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To: North Little Rock City Council

From: C. Jason Carter

RE: North Little Rock Risk Management Committee FY 17 Annual Report

I. INTRODUCTION

The purpose of this communication is to summarize the activities of the Risk Management Committee ("RMC") during the fiscal year that ended on December 31, 2017 (FY17). Throughout the year, the RMC met with representatives of the City's professional Power Manager (The Energy Authority, Inc. or "TEA").

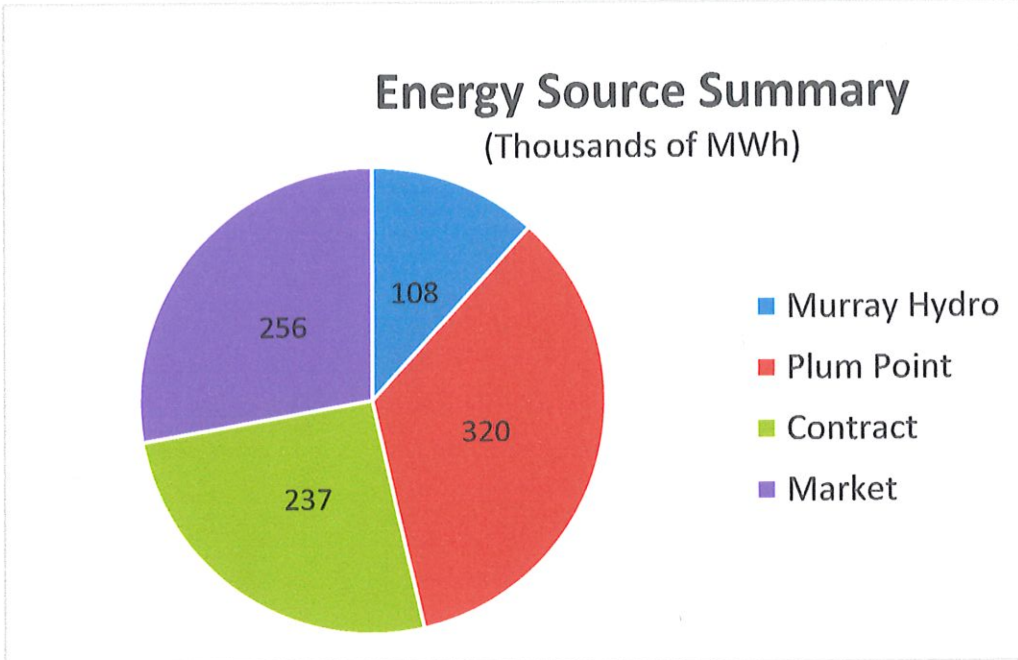
During 2017, the RMC authorized 90 transactions related to energy, zonal resource credits (capacity), and financial transmission rights (FTRs) in order to manage financial risks inherent to providing electricity to the North Little Rock Electric Department's (NLRED) service territory. From these authorizations, the City entered into 61 transactions at a cost that slightly exceeds $2 million. The transactions are described in greater detail below.

The RMC entered significantly more transactions in 2017 than 2016, but the average size of each transaction was smaller. Since 2016 was the first full year of operations by the RMC, it was characterized by larger purchases enduring for longer periods of time. The second full year of operations was a more tailored approach to purchasing with thirteen (13) out of fourteen (14) contracts focused on periods of peak consumption.

II. ENERGY

The primary duty of the RMC is to manage risk related to the cost of energy. In 2017, the City purchased or generated over 922,000 MWh of energy at a cost that was dependent on time of purchase or source of generation. Most of the risk related to the cost of energy is typically managed through physical assets. However, in the past year, generation assets produced less than half of the City's energy needs. The RMC authorizes transactions to purchase energy that is not provided by physical assets, in accordance with the Risk Management Policy and hedging limits established by Ordinance No. 8815, which requires physical or contractual price hedging of 70-100% of market purchases during a current year.

In FY17, the RMC complied with the Risk Management Policy and hedging limits despite reduced output from physical resources and continuing decline in sales. As described in the paragraphs below, output was considerably depressed from both Murray Hydro and Plum Point. Electric usage continued to gradually decline. Consumption continued to decline in FY17 resulting in sales that were approximately 8% lower than FY10. Given the expansion of customer-owned generation and energy efficiency, this trend will likely continue for the foreseeable future. Total hedged market purchases comprised 72.2% of all transactions in 2017.



A. Murray Hydro Electric Plant. With a nameplate capacity of 42 MW, Murray Hydro can reasonably produce over 15 percent of NLRED's annual energy needs with no emissions and an affordable price. For much of 2017, the overhaul of Unit 1 caused Murray Hydro to operate at a significantly reduced capacity. Although the work is not yet complete, the plant is expected to return to full operation within the next month. In 2017, Murray Hydro fulfilled about 11.8% of NLRED's energy needs with 108,491 MWhs of production.

B. Plum Point Energy Station. The City's 60 MW interest in Plum Point is capable of producing close to half of NLRED's annual energy needs. While Plum Point, a coal plant, has proven less affordable than other energy sources in the current market, costs remain lower than those found in contracts entered by the City in the past ten years. Plum Point operationally responds to energy market prices. When prices are low, output is reduced. When prices are high, output is increased. In 2017, Plum Point only fulfilled about 34.7% of NLRED's energy needs due to low energy prices and plant outages with 320,073 MWhs of production credited to the NLRED.

C. Contract Energy. The Risk Management Committee authorizes contracts to fulfill energy requirements that are not met by generation assets. Prior to 2017, the RMC purchased 211,892 MWh of energy to be delivered during 2017, which amounted to 23% of NLRED's energy requirements. As shown in the chart below, the RMC authorized an additional purchase of 25,152 MWh during FY17 for FY17. All of these purchases were tailored to meet energy requirements during periods of peak consumption. In total, contract energy was used to fulfill 25.7% of NLRED's energy requirements in 2017.

FY17 Energy Purchases			
Delivery Year	Volume	Price/MWh	Total Price
2017	25,152 MWh	$32.72	$823,018
2018	33,520 MWh	$29.32	$982,716
2019	5,120 MWh	$30.87	$158,054
TOTAL:	***63,664 MWh***	***$30.85***	***$1,963,788***

D. Market Energy. Energy requirements that are not hedged by physical generation or contracts are subject to the price fluctuations of the day-ahead and real-time energy markets managed by the Midcontinent Independent System Operator (MISO). At times, these price fluctuations may prove beneficial, but total exposure must be managed within the tolerances of the City's Risk Management Policy and the judgment of the RMC voting members. Energy purchased from the MISO day-ahead and real-time markets without price hedges amounted to 27.8% of NLRED's energy requirements.

III. CAPACITY PURCHASES

MISO requires the City, and similar load serving entities, to possess zonal resource credits (ZRCs) in an amount that represents sufficient capacity to serve NLRED's load and meet additional regulatory reliability requirements. The City is entitled to certain ZRCs by virtue of owning generation assets. The City may acquire additional ZRCs may be purchased by contract or acquired through periodic MISO auctions. During 2017, the City purchased ZRCs to manage financial exposure to the auction. Every authorized purchase of zonal resource credits was able to be executed. All ZRC transactions executed in 2016 are summarized in the table below:

DATE APPROVED	VOLUME	UNIT PRICE	TOTAL PRICE
3/24	30MW	$0.20/kW-mo.	$72,000
9/22	30MW	$0.15/kW-mo.	$54,000
TOTAL:	***60MW***	***$0.175/kW-mo.***	***$126,000***

Note: ZRCs purchased in Zone 9, rather than Zone 8 where NLRED is located.

IV. FINANCIAL TRANSMISSION RIGHTS

Financial Transmission Rights (FTRs) are used to manage basis risk; meaning, the risk that transmission congestion causes prices to differ between the location where energy is delivered and the location where that energy is used. The RMC manages basis risk between Plum Point and the NLRED price node, as well as basis risk between Arkansas Hub (the notional transaction point for contracted energy) and the NLRED price node. The RMC manages variation between these price points by periodically offering to purchase FTRs from Arkansas Hub to the NLRED price node, or sell unneeded FTRs from Plum Point to the NLRED price node. FTR transactions may result in either revenue or cost to the City.

During 2017, the RMC authorized 24 FTR transaction from Plum Point to NLRED, 13 of which were executed. The RMC also authorized 44 FTR transactions from Arkansas Hub to NLRED, 32 of which were executed. All ZRC transactions executed in 2017 resulted in a net cost to the City of $4,612.

V. SUMMARY

It is my opinion that the RMC functioned in full compliance with the City's Risk Management Policy throughout 2017. During this second year of operation, the RMC was more focused on areas of particular risk. The flow of transactions decreased throughout the year, as the RMC grew more comfortable that the City's risk had been adequately managed. As always, I seek to keep City Council fully informed of all RMC activities. I am happy to address any questions you may have regarding this report.