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FPL

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May 27, 2004

VIA HAND DELIVERY
Ms. Blanca S. Bayó, Director
Division of the Commission Clerk and
Administrative Services
Florida Public Service Commission
Betty Easley Conference Center, Room 110
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: ERRATA SHEETS TO DIRECT TESTIMONY, ADDITIONAL DEMONSTRATIVE EXHIBIT FILING
In re: Petition to Determine Need for Turkey Point Unit 5 Power Plant by Florida Power & Light Company - Docket No. 040206-EI

Dear Ms. Bayo:

Enclosed for filing on behalf of Florida Power & Light Company ("FPL") are the original and 15 copies of the Errata Sheets to FPL's prefiled direct testimony of Moray P. Dewhurst, N. Dag Reppen and Rene Silva, filed in this docket on March 8, 2004. The Errata Sheets for Moray P. Dewhurst and Rene Silva also include the revised exhibits.

Also enclosed for filing are the original and 15 copies of an additional demonstrative exhibit identified in FPL's Prehearing Statement filed in this docket on May 11, 2004, and labeled document SRS-14 at the Prehearing Conference on May 24, 2004.

Please contact me should you or your Staff have any questions regarding this filing.

Sincerely,

Lynne Adams
for Natalie F. Smith

NFS:ec
Enclosures

CMP ___
COM 5 + orig Ct. Rpr.
CTR ___
ECR ___
GCL 1
OPC ___
MMS ___
RCA ___
SCR ___
SEC 1
OTH ___

IN RE: Petition to Determine Need for Turkey Point Unit 5 Power Plant by Florida Power & Light Company	)))	Docket No. 040206-EI

ERRATA SHEET

DIRECT TESTIMONY OF: Moray P. Dewhurst

PAGE #	**LINE #**	**CORRECTION**
Exhibit No.__ MPD – 1 (pp. 1-19)	ALL	Replace with enclosed pages (pp. 1-19) because the prefiled exhibit is missing many of the graphics contained in the article.

Return to Regular Format

Research:
Energy Merchant Debt Prospects: When "Worst-Case" Scenarios Become the "Base Case"

Publication date: 02-Feb-2004
Credit Analyst: Peter Rigby, New York (1) 212-438-2085

In less than 10 years, U.S. energy merchant companies have gone from the cradle to the graveside, if not the grave itself. In the past two years, well over $100 billion of energy merchant market capitalization has disappeared as almost everything that could have gone wrong with the nascent energy merchant industry did. In the past year, three companies have filed for bankruptcy. Bond spreads suggest that investors expect more of the same.

Credit ratings for 12 companies owning more than 200,000 MW of generation worldwide have fallen from investment grade (in most cases) to low noninvestment-grade levels (see table 1) (1). Only AES Corp. and Calpine Corp., whose credit ratings were never investment grade, experienced less credit erosion, but only because they had less distance to fall.

Many believe that it is too early to dismiss the energy merchants, arguing that matters have improved from a year ago when these 12 companies were struggling with almost $25 billion of debt maturing in 2003. By December 2003, that sum had fallen to about $800 million as the energy merchants with the reluctant assistance of their banks pushed many maturities out several years.

Table 1 Energy Merchant Corporate Credit Ratings Collapse (2001-2004)

	January 2004		Nov 2003		May 2001	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
AES	B+	Negative	B+	Negative	BB	Positive
Allegheny	B	Negative	B	Negative	A	Stable
Aquila	B	Negative	B	Negative	BBB	Stable
Calpine	B	Negative	B	Negative	BB+	Stable
Dynegy	B	Negative	B	Negative	BBB	Stable
EME	B	Negative	B	Watch Neg	BBB-	Stable
El Paso	B	Negative	B+	Negative	BBB+	Stable
Mirant	D	-	D	-	BBB-	Stable
NEGT	D	-	D	-	BBB	Stable
NRG	B+	Stable	D	-	BBB-	Stable
Reliant	B	Negative	B	Negative	BBB+	Stable
Williams	B+	Negative	B+	Negative	BBB+	Stable

Were the well-publicized 2003 debt reschedulings wise decisions? Who can tell? What seems apparent, at least at this juncture, is that significant economic and business factors indicate that through the remainder of the decade, energy merchants could well have to struggle to remain in business. Energy merchants face nearly $65 billion of loans coming due by the end of 2010 out of a total debt burden of $125 billion--as indicated by ratings in the 'B' category or lower. Based on current data, it is unlikely that unsecured lenders to bankrupt energy merchants will see anything near par recovery, although secured lenders may, on the basis of recent bank loan ratings forecasting recovery, fare better.

Why the gloomy forecast? In short, almost every worst-case scenario that these companies and their lenders considered possible, but remote, has become its base case scenario. Business positions, always risky, have deteriorated and financial profiles are generally much worse than two years ago. The independent power industry built more generation, most of it gas-fired, than the market could possibly use. Natural gas prices, low for many years during the gas bubbles of the 1980s and 1990s, have now moved to levels that potentially threaten natural gas' status as "fuel of choice." Contrary to the assumptions of many market and feasibility studies, the retirements of older coal plants and nuclear plants did not occur, indeed, many older plants have displaced their new gas-fired combined cycle competitors. Energy marketing and trading proved to be expensive to pursue and marginally profitable--at best. And, the economy appears to need much less electricity than many expected, due, in part, to a shrinking manufacturing sector. Finally, the short, but tumultuous, history of competitive power suggests that the industry must intrinsically contend with low and risky margins, much as petroleum refining does.

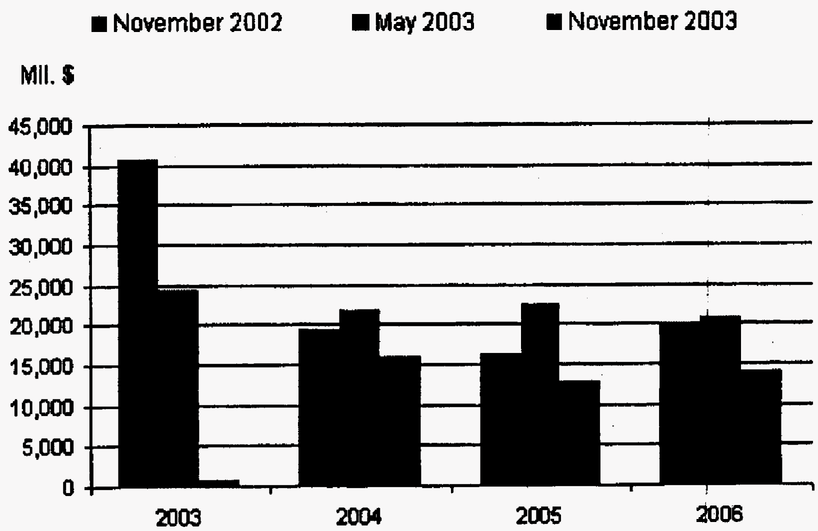
Based on current data, the energy merchant sector and the credit prospects for the debt that financed the sector's growth will be subject to further downward pressure. Indeed, it is difficult at this point to construct a credible optimistic forecast.

■ Debt Problems Everywhere

More than a year ago, Standard & Poor's was the first to highlight the severity of the debt-refinancing problem faced by energy merchants (2). A study group of 30 companies, many with investment-grade ratings and access to the capital markets, faced over $40 billion in maturities coming due in 2003. For the 12 energy merchants listed in table 1, much of the problem has disappeared as they refinanced or extended their 2003 maturities (see chart 1). But that temporizing strategy could well have exacerbated the long-term problem by creating an even larger obligation that, sooner or later, will have to be addressed by those 12 energy merchants.

Chart 1

Energy Merchant Debt Rescheduling Progress for 30 Companies

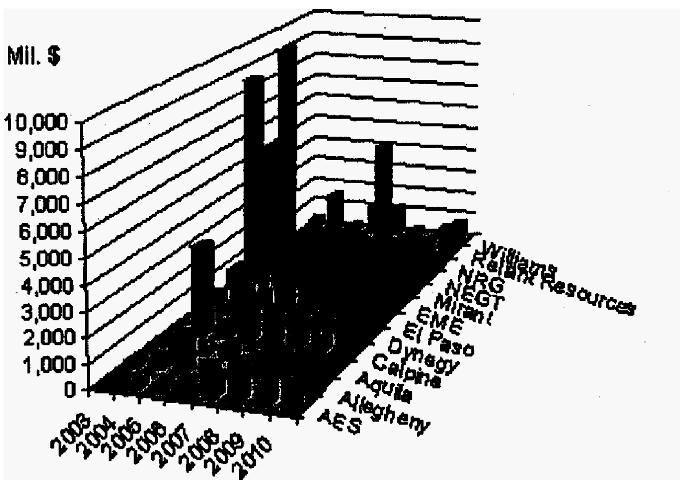


Total debt for the 12 merchants is about $125 billion, of which $65 billion comes due by end of 2010 (see chart 2), much of it within the next two to three years (3). This $65 billion includes nearly $22 billion of defaulted and accelerated debt at bankrupt National Energy & Gas Transmission (NEGT) and Mirant Corp., as well as the debt that NRG Energy Inc. had defaulted on (note that the data and charts within this article rely upon pre-bankruptcy emergence data from NRG. NRG emerged from bankruptcy in December 2003). Calpine alone, for instance, is due to meet some $3.7 billion of maturities in 2004.

Reliant Resources Inc. successfully extended a multibillion dollar 2003 maturity to 2007 when about $4 billion will come due. In 2005, Allegheny Energy Inc. must repay a $1.5 billion note while El Paso Corp. has $1.6 billion and Edison Mission Energy (EME) has $1.7 billion coming due in 2004. The Williams Companies Inc. is distinguished by its proposed plan to retire a $1.4 billion obligation maturing in 2004 with cash on hand (4).

Chart 2

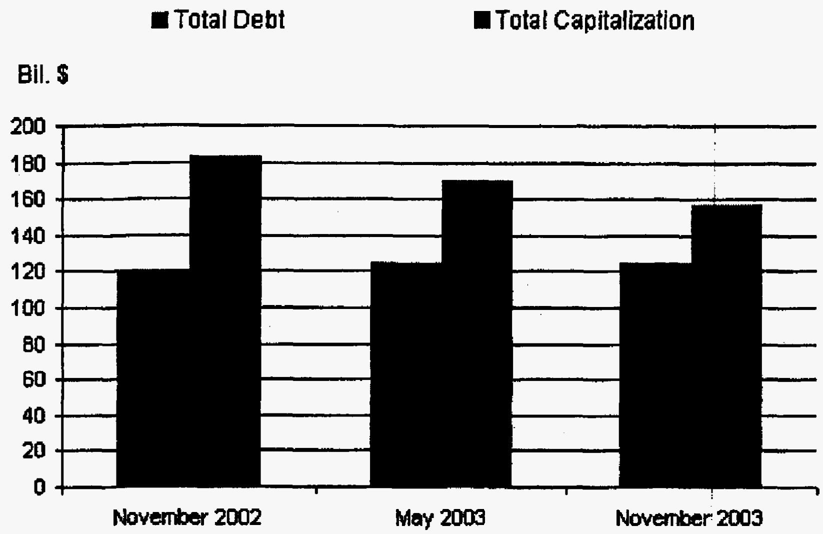
$65 Billion of Debt Maturities Through 2010



While most of the 12 companies have been selling assets (primarily contracted-for power plants and regulated pipelines) over the past two years, they still carry too much debt to be strong competitors in the volatile energy markets. While asset sales raised cash and improved near-term liquidity sufficient to keep nine of the 12 out of bankruptcy, debt levels are still excessive. In fact, as a group, leverage has actually increased, while book capitalization has declined as companies have taken write-offs (see chart 3) (5). Book capitalization numbers will likely continue to decline as the pace of write-offs accelerates, if only because values for the fleet of new combined-cycle, gas-fired plants are much less than installed costs. In November 2003, Reliant Resources, for example, announced a $1 billion write-off (6). In contrast with other members of the group, AES successfully issued about $340 million in equity earlier this year (7).

Chart 3

Little Financial Restructuring Progress for Energy Merchants



■ The Longevity of Power Plants

An interpretation of Michael Porter's competitive industry analysis model suggests that competitive power generation, as it has developed in the U.S., faces inherent obstacles to realizing the substantial profits whose allure drew so many companies into the sector (8). The structure of the competitive power, or merchant energy, model indicates a fiercely competitive and fragmented environment in which profit margins are painfully narrow. Unless something changes, such as an unlikely public policy shift back to vertically integrated utility structure, the competitive power industry will have to contend with low and uncertain returns. That so many investments in unregulated power generation have fared so poorly reinforces the point.

In particular, two inherent qualities of merchant energy, which include the activities of merchant generation and energy marketing and trading, suggest that the industry may be doomed to long-term mediocre performance. First, while the construction costs and the often protracted difficulties of siting and permitting of new power plants would seem to be viewed as obstacles to their wholesale development and construction, some 200,000 MW of new capacity built since 1999 indicates that these obstacles may not have been as formidable as originally believed. The lesson to be drawn is that the sector knows how to overcome the political and regulatory problems of permitting and construction financing, and regularly does so. Therefore, to paraphrase Michael Porter, the barriers to entry are low for new power generation.

The second quality of merchant energy keeping industry returns low is the near permanence of power plants. Most facilities built during the past 50 years or even longer still operate. Generating companies may disappear, either through bankruptcy or through consolidation, but their power plants remain. While plants may be mothballed, they can easily return to service if market conditions improve. Before the sector's capacity expansion, most market studies and the developers and lenders who relied on them assumed that older coal plants and nuclear power plants would be retired. They were not.

Indeed, the opposite happened. New owners acquired the older plants, invested in upgrades and retrofits and dramatically increased plant efficiencies and availabilities. In addition to the economic forces that have kept older plants in service, some regulated utilities that still own generation have persuaded regulators to allow unused power plants to stay in rate base to provide reliability and back-up in the future.

Consequently, merchant power competes in a world where new entrants can easily clear entry obstacles and their power plants rarely disappear. Such is the foundation, according to Porter, for a fragmented industry.

One of the Many Poor In a Fragmented Industry

Competing in the fragmented merchant power industry largely condemns its participants to thin and risky margins. The primary reason for this is that public policy in the U.S. prevents merchant power plant owners from owning significant or controlling market share. Therefore, the market structure forces merchant power into a "price taking" position; that is, with so many consumers and generators of electricity in the marketplace, no one company or individual can materially affect the price of electricity.

A second problem is that, in practice, the ability to transport electricity is limited. Unlike other commodities, electricity does not typically transport far from its source. Therefore, because power generation cannot always reach the most desirable markets, it tends to compete regionally instead of nationally. A negative reinforcement to this regional focus has been the lack of investment in transmission facilities in the U.S. for the past 20 years, as well as a governance structure that has on occasion restricted access to transmission and customers. Another problem pointed out by Frank Gaffney and Bob Davis of RW Beck is that many developers have built new generation away from load centers and out of sight of potential public opposition (9). While bulk capacity 735-kilovolt (kV), 500-kV, and 345-kV transmission lines may be available, the older and much smaller 230-kV and below lines that lead to population load centers create bottlenecks preventing potentially cheaper power from reaching markets. Finally, as Standard & Poor's pointed out earlier this year (10), the broad absence of market-based transmission operations constrains merchant power sales opportunities--a problem that the FERC has attempted to address with its Standardized Market Design.

Another aspect of merchant power that compares similarly with other fragmented industries is that electrons are undifferentiated from other electrons, save for one quality. Power plants closest to load centers will usually fare better economically than more distant ones because of transmission constraints. In addition, peaking power plants that can respond quickly to peak period needs can capture high prices better than intermediate or base, but the market needs comparatively few peaking plants and when it does, they run but a few hours of the year. As an aside, peaking plants provide a needed insurance function to the stability and reliability of the grid, yet it is not clear that competitive power markets have been willing to compensate peakers for their role. More importantly, however, and perhaps the best evidence that electricity as a commodity differs little from natural gas in consumers' minds, for instance, is that electricity end users generally are indifferent to who supplies their electricity. That few retail electricity customers in the U.S. have actually switched suppliers when given the opportunity is evidence of the point.

Yet still another consequence of fragmentation is that ownership of many power plants conveys few economies of scale; capital recovery and fuel expenses account for the bulk of generation costs, both of which practically tend to be outside of management's control.

Finally, as Standard & Poor's has pointed out, merchant generation (11) in some parts of the country competes against generation held in rate base by vertically integrated utilities. The resulting competitive advantage in favor of rate base-supported generation makes it difficult for merchant power to recover its capital costs, especially in the overbuilt generation market that dominates much of the U.S. Regulated generation, on the other hand, need recover only its variable costs--largely fuel--from the market, while capital recovery comes from captive ratepayers who pay a regulated tariff.

Consequently, in a market characterized by the absence of long-term contracts, energy merchants find it difficult to earn the stable returns that regulated industries earn or the high profits that industries with high entry barriers enjoy. That most energy merchants carry low credit ratings, in the 'B' category or less, exacerbates their competitive position. Interest costs are much higher for these companies than investment-grade companies. The noninvestment-grade energy merchants must also devote considerable and expensive capital to hedging and forward sales because few counterparties will extend credit to a noninvestment-grade counterparty in such a volatile sector. Credit concerns have also led energy merchants into the unusual position of being required to prepay for their fuel.

■ Poor Industry Fundamentals Compound Fragmentation

A destructive consequence of operating in a fragmented industry with low barriers to entry is a susceptibility to "boom-bust" cycles, not unlike the mining, chemical, and pulp and paper industries. Moreover, the lumpiness with which new generation enters the market and its longevity may threaten extended time frames at the bottom of the merchant business cycle. Now, as the merchant power industry appears to be reaching the end of a build-out period, energy merchants will likely have to confront surplus reserve margins for years to come. Should that happen, energy merchants will continue to find that poor industry fundamentals and depressed operating margins will frustrate capital recovery.

Gas spark spreads, the measure of gross operating margins between gas and electricity prices, illustrate the most observable measure of weak fundamentals (see charts 4A and 4B). For the past couple of years, against the backdrop of dramatically higher gas prices and excess capacity, spark spreads have fallen. In some parts of the country, such as the upper Midwest, the Southeast, Texas, and the Mid-Atlantic states, spark spreads, which are generally below $10 per megawatt-hour (MWh), do not even cover fixed operating costs. California is marginally better for now, with spark spreads exceeding $15 per MWh and getting as high as $25 in the forward market. What is particularly disconcerting for recovery prospects is that forward spark spreads seem to keep falling. The comparisons in charts 4A and 4B for the 12-month forward spark spreads for May 2003 and November 2003 generally indicate broadly declining gross margins (12).

Chart 4A

May 2003 12-Month Forward Spark Spreads

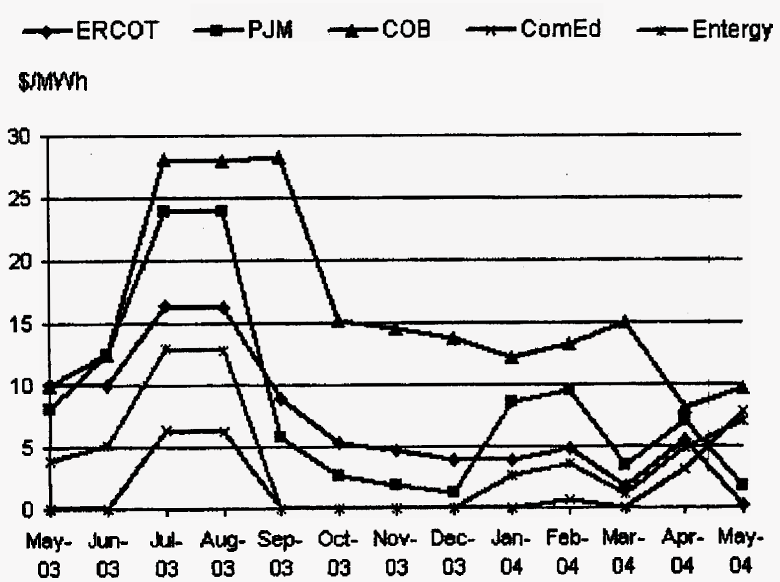
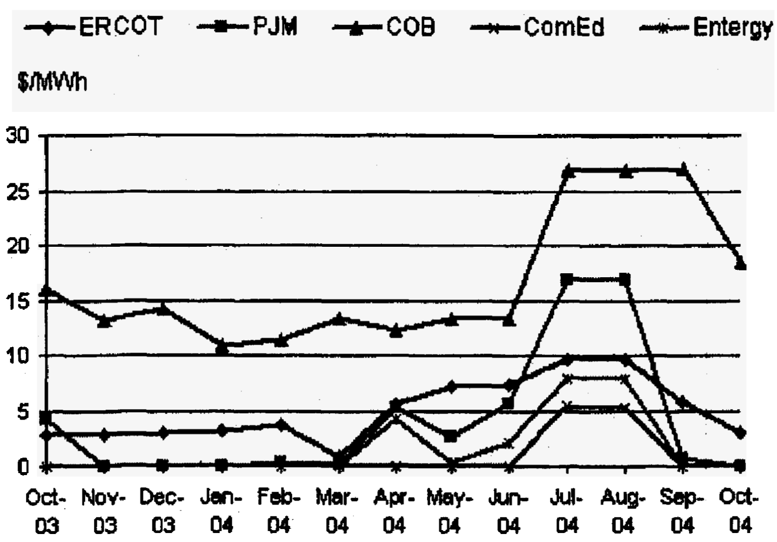


Chart 4B

November 2003 12-Month Forward Spark Spreads



Excess generation is the principal cause of low spark spreads. Until demand catches up to supply, the power markets will not pay for capacity and will tend to compensate generators only for fuel in an all energy market. How bad is the surplus capacity situation? Obviously the answer varies by region, but, depending on assumptions about retirements, plants in cold standby mode and new construction, most markets appear to have more than what a balanced, well-functioning market would need for many years. Well functioning markets are generally thought to need about 15% to 17% reserve margins to cover peak demand and forced outages, except in regions where hydroelectric power dominates. Such regions will need fossil reserve generation capacity for dry years.

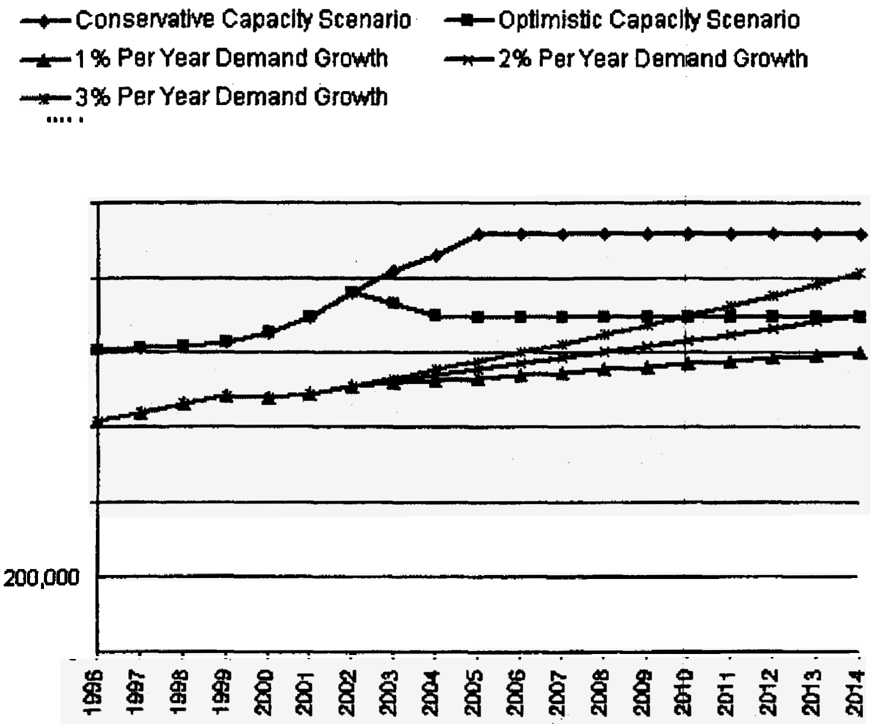
Chart 5, which illustrates national net summer capacity and peak load historically and prospectively, suggests that as a whole the generation surplus in the U.S. could last until 2010 at a minimum under conservative and optimistic scenarios (see table 2) (13). Will retirements finally happen as many predict? While it is difficult to forecast with certainty, based on the performance of plant owners over the past several years and given power plants' longevity, conservatism is the more prudent course for credit analysis. Nevertheless, if retirements accelerate and construction rates slow even further, reserve margins could drop.

Table 2 Future Capacity Scenario Descriptions

Assumptions	Conservative (%)	Optimistic (%)
Retirements of current capacity, including standby	0	10
Completion of plants under construction	100	90
Completion of plants at advanced stages of development	90	80
Completion of plants at early planning states	50	50

Chart 5

Installed Generation Leads Peak Demand Past 2010



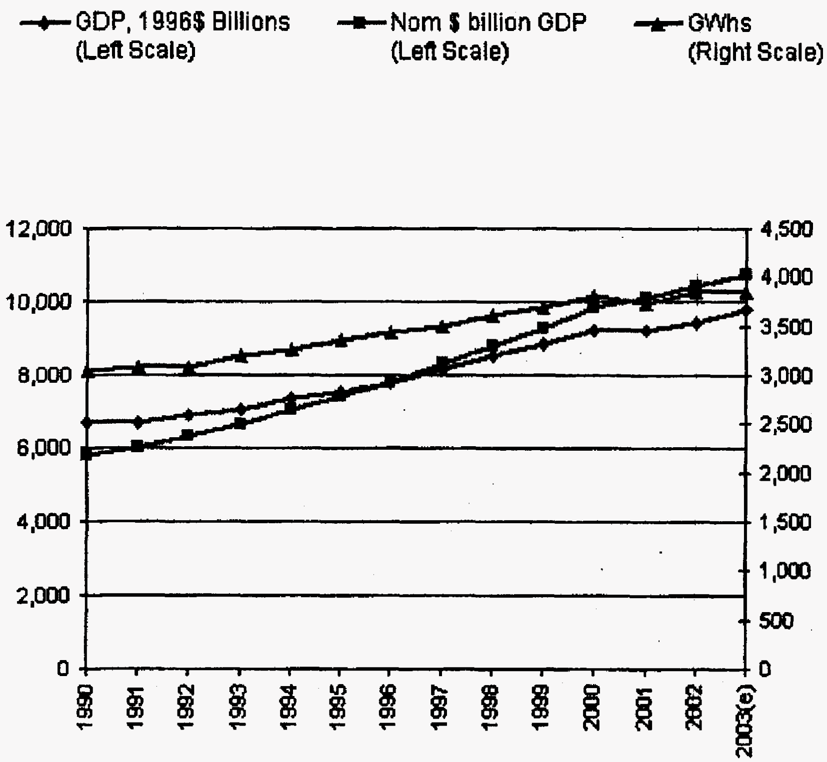
Since 1997, peak load has grown at about 2.2% per year while capacity has grown 3.4% per year. Yet even if capacity were to hold constant at forecast 2005 levels, peak demand would not catch up until after 2010 under an aggressive 3% per year peak demand growth. While this analysis is somewhat simplified (a more robust analysis would have to consider regional differences), the trend will not likely differ that much regionally. It will take years for energy merchants to grow out of the excess reserve margin problem, if they can stay in business that long.

■ Declining Manufacturing Will Retard Merchant Power Recovery

It is unlikely that the U.S. economy will provide much help to the energy merchants. Over the years, there has been an assumed correlation between GDP and electricity demand. Yet, as chart 6 illustrates, any such correlation has been weakening for some time. Electricity demand in MWh since 1990 has grown at an annualized rate of 1.8% per year while GDP in real 1996 dollars has grown more rapidly, at about 3% per year (4.9% in nominal dollars). Peak demand has grown faster at about 2.2% per year, but still at a rate slower than GDP (14).

Chart 6

Historic Correlation Between GDP and Electricity Demand Weakening



e--estimated

Why is electricity demand growing more slowly than GDP? First, the U.S. economy has become more efficient over the past decade or so as more energy-efficient end-users enter the market. But the more influential demand driver probably lies with the economy becoming more service-oriented as manufacturing moves offshore. As chart 7 illustrates, electricity demand per dollar of GDP has been steadily declining since 1990 at the latest. In addition, as industrial utilization of capacity has fallen since 2000, electric power demand by industry has similarly fallen (chart 8) (15). While the economy is beginning to escape from the doldrums of the past few years, it is too early to declare that industry utilization will return to 2000 levels. Certainly, recent reports that indicate that factories have seen their biggest jump in 20 years could indeed support a quicker recovery of merchant energy's fortunes. But Standard & Poor's, among others, does not expect a similar turnaround for the power sector anytime soon.

Chart 7

Growing Capacity Against Increasing Service Economy

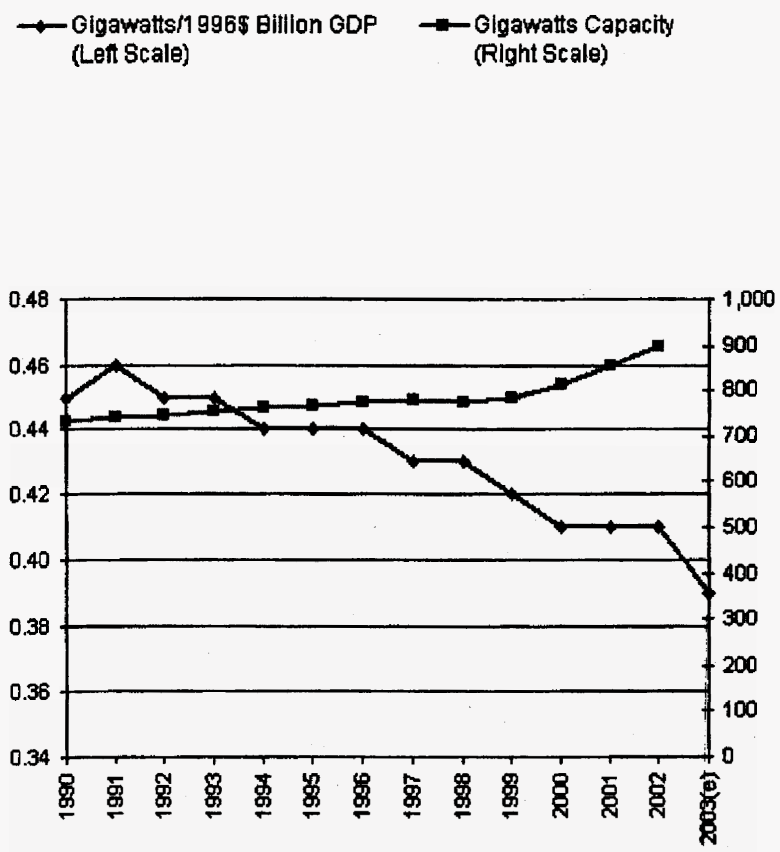
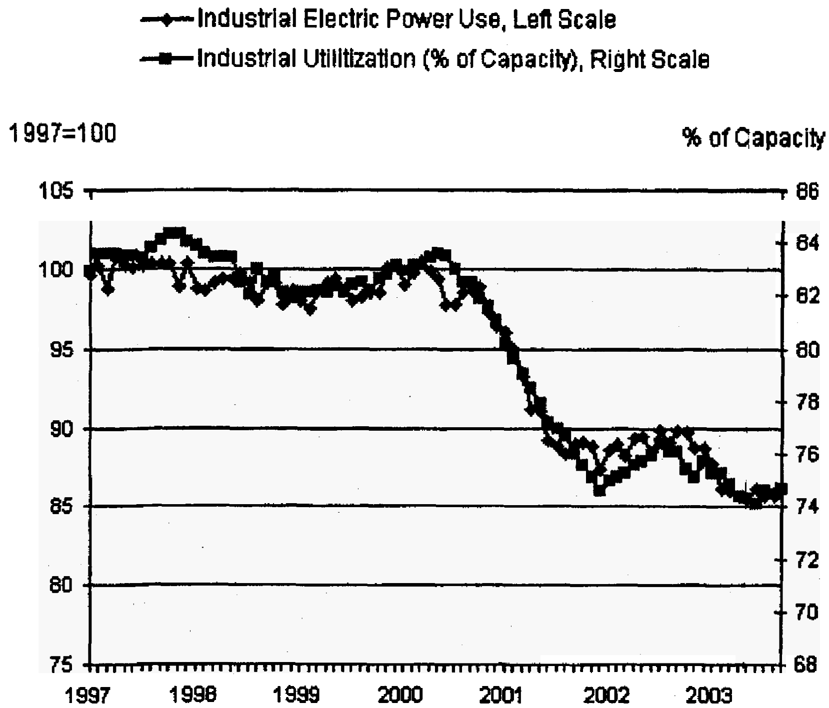


Chart 8

Electric Power Use Tracks Total Industrial Capacity Utilization



■ No Winning Business Model Has Emerged

Each of the 12 energy merchant companies has pursued the energy business differently. Hence, the different lines of businesses make strict comparisons difficult (see table 3). Some companies have focused almost entirely on generation, such as Calpine, EME, and NRG. Others have invested in less risky, regulated businesses, such as electricity distribution and supply or natural gas pipelines, or both. Still others own and operate oil and gas exploration and production subsidiaries and midstream natural gas liquids businesses. The one feature common to the 12 companies was their strategy of debt financed, rapid growth.

Exposure to commodity and market price risks makes merchant power and oil and gas exploration and production relatively risky enterprises. At the higher-risk end of the spectrum is merchant power with its capital intensiveness, its highly fragmented nature, and the lumpiness of the sector's capital investments, which are often mismatched to demand. Somewhat less risky is the oil and gas business. While also capital intensive, its capital investments can better match demand with its assets (e.g., depleting reserves) leaving the system more easily. At the low-risk end of the spectrum are natural gas pipelines with their monopoly-like qualities and their more limited exposure to commodity and market price risks. Almost as stable and predictable as pipelines are electric utilities, but they can also exhibit vulnerability to regulatory and political risk as illustrated by the events in California at the beginning of the decade. Finally, occupying the middle of the risk spectrum are the mid-stream operations and regulated or contract-based power. "Nonmerchant" power generation minimizes exposure to commodity and market risk by transferring that risk to a power purchaser for life of the asset, or at least for the life of the underlying debt. By contrast, the natural gas liquids midstream business is riskier because commodity volumes, which provide the basis for processing and logistics based income, can drop significantly from time to time as natural gas prices and weather patterns fluctuate.

Some companies, like AES, have largely avoided including merchant power plants in their portfolios, while others are almost completely invested in merchant plants. AES' business position, however, is not necessarily less risky because almost half of its revenues come from emerging market areas such as Latin America, Central Asia, and Africa. EME has announced the sale of its international portfolio to raise cash to retire debt. EME's asset sale should increase short-term liquidity, but will also increase the company business risk position because EME's international portfolio includes the more stable contract and regulated businesses. Mirant, and NEGT, both of whom are attempting to reorganize under Chapter 11 of the Bankruptcy Code, are unlikely to improve their risk profiles unless they can materially reduce their indebtedness. NRG, which just emerged from Chapter 11 protection, has reduced its debt load, but it business profile has changed little and it will face major refinancings at the end of the decade.

For energy merchants that are long in power generation, especially merchant generation, the market's excess capacity is likely to impede recovery. Companies such as Calpine, Dynegy Inc., EME, Mirant, NEGT, NRG, and Reliant, either built or acquired generation in some of the most overbuilt regions (see tables 4A and 4B). All 12 companies, for instance, make up about 10% of the Southeastern Electric Reliability Council's (SERC) capacity, and the SERC region may see reserve margins as high as 47% through 2007. In the Entergy Corp. region around Mississippi, Louisiana, Arkansas, and Alabama, where much of the new capacity in SERC resides, reserve capacities are closer to 80%. Calpine's largest exposure, about 6,400 MW, is to the Electric Reliability Council of Texas (ERCOT) market in Texas, which has a reserve margin that could be as high as 43% through 2007. Close behind ERCOT are Calpine's roughly 5,200 MW in the Western Electricity Coordinating Council (WECC) and 4,500 MW in SERC (16).

In contrast to Calpine, which is more geographically diverse than competitors, EME, NRG, and NEGT have particularly large concentrations in overbuilt markets. EME owns and operates just over 9,000 MW (about 75% of its U.S. 12,000-MW portfolio) in the Mid-America Interconnected Network (MAIN) region, with virtually all that capacity near Chicago. Similarly, NEGT owns about 6,400 MW and NRG owns about 6,600 MW in the Northeast Power Coordinating Council (NPCC) region, which could see reserve margins as high as 37% through 2007. NRG's (39% of its U.S. portfolio) and NEGT's (44% of its U.S. portfolio) assets in the NPCC region represent far less concentration than EME's 75% asset concentration in MAIN. NRG's portfolio has another type of concentration not revealed by table 4: almost 40% of NRG's U.S. portfolio consists of peaking plants, which can be the riskiest load to serve unless secured by long-term contract. Allegheny Energy Inc. also has a large concentration of generation in the East Central Area Reliability Coordination Agreement (ECAR) region. The concentration is perhaps less of a risk to Allegheny because ECAR is less overbuilt than other regions and Allegheny uses these primarily base load coal plants to supply its three electric utility subsidiaries.

The far right of table 4B shows Aquila Inc., Williams, and El Paso Corp. to be the smallest generators of the 12. Though their generation assets represent significant investments, their regulated businesses (Williams' and El Paso's pipeline companies and Aquila's utility) should somewhat offset the risks of their generation businesses. Recently, El Paso Corp. announced an agreement to sell about 25 U.S. power plants (net 1,850 MW) to Northern Star Generation LLC. The sale will reduce El Paso's exposure to generation but not merchant risk, as the plants are mostly contracted.

Table 3
Relative Concentrations of Principal Business Activities

● = Lowest Concentration ●●● = Highest Concentration

	Merchant Power	Oil and Gas	Midstream Liquids	Contracted or Rate Base Power	Distribution and Supply Utilities	Natural Gas Pipelines
AES	●			●●●	●	
Allegheny Energy	●			●●	●●●	
Aquila	●●			●●	●●	
Calpine	●●●	●		●●		
Dynergy	●●●		●●	●●	●●	
EME	●●●			●●		
El Paso	●	●●●	●	●●		●●●
Mirant	●●●			●		
NRG	●●●			●		
NEGT	●●●			●		●
Reliant	●●●				●●	
Williams	●●	●●	●	●●		●●●

Table 4A Energy Merchant Co. U.S. Regnl Exposure–Most Overbuilt Region, Co. Cap. (MWs)

NERC Region	NERC Cap (MW)	2003-2007 Max Rsrve Mrgns (%)	Calpine	Reliant	NRG	Dynegy	Mirant	NEGT
SERC	222,970	47	4,466	853	3,734	4,005	1,190	2,710
WECC	171,667	45	5,197	4,893	1,514	1,235	3,738	2,489
ERCOT	83,795	43	6,435	871	704	1,161	623	183
SPP	54,747	43	1,529	0	667	1	0	0
MAIN	70,170	37	1,042	1,314	2,477	4,542	0	0
NPCC	72,735	37	1,489	2,761	6,622	1,706	2,900	6,414
MAAC	68,032	32	731	4,999	1,272	915	5,076	1,138
ECAR	133,367	31		3,115	24	3,034	1,330	1,349
FRCC	49,208	25	243	1,118	16	0	510	334
MAPP	35,870	25	0	0	5	0	0	0
Total	962,560		21,132	19,924	17,035	16,599	15,367	14,617

Table 4B Energy Merchant Co. U.S. Regnl Exposure–Most Overbuilt Region, Co. Cap. (MWs)

NERC Region	NERC Cap (MW)	2003-2007 Max Rsrve Mrgns (%)	EME	Allegheny	AES	Williams	Aquila	El Paso
SERC	222,970	47	129	1,349	0	1,613	1,262	152
WECC	171,667	45	1,081	0	4,275	4,030	58	0
ERCOT	83,795	43	0	0	863	0	0	309
SPP	54,747	43	0	0	328	0	2,689	869
MAIN	70,170	37	9,070	0	0	0	1,894	0
NPCC	72,735	37	145		2,217			

MAAC	68,032	32	1,884	702	1,535	1,569	34	813
ECAR	133,367	31	40	8,947	310	538	979	596
FRCC	49,208	25	0	0	0	0	49	839
MAPP	35,870	25	0	0		0	381	0
Total	962,560		12,349	10,998	9,528	7,750	7,346	3,578

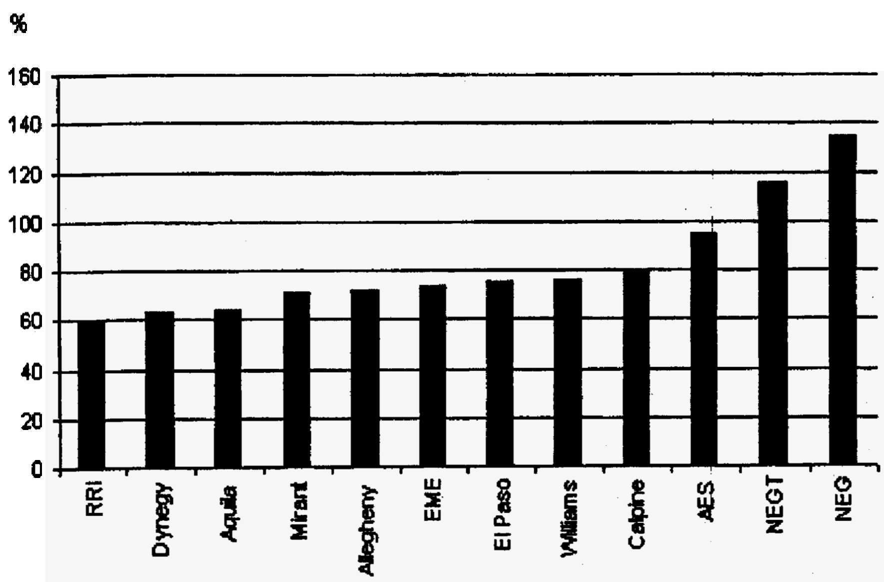
Poor Credit Fundamentals Will Worsen Recovery Prospects

By almost every measure, the 12 energy merchants exhibit surpassingly weak credit fundamentals. Given the sector's poor fundamental credit characteristics and its degree of fragmentation, and the merchants' $125 billion debt, the group individually and collectively will struggle to improve its credit measures by any significant degree.

Thus, consolidated leverage is at least 60% for each of the merchants (see chart 9) (17). Such leverage, combined with about 100,000 MW of merchant capacity in the U.S. (much of it fueled by natural gas), will very likely retard recovery prospects because of the inherent volatility of merchant power revenues. Companies such as AES and Allegheny with portfolios long in contracted-for capacity should see greater income stability, notwithstanding their currently high leverage levels and AES' risk of operating in emerging markets.

Chart 9

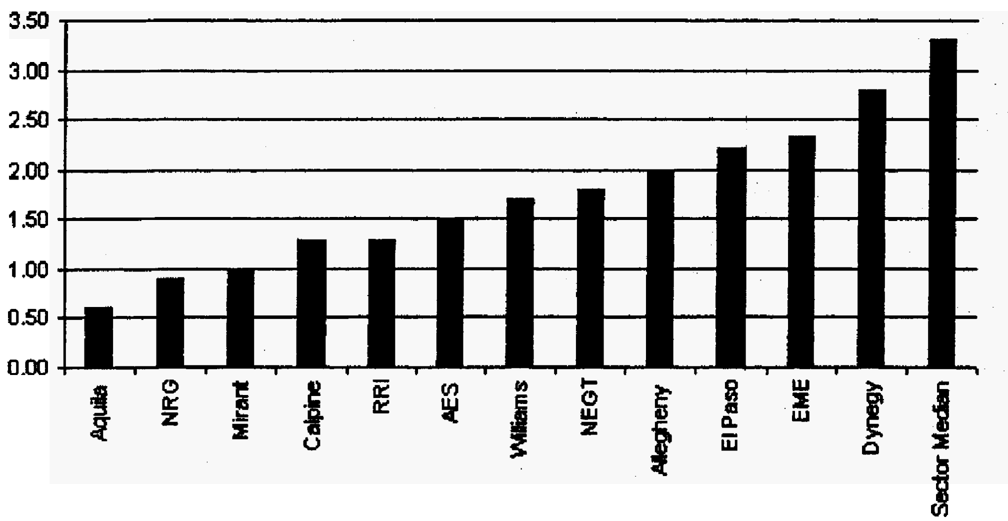
High Debt-to-Capitalization Ratios Persist



The second credit measure that points to the degree of distress for energy merchants is the funds from operations (FFO) to interest ratios (see chart 10). Most coverage levels for the 12 trailing months before June 30, 2003, are below 1.6x to 1.0x and well below the sector median of just over 3.0x to 1.0x (18). Absent any meaningful debt reduction, FFO/interest ratios may actually worsen should interest rates rise if the economy shows signs of sustained growth. The FFO/interest ratios may nevertheless worsen despite an improved economy if the energy merchants refinance at higher rates reflecting greater default risk, absent an unlikely improvement in their credit fundamentals.

Chart 10

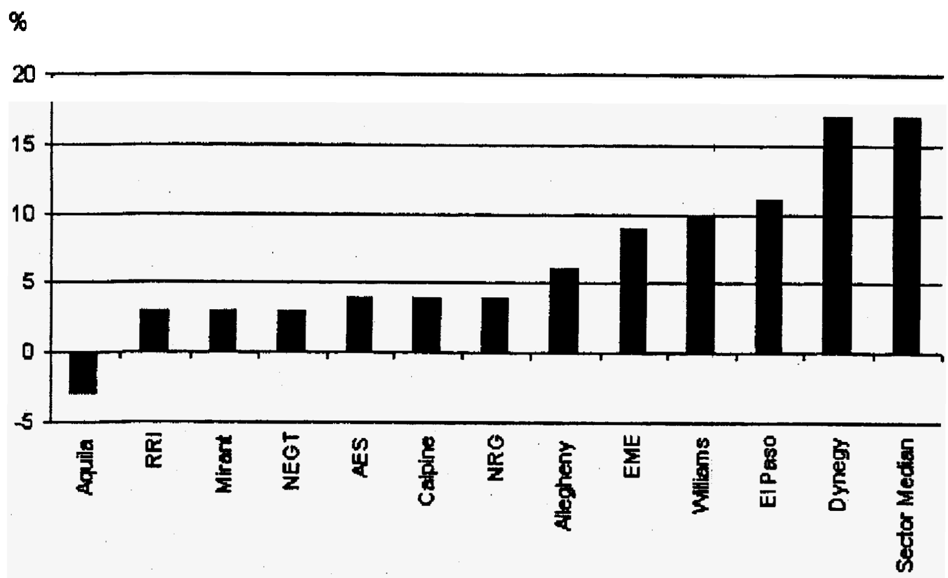
FFO to Interest Ratios Fall Well Below Sector Average



Probably the most telling measure is the FFO after-interest expense-to-debt ratio (FFO/debt; see chart 11). Weak and declining FFO/debt ratios are empirically among the clearest indicators of financial distress as cash flow is declining or debt is rising, or both. Eight of the 12 companies have FFO/debt ratios of 6% or less and all are below 17%. By comparison, a solid investment-grade electric utility traditionally enjoys a FFO/debt ratio of at least 25% (19).

Chart 11

FFO to Total Debt Ratios Fall Below Sector Median



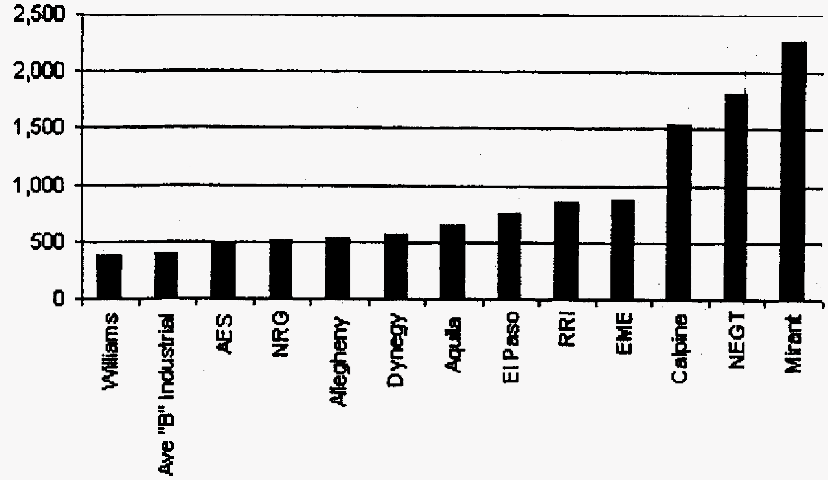
It goes without saying that, aside from AES' measured success this year, equity investors will likely refrain from contributing equity to the merchant energy sector until credit fundamentals improve. ROE for the entire group has uniformly fallen well below zero. Equity investors in the bankrupt companies stand to lose much, if not their entire investment. Moreover, because 10% of ratings in the 'B' category with a negative outlook historically default or withdraw from surveillance within a year (18% over two years), new equity will likely avoid this sector.

It is problematic whether private equity will invest in the sector. Private equity tends to invest in transitional companies with an identifiable end game. At present, it is unclear what the end game is for many energy merchants. Worse, a private equity investor in some merchant power plants, particularly gas plants in the most overbuilt regions, may find that additional investment is needed just to cover the carrying costs of insurance, taxes, and fixed maintenance. In addition, it is hard to conceive of a scenario where private equity could earn anywhere near the 20% to 30% return it typically seeks when so many energy merchant companies have delivered such large negative returns and when so much debt stands ahead of equity.

Finally, it should be noted that the market itself provides a measure of the difficulties the merchant energy sector confronts (see chart 12). While bond spreads do not in and of themselves measure credit risk, they may offer some perspective on the issuer's access to the capital markets and insight into the market's perception of default risk. As of early December 2003, yields to maturity spreads between comparable U.S. treasuries and the senior unsecured debt for the 12 companies generally exceed 500 basis points. Calpine ranks highest for companies not in default at over 2,000 bp. Williams and AES show spreads of about 500 bp, which compare favorably with average industrial 'B' rated entities. Lately, however, spreads even for these companies have been narrowing as funds have been pouring into the high yield market. In addition, companies with valuable hard assets, such as pipelines, may see tighter spreads in recognition that in bankruptcy, recovery prospects for hard asset companies will likely exceed those of pure generation companies. Unless lenders are significantly overcollaterized, as appears to be the current practice, recovery of defaulted merchant debt, secured or unsecured, could be low, as Standard & Poor's pointed out late last year (20).

Chart 12

Late 2003 Yield to Maturity Spreads Over U.S. Treasuries Suggest High Default Risk



■ Outlook for Energy Merchant Debt

As matters now stand, the energy merchant business model is under siege. The shared strategy of rapid and debt-funded growth premised on rapid deregulation of the U.S. electricity industry and open competition has not played out.

For many, worst-case scenarios have now become the base cases. The industry greatly overbuilt generation capacity to the point where many markets are largely energy-only markets that do not compensate for capacity (e.g., capital recovery). Deregulation not only did not spread more rapidly and widely as many anticipated, but may have actually contracted in the wake of the California power crisis and to a lesser extent, the Enron Corp. bankruptcy. Many energy merchant business models assumed that electricity transmission access would be uniformly available and that state-of-the-art generators could reach the load centers. Other business plans anticipated that vertically integrated utilities would sell generation assets en masse, so that even playing fields in the wholesale power market would develop. Finally, natural gas prices did not remain flat, or even decline, but rather they have moved up to what could be a much higher normalized price; that fundamentally changes the competitive dynamics for natural gas-fired generation in regions where it must compete with coal and nuclear.

Against this backdrop, the energy merchants must find a way to reduce their crushing debt burdens and do so fairly quickly if they are to survive. But the task promises to be formidable, even for those with "non-merchant" power. Lenders may look at upcoming maturities in light of the possibility of excess reserve margins through the decade and decide to retreat from the energy sector, especially if their overall lending portfolios improve with a strengthening economy. No one should expect that unsecured lenders will increase their exposures, particularly since so many banks have maneuvered themselves ahead into secured lending positions during the past 12 months. Few assets remain to be pledged to future refinancings and some of those that are pledged may provide little value anyway for some time to come. Hence, energy merchants will likely have to either slowly grow their way out of their debt problems through an improving economy or, failing that, look to reorganization strategies in bankruptcy to improve their financial positions.

Structurally, the nascent competitive power industry resembles other capital-intensive industries in which assets tend to remain in service for a long time and where barriers to entry are not difficult to overcome. These factors are the traditional basis for fundamentally low and uncertain returns--a situation that few energy merchant companies, their financial advisors, or their investors anticipated almost a decade ago. And therein lies the message for the energy merchant business; while competitive power fundamentals may never point to great businesses, firms in other industries can survive under similar circumstances and may even do well, but they do so under much more conservatively financed structures than many energy merchants first envisioned.

The author wishes to thank the support and help from:

Ronald Barone, James Penrose, David Acosta, Nancy Hwang, Megan O'Brien, and Arleen Spangler, all of Standard & Poor's, and William Horton of Platts.

Notes:

(1) January 2004 ratings are current.

(2) See Standard & Poor's, Spangler, Arleen, et al, Nov. 6, 2002. "Refinancing of Over $90 Billion Medium-Term Debt May Strain Power Sector and Associated Banks."

(3) Standard & Poor's analysis and U.S. Securities Exchange Commission filings.

(4) See Standard & Poor's, Nov. 20, 2003, "Summary: Williams Cos. (The)."

(5) See note 4.

(6) See Reliant Resources press release, Nov. 10, 2003. Retrieved from http:/www.reliant.com/corporate/news.

(7) See AES Corp. press release, June 23, 2003. Retrieved from http://www.aes.com.

(8) See Porter, Michael E. 1980, Competitive strategy, Free Press, 1980, pp. 3-33.

(9) See Gaffney, Frank & Davis, Bob. 2002, "Locational, Locational, Locational," Project Finance Power Report, pp. 24-28.

(10) See Standard & Poor's, Rigby, Peter, March 3, 2003. "Merchant Energy Survival Hangs on FERC's Blueprint for Market Design."

(11) See Standard & Poor's, Rigby, Peter, Nov. 13, 2002. "Is Time Running Out For U.S. Energy Merchant Companies? Part II: Recovery Prospects in Default."

(12) Standard & Poor's analysis based upon data from Platts Energy Trader and Bloomberg, May 1, 2003 through Oct. 31, 2003.

(13) This simple analysis is based upon Platts' PowerDat and Standard & Poor's defined scenarios. The analysis is not intended to be a forecast but rather to illustrate the potential magnitude of the excess capacity situation and how long it takes peak demand growth to catch up to supply. The aggregate data, of course, hides regional differences, some of which are worse and others better than indicated in this analysis.

(14) Platts PowerDat; A Guide to the National Income and Product Accounts of the United States (NIPA). Retrieved from http://www.bea.doc.gov/bea/an/nipaguid.pdf.; Table 1.1 Net Generation by Energy Source (All Sectors), EIA September 2003, retrieved from http://www.eia.doe.gov.

(15) See note 14.

(16) Analysis of energy merchant exposure to NERC regions and regional reserve margins based upon data using Platts' PowerDat and Standard & Poor's analysis. Standard & Poor's generally treats tolling contracts as generation capacity for the toller (the company that must pay for the right to dispatch the plant), even though another entity actually owns the power plant because the market risk rests with the toller. In addition, Standard & Poor's generally treats power plants that have contracts expiring within a five-year time frame as merchant plants because of the near-term exposure to market risk.

(17) Based upon Standard & Poor's credit analysis.

(18) Based upon Standard & Poor's credit analysis trailing 12-month financial data for the companies as of June 30, 2003. Note that the numbers for Allegheny Energy are based upon the company's reported year-end 2002 financials because those are the most recently available figures.

(19) See note 18.

(20) See note 10.

IN RE: Petition to Determine Need for Turkey Point Unit 5 Power Plant by Florida Power & Light Company))) Docket No. 040206-EI

ERRATA SHEET

DIRECT TESTIMONY OF: N. Dag Reppen

PAGE #	LINE #	CORRECTION
22	20	Change "$5.59/MWh" to "$95.59/MWh."

IN RE: Petition to Determine Need for Turkey Point Unit 5 Power Plant by Florida Power & Light Company	)))	Docket No. 040206-EI

ERRATA SHEET

DIRECT TESTIMONY OF: Rene Silva

PAGE #	**LINE #**	**CORRECTION**
Exhibit No. __ Document No. RS-3 Page 1 of 1	ALL	Replace with enclosed page to reflect correct title.
Exhibit No. __ Document No. RS-5 Page 1 of 1	ALL	Replace with enclosed page to reflect correct title.

Rankings of Portfolios Prior to Announcement of Finalist- All Costs

(millions, CPVRR, 2003$, 2003 - 2031)
(note: includes non-complying Proposals)

Ranking of Portfolio	Description of Portfolio	Portfolio MW	(1) Generatioı Costs *	(2) Transmission-Related Costs: Integration * *	(3) Transmission-Related Costs: Peak Hour Capacity Losses * * *	(4) Transmission-Related Costs: Annual Energy Losses * * *	(5) Transmission-Related Costs: Increased Operating Costs * * *	(6) Upstream Gas Pipeline Costs	(7) Net Equity Adjustment	(8) = sum of (1) thru (7) Total	Difference from lowest cost portfolio
1	FPL Turkey Point Unit 5	1,144	62,591	0	0	0	0	0	0	62,591	0
2	FPL 4 CT, Proposal 4	1,095	62,695	56	11	64	16	0	16	62,857	266
3	FPL 4 CT, Proposal 4, Proposal 1	1,145	62,712	56	6	47	11	0	35	62,867	276
4	FPL 4 CT, Proposal 4, Proposal 5	1,347	62,741	56	7	41	15	0	28	62,888	297
5	Proposal 2	1,220	62,763	7	14	29	15	0	63	62,891	300
6	Proposal 2, Proposal 1	1,270	62,788	6	12	14	15	0	82	62,918	327
7	Proposal 3, Proposal 1	1,270	62,741	6	14	19	15	0	132	62,927	336
8	Proposal 3	1,220	62,760	7	16	34	15	0	113	62,945	354

* Generation-related costs include: capital, fixed O&M, variable O&M, project fuel/energy cost, FPL system fuel, transmission interconnection, and gas pipeline lateral costs. Values for Proposal 1 assume 80%/20% coal/pet coke mix.

* * The FPL Turkey Point Unit 5's generation-related cost already includes transmission integration costs of approx. $4 million CPVRR.

* * * These transmission-related costs are <u>relative to</u> the FPL Turkey Point Unit 5's costs.

Final Rankings After Best and Final Offer

(millions, CPVRR, 2003$, 2003 - 2031)

					Transmission-Related Costs						
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) = sum of (1) thru (7)	
Ranking of Portfolio	Description of Portfolio	Portfolio MW	Generation Costs *	Integration * *	Peak Hour Capacity Losses * * *	Annual Energy Losses * * *	Increased Operating Costs * * *	Upstream Gas Pipeline Costs	Net Equity Adjustment	Total	Difference from lowest cost portfolio
1	FPL Turkey Point Unit 5	1,144	62,591	0	0	0	0	0	0	62,591	0
2	FPL 4 CT, Proposal 4	1,095	62,700	56	11	64	16	0	16	62,862	271

* Generation-related costs include: capital, fixed O&M, variable O&M, project fuel/energy cost, FPL system fuel, transmission interconnection, and gas pipeline lateral costs. Values for Proposal 1 assume 80%/20% coal/pet coke mix.

* * The FPL Turkey Point 5's generation-related cost already includes transmission integration costs of approx. $4 million CPVRR.

* * * These transmission-related costs are relative to the FPL Turkey Point Unit 5's costs.

FPL Final Rankings of Portfolios

(millions, CPVRR, 2003$, 2003-2031)

(note: includes proposals that were eventually eliminated as non-compliant)

Ranking of Portfolio	Description of Portfolio	Generation* Costs Only	Difference	Generation* + Transmission** Costs	Difference	Generation* + Transmission** + Net Equity Adj.*** Costs	Difference
1	**Turkey Point**	**62,591**	**0**	**62,591**	**0**	**62,591**	**0**
2	FPL 4 CT & Progress Ventures (PV)	62,700	109	62,847	256	62,862	271
3	FPL 4 CT, PV & Summit Energy	62,717	126	62,837	246	62,872	281
4	Southern Power (15 yrs.)	62,763	172	62,828	237	62,891	300
5	FPL 4 CT, PV & Calpine	62,746	155	62,865	274	62,893	302
6	Southern (15 yrs.) & Summit	62,788	197	62,835	244	62,918	327
7	Southern (25 yrs.) & Summit	62,741	150	62,795	204	62,927	336
8	Southern (25 yrs.)	62,760	169	62,832	241	62,945	354

* Generation costs include: Capital, O&M, Project/System Fuel, Transmission Interconnection, and Gas Pipeline Lateral costs

** Transmission costs include: Transmission Integration, Cost of Losses, and Increased Operating Costs of FPL Units in Southeast Florida; note: Transmission integration costs for Turkey Point Unit 5 only were included in the Generation Costs Only column

*** Net Equity Adjustment costs include Equity Adjustment net of Mitigating Factors