

Global Power/North America
Special Report

Cash Flow Volatility in the
Power and Gas Sector

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Related Research

- Credit Guidelines for Regulated Utility Companies, July 31, 2007.
- U.S. Power and Gas Comparative Operating Risk (COR) Evaluation and Financial Guidelines, Aug. 22, 2007.
- Fitch's Approach to Rating Competitive Generators, July 24, 2007.

Lines of Business

The study used data for a total of 86 U.S. utility companies and eight pipeline companies. To test hypotheses, Fitch rolled up the companies in several different cuts of the data.

- Gas DCs: Tariff-regulated utilities that only distribute natural gas over a network pipe system to ultimate consumers.
- Electric DCs: Tariff-regulated utilities that only distribute electricity over a wire network system.
- Gas and electric DCs: Tariff-regulated utilities that distribute both gas and electricity to consumers over pipe and wire networks.
- DCs: All gas DCs, electric DCs, and gas and electric DCs.
- IUCs: Tariff-regulated companies that both generate and distribute electric energy (some IUCs in the study also have a gas distribution business that is small in financial terms relative to their electric business).
- Natural gas pipelines: Regulated intrastate and interstate pipeline companies. Unlike gas DCs, pipelines primarily sell to large-scale and wholesale customers.

■ Introduction

Fitch Ratings conducted a study of cash flow volatilities for 86 regulated utilities and eight natural gas pipelines. The study was undertaken to understand the range of cash flow volatility among companies within subsectors of the power and gas industry. In addition, Fitch sought to determine whether utilities in certain subsectors or business lines produced more stable cash flows as an overall group relative to companies in other utility business lines during the 10-year study period or if cash flow stability was more strongly influenced by company-specific factors rather than the generic business line. The business lines that were represented in the study are described in the Lines of Business box.

The analysis was done to support the formation of the U.S. power and gas financial guideline criteria, outlined in Fitch's criteria report, "U.S. Power and Gas Comparative Operating Risk (COR) Evaluation and Financial Guidelines," dated Aug. 22, 2007. Cash flow stability analysis is one of the tools available to analysts for use in the comparative operating risk evaluation model that forms a part of Fitch's rating process for companies in the utilities, power and gas sector. Assessing the cash flow volatility of an issuer relative to others in its peer group is another tool available to categorize the relative risk of an issuer's business operations.

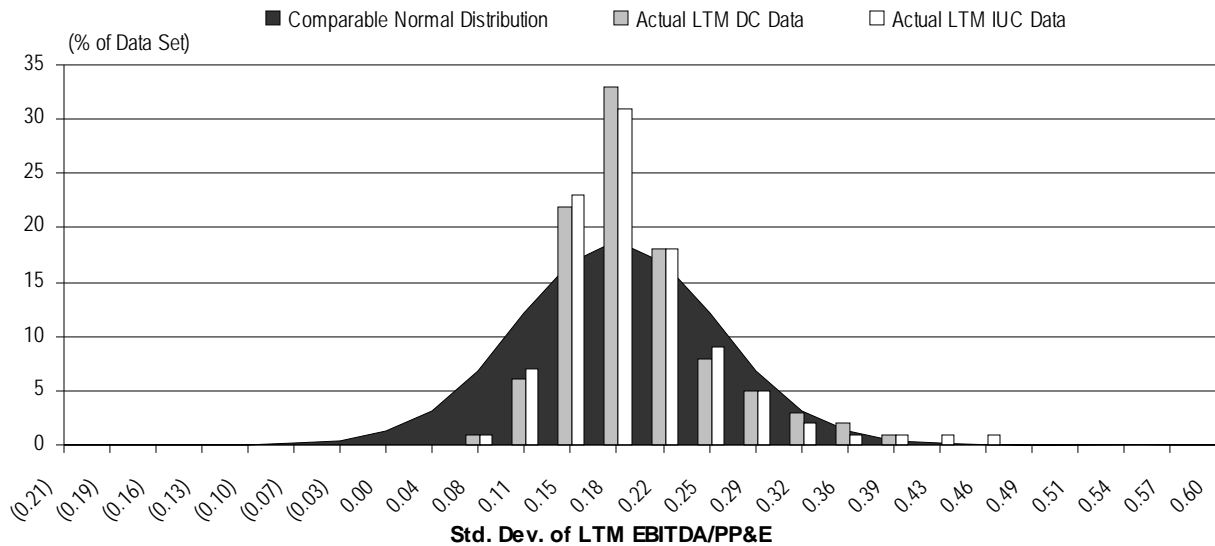
The study covered a 10-year period beginning in 1996, which is a period that included changes in some utilities' regulatory and market structures as well as increasing volatility of energy prices. Trends observed in the analysis include:

- Distribution companies (DCs) displayed higher cash flow volatility than the integrated utility companies (IUCs) as a group, in contrast to the initial research hypothesis. This was true whether volatility was calculated using latest 12-month (LTM) data or quarterly data.
- Within each subsector, the wide range of volatilities around the median indicates that there is significant variation in the cash flow stability of issuers within the same business line.

As a result of these findings, Fitch will give much greater weight to an individual company's history, prospects and current circumstances than to its business line when assigning its COR score. This special report summarizes and explains the results of Fitch's preliminary cash flow volatility analysis. Fitch intends to continue to develop new quantitative tools to enhance comparative operating risk evaluation.

August 22, 2007

Distribution of Std. Dev. of LTM EBITDA/PP&E



LTM – Latest 12 months. DC – Distribution company. IUC – Integrated utility company. EBITDA – Operating income plus depreciation and amortization. PP&E – Property, plant and equipment. Std. Dev. – Standard deviation. Source: Fitch Ratings.

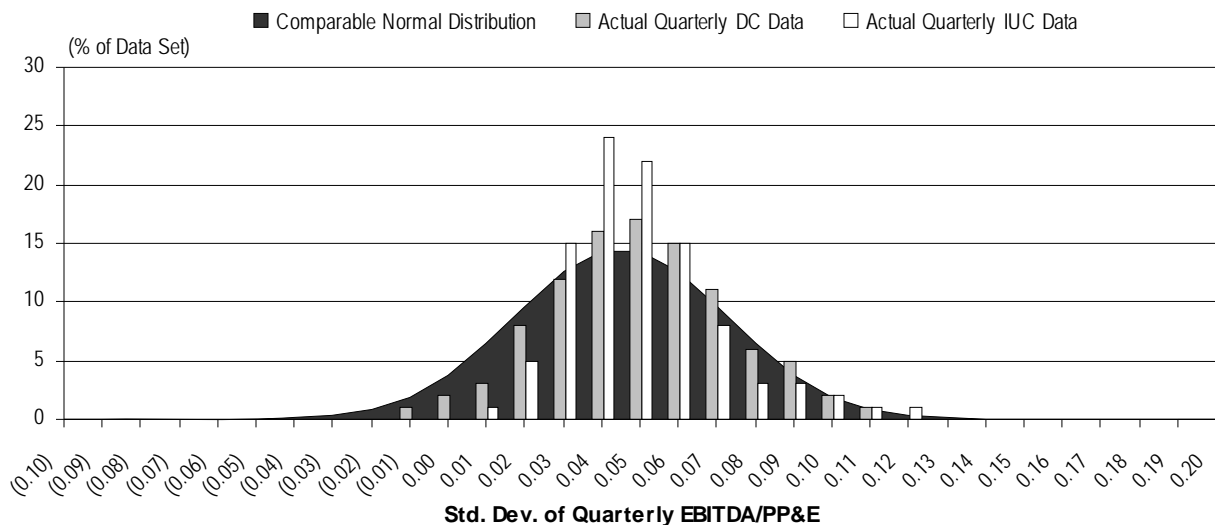
Methodology

Fitch calculated the volatilities of cash flow from operations (CFO) and operating EBITDA (defined as operating income plus depreciation and amortization) for 86 Fitch-rated utilities, including gas DCs, electric DCs, gas and electric DCs and IUCs over a period of 41 quarters beginning with the quarter ended March 1996. In addition, the 10-year volatility

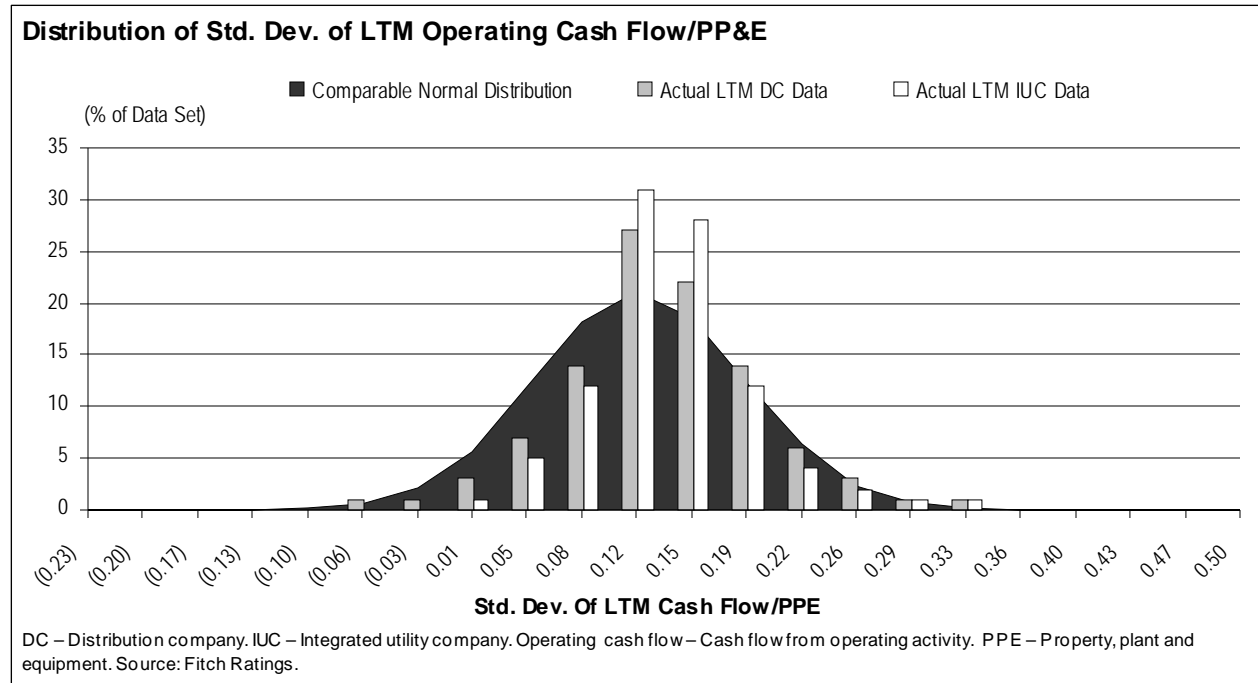
trends of eight natural gas pipelines were calculated.

Fitch excluded holding companies from the analysis because of their relatively dynamic business portfolios and strategies, which included frequent acquisitions, divestitures as well as accounting restatements. Wholesale power generators and midstream gas companies were excluded because of

Distribution of Std. Dev. of Quarterly EBITDA/PP&E



DC – Distribution company. IUC – Integrated utility company. EBITDA – Operating income plus depreciation and amortization. PP&E – Property, plant and equipment. Std. Dev. – Standard deviation. Source: Fitch Ratings.



their short operating histories, dynamic business portfolios, and resulting data collection problems.

Fitch gathered quarterly issuer data for CFO, EBITDA and the net asset balance of property, plant and equipment (PP&E) for the analysis. Fitch calculated CFO volatility on both a quarterly and LTM basis in order to study the effects of seasonal variations in cash flow. Quarterly data highlight seasonal swings in cash and working capital, while LTM data mute seasonality.

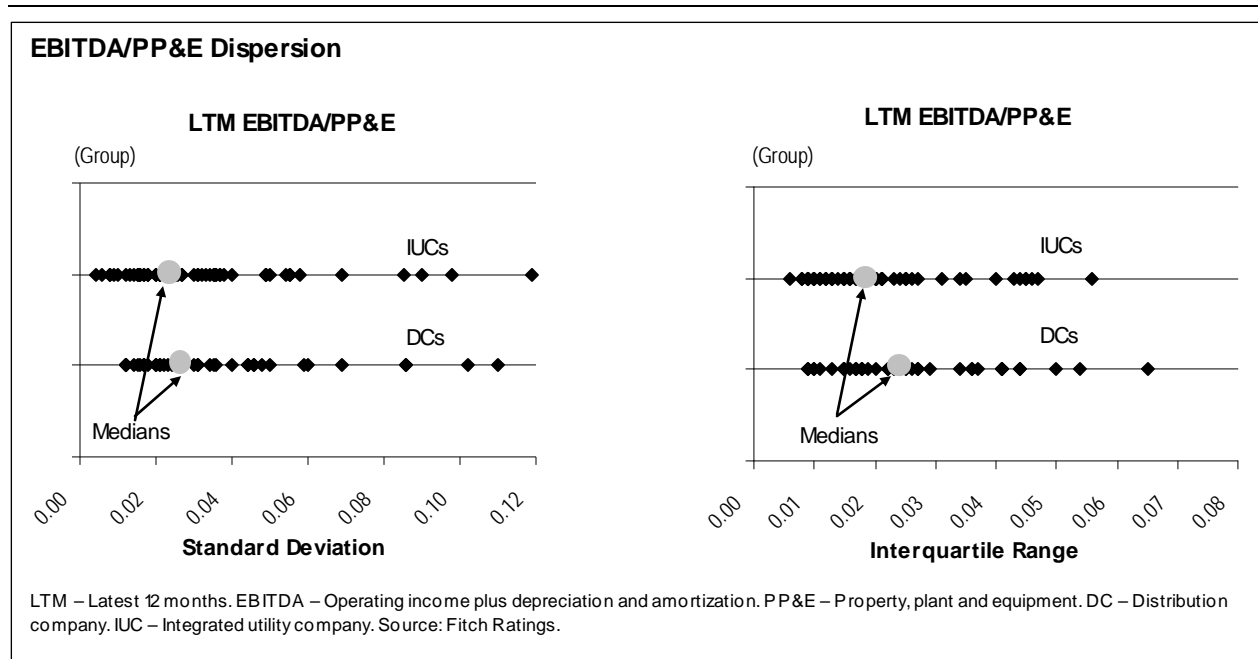
To compare the cash flow volatility for differently sized companies on the same basis, Fitch divided CFO or EBITDA by PP&E. This step also served to adjust for the cash flow and EBITDA changes that resulted from ongoing growth in customers served and utility plant as well as the divestment of electric generation by certain electric utility issuers. The standard deviations of CFO/PP&E and EBITDA/PP&E were then calculated to measure volatility.

A concern when making any statistical statement is whether the data is “well-behaved” or normally distributed. The distributions are shown with histograms superimposed on comparable normal distributions in the Distribution of Std. Dev. of LTM EBITDA/PP&E chart and the Distribution of Std. Dev. of Quarterly EBITDA/PP&E chart on page 2, which illustrate the distribution of LTM EBITDA

data and quarterly EBITDA data, respectively. Fitch’s two broad groups of companies, IUCs and distribution utilities, which encompasses gas DCs, electric DCs and DCs that provide both gas and electric distribution services, are shown separately in both charts.

Perhaps most striking from these charts is that negative variations in the ratio of EBITDA/PP&E (left tail observations) are not as frequently represented in the data as positive variations. One explanation is intuitively, companies commonly change their behavior to avoid or mitigate negative results. The next most prominent deviation from normal distribution may be the tight concentration of IUCs in the middle of the Distribution of Std. Dev. of LTM EBITDA/PP&E chart based on quarterly data and the tighter concentration of the DCs around the median in the Distribution of Std. Dev. of Quarterly EBITDA/PP&E chart on page 2 using LTM data. The LTM calculation tempers volatility resulting from seasonality. Another conclusion is that the data is statistically different from normal, thus nonparametric measures may be more reliable than means and standard deviations. A histogram of the CFO data is shown in the Distribution of Std. Dev. of LTM Operating Cash Flow/PP&E chart above.

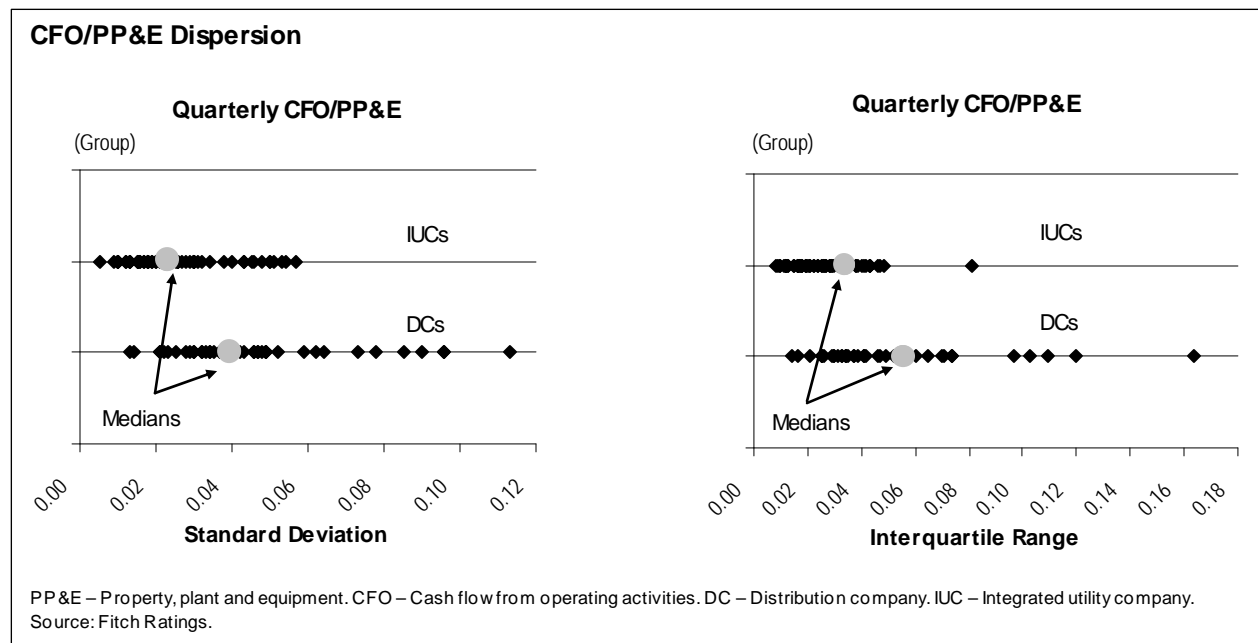
While the standard deviation is the most common measure of dispersion, its interpretation assumes that the underlying data is normally distributed. The

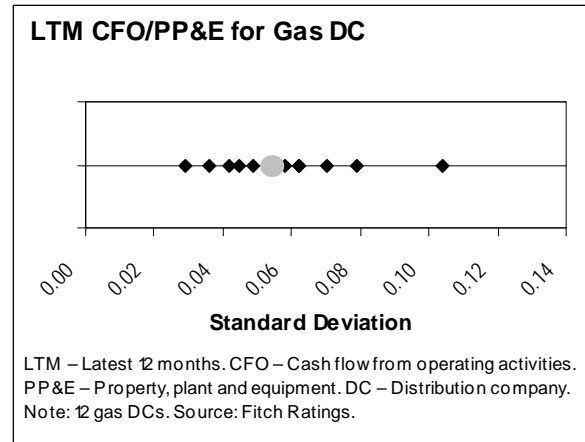
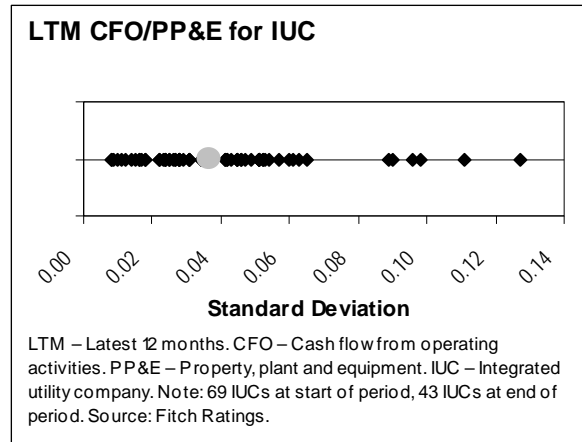


interquartile range is a common nonparametric measure of dispersion that requires no assumption as to the underlying distribution. The two measures of dispersion yield virtually identical results, as shown in the EBITDA/PP&E Dispersion chart (standard deviation and interquartile range) for LTM EBITDA/PP&E and CFO/PP&E Dispersion chart, which illustrates the standard deviation and interquartile range using quarterly CFO/PP&E data.

gas DCs, electric DCs, and electric and gas DCs into a single group of distribution utility companies (DCs). After all, gas DCs are winter-peaking and tend to have higher seasonal swings in volume and cash flow than electric DCs, which are predominantly summer-peaking but often have a second winter peak, and DCs that provide both services have two peaks. Having a single annual peak increases quarterly volatility but does not appear to produce greater default risk for gas DCs with an efficient gas purchase tariff-adjustment mechanism. While

Fitch considered whether it was valid to combine the





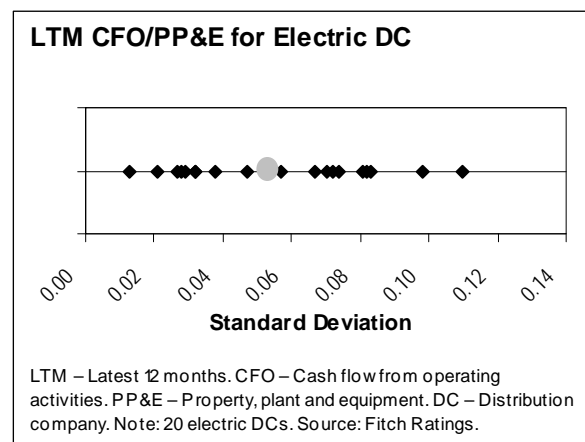
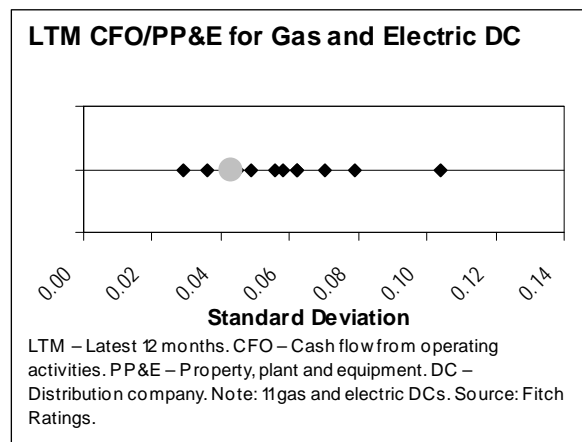
working capital needs are elevated prior to the peak season as gas is purchased and injected into storage, under normal conditions, the working capital balances will be gradually reduced through the winter selling season. More importantly, gas DCs have been in existence in essentially their present form for many years and did not go through a radical change in business model during the period of the study. Conversely, no electric DCs existed at the beginning of the study period, and these electric DCs came into existence as a result of a regulatory restructuring. In some states, such as California, the electric restructuring led to unanticipated volatility. To test whether the data were distorted by combining the three types of DCs, Fitch considered the three distribution subsectors individually.

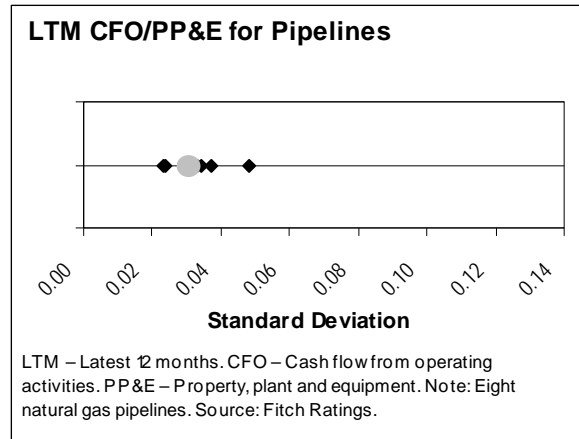
The range of LTM CFO volatility outcomes for IUCs, individual DC subsectors and the pipelines are shown in the charts on pages 5–6. The median standard deviations of CFO/PP&E by broad subsector shown in the charts indicate quite low volatility for all three DC subsectors, but there is

some differentiation among the subsectors.

The business models of some electric utilities changed during the 10-year study period due to the restructuring events that took place in the electric industry in certain states, including; California, Connecticut, Delaware, Washington, D.C., Maine, Maryland, Massachusetts, Montana, New Jersey, Ohio, Pennsylvania, Rhode Island, etc.. Of the 86 utility companies, 26 were members of the IUC group prior to electric utility restructuring and generation divestment, and following disaggregation, the remaining electric DC business was counted in the distribution group. Fitch included these 26 companies in the IUC group until the quarter of their individual restructuring and then moved the remaining electric DC into the distribution group for the remainder of the 10-year study period.

It is quite possible that after the electric DCs complete a difficult transition period, regulatory mechanisms and industry structure will be resolved and the cash flow stability of the electric DCs as a group will improve. Moreover, if decoupling and





LTM CFO/PP&E Summary

Group	Median Std. Dev.
Integrated Utility Companies	0.037
Distribution (all types)	0.049
Pipelines	0.032

CFO – Cash flow from operating activities. PP&E – Property, plant and equipment. Std. Dev. – Standard deviation. Source: Fitch Ratings.

weather normalization become more prevalent and efficient, stability would be expected to increase. However, this speculation is beyond the scope of this report.

The conclusion drawn from the analysis shown in the Distribution of Std. Dev. of Quarterly EBITDA/PP&E chart on page 2 and Distribution of Std. Dev. of LTM Operating Cash Flow/PP&E chart on page 3 is that the IUC group has demonstrated

greater cash flow stability during the quarters studied than the DC group as a whole and each subgroup of DCs, but this does not necessarily determine more favorable COR scores for the companies in this group. The trend in a limited study period is not necessarily predictive nor reflective of fundamental characteristics. As described in the criteria report, “U.S. Power and Gas Comparative Operating Risk Evaluation (COR Evaluation) and Financial Guidelines,” dated Aug. 22, 2007, Fitch determines a company’s COR score by evaluating a range of individual business and operating characteristics, as they are likely to affect the company’s future cash flow generating capability, rather than relying solely on its historical cash flow stability.

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