



# **Debt and Interest Rate Management Report**

## **As of December 31, 2016**

## Highlights

- In October 2016, the Agency refunded \$15,705,000 of outstanding principal for Geothermal Project No. 3 Revenue Refunding Bonds, Series A through issuance of \$17,530,000 fixed rate tax-exempt debt with a yield of 1.67% with final maturity in July 1, 2024. The refunding decreased project debt service by an estimated \$1.69 million over the next 8 years with an estimated net present value savings of \$1.03 million. No additional new issuances are planned at this time.
- No fixed or variable rate debt or interest rate swaps were refinanced or terminated in the last six months.
- No material changes to any fixed rate debt, variable rate debt or outstanding swap agreements occurred during the last six months.
- The last six months included a reduction in the amount of reimbursement received from the Federal government for Build America Bond (BAB) subsidies related to the Lodi Energy Center BAB issues. Total reduction for the December 1, 2016 debt service payment was 6.9% or \$230,851 due to sequestration of federal budget dollars.
- Notices and financial statements were filed with the bond reporting depository (EMMA) as required for annual filing of continuing disclosure documents by NCPA
- No changes in bond ratings occurred during the last six months.
- Fees paid to Citi for remarketing the Variable Rate bonds remained the same. Fees paid to the provider of the letter of credit support (Bank of Montreal) remained the same.
- Standard & Poor's upgraded our swap counterparty Citigroup's credit rating to A+; no collateral posting was required by any counterparty during the last six months.
- No defaults under any swap agreements have occurred during the last six months.
- Fair value on remaining outstanding swaps changed from a negative value of \$25.2 million on June 30, 2016 to a negative value of \$18.7 million on December 31, 2016.
- Interest rate swaps continue to perform better than expected, providing an advantageous hedge to increases in short-term variable rates. The yield curve has shifted higher as both short-term and long-term rates increased. Short-term taxable rates increased to their highest level since 2009 due to the second of two 25 basis point (bps) Fed rate hikes. NCPA's short-term variable tax-exempt debt has increased over the last six months from 39 bps to 68 bps, while the short-term variable taxable debt increased from around 47 bps to 82 bps. The market projects additional increases in 2017.
- Upcoming events:

Staff will recommend updates to the Debt and Interest Rate Management Policy related to SB 1029 requirements.

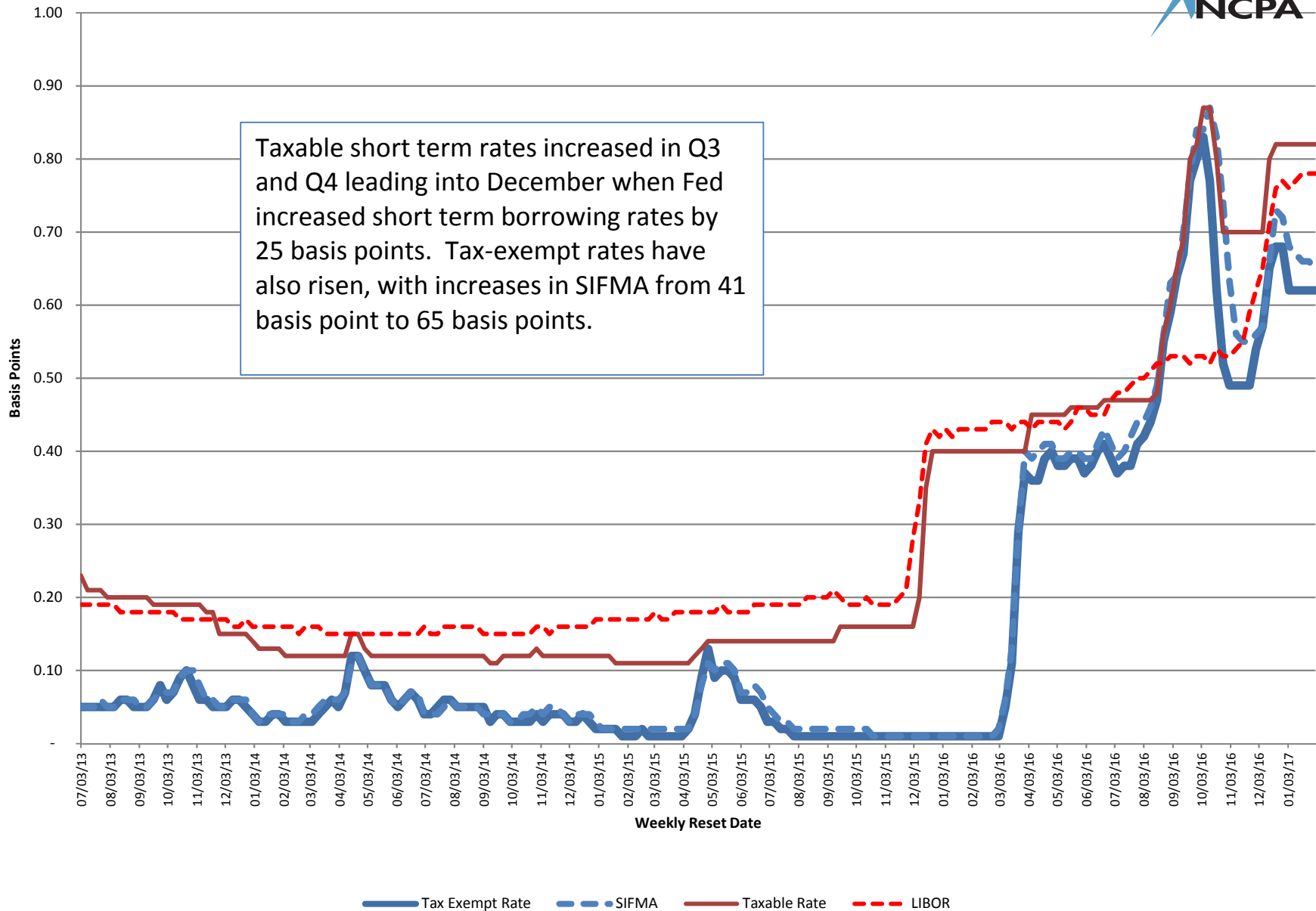
# Northern California Power Agency Hydroelectric Project VRDO Bonds and Related Interest Rate Swaps



	Hydro 2008A	Hydro 2008B
Variable Rate Debt Amount Priced Payment	\$85,160,000 Weekly Monthly	\$1,574,000 Weekly Monthly
Swap Counter-party:	Citigroup	Citigroup
Payments	2 components Fixed @ 3.819%	2 components Fixed @ 5.291%
Counterparty	Floating rate (based on 54% of monthly Libor+.54%)	Floating rate (based on monthly Libor)
Payment terms:	Semi-Annual (net) Semi-Annual (net)	Semi-Annual (net) Semi-Annual (net)
Liquidity/Letter of Credit Provider <sup>1</sup>	Bank of Montreal	Bank of Montreal
Annual Fee	39.0 bp	39.0 bp
Expiration Date	9/9/2019	9/9/2019
Credit Ratings	Aa3/A+/AA-	Aa3/A+/AA-
Bond Insurer	None, Option with MBIA	None, Option with MBIA
Credit Ratings	N/A	N/A

<sup>1</sup> Effective 9/10/14 Citibank N.A. was replaced as the LOC provider with Bank of Montreal.

# NCPA Variable Rate Debt Performance Versus Indices

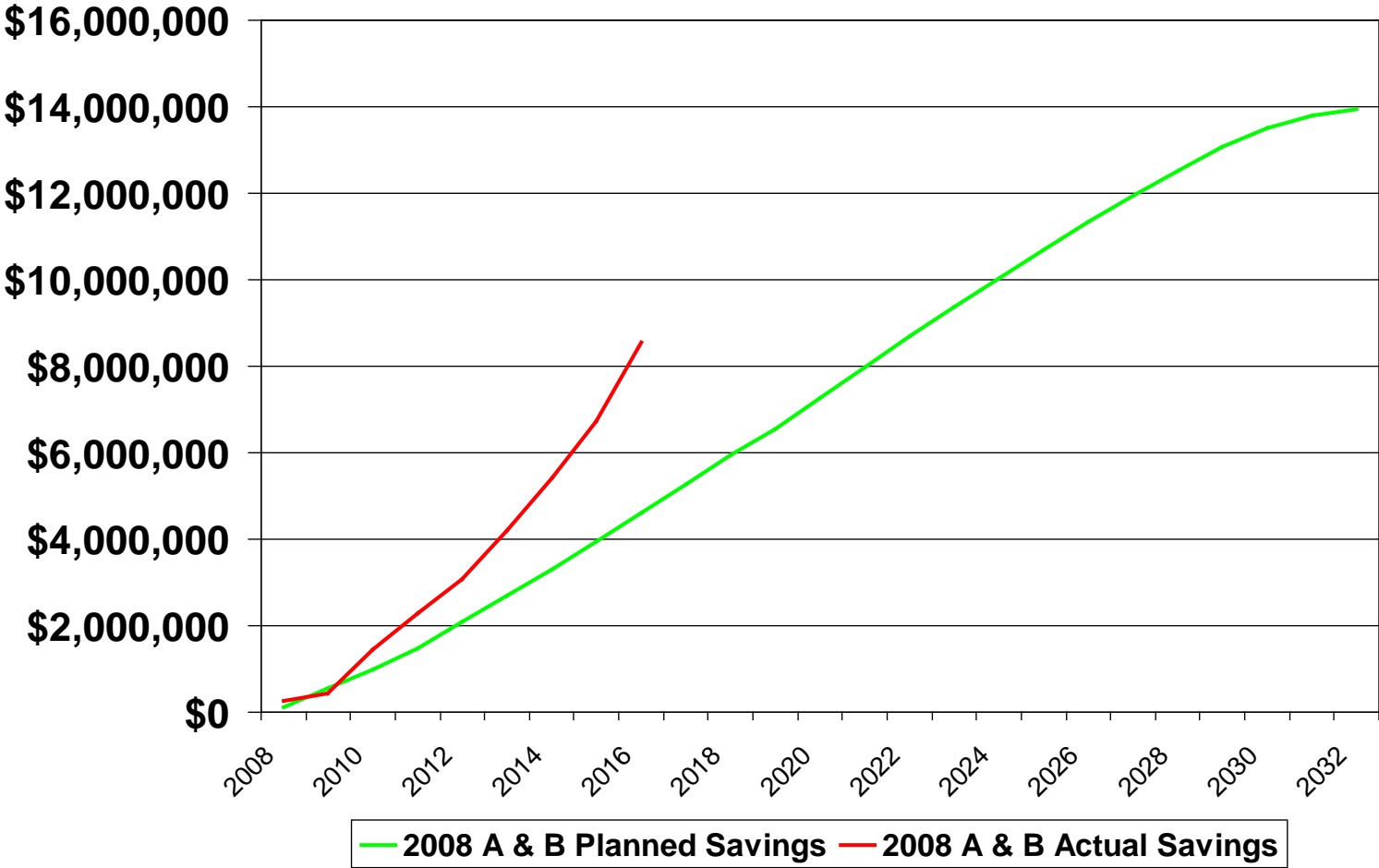


# Northern California Power Agency

## Hydroelectric Project Swaps Performance to Date



December 31, 2016

Total Projected Savings over life of bonds: \$13.9 million  
Total Projected Savings to date: \$4.9 million  
Actual Savings to date: \$8.6 million  
Basis risk incurred (105 months) positive \$3.6 million



## Northern California Power Agency

MTM Valuation Report as 12/31/2016

Transaction Type	Project	Associated Bonds	NCPA Pays	NCPA Receives	Trade Date	Effective Date	Maturity Date	Remaining Life	Initial Notional	Bank Counterparty	Credit Ratings			Weighted Average Life	Fair Value @ 12/31/2016	Impact on Value of 50 bps Swing
											Moody's	S&P	Fitch			
Swap	Hydro	Series 2008A	3.8190%	54% of USD-LIBOR + 0.54%	11/24/2004	11/24/2004	7/1/2032	15.5	\$85,160,000.00	Citibank, N.A., New York	A1	A+ 	A+	11.89	(\$18,987,902)	\$2,877,515
Swap	Hydro	Series 2008B	USD-LIBOR	5.2910%	11/24/2004	11/24/2004	7/1/2032	15.5	\$1,574,000.00	Citibank, N.A., New York	A1	A+ 	A+	6.89	\$262,882	(\$41,135)
Total all swaps									\$86,734,000.00						(\$18,725,020)	\$2,836,380

### Highlights:

No material changes to any outstanding swap agreements or any new swap agreements were entered into during the last six months

S&P upgraded counterparty credit rating to A+ while other ratings remained the same; no collateral posting has been required and they remain highly rated.

No defaults under the above swap agreements have occurred

No planned swap transactions at this time

Fair value on remaining outstanding swaps changed from a negative value of \$25.2 million on June 30, 2016 to a negative value of \$18.7 million on December 31, 2016.

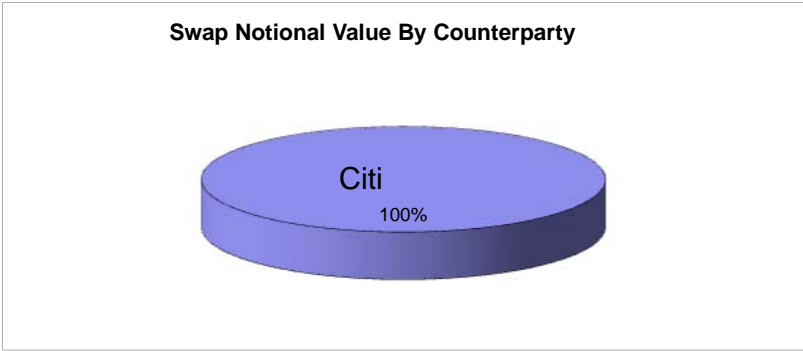
The valuations of derivatives transactions provided by PFM are indicative values based on mid-market levels as of the close of business on the date they are provided. These valuations are provided for information purposes only and are intended solely for internal use. These valuations do not represent the actual terms at which new transactions could be entered into or the actual terms at which existing transactions could be liquidated. The valuations provided are derived from proprietary models based upon well-recognized financial principles and reasonable estimates about relevant future market conditions. Valuations based on other models or different assumptions may yield different results. PFM believes its valuation methodology to be consistent with accepted practice in the market for interest rate swaps. Additional information is available on request. Information herein is believed to be reliable, but PFM does not warrant its completeness or accuracy. PFM does not hold a position or act as a market maker in the financial instruments of any issuer discussed herein.

**Northern California Power Agency**  
**Counterparty Report as of 12/31/2016**

Transaction Type	Project	Associated Bonds	Initial Notional	Bank Counterparty	Last ratings as of 06/30/2016			Current ratings as of 12/31/2016		
					Moody's	S&P	Fitch	Moody's	S&P	Fitch
Swap	Hydro	Series 2008A	\$85,160,000	Citibank, N.A., New York	A1	A	A+	A1	A+ ↑	A+
Swap	Hydro	Series 2008B	\$1,574,000	Citibank, N.A., New York	A1	A	A+	A1	A+ ↑	A+
			<u>\$86,734,000</u>							
			<u>\$86,734,000</u>							

S&P upgraded Citibank rating from A to A+

Due to termination of all other swaps on 7/9/08, Citibank is now the only swap provider with which NCPA has outstanding transactions.



**Northern California Power Agency**  
**Valuation Report as of**  
**By Participant**

12/31/2016



Fair Value at 12/31/2016															
Transaction Type	Project	Associated Bonds	Maturity Date	Initial Notional	Bank Counterparty	Fair Value @ 12/31/16	Alameda 10.00%	Healdsburg 1.66%	Lodi 10.37%	Lompoc 2.30%	Palo Alto 22.92%	Plumas-Sierra 1.69%	Roseville 12.00%	Santa Clara 37.02%	Ukiah 2.04%
Swap	Hydro	Series 2008A	7/1/2032	\$85,160,000.00	Citibank, N.A., New York	(\$18,987,902)	(\$1,898,790)	(\$315,199)	(\$1,969,045)	(\$436,722)	(\$4,352,027)	(\$320,896)	(\$2,278,548)	(\$7,029,321)	(\$387,353)
Swap	Hydro	Series 2008B	7/1/2032	\$1,574,000.00	Citibank, N.A., New York	\$262,882	\$26,288	\$4,364	\$27,261	\$6,046	\$60,252	\$4,443	\$31,546	\$97,319	\$5,363
Total all swaps						(\$18,725,020)	(\$1,872,502)	(\$310,835)	(\$1,941,785)	(\$430,675)	(\$4,291,775)	(\$316,453)	(\$2,247,002)	(\$6,932,003)	(\$381,990)

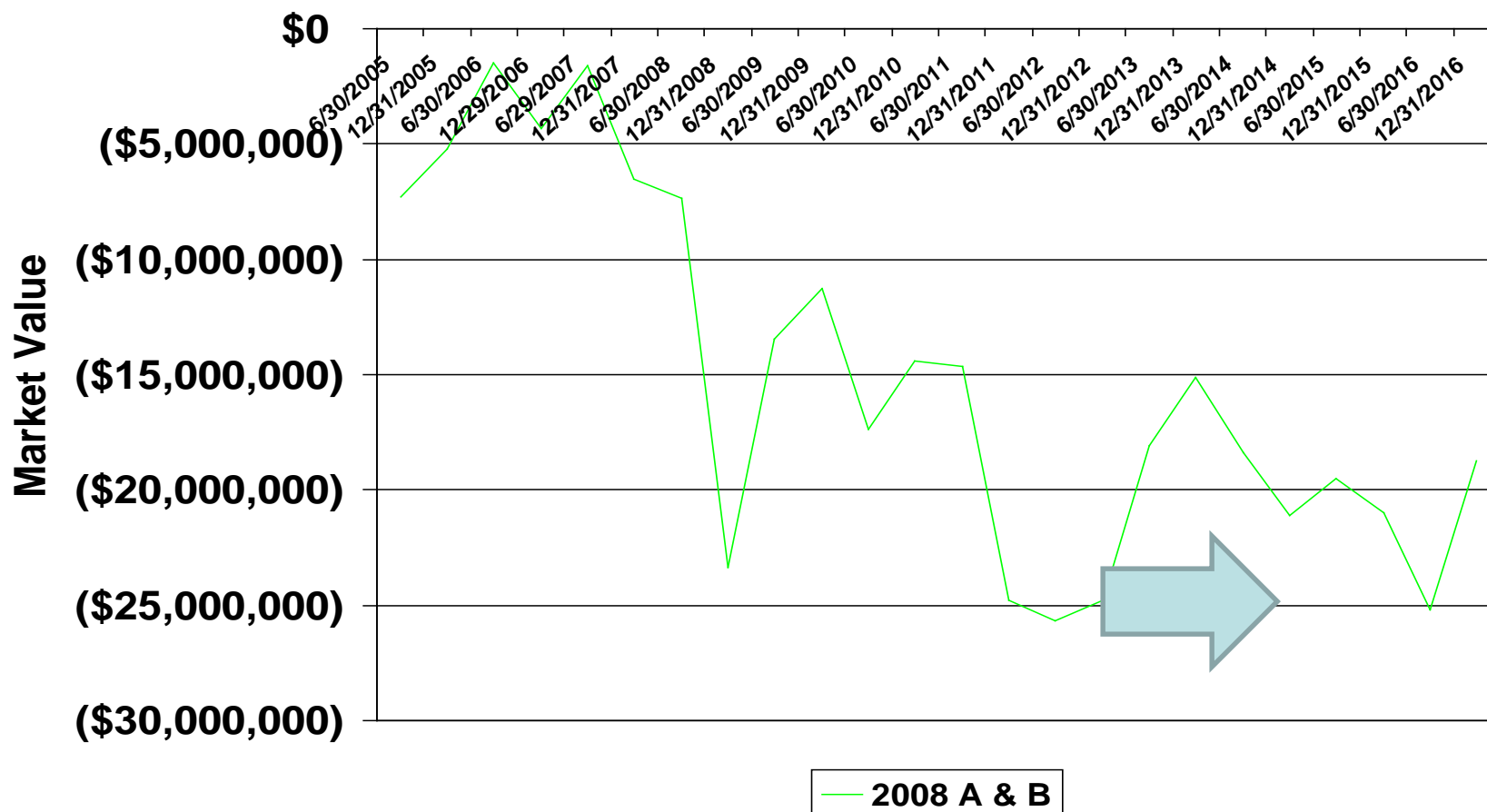
Impact on Value of 50 BP Swing in swap rates															
Transaction Type	Project	Associated Bonds	Maturity Date	Initial Notional	Bank Counterparty	Impact on Value of 50 bp swing	Alameda 10.00%	Healdsburg 1.66%	Lodi 10.37%	Lompoc 2.30%	Palo Alto 22.92%	Plumas-Sierra 1.69%	Roseville 12.00%	Santa Clara 37.02%	Ukiah 2.04%
Swap	Hydro	Series 2008A	7/1/2032	\$85,160,000.00	Citibank, N.A., New York	\$2,877,515	\$287,751	\$47,767	\$298,398	\$66,183	\$659,526	\$48,630	\$345,302	\$1,065,256	\$58,701
Swap	Hydro	Series 2008B	7/1/2032	\$1,574,000.00	Citibank, N.A., New York	(\$41,135)	(\$4,113)	(\$683)	(\$4,266)	(\$946)	(\$9,428)	(\$695)	(\$4,936)	(\$15,228)	(\$839)
Total all swaps						\$2,836,380	\$283,638	\$47,084	\$294,133	\$65,237	\$650,098	\$47,935	\$340,366	\$1,050,028	\$57,862



# Northern California Power Agency

## Hydroelectric Project Swaps Value Trend

Extreme market volatility and low treasury rates have greatly impacted the mark to market value of the swaps over the last several years. Rates have increased over the last year decreasing the negative mark to market value.



**Northern California Power Agency**  
**Hydroelectric Project No. One 2008 A & B Variable Rate Debt Obligation**  
**Comparison of Actual vs Planned Interest Rate Swaps Savings (Cost)**  
**As of December 31, 2016**



	<b>Planned</b>		<b>Actual</b>	
	<b>Savings (Cost)</b>		<b>Savings (Cost)</b>	
	<b>Annual</b>	<b>Cumulative</b>	<b>Annual</b>	<b>Cumulative</b>
<b>FY2008</b>	\$ 117,580	\$ 117,580	\$ 254,188	\$ 254,188
<b>FY2009</b>	438,768	556,348	189,800	443,988
<b>FY2010</b>	443,387	999,735	1,005,458	1,449,446
<b>FY2011</b>	484,319	1,484,054	849,010	2,298,456
<b>FY2012</b>	596,774	2,080,828	775,362	3,073,818
<b>FY2013</b>	609,640	2,690,469	1,146,750	4,220,568
<b>FY2014</b>	623,059	3,313,528	1,200,879	5,421,447
<b>FY2015</b>	637,299	3,950,827	1,297,694	6,719,140
<b>FY2016</b>	652,361	4,603,187	1,321,612	8,040,753
<b>FY2017 - Six Months Ending 12/31/16</b>	334,122	4,937,309	515,061	8,555,814
<b>Cumulative through 12/31/16</b>	<b>4,937,309</b>		<b>8,555,814</b>	
<b>FY2017 - Six Months Ending 6/30/17</b>	334,122	5,271,431		
<b>FY2018</b>	684,949	5,956,380		
<b>FY2019</b>	605,117	6,561,497		
<b>FY2020</b>	710,041	7,271,538		
<b>FY2021</b>	710,434	7,981,972		
<b>FY2022</b>	699,418	8,681,390		
<b>FY2023</b>	686,782	9,368,172		
<b>FY2024</b>	671,372	10,039,544		
<b>FY2025</b>	651,414	10,690,959		
<b>FY2026</b>	630,888	11,321,846		
<b>FY2027</b>	607,900	11,929,746		
<b>FY2028</b>	582,392	12,512,138		
<b>FY2029</b>	554,257	13,066,395		
<b>FY2030</b>	432,154	13,498,548		
<b>FY2031</b>	298,202	13,796,750		
<b>FY2032</b>	150,869	13,947,620		
<b>Total</b>	\$ 13,947,620		\$ 8,555,814	
<b>Cumulative Additional Savings through 12/31/16</b>	3,618,505			
<b>Projected Savings</b>	<u>\$ 17,566,125</u>			
<b>Projected Savings %</b>	25.94%			
			<b>Revised Savings</b>	