Dear Technical Review Committee member,

Your willingness to participate as a member of the Technical Review Committee, in support of the Southern Nevada Water Authority's (SNWA) Integrated Resource Planning Advisory Committee (IRPAC) planning process, is sincerely appreciated. SNWA staff and technical advisors are aware of your professional commitments and are working to ensure this technical review of the SNWA rate model and underlying assumptions is made as efficient as possible.

By way of background, the SNWA Board of Directors appointed 21 community stakeholders to participate in a public advisory committee in May 2012. The committee, along with ratepayers appointed by SNWA member agencies, is tasked with developing water rate recommendations related to the SNWA's future funding needs for SNWA Board consideration. The committee has been meeting for nearly a year and has reached consensus as to the method by which future SNWA water rates will be structured, along with other related matters.

The Technical Review Committee was established by the SNWA Board to provide for additional assurance that the rate model – which is central to the work that is being performed by IRPAC – is founded upon reasonable and sound assumptions. The Technical Review Committee's work is limited to a review of the assumptions used in the modeling process, and does not include a review of the direction or decisions of the IRPAC group as the parameters of the rate model have largely been finalized by IRPAC. What remains is a review of specific model drivers that may affect the actual calculation of the water rates, within the confines of the model adopted by IRPAC, in the coming years.

As you conduct your review of the model's assumptions and data, please reach out to us with questions or requests for more information. Any comments or suggestions regarding the assumptions provided in advance of our meeting in late July will be aggregated for discussion and consideration at our meeting, at which time we would finalize the committee's positions. Providing comments in advance of the meeting may help insure that we can conclude the committee's work before the end the month.

For more information, please review the attached materials, which provide more detail about the model assumptions for review and analysis. Also included is a timeline of important dates related to both the Technical Review Committee and the larger Integrated Resource Planning Advisory Committee.

Again, please do not hesitate to contact me at 702-733-7223 with any comments or questions.

Sincerely,

Guy Hobbs
Hobbs, Ong and Associates

Southern Nevada Water Authority
Integrated Resource Planning Advisory Committee - *Technical Review Committee*
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SOUTHERN NEVADA WATER AUTHORITY
Integrated Resource Planning Advisory Committee
Technical Review Committee Materials

BACKGROUND

In April 2012, the SNWA Board of Directors approved an integrated resource planning process to evaluate current and long-term Authority initiatives including long-term funding strategies to pay for critical infrastructure needed to supply Southern Nevada with a reliable water supply. To support this effort, the Board established a Citizens Advisory Committee to discuss these issues comprehensively. The 21-member committee has been meeting for nearly a year along with ratepayers appointed by SNWA member agencies and has reached consensus as to the method by which future SNWA water rates will be structured, along with other related matters. The IRPAC objective is to forward to the SNWA Board for consideration a rate structure that is not unduly burdensome or disproportionate, and that any differences in rate structure between customer classes are not arbitrary, unreasonable or unjustified.

In April 2013, the SNWA Board established a Technical Review Committee to review and verify the rate model data and output used by IRPAC in developing their recommendations. At the June 24, 2013 IRPAC meeting, the committee nominated five individuals to be considered for appointment by the SNWA Board. The five-member committee was subsequently appointed by the SNWA Board and includes the following individuals:

- Mike Alastuey
- Paula Eylar-Lauzon
- Marcus Conklin
- Bob Kasner
- John Restrepo

Bob Kasner and John Restrepo are also members of the IRPAC.

Technical Review Committee members will participate in at least one meeting scheduled for July 23, 2013. These meetings will be open to the public and posted in compliance with Nevada's Open Meeting Laws.

TIMELINE

Given the schedule that has been set forth by IRPAC and the SNWA, the Technical Review Committee will use the month of July to conduct and complete their analysis. The findings and recommendations of the committee will be presented to IRPAC on or before their regular meeting on August 7, 2013. Assuming that IRPAC concurs with the recommendations of the Technical Review Committee, the recommendations will be incorporated into the final version of the rate model prior to IRPAC's rate recommendations going before the SNWA Board for consideration in September.

ANALYSIS
The Technical Review Committee's scope is limited to a review of the following model assumptions:

- Growth rate for sales tax
- Growth rate for connection charge revenue
- Growth rate for operating expenses
- Growth rate for water sales
- Data related to the debt service schedule
- Data related to price elasticity assumptions

Committee members will be provided with a copy of the current rate model (which incorporates assumptions about each of the drivers listed above) for discussion and review. A more detailed explanation regarding the assumptions that have been used thus far in the modeling process are outlined later in these materials along with some data regarding each driver that may assist you with developing a sense of the reasonableness of these assumptions.

In addition to validating the above model assumptions, the Technical Review Committee is also being asked to provide comments regarding the rate model output and illustrations of impacts upon customer bills resulting from the changes to the rate structure. This phase of the rate-setting process becomes the true measure of transparency of the process, as this is the step whereby projected rate impacts become available for stakeholder review. This aspect of the Technical Review Committee charge is discussed in greater detail later in this summary.

SNWA REVENUES
The SNWA, as the wholesale water agency for Southern Nevada, generates its revenues within its New Expansion Debt Service Fund from a mix of fixed and variable charges. These include the Regional Connection Charge ("Connection Charge"), Reliability Surcharge, Infrastructure Charge, Sales Tax and Regional Commodity Charge ("Commodity Charge").

- The Commodity Charge is a volumetric, or variable, charge that is charged based upon the amount of water that is delivered or sold.
- The Regional Connection Charge is a one-time charge that is levied when new users connect to the water delivery system.
- The Infrastructure Charge is a fixed-fee assessed based on the size of the customer's meter.
- The Reliability Surcharge is a percentage charge that is applied to water bills.
- Per a ballot question approved by the voters, the SNWA receives a portion of a .25 percent sales tax levy to help fund its capital program.

Approximately 25 percent of the revenue received by the SNWA is characterized as fixed revenue, while the remaining 75 percent is considered variable revenue.

On the expenditure side, costs are dominated by fixed expenses – primarily debt service. For fiscal year 2014, it is estimated that the SNWA's funding need for its New Expansion Debt Service Fund will be approximately $170 million; $137 million of which is for debt service on outstanding debt. It is within the New Expansion Debt Service Fund that the Connection Charge, Reliability Surcharge, Sales Tax, and Commodity Charge revenues are receipted, and from which a vast majority of the debt of the SNWA

(that debt associated with system improvements and expansion) is paid. It is the activity of this fund that has been modeled in support of the water rate process undertaken by IRPAC.

The funding gap being addressed by IRPAC is the result of two primary factors. First, Connection Charge revenue has been dramatically reduced since the onset of the housing crisis and recession. In fiscal year 2006, the Connection Charge produced $188 million in revenue. For fiscal year 2014, it is anticipated that this source will produce roughly $13 million. This dramatic drop in the revenue source has clearly impacted the revenue available to pay current obligations. It should be noted here that the Connection Charge was put into place several years ago in an effort to provide a means for growth to help pay for growth (as manifested by increased costs to expand the water delivery system to accommodate growth). For many years, revenue from the Connection Charge provided a significant source of revenue to pay debt service. However, as noted above, these revenues are (and for the foreseeable future will be) insufficient to make a significant contribution to retiring debt.

Second, the combined debt service for the SNWA – currently at a level of $137 million in fiscal year 2014 – will increase to $238.5 million by fiscal year 2017. Debt service will remain fairly constant for several years beyond fiscal year 2017. Thus, the challenge that has been before IRPAC has been to identify a blend of revenue sources that will fill the gap created by the reduction in Connection Charge revenue and the increase in the debt service schedule.

Exhibit A is a copy of the IRPAC rate model for review by Technical Review Committee members, followed by an illustration of the combined debt service (Exhibit B).

Assumptions have been made to account for the growth in the various revenue sources and operating expenses. It is for these line items that we are seeking the input of the Technical Review Committee with regard to the growth rates that have been assumed in the model. Other elements of the model are fixed and constant. For example, the debt service is contractually obligated and, thus, is known. Likewise, the ending fund balance has been set to orient toward and never fall below $280 million. This value represents the equivalent of one year of principal and interest on outstanding debt, and constitutes the debt reserves for SNWA debt service. Finally, the Infrastructure Surcharge is a product of a fixed charge multiplied by the number of service and fire meters connected to the water system and is, thus, a calculated value driven by the assumption regarding growth.

MODEL ASSUMPTIONS

This section discusses the various assumptions that have been used to date for each of the line items that are a part of your review. These will be reviewed in an order that reflects the relative size of each line item as it relates to the total funding gap.

<u>Sales Tax</u> – As is shown on the model output, revenue from the portion of the .25 percent Sales Tax received by the SNWA amounts to $47.95 million for fiscal year 2014. On a going forward basis, we have assumed a growth rate of four percent for Sales Tax. We have attached for your reference a summary of taxable sales in Clark County over the past ten years (Exhibit C). The SNWA's Sales Tax revenue is derived from a countywide levy of the .25 percent tax. Thus, the history of taxable sales should give you a good sense as to the performance of this revenue source in recent years.

Please note that month to month comparisons of taxable sales in this versus the prior year will tend to reflect higher percentages than the four percent that we have assumed. This is where it is important to bear in mind that our projection horizon for the revenues is through fiscal year 2021. We would expect

the current percentage growth rates over the prior year to be higher, while we also expect the percentage growth rates to increase at a decreasing rate. An alternative to using the constant four percent growth rate over the eight year projection horizon would be to model different growth rates for each year, reflecting higher near-term growth rates and lower growth rates in the out years. We chose to use a constant growth rate as a matter of simplicity.

Regional Commodity Charge - Referring again to the rate model, the amount of revenue budgeted for fiscal year 2014 from the Regional Commodity Charge is $39.3 million. This source of revenue is a product of the amount of water sold by the SNWA through its purveyors, multiplied by the Regional Commodity Charge. Exhibit D provides a summary of actual and projected water sales, along with the commodity rate that was in effect for each of the years shown. The water sales that are shown through fiscal year 2012 are actual water sales. The estimates used in the rate model through 2017 have been provided by the SNWA, based upon their water demand forecasting process. Beyond 2017, water sales are assumed in the rate model to grow at the rate of forecasted population growth. Exhibit E provides a comparison of population growth rates as forecast by UNLV's Center for Business and Economic Research, the Nevada State Demographer, and by Applied Analysis. Population forecasts are also used as a proxy growth rate for the Regional Connection Charge, discussed below.

Regional Connection Charge - Exhibit F provides a summary of the revenue from the Regional Connection Charge over the past ten years. This revenue is a product of the charges for connecting new users to the water system multiplied by the number of new connections each year. This revenue source is highly dependent upon growth and, as such, the level of revenue from year to year will vary as new connections to the water delivery system are made. The revenue is highly volatile, as demonstrated by collections of nearly $188.5 million in fiscal year 2006, and a low of $5.3 million recorded just four years later in fiscal year 2010. The budget filed for fiscal year 2014 anticipates revenue from the Regional Connection Charge of $13.1 million. For fiscal year 2015 and beyond, the rate model uses forecasted population growth as a proxy for growth in Regional Connection Charge revenue. The rate model does not include any increase in the Connection Charge. For fiscal years 2015 through 2021, the assumed population growth rate in the model averages 1.14 percent.

Operating Expenses – Exhibit G provides a ten-year history of the operating expenses in the New Expansion Debt Service Fund. The rate model assumes that operating expenses will grow at a rate of three percent annually beyond the $32.7 million budgeted for fiscal year 2014. It should be added that variations in the levels of operating expenses in the historical values are largely attributable to the level of charges to the New Expansion Debt Service Fund made on behalf of other SNWA divisions in support of various capital projects. Further, there have been reductions in staffing levels within SNWA over the past few fiscal years that may make a simple trend analysis challenging for this line item.

Other Revenue Sources – As noted in the background section, revenue from the Reliability Surcharge is a product of a fixed percentage applied at the bottom line of the water bill. Since there are no changes to the Reliability Surcharge rates anticipated, this revenue source will be a simple function of the combination of other rates and charges that make up the aggregate water bill. Likewise, the Infrastructure Surcharge is a product of the number of service and fire meters per size category multiplied by the schedule of rates that are being generated by the rate model. The number of service and fire meters has been held constant on a going forward basis for all meter categories other than small residential (5/8" and ¾" meters). For the small residential meters, the SNWA supplied a projection for the growth in annual meters prepared by Applied Analysis.

The projected growth in the number of small residential meters is shown in the table below:

Year	New Meters
2013	2,516
2014	3,479
2015	4,077
2016	5,096
2017	5,964
2018	5,964
2019	5,964
2020	7,093
2021	8,794

Other revenue sources, such as interest earnings, federal grants and revenue from other agencies comprise a comparatively small part of the overall revenue mix (generally less than two percent) of the New Expansion Debt Service Fund. Each source has been projected using historical data particular to each source.

Combined Debt Service Costs – Referring again to Exhibit B, note the illustration of the combined debt service schedule for the New Expansion Debt Service Fund. While this schedule is not a matter of projection (since these are known obligations), the Technical Review Committee may wish to consider providing feedback with regard to the assumption that no additional debt will be incurred through fiscal year 2021. At this time, no additional debt issuances are contemplated by the SNWA. However, it may not be unreasonable to assume that, as an infrastructure-oriented agency, there will be recurring repair and replacement expenses. On one hand, if actual revenue performance is stronger than what is anticipated in the rate model it may be possible to fund repair and replacement through the use of existing cash. On the other hand, if revenues perform at the forecasted levels, additional debt may be required.

Price Elasticity – In 2006, the Las Vegas Valley Water District contracted with Red Oak Consulting to prepare the *Water Price Elasticity Report* (the "report") for its service territory. The report concluded that the range of price elasticity for the Las Vegas Valley Water District market was from a low of -.23 to a high of -.50, with a best estimate of -.34. The Red Oak report did not distinguish between the type of charge being measured for price elasticity. The rate model uses the elasticity factor of -.34 for the Commodity Charge, and a discounted factor of -.15 for the Infrastructure Surcharge. Given that the rate methodology that is preferred by IRPAC applies 50 percent of the funding burden to the Commodity Charge and the remaining 50 percent to the fixed Infrastructure Surcharge, the assumed blended elasticity factor in the rate model approximates -24.5.

Model Output and Impact Illustrations

Upon finalization of the assumptions that are to be used in the rate model, the final version of the rate model can be prepared. The final rate model will then yield the changes to the Commodity Rate and the Infrastructure Surcharge. At this point, illustrations of projected cost impacts upon various classes of customers can be prepared. This is an essential part of the process, both from a transparency and full-disclosure perspective.

A template for illustrating these impacts has been prepared. While past efforts have focused upon showing bill impacts at the median level for each customer classification, the approach to be used for this rate-setting process has been designed to be more informative. Instead of just showing the median impact for each customer class, the approach being used includes a calculation of the median for the middle 80 percent of users within a class and the median for the highest ten percent of users. The median for the users in the bottom ten percent is not being calculated, as it is assumed that their respective cost impacts are significantly lower than those of the remaining 90 percent. This revised approach should provide for a better illustration of both median cost impacts and impacts at the upper end of the cost spectrum. Efforts will also be made to identify the customers impacted at the highest level within each user class, although these may also be considered outliers with user characteristics that are well beyond the normal or average user.

A sample of the model output that will illustrate the above approach is provided as Exhibit H. As the rate model is finalized, this illustration will need to be re-run to reflect any changes to the rate model assumptions. Updated versions of the impact illustrations will be provided to you as they are prepared.

Despite the final output values, one of the charges of the Technical Review Committee is to review the approach that is being used to illustrate the cost impacts and to provide any comments or suggestions as to how the output may be improved to meet the SNWA's objective of enhanced transparency.

Exhibit A

Southern Nevada Water Authority - New Expansion Debt Service Fund
Projected Funding Requirements **Version 7/3/2013**

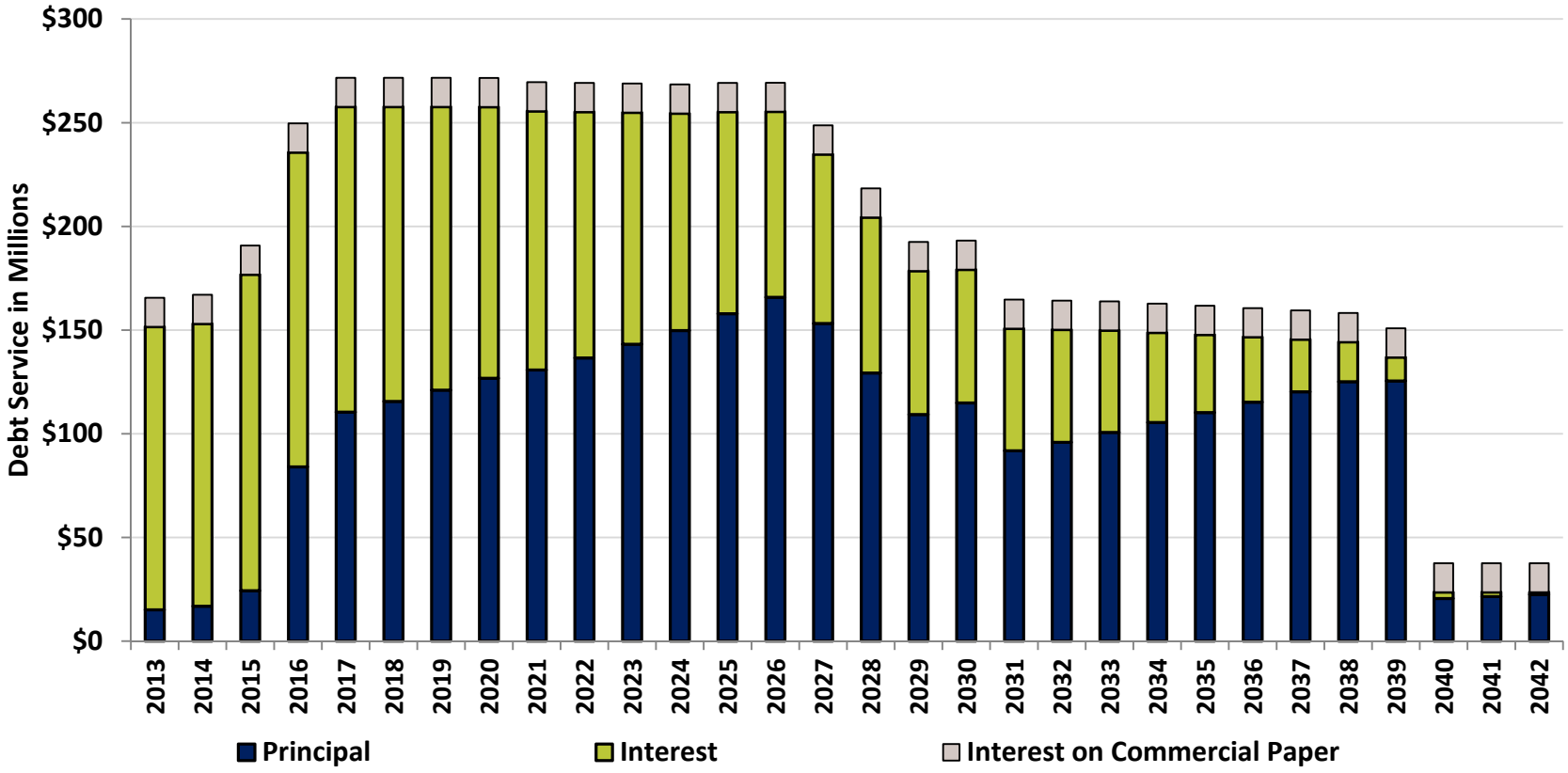
(in Thousands)

Fiscal Year	**2012** Actual	**2013** Estimated	**2014** Budgeted	**2015** Projected	**2016** Projected	**2017** Projected	**2018** Projected	**2019** Projected	**2020** Projected	**2021** Projected
Operating Expenses										
Total Operating Expenses	($11,607)	($28,500)	($32,754)	($36,836)	($37,918)	($39,031)	($40,174)	($41,340)	($42,540)	($43,763)
Total Debt Service	(137,397)	(132,847)	(137,003)	(164,684)	(216,733)	(238,512)	(238,406)	(238,322)	(238,229)	(236,502)
Total Funding Requirement	($149,004)	($161,346)	($169,756)	($201,521)	($254,651)	($277,542)	($278,581)	($279,662)	($280,769)	($280,264)
Expected Revenues (Base case)										
Infrastructure Surcharge	$16,193	$77,900	$76,823	$78,677	$78,982	$79,340	$79,698	$80,056	$80,481	$81,009
Regional Connection Charge	13,791	13,180	13,142	16,727	17,351	19,941	20,693	20,098	19,104	18,590
Regional Commodity Charge	40,666	38,150	39,258	40,853	41,087	41,419	42,136	42,845	43,530	44,207
Reliability Surcharge	4,598	4,340	4,783	4,408	4,433	4,468	4,543	4,618	4,690	4,762
Sales Tax	45,131	45,300	47,953	49,871	51,866	53,941	56,098	58,342	60,676	63,103
Other Revenues	(669)	3,095	1,607	2,300	2,300	2,300	2,300	2,300	2,300	2,300
Boulder City share of common cost		547	577	597	615	633	652	672	692	713
Interest Income	478	317	660	3,142	2,842	2,199	1,478	773		
Total Expected Revenue	$120,188	$182,828	$184,804	$196,574	$199,475	$204,240	$207,599	$209,704	$211,473	$214,684
Total Funding Gap	($28,816)	$21,482	$15,047	($4,946)	($55,176)	($73,302)	($70,982)	($69,959)	($69,296)	($65,580)
Beginning Fund Balance (Without New Revenues)	$308,990	$280,174	$301,656	$316,703	$311,757	$256,581	$183,279	$112,297	$42,338	($26,957)
Ending Fund Balance (Without New Revenues)	$280,174	$301,656	$316,703	$311,757	$256,581	$183,279	$112,297	$42,338	($26,957)	($92,537)
New Commodity Charge Revenue			$2,696	$9,407	$17,419	$26,064	$31,127	$31,651	$32,157	$32,657
Implicit Add. Reliability Surcharge Revenue			30	105	194	291	347	353	359	364
New Infrastructure Revenue			3,053	9,691	17,480	26,679	31,824	32,102	32,433	32,844
Estimated Price Elasticity			(136)	(458)	(843)	(1,278)	(1,535)	(1,561)	(1,586)	(1,611)
Implicit Add. Interest Earnings			6	151	419	855	1,434	2,073	2,804	2,796
Ending Fund Balance (With New Revenues)			$322,352	$336,303	$315,797	$295,106	$287,322	$281,982	$278,854	$280,324

Assumptions:
2013 numbers reflect SNWA's year end estimates based on first 9 months of fiscal year. 2014 numbers reflect SNWA's adopted 2014 budget.
Projections assume a 3% increase of operating expense. Operating expenses also assume cost for recharge of groundwater basin of 10,000 Acre-Feet from 2015 on.
Debt service costs are based on existing debt and 3.5% interest cost for the Authority's commercial paper program.
Regional Connection Charges assume that new connections refleflect population growth, with no change in connection fees.
Commodity Charge Revenue is based on SNWA water sales projections through 2017 and then grows with population.
Sale Tax revenues are assumed to grow at 4%.
Infrastructure Surcharge revenues are based on the 2012 adopted rates, net of fire meter credit using the meter count as of April 2013.
Water Sales (acre-feet) are based on SNWA forecast through 2017 and then grow at same rate as population.

EXHIBIT B

Southern Nevada Water Authority
Fiscal Year Debt Services



Note: (1) July 1 payments are included in prior fiscal year - effective cash outflow
(2) Debt Service shown includes debt service dedicated to the New Expansion Debt Service Fund as well as the Whole Sale Delivery Operations Fund.
(3) Debt service does not include the 35% interest subsidy from the federal government for the Authority's Build America Bonds

EXHIBIT C

Clark County, Nevada
Monthly Taxable Sales

Fiscal Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
July	$2,129,568,100	$2,502,676,833	$2,803,223,044	$2,988,756,161	$2,949,041,209	$2,804,710,224	$2,226,329,429	$2,348,467,652	$2,409,795,520	$2,539,432,970
August	2,235,477,282	2,526,404,918	2,836,104,800	3,019,621,174	2,863,299,942	3,028,823,555	2,239,397,922	2,324,474,175	2,405,676,010	2,599,638,330
September	2,241,320,683	2,687,553,644	2,965,840,319	3,067,621,728	3,072,639,757	2,810,093,816	2,345,206,333	2,324,288,829	2,568,457,773	2,693,558,415
October	2,207,086,111	2,616,671,511	2,817,680,674	2,797,827,872	2,978,696,314	2,775,719,539	2,249,382,524	2,308,689,753	2,524,421,518	2,656,143,264
November	2,097,664,447	2,531,344,140	2,807,337,050	2,779,541,641	2,849,511,000	2,527,775,823	2,257,786,914	2,277,517,915	2,474,324,762	2,602,152,989
December	2,600,606,846	3,139,381,372	3,434,358,989	3,440,233,486	3,486,276,330	2,904,092,942	2,658,794,916	2,732,096,715	2,991,533,872	3,171,185,145
January	2,157,044,281	2,445,576,990	2,732,989,954	2,787,632,414	2,669,668,978	2,317,513,593	2,124,884,724	2,252,455,357	2,331,731,702	2,522,777,350
February	2,136,964,660	2,451,238,736	2,742,463,284	2,845,222,374	2,757,376,322	2,216,004,004	2,106,459,995	2,173,862,905	2,416,156,106	2,414,452,310
March	2,612,777,641	3,066,372,035	3,243,537,998	3,340,636,408	3,226,099,420	2,758,267,538	2,498,872,118	2,738,038,542	2,791,427,988	2,982,307,687
April	2,390,258,612	2,812,176,545	2,950,035,735	2,908,759,432	2,915,083,192	2,415,844,521	2,499,247,898	2,477,489,748	2,598,232,945	2,695,227,091
May	2,443,621,688	2,840,978,246	3,168,291,638	3,047,736,794	3,031,255,238	2,368,769,090	2,336,068,995	2,467,047,138	2,713,778,331	
June	2,604,929,990	3,006,853,961	3,243,187,815	3,238,798,674	3,131,426,094	2,450,627,281	2,426,856,596	2,622,292,335	2,855,344,030	
	$27,857,320,341	**$32,627,228,931**	**$35,745,051,300**	**$36,262,388,158**	**$35,930,373,796**	**$31,378,241,926**	**$27,969,288,364**	**$29,046,721,064**	**$31,080,880,557**	**$26,876,875,551**
% change from prior year	--	17.1%	9.6%	1.4%	-0.9%	-12.7%	-10.9%	3.9%	7.0%	5.4% (1)

(1) There has been a growth of 5.4% when comparing July through April Taxable Sales of FY 2011-12 in the amount of $25,511.758,196 to the taxable sales for the same period in FY 2012-13.

SOURCE: Nevada Department of Taxation, Monthly Taxable Sales Reports

EXHIBIT D

Southern Nevada Water Authority
Regional Commodity Charge Collections

Fiscal Year	Collections	Gallons	Applicable Commodity Charge
2003-04	$7,103,502	142,070,032	$0.05/1,000 gallons (July 1, 1997 to Oct. 31, 2005)
2004-05	$6,845,803	136,916,065	$0.05/1,000 gallons (July 1, 1997 to Oct. 31, 2005)
2005-06	$10,773,671	144,362,118	$0.05/1,000 gallons (July 1, 1997 to Oct. 31, 2005)
2006-07	$15,050,349	150,503,494	$0.05/1,000 gallons (July 1, 1997 to Oct. 31, 2005)
2007-08	$14,799,831	147,998,314	$0.10/1,000 gallons (Nov. 1, 2005 to December 31, 2009)
2008-09	$14,483,269	144,832,688	$0.10/1,000 gallons (Nov. 1, 2005 to December 31, 2009)
2009-10	$18,434,662	136,944,401	$0.10/1,000 gallons (Nov. 1, 2005 to December 31, 2009)
2010-11	$32,853,776	139,322,923	$0.20/1,000 gallons (Jan. 1, 2010 to December 31, 2010)
2011-12	$40,666,192	135,418,419	$0.30/1,000 gallons (Jan. 1, 2011 to June 30, 2013)
2012-13(1)	$36,686,223	122,165,124	$0.30/1,000 gallons (Jan. 1, 2011 to June 30, 2013)
Total	**$240,715,343**	**2,260,894,861**	

(1) 11 months through May 2013

SOURCE: SNWA

EXHIBIT E

Population Projections
Clark County, Nevada

Source: UNLV

Year	Population Forecast	Growth in Population Forecast	(Percent)
2011	1,966,630	15,361	0.80%
2012	1,982,000	15,370	0.80%
2013	2,002,000	20,000	1.00%
2014	2,057,000	55,000	2.70%
2015	2,112,000	55,000	2.70%
2016	2,167,000	55,000	2.60%
2017	2,220,000	53,000	2.40%
2018	2,274,000	54,000	2.40%
2019	2,321,000	47,000	2.10%
2020	2,365,000	44,000	1.90%
2021	2,405,000	40,000	1.70%
2022	2,443,000	38,000	1.60%
2023	2,478,000	35,000	1.40%
2024	2,512,000	34,000	1.40%
2025	2,545,000	33,000	1.30%
2026	2,576,000	31,000	1.20%
2027	2,608,000	32,000	1.20%
2028	2,638,000	30,000	1.20%
2029	2,669,000	31,000	1.20%
2030	2,699,000	30,000	1.10%
2031	2,729,000	30,000	1.10%
2032	2,759,000	30,000	1.10%
2033	2,789,000	30,000	1.10%
2034	2,818,000	29,000	1.00%
2035	2,848,000	30,000	1.10%
2036	2,879,000	31,000	1.10%
2037	2,909,000	30,000	1.00%
2038	2,939,000	30,000	1.00%
2039	2,969,000	30,000	1.00%
2040	2,999,000	30,000	1.00%
2041	3,029,000	30,000	1.00%
2042	3,059,000	30,000	1.00%
2043	3,089,000	30,000	1.00%
2044	3,119,000	30,000	1.00%
2045	3,149,000	30,000	1.00%
2046	3,178,000	29,000	0.90%
2047	3,207,000	29,000	0.90%
2048	3,235,000	28,000	0.90%
2049	3,264,000	29,000	0.90%
2050	3,291,000	27,000	0.80%

Source: NV Demographer

Year	Population Forecast	Growth in Population Forecast	(Percent)
2011	1,967,722		
2012	1,988,492	20,770	1.10%
2013	2,012,956	24,464	1.20%
2014	2,039,262	26,306	1.30%
2015	2,066,849	27,587	1.40%
2016	2,095,322	28,473	1.40%
2017	2,124,113	28,791	1.40%
2018	2,153,559	29,446	1.40%
2019	2,181,069	27,510	1.30%
2020	2,206,753	25,684	1.20%
2021	2,230,919	24,166	1.10%
2022	2,253,649	22,730	1.00%
2023	2,275,273	21,624	1.00%
2024	2,296,226	20,953	0.90%
2025	2,316,503	20,277	0.90%
2026	2,336,321	19,818	0.90%
2027	2,355,911	19,590	0.80%
2028	2,375,545	19,634	0.80%
2029	2,395,571	20,026	0.80%
2030	2,415,726	20,155	0.80%
2031	2,436,276	20,550	0.90%

Source: Applied Analysis

Year	Population Forecast	Growth in Population Forecast	(Percent)
2011 [a]	1,966,630		
2012 [a]	2,008,654	42,024	2.14%
2013	2,026,732	18,078	0.90%
2014	2,049,026	22,294	1.10%
2015	2,077,713	28,686	1.40%
2016	2,107,887	30,175	1.45%
2017	2,143,068	35,181	1.67%
2018	2,180,186	37,118	1.73%
2019	2,216,860	36,674	1.68%
2020	2,252,307	35,448	1.60%
2021	2,287,353	35,046	1.56%
2022	2,320,271	32,917	1.44%
2023	2,351,014	30,744	1.33%
2024	2,379,109	28,095	1.20%
2025	2,405,969	26,860	1.13%
2026	2,430,601	24,632	1.02%
2027	2,454,056	23,455	0.97%
2028	2,476,508	22,451	0.91%
2029	2,497,372	20,865	0.84%
2030	2,517,931	20,558	0.82%
2031	2,538,423	20,492	0.81%
2032	2,558,882	20,460	0.81%
2033	2,579,353	20,471	0.80%
2034	2,599,988	20,635	0.80%
2035	2,620,788	20,800	0.80%
2036	2,641,754	20,966	0.80%
2037	2,662,888	21,134	0.80%
2038	2,684,191	21,303	0.80%
2039	2,705,665	21,474	0.80%
2040	2,727,310	21,645	0.80%
2041	2,749,129	21,818	0.80%
2042	2,771,122	21,993	0.80%
2043	2,793,291	22,169	0.80%
2044	2,815,637	22,346	0.80%
2045	2,838,162	22,525	0.80%
2046	2,860,868	22,705	0.80%
2047	2,883,754	22,887	0.80%
2048	2,906,824	23,070	0.80%
2049	2,930,079	23,255	0.80%
2050	2,953,520	23,441	0.80%

[a]: 2011 and 2012 actuals per Clark County Comprehensive Planning.

EXHIBIT F

Southern Nevada Water Authority
Regional Connection Charge (1)

Fiscal Year	Amount	% Change
2002-03	$118,537,371	--
2003-04	$153,994,053	29.9%
2004-05	177,493,165	15.3%
2005-06	188,454,011	6.2%
2006-07	119,561,208	-36.6%
2007-08	57,318,104	-52.1%
2008-09	26,789,155	-53.3%
2009-10	5,309,547	-80.2%
2010-11	6,602,728	24.4%
2011-12	13,892,856	110.4%
2012-13 (Estimated)	13,180,000	-5.1%
2013-14 (Budget)	13,142,254	-0.3%

(1) Fiscal years 2006-07 through 2011-12 have been adjusted by a refund contingency – and may not reflect total amount collected.

SOURCE: Southern Nevada Water Authority FY 2011-12 CAFR, FY 2011-12 Final Budget

EXHIBIT G

Southern Nevada Water Authority
New Expansion Debt Service Fund

Fiscal Year	Actual 2003-04	Actual 2004-05	Actual 2005-06	Actual 2006-07	Actual 2007-08	Actual 2008-09	Actual 2009-10	Actual 2010-11	Actual 2011-12	Estimated 2012-13	Budget 2013-14
Uses of Funds											
Other Operating Expenses	$116,092,079	$74,245,090	$203,572,230	$137,436,901	$123,660,220	$66,741,261	$17,247,498	$12,838,325	$13,714,862	$27,961,203	$32,753,593
Debt Service	103,476,485	109,165,346	124,496,644	120,858,070	135,321,973	149,245,308	149,993,442	144,065,661	137,396,943	132,189,123	137,002,809
Total Uses of Funds	$219,568,564	$183,410,436	$328,068,874	$258,294,971	$258,982,193	$215,986,569	$167,240,940	$156,903,986	$151,111,805	$160,150,326	$169,756,402

SOURCE: SNWA
NOTE: Beginning with fiscal 2012/2013, the New Expansion Debt Service fund began paying all capitalized labor except the amount generated by the Engineering department.

Estimated Customer Water Bills

Customer		2013	2014	2015	2016	2017	2018	2019	2020	2021
SINGLE FAMILY RESIDENTIAL	Median of the middle 80% - 5/8"	$34.34	$35.51	$37.01	$38.64	$40.54	$40.54	$40.54	$40.54	$40.54
SINGLE FAMILY RESIDENTIAL	Median of the top 10% - 5/8"	$107.47	$109.36	$111.93	$114.65	$117.81	$117.81	$117.81	$117.81	$117.81
SINGLE FAMILY RESIDENTIAL	Median of the middle 80% - 1"	$123.36	$126.22	$130.01	$134.06	$138.80	$138.80	$138.80	$138.80	$138.80
SINGLE FAMILY RESIDENTIAL	Median of the top 10% - 1"	$486.77	$492.88	$501.53	$510.46	$520.88	$520.88	$520.88	$520.88	$520.88
SINGLE FAMILY RESIDENTIAL	Median of the middle 80% - 1.5"	$305.93	$312.38	$321.04	$330.23	$340.95	$340.95	$340.95	$340.95	$340.95
SINGLE FAMILY RESIDENTIAL	Median of the top 10% - 1.5"	$937.05	$949.72	$967.70	$986.22	$1,007.81	$1,007.81	$1,007.81	$1,007.81	$1,007.81
MULTI FAMILY RESIDENTIAL	Median of the middle 80%	$47.94	$49.27	$51.00	$52.87	$55.06	$55.06	$55.06	$55.06	$55.06
MULTI FAMILY RESIDENTIAL	Median of the top 10%	$322.72	$326.38	$331.60	$336.96	$343.21	$343.21	$343.21	$343.21	$343.21
GOLF COURSE	Southern Highlands	$114,343.64	$115,750.25	$117,838.85	$119,938.69	$122,388.38	$122,388.38	$122,388.38	$122,388.38	$122,388.38
SCHOOL	Palo Verde High School	$11,485.52	$11,640.96	$11,864.10	$12,092.54	$12,358.97	$12,358.97	$12,358.97	$12,358.97	$12,358.97
MALL	Fashion Show	$25,364.60	$25,639.82	$26,043.04	$26,451.35	$26,927.63	$26,927.63	$26,927.63	$26,927.63	$26,927.63
CAR WASH	Terrible Herbst Buffalo/Sahara	$1,392.69	$1,413.48	$1,443.03	$1,473.44	$1,508.92	$1,508.92	$1,508.92	$1,508.92	$1,508.92
RELIGIOUS	Lakes Lutheran Church	$652.83	$658.73	$665.97	$674.05	$683.49	$683.49	$683.49	$683.49	$683.49
SHADE TREE	SHADE TREE	$1,733.20	$1,758.28	$1,791.05	$1,826.38	$1,867.59	$1,867.59	$1,867.59	$1,867.59	$1,867.59
COMMERCIAL LAUNDRY	Brady Linen	$66,142.34	$66,980.86	$68,210.91	$69,455.59	$70,907.58	$70,907.58	$70,907.58	$70,907.58	$70,907.58
HOA / COMMON AREA	Summerlin HOA 10200 Blk Trail Hollow Dr.	$5,214.27	$5,268.47	$5,348.15	$5,428.68	$5,522.64	$5,522.64	$5,522.64	$5,522.64	$5,522.64
DAYCARE	KinderCare	$412.29	$419.84	$430.16	$441.01	$453.66	$453.66	$453.66	$453.66	$453.66
HOSPITAL (NEW)	St.Rose - San Martin	$11,969.44	$12,124.35	$12,345.41	$12,572.42	$12,837.27	$12,837.27	$12,837.27	$12,837.27	$12,837.27
HOSPITAL (OLD)	Sunrise	$20,340.25	$20,619.96	$21,018.96	$21,428.83	$21,906.87	$21,906.87	$21,906.87	$21,906.87	$21,906.87
STORAGE FACILITY	Storage One	$903.57	$907.86	$913.76	$919.94	$927.15	$927.15	$927.15	$927.15	$927.15
HIGH-RISE CONDOS	Queens Ridge	$8,618.32	$8,775.43	$8,974.12	$9,192.32	$9,446.69	$9,446.69	$9,446.69	$9,446.69	$9,446.69
HIGH-RISE CONDOS	Ogden Lux	$4,206.23	$4,224.89	$4,246.47	$4,271.45	$4,300.53	$4,300.53	$4,300.53	$4,300.53	$4,300.53
STANDALONE RESTAURANT - LARGE	Lawrys	$1,946.79	$1,968.68	$1,999.90	$2,031.97	$2,069.39	$2,069.39	$2,069.39	$2,069.39	$2,069.39
STANDALONE RESTAURANT - SMALL	Raising Canes	$381.01	$388.20	$397.96	$408.26	$420.26	$420.26	$420.26	$420.26	$420.26
PUBLIC BUILDING	Clark Co. Regional Justice Center	$8,550.32	$8,684.21	$8,867.96	$9,060.72	$9,285.50	$9,285.50	$9,285.50	$9,285.50	$9,285.50
CASINO - LARGE	Bellagio	$158,369.01	$159,937.51	$162,270.16	$164,613.41	$167,347.09	$167,347.09	$167,347.09	$167,347.09	$167,347.09
CASINO - DOWNTOWN	El Cortez	$11,748.15	$11,911.32	$12,139.96	$12,377.10	$12,653.70	$12,653.70	$12,653.70	$12,653.70	$12,653.70
CASINO - LOCALS	Suncoast	$36,880.28	$37,303.74	$37,928.91	$38,559.37	$39,294.83	$39,294.83	$39,294.83	$39,294.83	$39,294.83
MUNICIPAL PARK	All-American Park	$14,215.42	$14,413.47	$14,697.59	$14,988.54	$15,327.94	$15,327.94	$15,327.94	$15,327.94	$15,327.94
COMMERCIAL - STANDALONE	Cragin & Pike Insurance	$345.29	$349.24	$354.13	$359.57	$365.93	$365.93	$365.93	$365.93	$365.93
COMMERCIAL PARK	Sahara Pavillion North	$6,796.28	$6,864.68	$6,963.55	$7,064.39	$7,182.03	$7,182.03	$7,182.03	$7,182.03	$7,182.03
MOBILE HOME PARK - (300 Spaces)	Boulder Cascade	$2,982.57	$3,061.93	$3,175.96	$3,292.65	$3,428.73	$3,428.73	$3,428.73	$3,428.73	$3,428.73
LARGE WAREHOUSE	Sunset Parkway Business Center	$3,244.11	$3,284.40	$3,341.70	$3,400.65	$3,469.43	$3,469.43	$3,469.43	$3,469.43	$3,469.43
OFFICE PARK	Desert Canyon	$1,490.99	$1,503.67	$1,521.68	$1,540.21	$1,561.83	$1,561.83	$1,561.83	$1,561.83	$1,561.83
SMALL INDUSTRIAL	Baldwin Motor Sports	$383.74	$385.49	$387.60	$389.98	$392.76	$392.76	$392.76	$392.76	$392.76
HIGH RISE OFFICE TOWER	Wells Fargo Tower	$15,530.06	$15,729.06	$16,014.07	$16,306.19	$16,646.93	$16,646.93	$16,646.93	$16,646.93	$16,646.93