $ 908 | $ 3,456 | $ 0.0801 | $ 0.0491 | $ 0.0065 | $ 0.0245 |
| **East North Central** | **569,403** | **$ 0.0001** | **$ 37,032** | **$ 22,699** | **$ 2,982** | **$ 11,351** | **$ 0.0650** | **$ 0.0399** | **$ 0.0052** | **$ 0.0199** |
| Illinois | 137,666 | $ 0.0005 | 9,597 | $ 5,883 | $ 773 | $ 2,942 | $ 0.0697 | $ 0.0427 | $ 0.0056 | $ 0.0214 |
| Indiana | 101,429 | $ 0.0006 | 5,420 | $ 3,322 | $ 436 | $ 1,661 | $ 0.0534 | $ 0.0328 | $ 0.0043 | $ 0.0164 |
| Michigan | 107,311 | $ 0.0006 | 7,423 | $ 4,550 | $ 598 | $ 2,275 | $ 0.0692 | $ 0.0424 | $ 0.0056 | $ 0.0212 |
| Ohio | 155,999 | $ 0.0004 | 10,383 | $ 6,364 | $ 836 | $ 3,182 | $ 0.0666 | $ 0.0408 | $ 0.0054 | $ 0.0204 |
| Wisconsin | 66,999 | $ 0.0009 | 4,209 | $ 2,580 | $ 339 | $ 1,290 | $ 0.0628 | $ 0.0385 | $ 0.0051 | $ 0.0193 |
| **West North Central** | **259,591** | **$ 0.0002** | **$ 15,509** | **$ 9,506** | **$ 1,249** | **$ 4,754** | **$ 0.0597** | **$ 0.0366** | **$ 0.0048** | **$ 0.0183** |
| Iowa | 40,898 | $ 0.0015 | 2,458 | $ 1,507 | $ 198 | $ 754 | $ 0.0601 | $ 0.0368 | $ 0.0048 | $ 0.0184 |
| Kansas | 36,714 | $ 0.0017 | 2,315 | $ 1,419 | $ 186 | $ 710 | $ 0.0631 | $ 0.0387 | $ 0.0051 | $ 0.0193 |
| Minnesota | 62,162 | $ 0.0010 | 3,630 | $ 2,225 | $ 292 | $ 1,113 | $ 0.0584 | $ 0.0358 | $ 0.0047 | $ 0.0179 |
| Missouri | 75,001 | $ 0.0008 | 4,565 | $ 2,798 | $ 368 | $ 1,399 | $ 0.0609 | $ 0.0373 | $ 0.0049 | $ 0.0187 |
| Nebraska | 25,661 | $ 0.0024 | 1,424 | $ 873 | $ 115 | $ 436 | $ 0.0555 | $ 0.0340 | $ 0.0045 | $ 0.0170 |
| North Dakota | 10,219 | $ 0.0061 | 557 | $ 341 | $ 45 | $ 171 | $ 0.0545 | $ 0.0334 | $ 0.0044 | $ 0.0167 |
| South Dakota | 8,937 | $ 0.0070 | 560 | $ 343 | $ 45 | $ 172 | $ 0.0626 | $ 0.0384 | $ 0.0050 | $ 0.0192 |
| **South Atlantic** | **753,324** | **$ 0.0001** | **$ 49,424** | **$ 30,294** | **$ 3,980** | **$ 15,149** | **$ 0.0656** | **$ 0.0402** | **$ 0.0053** | **$ 0.0201** |
| Delaware | 11,557 | $ 0.0054 | 815 | $ 499 | $ 66 | $ 250 | $ 0.0705 | $ 0.0432 | $ 0.0057 | $ 0.0216 |
| D.C. | 11,066 | $ 0.0057 | 815 | $ 500 | $ 66 | $ 250 | $ 0.0737 | $ 0.0452 | $ 0.0059 | $ 0.0226 |
| Florida | 210,474 | $ 0.0003 | 15,394 | $ 9,436 | $ 1,240 | $ 4,718 | $ 0.0731 | $ 0.0448 | $ 0.0059 | $ 0.0224 |
| Georgia | 123,789 | $ 0.0005 | 7,726 | $ 4,735 | $ 622 | $ 2,368 | $ 0.0624 | $ 0.0383 | $ 0.0050 | $ 0.0191 |
| Maryland | 66,928 | $ 0.0009 | 4,158 | $ 2,548 | $ 335 | $ 1,274 | $ 0.0621 | $ 0.0381 | $ 0.0050 | $ 0.0190 |
| North Carolina | 122,686 | $ 0.0005 | 8,263 | $ 5,065 | $ 665 | $ 2,533 | $ 0.0674 | $ 0.0413 | $ 0.0054 | $ 0.0206 |
| South Carolina | 77,819 | $ 0.0008 | 4,537 | $ 2,781 | $ 365 | $ 1,391 | $ 0.0583 | $ 0.0357 | $ 0.0047 | $ 0.0179 |
| Virginia | 100,541 | $ 0.0006 | 6,262 | $ 3,838 | $ 504 | $ 1,919 | $ 0.0623 | $ 0.0382 | $ 0.0050 | $ 0.0191 |
| West Virginia | 28,463 | $ 0.0022 | 1,455 | $ 892 | $ 117 | $ 446 | $ 0.0511 | $ 0.0313 | $ 0.0041 | $ 0.0157 |
| **East South Central** | **314,019** | **$ 0.0002** | **$ 16,917** | **$ 10,369** | **$ 1,362** | **$ 5,185** | **$ 0.0539** | **$ 0.0330** | **$ 0.0043** | **$ 0.0165** |
| Alabama | 83,067 | $ 0.0008 | 4,745 | $ 2,908 | $ 382 | $ 1,454 | $ 0.0571 | $ 0.0350 | $ 0.0046 | $ 0.0175 |
| Kentucky | 87,267 | $ 0.0007 | 3,721 | $ 2,281 | $ 300 | $ 1,141 | $ 0.0426 | $ 0.0261 | $ 0.0034 | $ 0.0131 |
| Mississippi | 45,452 | $ 0.0014 | 2,835 | $ 1,738 | $ 228 | $ 869 | $ 0.0624 | $ 0.0382 | $ 0.0050 | $ 0.0191 |
| Tennessee | 98,233 | $ 0.0006 | 5,616 | $ 3,442 | $ 452 | $ 1,721 | $ 0.0572 | $ 0.0350 | $ 0.0046 | $ 0.0175 |
| **West South Central** | **492,042** | **$ 0.0001** | **$ 31,142** | **$ 19,088** | **$ 2,508** | **$ 9,545** | **$ 0.0633** | **$ 0.0388** | **$ 0.0051** | **$ 0.0194** |
| Arkansas | 42,450 | $ 0.0015 | 2,380 | $ 1,459 | $ 192 | $ 729 | $ 0.0561 | $ 0.0344 | $ 0.0045 | $ 0.0172 |
| Louisiana | 79,261 | $ 0.0008 | 4,746 | $ 2,909 | $ 382 | $ 1,455 | $ 0.0599 | $ 0.0367 | $ 0.0048 | $ 0.0184 |
| Oklahoma | 49,485 | $ 0.0013 | 2,765 | $ 1,695 | $ 223 | $ 847 | $ 0.0559 | $ 0.0342 | $ 0.0045 | $ 0.0171 |
| Texas | 320,846 | $ 0.0002 | 21,251 | $ 13,026 | $ 1,711 | $ 6,514 | $ 0.0662 | $ 0.0406 | $ 0.0053 | $ 0.0203 |
| **Mountain** | **226,364** | **$ 0.0003** | **$ 14,760** | **$ 9,047** | **$ 1,189** | **$ 4,524** | **$ 0.0652** | **$ 0.0400** | **$ 0.0053** | **$ 0.0200** |
| Arizona | 62,601 | $ 0.0010 | 4,514 | $ 2,767 | $ 364 | $ 1,384 | $ 0.0721 | $ 0.0442 | $ 0.0058 | $ 0.0221 |
| Colorado | 45,937 | $ 0.0014 | 2,758 | $ 1,691 | $ 222 | $ 845 | $ 0.0600 | $ 0.0368 | $ 0.0048 | $ 0.0184 |
| Idaho | 20,700 | $ 0.0030 | 1,156 | $ 708 | $ 93 | $ 354 | $ 0.0558 | $ 0.0342 | $ 0.0045 | $ 0.0171 |
| Montana | 12,575 | $ 0.0050 | 724 | $ 444 | $ 58 | $ 222 | $ 0.0575 | $ 0.0353 | $ 0.0046 | $ 0.0176 |
| Nevada | 29,204 | $ 0.0021 | 2,460 | $ 1,508 | $ 198 | $ 754 | $ 0.0842 | $ 0.0516 | $ 0.0068 | $ 0.0258 |
| New Mexico | 19,207 | $ 0.0033 | 1,292 | $ 792 | $ 104 | $ 396 | $ 0.0673 | $ 0.0412 | $ 0.0054 | $ 0.0206 |
| Utah | 23,267 | $ 0.0027 | 1,255 | $ 769 | $ 101 | $ 385 | $ 0.0539 | $ 0.0330 | $ 0.0043 | $ 0.0165 |
| Wyoming | 12,874 | $ 0.0049 | 602 | $ 369 | $ 49 | $ 185 | $ 0.0468 | $ 0.0287 | $ 0.0038 | $ 0.0143 |
| **Pacific Contiguous** | **356,996** | **$ 0.0002** | **$ 36,690** | **$ 22,489** | **$ 2,955** | **$ 11,246** | **$ 0.1028** | **$ 0.0630** | **$ 0.0083** | **$ 0.0315** |
| California | 235,249 | $ 0.0003 | 29,398 | $ 18,019 | $ 2,367 | $ 9,011 | $ 0.1250 | $ 0.0766 | $ 0.0101 | $ 0.0383 |
| Oregon | 45,255 | $ 0.0014 | 2,859 | $ 1,753 | $ 230 | $ 876 | $ 0.0632 | $ 0.0387 | $ 0.0051 | $ 0.0194 |
| Washington | 76,492 | $ 0.0008 | 4,433 | $ 2,717 | $ 357 | $ 1,359 | $ 0.0580 | $ 0.0355 | $ 0.0047 | $ 0.0178 |
| Avg. Contiguous 48 | 383,018 | $ 0.000214 | 27,526 | $ 16,872 | $ 2,217 | $ 8,437 | $ 0.0719 | $ 0.0441 | $ 0.0058 | $ 0.0220 |

1/ Average RTO Expense ($62.5 million) divided by-GWh Load (Column (A)).

# Retail Costs and RTO Impact Summary

| (in cents per kWh) | (A) 2000 | (B) | (C) 2001 | (D) | (E) 2005 (Fcst) | (F) | (G) Average |
|---|---|---|---|---|---|---|---|
| Production | 4.20 | 62% | 4.10 | 62% | 3.90 | 60% | 61% |
| Transmission | 0.50 | 7% | 0.50 | 8% | 0.60 | 9% | 8% |
| Distribution | 2.10 | 31% | 2.00 | 30% | 2.00 | 31% | 31% |
| Avg. End-use Prices | 6.80 | 100% | 6.60 | 100% | 6.50 | 100% | 100% |

| Nationwide | | $/kWh | % of Retail Bill |
|---|---|---|---|
| Production | $ | 0.0441 | 61.12% |
| Transmission | $ | 0.0058 | 8.03% |
| Distribution | $ | 0.0220 | 30.57% |
| Average RTO | $ | 0.0002 | 0.29% |
| Total | $ | 0.0721 | 100.00% |

**Totals from Page 22 - Average Contiguous 48 States**

| | GWh | | Total Revenue (millions) |
|---|---|---|---|
| Arizona | 62,601 | $ | 4,514 |
| Colorado | 45,937 | $ | 2,758 |
| New Mexico | 19,207 | $ | 1,292 |
| Desert Southwest | 127,744 | $ | 8,564 |

| Desert Southwest | | Total Revenue by Function = $8564 * (G) | | $/kWh = TR / total GWh | % of Retail Bill |
|---|---|---|---|---|---|
| Production | $ | 5,249 | $ | 0.0411 | 60.85% |
| Transmission | $ | 690 | $ | 0.0054 | 7.99% |
| Distribution | $ | 2,625 | $ | 0.0205 | 30.43% |
| Average RTO = (Avg RTO/1,000,000) / Total GWh | | | $ | 0.0005 | 0.72% |
| | | | $ | 0.0675 | 100% |

# Exhibit 4

# PJM Interconnection, LLC

## Estimated PJM Annual Day 1 Revenue Requirement

| Footnote | Expense Type | 2004 Estimate | 2005 Estimate |
|---|---|---|---|
| 1 | Depreciation | 15,400,709 | 15,400,709 |
| 2 | Interest | 4,936,447 | 4,936,447 |
| 3 | Compensation | 34,852,639 | 49,997,229 |
| 4 | Hardware Lease Expense | 3,149,064 | 4,844,601 |
| 4 | Materials & Supplies | 6,619,453 | 10,994,935 |
| 5 | Other or Outside Services Correlated with Staff Levels | 8,614,841 | 12,054,417 |
| 6 | Other or Outside Services *NOT* Correlated with Staff Levels | 7,411,109 | 9,060,998 |
| | Total | 80,984,262 | 107,289,336 |
| 7 | Net Energy for Load Forecast | 349,000,000 | 700,000,000 |
| | Day 1 OpEx Rate Per Megawatt Hour | $ 0.2320 | $ 0.1533 |

1 Calculated as 85% of Day 1 non-building, non-EMS investment depreciated over three-year software useful life plus 15% of Day 1 non-building, non-EMS investment depreciated over five-year hardware useful life plus Day 1 building investment depreciated over fifteen-year building useful life plus Day 1 EMS investment depreciated over seven-year EMS useful life.

2 Calculated as average unpaid Day 1 Capital Investment times estimated 7.00% interest rate.

3 Based on pro ration of PJM's total budgeted 2004 Compensation for PJM's System Operations staff plus pro rated management staff totaling 263 in 2004 and 328 in 2005.

4 Calculated as pro rated portion of 2004 budgeted expense associated with staff allocated to Day 1 Operations.

5 Calculated as pro rated portion of annual budgeted expenses for lodging, travel, meetings, meals, training, telecommunications, buildings maintenance and utilities associated with staff allocated to Day 1 Operations.

6 Represents annual budget for insurance, board expenses, annual member meeting, audit fees, property and school taxes, and bank fees that do not vary by staff number or customer transaction volumes.

7 Based on PJM's annual budget assumptions and volume forecasts on PJM Finance Committee page of web site.

# Estimated PJM Day 1 Staff

## Based on 2004 Annual Budget

| | Directly Attributable to Day 1 Functions | Not Attributable to Day 1 Functions | Management / Support Functions | Total |
|---|---|---|---|---|
| **System Operations** | 114 | | | **114** |
| **Transmission Planning** | | 38 | | **38** |
| **Market Services** | | 52 | | **52** |
| **Information Technology** | | | 129 | **129** |
| **Corporate Services** | | | 39 | **39** |
| **Finance** | | | 87 | **87** |
| **Market Monitoring** | | 10 | | **10** |
| **Office of the President** | | | 24 | **24** |
| **Subtotal** | **114** | **100** | **279** | **493** |
| **Management Allocation** | 149 | 130 | (279) | **0** |
| **Totals** | **263** | **230** | **0** | **493** |

## Based on Proposed 2005 Annual Budget

| | Directly Attributable to Day 1 Functions | Not Attributable to Day 1 Functions | Management / Support Functions | Total |
|---|---|---|---|---|
| **System Operations** | 148 | | | **148** |
| **Transmission Planning** | | 56 | | **56** |
| **Market Services** | | 72 | | **72** |
| **Information Technology** | | | 169 | **169** |
| **Corporate Services** | | | 100 | **100** |
| **Finance** | | | 25 | **25** |
| **Market Monitoring** | | 17 | | **17** |
| **Office of the President** | | | 63 | **63** |
| **Subtotal** | **148** | **145** | **357** | **650** |
| **Management Allocation** | 180 | 177 | (357) | **0** |
| **Totals** | **328** | **322** | **0** | **650** |

## Estimated PJM Day 1 Capital Investment

| *Portion of System Investment Attributable to Each RTO Day 1 Function* | Transmission Service Provider | Transmission Support | Reliability | Management | Building | Total |
|---|---|---|---|---|---|---|
| **ACES / TMS** | | | 106,417 | | | **106,417** |
| **Buildings** | | | | | 10,600,000 | **10,600,000** |
| **Business Continuity** | 5,772,673 | | | | | **5,772,673** |
| **Combined OASIS / EES Interface** | 672,678 | | | | | **672,678** |
| **Control Center Infrastructure** | | | | | 446,712 | **446,712** |
| **Data Publication Extension** | | 272,509 | | | | **272,509** |
| **Energy Management System** | 25,994,325 | 11,451,914 | | | | **37,446,239** |
| **Enterprise Security** | | | | 3,837,498 | | **3,837,498** |
| **Grid Accounting** | | 34,551 | | | | **34,551** |
| **Independent Generator Communications** | | | 1,163,538 | | | **1,163,538** |
| **Internet Network Architecture** | | | | 377,152 | | **377,152** |
| **Network Infrastructure Upgrade** | | | | 1,155,092 | | **1,155,092** |
| **OASIS** | 748,027 | 1,496,050 | | | | **2,244,077** |
| **Operator Training Simulator** | 128,219 | | | | | **128,219** |
| **PJM Information Warehouse** | 1,882,953 | 2,219,195 | | 941,477 | | **5,043,625** |
| **PJM Manuals** | | | | 141,144 | | **141,144** |
| **PJM Manuals Enhancements** | | | | 232,037 | | **232,037** |
| **Retail Choice** | | 8,546,871 | | | | **8,546,871** |
| **Totals** | **35,198,875** | **24,021,090** | **1,269,955** | **6,684,399** | **11,046,712** | **78,221,031** |

## Estimated PJM Annual Day 2 Revenue Requirement

| Expense Type | 2004 Budget *(1)* | Proposed 2005 Budget *(2)* | |
|---|---|---|---|
| **Compensation** | 53,895,755 | 82,345,000 | |
| **Pension and postretirement benefits** | 11,529,375 | 16,636,000 | |
| **Software licenses and fees** | 6,144,991 | 11,864,000 | |
| **Outside services** | 34,962,613 | 46,871,000 | |
| **Computer maintenance and office supplies** | 4,211,700 | 9,903,000 | |
| **Lease expenses** | 8,180,650 | 9,591,000 | |
| **Depreciation and amortization** | 53,030,193 | 82,107,000 | |
| **Other expenses** | 9,674,818 | 7,758,000 | |
| **Interest expense** | 8,369,905 | 9,925,000 | |
| **Total** | **190,000,000** | **277,000,000** | 46% |
| **Net Energy for Load Forecast** | 349,000,000 | 700,000,000 | |
| **Day 1 OpEx Rate Per Megawatt Hour** | **$ 0.5444** | **$ 0.3957** | -27% |

*1* **Based on PJM's original 2004 budget assumptions and volume forecasts on PJM Finance Committee page of web site.**

*2* **Based on PJM's proposed 2005 budget assumptions and volume forecasts recommended by PJM Finance Committee for Board of Managers consideration during September 2004. Includes ComEd, AEP, Dayton, Dominion and Duquesne.**

## Estimated PJM Day 2 Capital Investment

| | | |
|---|---|---|
| **Non-Market Integration Capital Investment:** | | |
| *1* | 1997 | 0 |
| *1* | 1998 | 3,954,318 |
| *1* | 1999 | 1,532,000 |
| *1* | 2000 | 112,440,000 |
| *1* | 2001 | 31,459,000 |
| *1* | 2002 | 58,268,000 |
| *1* | 2003 | 35,020,000 |
| *2* | 2004 | 47,000,000 |
| | | 289,673,318 |
| **Day 1 Capital Investment** | | (78,221,031) |
| **Day 2 Capital Investment** | | **211,452,287** |

*1* Per PJM's respective year's audited financial statements.
*2* Based on PJM's approved 2004 capital budget.

# Electric Reliability Council of Texas (ERCOT)

# ERCOT Operating Expense Summary by Division and Department
## FY 2004 Budget

| | | |
|---|---|---|
| **Corporate Administration** | | |
| 101 Executive Organization | $ | 4,233,555 |
| 110 Finance | $ | 47,640,233 |
| 120 General Counsel | $ | 4,708,316 |
| 130 Human Resources | $ | 814,284 |
| 140 NERC Compliance | $ | 702,443 |
| 150 Stakeholder Services | $ | 480,815 |
| 160 Corporate Communications | $ | 869,410 |
| 170 Market Rules | $ | 3,426,011 |
| TOTAL | $ | 62,875,067 |
| **Information Technology** | | |
| 300 CIO Administration | $ | 1,624,526 |
| 301 Technology Services Administration | $ | 8,187,242 |
| 310 System Engineering & Administration | $ | 2,703,300 |
| 320 EMS | $ | - |
| 321 IT Operations | $ | 784,389 |
| 325 Facilities | $ | 4,160,094 |
| 330 Network | $ | 5,933,457 |
| 340 Commercial Applications | $ | - |
| 345 EMMS Development | $ | 954,041 |
| 350 Project Management | $ | 746,998 |
| 353 Market Technology Service | $ | 267,135 |
| 354 Data Warehousing | $ | 866,369 |
| 355 Development & Architecture | $ | 585,973 |
| 356 Transaction Services | $ | 1,249,670 |
| 357 Corporate Applications | $ | 763,674 |
| 358 Web and Data Services | $ | 939,561 |
| 359 Settlement and Billing | $ | 620,921 |
| 360 Data Management | $ | 1,107,703 |
| 370 Cyber Security | $ | 1,518,464 |
| 371 Physical Security | $ | 1,201,707 |
| 385 IT Delivery | $ | 805,899 |
| 390 IT Operations 2 | $ | 2,784,433 |
| 395 EMMS Production | $ | 1,196,170 |
| TOTAL | $ | 39,001,726 |

| | | |
|---|---|---|
| **System Operations** | | |
| 201 Chief Operating Officer Administration | $ | - |
| 400 COO Administration | $ | 1,671,434 |
| 401 Technical Operations Administration | $ | - |
| 410 Market Operations Support | $ | 2,806,732 |
| 420 Operations Support | $ | 3,242,271 |
| 425 System Operations | $ | 5,319,483 |
| 430 System Planning | $ | 2,251,939 |
| 440 Resource Planning | $ | 949,109 |
| TOTAL | $ | 16,240,968 |
| **Market Operations** | | |
| 500 CMO Administration | $ | 931,677 |
| 501 Settlements Administration | $ | - |
| 505 Galvin PM | $ | 535,590 |
| 510 Customer Solutions Support | $ | - |
| 520 Registration | $ | - |
| 530 Settlement Metering | $ | 1,044,270 |
| 540 Load Profiling and Data Aggregation | $ | 1,895,437 |
| 550 Settlements and Billing | $ | 1,478,590 |
| 560 Client Relations | $ | - |
| 570 REP/ESI-ID of Record | $ | 1,975,084 |
| 580 Renewables and TCR | $ | 569,738 |
| 605 Gruber PM | $ | 1,082,678 |
| 630 Retail Documentation and Reporting | $ | 1,467,167 |
| 640 Retail Testing and Quality Control | $ | 642,607 |
| 650 Retail Client Services | $ | 956,046 |
| 660 Wholesale Client Services | $ | 1,746,982 |
| TOTAL | $ | 14,325,866 |
| **ERCOT TOTAL** | **$** | **132,443,627** |

# ERCOT Staffing Summary by Division and Department
# FY 2004 Budget

| | |
|---|---|
| **Corporate Administration** | |
| 101 Executive Organization | 9 |
| 110 Finance | 17 |
| 120 General Counsel | 11 |
| 130 Human Resources | 5 |
| 140 NERC Compliance | 5 |
| 150 Stakeholder Services | 4 |
| 160 Corporate Communications | 4 |
| 170 Market Rules | 8 |
| TOTAL | 63 |

| | |
|---|---|
| **Information Technology** | |
| 300 CIO Administration | 7 |
| 301 Technology Services Administration | 0 |
| 310 System Engineering & Administration | 27 |
| 320 EMS | 0 |
| 321 IT Operations | 10 |
| 325 Facilities | 6 |
| 330 Network | 17 |
| 340 Commercial Applications | 0 |
| 345 EMMS Development | 8 |
| 350 Project Management | 7 |
| 353 Market Technology Service | 4 |
| 354 Data Warehousing | 6 |
| 355 Development & Architecture | 2 |
| 356 Transaction Services | 12 |
| 357 Corporate Applications | 6 |
| 358 Web and Data Services | 6 |
| 359 Settlement and Billing | 7 |
| 360 Data Management | 10 |
| 370 Cyber Security | 9 |
| 371 Physical Security | 4 |
| 385 IT Delivery | 7 |
| 390 IT Operations 2 | 20 |
| 395 EMMS Production | 9 |
| TOTAL | 184 |

| | |
|---|---|
| **System Operations** | |
| 201 Chief Operating Officer Administration | 0 |
| 400 COO Administration | 3 |
| 401 Technical Operations Administration | 0 |
| 410 Market Operations Support | 17 |
| 420 Operations Support | 31 |
| 425 System Operations | 54 |
| 430 System Planning | 18 |
| 440 Resource Planning | 9 |
| TOTAL | 132 |

| | |
|---|---|
| **Market Operations** | |
| 500 CMO Administration | 5 |
| 501 Settlements Administration | 0 |
| 505 Galvin PM | 10 |
| 510 Customer Solutions Support | 0 |
| 520 Registration | 0 |
| 530 Settlement Metering | 10 |
| 540 Load Profiling and Data Aggregation | 20 |
| 550 Settlements and Billing | 18 |
| 560 Client Relations | 0 |
| 570 REP/ESI-ID of Record | 25 |
| 580 Renewables and TCR | 6 |
| 605 Gruber PM | 9 |
| 630 Retail Documentation and Reporting | 4 |
| 640 Retail Testing and Quality Control | 19 |
| 650 Retail Client Services | 10 |
| 660 Wholesale Client Services | 15 |
| TOTAL | 151 |

**ERCOT TOTAL 530**

# ERCOT Capital Assets

| Asset | EOY 2003 |
|---|---|
| Computer equipment and software | $ 157,215,000 |
| Buildings and leasehold | $ 48,890,000 |
| Furniture and fixtures | $ 5,912,000 |
| Land and improvements | $ 248,000 |
| Vehicles | $ 129,000 |
| Total | $ 212,394,000 |
| Depreciation and amortization | $ (79,800,000) |
| | $ 132,594,000 |
| Construction work in progress | $ - |
| Systems under development | $ 35,047,000 |
| | $ 167,641,000 |

## ERCOT Capital Assets by Function - 2002

| (A) Asset | (B) EOY 2002 |
|---|---|
| Computer Equipment and software | $ 124,576,000 |
| Buildings and leasehold | $ 48,170,000 |
| Furniture and fixtures | $ 5,286,000 |
| Land and improvements | $ 248,000 |
| Vehicles | $ 129,000 |
| Total | $ 178,409,000 |
| Depreciation and amortization | $ (43,207,000) |
| | $ 135,202,000 |
| CWIP | $ 85,000 |
| Systems under development | $ 11,799,000 |
| | $ 147,086,000 |

# ERCOT Staffing Summary by Division and Department
## FY 2002

| | (A) | (B) |
|---|---|---|
| | **Corporate Administration** | |
| (1) | 101 Executive Organization | 7 |
| (2) | 110 Finance | 10 |
| (3) | 120 General Counsel | 4 |
| (4) | 130 Human Resources | 3 |
| (5) | 140 NERC Compliance | 4 |
| (6) | 150 Stakeholder Services | 3 |
| (7) | 160 Corporate Communications | 2 |
| (8) | 170 Market Rules | 2 |
| (9) | TOTAL | 35 |
| | **Information Technology** | |
| (10) | 300 CIO Administration | 0 |
| (11) | 301 Technology Services Administrat | 2 |
| (12) | 310 System Engineering & Administra | 43 |
| (13) | 320 EMS | 11 |
| (14) | 321 IT Operations | 0 |
| (15) | 325 Facilities | 0 |
| (16) | 330 Network | 22 |
| (17) | 340 Commercial Applications | 14 |
| (18) | 345 EMMS Development | 0 |
| (19) | 350 Project Management | 2 |
| (20) | 353 Market Technology Service | 0 |
| (21) | 354 Data Warehousing | 0 |
| (22) | 355 Development & Architecture | 0 |
| (23) | 356 Transaction Services | 0 |
| (24) | 357 Corporate Applications | 0 |
| (25) | 358 Web and Data Services | 0 |
| (26) | 359 Settlement and Billing | 0 |
| (27) | 360 Data Management | 0 |
| (28) | 370 Cyber Security | 0 |
| (29) | 371 Physical Security | 0 |
| (30) | 385 IT Delivery | 0 |
| (31) | 390 IT Operations 2 | 0 |
| (32) | 395 EMMS Production | 0 |
| (33) | TOTAL | 94 |

| | (D) | (E) |
|---|---|---|
| | **System Operations** | |
| | 201 Chief Operating Officer Administration | 0 |
| | 400 COO Administration | 0 |
| | 401 Technical Operations Administration | 1 |
| | 410 Market Operations Support | 12 |
| | 420 Operations Support | 59 |
| | 425 System Operations | 0 |
| | 430 System Planning | 11 |
| | 440 Resource Planning | 0 |
| | TOTAL | 83 |
| | **Market Operations** | |
| | 500 CMO Administration | 0 |
| | 501 Settlements Administration | 4 |
| | 505 Galvin PM | 0 |
| | 510 Customer Solutions Support | 4 |
| | 520 Registration | 17 |
| | 530 Settlement Metering | 18 |
| | 540 Load Profiling and Data Aggregation | 6 |
| | 550 Settlements and Billing | 14 |
| | 560 Client Relations | 17 |
| | 570 REP/ESI-ID of Record | 0 |
| | 580 Renewables and TCR | 4 |
| | 605 Gruber PM | 0 |
| | 630 Retail Documentation and Reporting | 0 |
| | 640 Retail Testing and Quality Control | 0 |
| | 650 Retail Client Services | 0 |
| | 660 Wholesale Client Services | 0 |
| | TOTAL | 84 |
| | **ERCOT TOTAL** | **296** |

**Electric Reliability Council of Texas, Inc.**
**Statements of Activity**
**(in 000's)**

| | (A) | (B) 12/31/2000 Actual | (C) 12/31/2001 Actual | (D) 12/31/2002 Actual | (E) 12/31/2003 Actual-Unaudited |
|---|---|---|---|---|---|
| (1) | Operating Revenues: | | | | |
| (2) | Transaction Fees | $ 42,167 | $ 59,958 | $ 61,456 | $ 93,991 |
| (3) | Membership Fees and other | $ 1,681 | $ 5,507 | $ 3,630 | $ 3,252 |
| (4) | Total Operating Revenue | $ 43,848 | $ 65,465 | $ 65,086 | $ 97,243 |
| (5) | Operating Expenses | | | | |
| (6) | Salaries and Related Benefits | $ 7,702 | $ 21,382 | $ 28,081 | $ 35,920 |
| (7) | Depreciation and Amortization | $ 289 | $ 11,242 | $ 31,480 | $ 38,091 |
| (8) | Facility and Equipment Costs | $ 2,005 | $ 7,170 | $ 6,347 | $ 8,175 |
| (9) | Consulting and Legal Services | $ 4,459 | $ 6,886 | $ 14,008 | $ 12,089 |
| (10) | Administrative and Other | $ 2,944 | $ 7,056 | $ 4,811 | $ 5,392 |
| (11) | IT Maintenance and Licensing | $ 1,042 | $ 428 | $ 4,317 | $ 5,383 |
| (12) | Total Operating Expenses | $ 18,441 | $ 54,164 | $ 89,044 | $ 105,050 |
| (13) | Income From Operations | $ 25,407 | $ 11,301 | $ (23,958) | $ (7,807) |
| (14) | Other Income | | | | |
| (15) | Interest Income | $ 331 | $ 370 | $ 1,208 | $ 433 |
| (16) | Interest Expense | $ - | $ (1,471) | $ (5,448) | $ (8,533) |
| (17) | Change in unrestricted net assets | $ 25,738 | $ 10,200 | $ (28,198) | $ (15,907) |
| (18) | Full Time Employees | 134 | 267 | 296 | 380 |

# 1996/97 ERCOT BUDGET

| | 1995/96 Budget | 1995/96 Estimated Expenditures | 1996/97 ERCOT Office Budget (12 Mos.) |
|---|---|---|---|
| NERC Dues | 217190 | 217264 | 233967 |
| Engineering Studies | 271000 | 281000 | 300000 |
| Equipment Rent & Maintenance | 3655 | 4466 | 5085 |
| Furniture & Equipment Purchases | 12900 | 21741 | 15000 |
| Meetings & Seminars | 8000 | 6000 | 8000 |
| Other Expenses | 7877 | 8549 | 11591 |
| Salaries | 311632 | 305934 | 326557 |
| Payroll Taxes | 18669 | 18303 | 19376 |
| Benefits | 78538 | 90312 | 97123 |
| Postage/Shipping | 8000 | 8400 | 8400 |
| Printing/Media | 5500 | 4220 | 8500 |
| Rent/Insurance/Property Taxes | 32676 | 32581 | 60000 |
| Supplies | 6300 | 5000 | 5500 |
| Telephone | 7500 | 8050 | 9000 |
| Travel | 29500 | 29500 | 29500 |
| TOTAL FOR ERCOT OFFICE | $ 1,018,937 | $ 1,041,320 | $ 1,137,599 |
| ISO FACILITY | | | $ 3,442,000 |
| TOTAL | | | $ 4,579,599 |

# Midwest Independent Transmission System Operator (Midwest ISO)