



Utility Financial Solutions, LLC



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Introduction

Cash reserve policies and guidelines are often established by utilities to maintain appropriate cash reserves to help ensure:

1. Cash exists for timely payment of bills
2. The short-term and long-term financial health of the Utility
3. Stable rates for customers
4. Cash exists to fund unanticipated cost contingencies
5. The amount and timing of future bond issues are identified
6. A significant factor is being met for bond rating agencies

In recent years the compounded impacts of power supply cost uncertainties, a sluggish economy, volatile energy prices, and rising capital improvement costs have posed challenges to maintaining stable rates and cash reserves. It is important for utilities to maintain the financial flexibility to smooth rate increases and stagger rate adjustments for customers of the utility.

Minimum cash reserve guidelines proposed in this report should be set to allow reserves to fluctuate above the minimum guidelines. The decision to hold more money than the established minimum cash guidelines should be based on the assessments of uncertainties and other financial policies such as:

- The financial risk facing the utilities
- Rate setting policies
- Variability in power costs
- Debt policies
- Future capital improvements needed by utility
- Line Extension policies

The adequacy of the guidelines may be reviewed internally each year, and if appropriate, revised guidelines may be recommended.



City of Hudson Electric Cash Policy

Methodology

Minimum cash reserves attempts to quantify the minimum amount of cash the utility should keep in reserve, the actual cash reserves may vary substantially above the minimum and is dependent several risk factors discussed below.

The methodology used in this report is based on certain assumptions related to percent of operation and maintenance, purchase power, historical investment in assets, debt service and the five-year capital plan. The establishment of minimum cash reserves should consider a number factors including:

Operations and Maintenance Risk

Working Capital Lag - Timing differences exist between when expenses are incurred and revenues received from customers. Establishing a minimum cash reserve helps ensure cash exists to pay expenses in a timely manner. The typical range is 45 to 90 days. After discussions with the Electric Department’s management, the policy will include 90 days of O&M.

- **The cash reserve policy will include 24.7% of annual operating expenses excluding depreciation expense and power supply expenditures.**
 - **24.7% was derived by assuming a 90 day lag between billing and payment receipt from customers. (90 days/365 days).**

2013 Audit O&M	\$	17,282,252
Depreciation		416,797
Power Supply		<u>(13,822,837)</u>
Expense w/out Depr and Power suppl	\$	3,876,212
<u>90 Days working Capital Lag</u>		<u>24.7%</u>
<u>O&M Risk</u>	<u>\$</u>	<u>955,778</u>



City of Hudson Electric Cash Policy

Power Supply Risk

Max Month – The peak month power supply was used in the cash reserve calculation. This represents 29.9% of the total yearly power supply when adjusted for the 90 day working capital lag (90 days / 30 days of power supply = working capital lag adjustment of 3.0). The typical range is 30 to 90 days. After discussions with the Electric Department’s management, the policy will include 90 days of O&M.

- **The cash reserve policy will include 29.9% of annual power supply.**
 - 29.9% was derived by determining the peak month, July at \$1,376,580 then multiplying July by 3.0 (90 day working capital lag) and divided by the total yearly power supply costs. $((\$1,376,580 * 3.0) / \$13,822,837 = 29.9\%)$

Power Purchase/Production Risk

	2013 Actual
January	1,119,493
February	1,064,094
March	1,124,620
April	1,043,533
May	1,126,657
June	1,197,128
July	1,376,580
August	1,257,444
September	1,196,474
October	1,044,830
November	980,917
December	1,291,067
Total	\$ 13,822,837
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Peak Month	\$ 1,376,580
Working Capital Lag 30 Day Converted to 90	3.0
Power Supply Allocation	\$ 4,129,740
Percentage of Total	29.9%



Historical Investment Risk

Investment in assets – Catastrophic events may occur that require substantial investments to replace damaged assets. Some examples of catastrophic events include ice storms, earthquakes, wind storms, floods, or tornadoes. Many of these catastrophic events may allow the utility to recover the cost of damages from FEMA; however FEMA reimbursements can take between 6 months to 2 years to recover. The utility should ensure adequate cash reserves exist to replace the assets in a timely fashion and to arrange short term financing options. The minimum reserve levels are often combined with emergency funding from banks or bonding agencies. The percent to the minimum cash reserves are dependent on the age of the assets in service and the level of risk of catastrophic type events.

- **The cash reserve policy will include 3% of the historical investment in assets as recorded in the financial statements.**
 - **The typical range for set aside under this category is 1 – 3%. The following table represents determination of the risk factor:**

Risk Table		
Depreciation Percent	0 - 49%	1.0%
Depreciation Percent	50 - 55%	2.0%
Depreciation Percent	Over 55%	3.0%

- **Hudson is depreciated at 50% as calculated below and allocated a 2% risk factor:**

Historical Asset Risk

Historical Investment	\$	70,000,000
Accum Depreciation		35,000,000
Current NBV		35,000,000
Percent Depreciated		50.0%

Risk Associated with Historical Assets	2.0%
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Historical Investment Risk	\$	1,400,000
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City of Hudson Electric Cash Policy

Debt Service Risk

Annual debt service – Some debt service payments do not occur evenly throughout the year and often occur every six months. The utility has to ensure adequate cash reserves exist to fund the debt service payment when the payment is due.

- **The cash reserve policy will include 100% of the current portion of debt service.**

Debt Risk

Payment Date	Principal	Interest	Total
	\$ -	\$ -	\$ 183,921
	-	-	-
Total			\$ 183,921
Highest Payment Risk			100%

Five-Year Capital Plan Risk

Capital improvement program – Some capital improvements are funded through bond issuances and some through cash reserves. The establishment of a minimum cash reserve level helps to ensure timely replacement or construction of assets.

- **The cash reserve policy will include 20% of the five year capital improvement program less any improvements funded through the issuance of bonds.**

Capital Plan Risk

	2014	2015	2016	2017	2018	Total
Total Capital Plan	\$ 737,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 4,737,000
Bond Proceeds						-
Net	\$ 737,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 4,737,000
Capital Plan Risk						20.0%
Capital Plan Risk						\$ 947,400



City of Hudson Electric Cash Policy

Minimum Cash Reserve Calculation

The minimum cash reserve calculation considers the risk “in total” and not each individual category. For example; catastrophic events can occur and the amount may far exceed the amount set aside under “Historical investment in assets”.

If certain events occur that results in cash reserves falling below the minimum cash reserve levels, the City Council should take action to restore cash reserves to the minimum levels over the subsequent three years. These actions may include a number of options:

1. Rate Adjustments
2. Cost reductions
3. Issuance of bonds to fund capital improvement programs
4. Modification of the assumptions used to determine the cash reserve levels

Minimum Cash Reserve Calculation

Based on 2014 Budget expenditures, the proposed 2014 recommended minimum cash reserve is \$7.6 million as calculated below:

Recommended MINIMUM Reserves	Percent Allocated	Projected 2014
Operation & Maintenance Less Depreciation Expense and PP	24.7%	\$ 955,778
Purchase Power	29.9%	4,097,888
Historical Rate Base	2.0%	1,400,000
Current Portion of Debt Service	100.0%	183,921
Five Year Capital Plan - Net of Bond Proceeds	20.0%	1,000,000
Recommended MINIMUM Reserves		\$ 7,637,586 *



City of Hudson Electric Cash Policy

*For simplification, the above calculation can be estimated by taking the total O&M budget and using 158 day working capital lag.

Overall Policy Working Capital Days/O&M expenses	UFS MIN
Total Yearly O&M Expenses	\$ 17,699,049
Minimum Cash Recommendation	7,637,586
Expenses/Minimum recommendation	2.32
Days in year	365.00
Days working capital	158
Minimum Desired Range	90-150

The minimum desired range for “days cash on hand” is between 90 and 150 days. Although there are many factors attributable to a favorable/high bond rating, most rating agencies like to see at least 150 days cash on hand for their highest ratings.

It is important to emphasize this is a recommended minimum cash reserve. Actual cash reserves may vary substantially above the minimum and is dependent on the life cycle of assets, future capital plan, rate setting policies, and debt policies.

The cash reserve calculation should be updated annually as part of the budget process using the formula in this report.