SOUTHERN NEVADA WATER AUTHORITY

INTEGRATED RESOURCE PLANNING ADVISORY COMMITTEE 2020

RECOMMENDATIONS REPORT

SEPTEMBER 2020

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Integrated Resource Planning Advisory Committee 2020

RECOMMENDATIONS REPORT

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Executive Summary

The Southern Nevada Water Authority (SNWA) was established in 1991 to address Southern Nevada's unique water needs on a regional basis. Comprised of seven local water and wastewater agencies, the SNWA, as a wholesale water provider, is responsible for water treatment and delivery, acquiring and managing long-term water resources for Southern Nevada, and implementing regional water conservation initiatives. Collectively, SNWA member agencies serve more than 2.2 million residents in Southern Nevada.

To ensure wide-ranging community input into future policy making, the SNWA Board of Directors formed an advisory committee to solicit recommendations on the direction of water policy and help inform its planning efforts. The SNWA has regularly formed advisory committees to obtain community input regarding major policy decisions, dating back to the SNWA's earliest days. Major initiatives regarding regional water facilities, water resources, water quality, capital funding and drought response all benefited from robust community input. Previous committee recommendations have led to the construction of the Low Lake Level Pumping Station, additional conservation measures that have reduced water use throughout the Las Vegas Valley and investments into Colorado River initiatives that have helped elevate Lake Mead water levels.

On October 17, 2019, the SNWA Board of Directors convened a new advisory committee to evaluate and make recommendations on issues of interest to the SNWA's long-term planning efforts. The Integrated Resource Planning Advisory Committee 2020 (IRPAC 2020) met nine times between October 30, 2019 and August 26, 2020. The ten month-long process consisted of education on critical transmission infrastructure, water resources, water conservation, out-of-valley water use and regional water rates; an evaluation of water rate adjustment scenarios and financial models; consideration of the COVID-19 pandemic and its impacts; and ultimately the formulation of recommendations for SNWA Board consideration.

This report summarizes the activities and results of the committee process. Section I is an overview of the committee process, Section II reviews committee discussion topics, and Section III summarizes the committee's 22 recommendations.

I. Advisory Committee Process

To coordinate and manage committee meetings, the SNWA retained an independent, neutral facilitator, Terry Murphy of Strategic Solutions, Las Vegas, Nevada. An experienced facilitator familiar with local utility issues, Ms. Murphy encouraged dialogue and interaction among committee members, ensuring all perspectives were heard and considered, and suggested appropriate process tools to assist the committee in problem-solving and other aspects of its deliberations. Members worked together to identify positions that were generally acceptable to the committee as a whole.

The committee consisted of 11 members selected by the SNWA Board of Directors to represent diverse stakeholder groups and offer different perspectives within the SNWA's service territory. Below is a list of the committee members and the stakeholder groups they represented.

Committee Membership

Ken Evans, Urban Chamber of Commerce
Peter Guzman, Latin Chamber of Commerce
Carol Jefferies, Retiree
Andy Maggi, Nevada Conservation League
Paul Moradkhan, Vegas Chamber
Tom Morley, Laborers Local 872
Bob Murnane, Southern Nevada Homebuilders Association
Jonas Peterson, Las Vegas Global Economic Alliance
Phil Ralston, American Nevada Company
John Restrepo, RCG Economics
Virginia Valentine, Nevada Resort Association

IRPAC 2020 meetings were publicly posted in accordance with Nevada's Open Meeting Law. Presentations, audio recordings, and meeting summaries are available on snwa.com.

II. Committee Discussion Review

To develop a framework through which the SNWA can comprehensively support mission-critical efforts in the future, the committee process included education and discussion on major organizational components, including infrastructure and facilities, water resources, water conservation, and financial structure.

The committee received information on prior citizens advisory committees and how their recommendations impacted and guided many of SNWA's important decisions. The committee received an overview of SNWA's history, major responsibilities, initiatives, governance, water supply planning and funding.

Beginning with its first meeting, IRPAC 2020 heard from SNWA staff regarding the water challenges facing the community. Specifically, IRPAC 2020 received information about the limits of the existing regional water system and the need to increase system capacity to enhance reliability and to accommodate additional water demands over the next decade. Additionally, IRPAC 2020 learned about renewable energy requirements, water resource projects, water conservation efforts, and funding needs.

Recognizing the facilities, resources, and conservation efforts needed to reliably deliver water supplies to its customers for decades to come, the SNWA presented IRPAC 2020 with a proposed amendment to its Major Construction and Capital Plan (MCCP) to include projects and activities totaling $3.166 billion.

Over a series of meetings, SNWA staff detailed what the MCCP amendment would include, its cost and why the projects are necessary for Southern Nevada. The proposed projects were presented to the committee, grouped by topic:

- Facilities
- Water resources
- Water conservation

Facilities

The SNWA maintains a robust regional water system with two treatment plants, a number of pumping stations and reservoirs, and miles of large-diameter lateral pipelines to deliver treated Colorado River water to local water purveyors. These facilities have been constructed and brought online to meet demands and offer redundancy within the system.

The existing regional water system is sufficient to meet present-day demands; however, additional capacity is necessary to meet future demands. A planned water lateral that had been deferred a decade ago during the recession is needed in the near-term to convey Colorado River water to meet projected demands in the region. In addition, the new lateral will provide backup capacity to the 40 percent of the Las Vegas Valley's retail customers that are currently fully reliant upon the existing South Valley Lateral.

Furthermore, the SNWA continues to see projects that propose to convey Colorado River water outside the SNWA's existing service area. Such proposals are only viable if the wastewater from the projects is returned to Lake Mead to maintain return-flow credits. IRPAC 2020 considered recommendations to address this situation. Return-flow credits, the system of returning treated wastewater back to Lake Mead to use again, are a critical component of the SNWA's Water Resource Portfolio and allows Southern Nevada to deliver water in excess of its Colorado River allocation. Water that cannot be returned to Lake

Mead for return-flow credits represents a depletion of water resources, and as such, maximizing existing water resources and extending its use is essential to meet current and future demands. With new development proposed outside of the existing SNWA service area, constructing facilities to return wastewater is an important component to the region's sustainability and water resources.

The projects proposed within the SNWA's MCCP amendment aim to achieve at least one of the following critical planning goals:

- *Capacity:* The ability for the water system to support new customers or increased demands
- *Redundancy:* The ability of the water system to prevent or recover from the failure of another system component, especially in times of outages or emergencies
- *Reliability:* The ability of a water system to consistently serve its customers without service interruptions
- *Resource Maximization:* The ability of a water system to extend, conserve, maximize or make existing water resources more efficient

The facility-related projects proposed for construction within the MCCP include:

- **Horizon Lateral** – A proposed new lateral towards the south end of the regional water system to accommodate projected demands, and to ensure redundancy and reliability in that part of the system. The anticipated facility will have a transmission capacity of more than 400 million gallons per day (MGD).
- **Garnet Valley Water System** – A proposed water system that includes 18 miles of pipeline, a reservoir, pumping stations and forebays to meet the demands of an industrial park in North Las Vegas spanning 11,500 acres.
- **Garnet Valley Wastewater System** – A proposed backbone wastewater system that will include five wastewater lift stations and more than 40 miles of wastewater pipeline to convey Apex's wastewater to a treatment plant, and eventually back to Lake Mead for return-flow credits.
- **Boulder City Wastewater Pipeline** – This project proposes a conveyance system to move Boulder City's wastewater that is currently being sent to evaporation ponds through more than six miles of pipeline to Henderson's wastewater facility, and eventually back to Lake Mead for return-flow credits.
- **Large-scale Solar PV Project** – A proposed solar power project that includes an 8-mile expansion to the SNWA's existing system and can convey at least 50 megawatts of clean energy.
- **Asset management** – Improvements to existing facilities and equipment such as upgrades to aging in-valley water storage and transmission facilities, ozone rehabilitation, filter improvements and final activities related to the SNWA's Low Lake Level Pumping Station.

Water Resources

The SNWA is responsible for acquiring and managing Southern Nevada's water resources and prioritizes those efforts through the development of a Water Resource Plan. The committee was provided information about Southern Nevada's water resources and how they are used today or how they will meet future demands.

The committee reviewed a history of resources, including additional supplies that have been forged through Colorado River partnerships, such as the Brock Reservoir, Intentionally Created Surplus and water banking arrangements. The SNWA is evaluating new opportunities with Colorado River partners to secure additional water supplies through investments in a water recycling project in Southern California or through brackish and ocean water desalination plants. The committee was presented with scenarios of

the timing of future resources with differing hydrologic conditions and demand scenarios, and the impact that new supplies would have on resource planning.

In order to participate in future opportunities, if available, that would further increase Southern Nevada's water resources, the SNWA would need adequate funding to pay for the projects. The proposed MCCP amendment includes at least $728 million to fund water resource projects, which includes funding for new resource opportunities developed through Colorado River partnerships and money required for ongoing water resources projects, such as Mexico Minute 323, Arizona Water Banking, and Muddy and Virgin River water acquisitions.

Water Conservation

The committee reviewed Southern Nevada's water conservation initiatives and progress towards the regional conservation goal. With climate change, a growing population, and system loss placing upward pressure on progress towards the goal, Southern Nevada is facing an uphill challenge in reducing water use consistently over the planning horizon. Meeting the goal will require new strategies, innovation, more stringent regulations and community-wide participation. The committee considered a wide range of conservation opportunities that, if implemented, would help meet the goal. These strategies ranged from reducing use from evaporative coolers to warm season turf conversions and are further detailed in the committee's conservation recommendations under Section III. The proposed MCCP amendment also includes $152 million to continue Water Smart Landscaping projects.

Resources and Conservation Contingency

Recognizing that there may be additional resource and conservation opportunities not yet identified within the proposed MCCP amendment that require funding, the committee felt it was prudent to include a contingency amount that could fund additional Colorado River water resource opportunities if they become available or additional conservation programs, such as new incentive programs or technology development/deployment.

Funding

Following a series of meetings on facilities, water resources and conservation, the committee discussed how to fund a proposed MCCP amendment that totaled $3.166 billion:

Proposed MCCP Funded Projects:	
Facility-related Projects	$2,123.0 million
Water Supplies	728.0
Conservation	152.3
Resources/Conservation Contingency	162.3
MCCP Expenditures as Proposed	$3.166 billion

Given the magnitude of the proposed MCCP, additional funding is needed. The committee reviewed all of SNWA's existing funding sources, and concluded that the SNWA Connection Charge, the SNWA Infrastructure Charge and the SNWA Commodity Charge were the most appropriate sources to fund the proposed MCCP as those rates have not kept pace with inflation. The Connection Charge, a charge collected by developers who require new service connections, has not been increased since 2008 during the economic downturn. The SNWA Commodity Charge, a volumetric charge assessed on customer water bills, was last increased in 2017. The Infrastructure Charge, a fixed charge assessed based on meter size, was last increased in 2018 at the recommendation of an advisory committee to fund the Low Lake Level Pumping Station. Since those adjustments, the rates have not kept pace with inflation.

The committee was supportive of a prior committee's recommendation to reduce rate shock and considered how to meet funding requirements and maintain pace with inflation without burdening customers.

The committee was presented with a variety of strategies to fund new capital projects and the members considered the impact to the SNWA's unrestricted reserves and potential impacts to sample customer bills that were selected to represent a subset of the community. The committee's discussions focused around the following considerations:

- *Debt Funding:* How much and at what target should debt be managed to fund the MCCP
- *Phase In:* Over what period of time should inflationary increases be spread
- *Fixed v. Variable Indexing:* Whether the inflationary increases should be set at a fixed rate with the historic average amounts during the first phase-in years or subject to actual annual indexed amounts
- *Connection Charge Revenues:* Removing the $16.1 million threshold that is currently applied to SNWA Connection Charges or treating Connection Charge revenues differently

The committee reviewed scenarios that met funding requirements through inflationary-based increases. The inflationary increases aimed to (1) catch the existing rates of the Connection, Commodity and Infrastructure charges up to what they would be today had they kept pace with inflation and (2) begin charging today's inflation to ensure that its "buying power" isn't reduced. The model assumed a 2.5 percent annual increase for Consumer Price Indexed rates (Commodity Charge) and a 3 percent annual increase for Engineering News Record increases (Connection and Infrastructure Charges). The committee considered a 5-year or 6-year phase in process, but after discussions, supported a 6-year phase in process to keep the rates lower during that time.

		6 YEAR PHASE-IN STARTING 2022						INDEXING
		2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Connection Charge (ENR) *Last increased in 2008*	Catch-Up Inflation	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	0.0%
	Current Year Inflation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**9.5%**	**9.5%**	**9.5%**	**9.5%**	**9.5%**	**9.5%**	**3.0%**
Commodity Charge (CPI) *Last increased in 2017*	Catch-Up Inflation	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	0.0%
	Current Year Inflation	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
	Total	**4.8%**	**4.8%**	**4.8%**	**4.8%**	**4.8%**	**4.8%**	**2.5%**
Infrastructure Charge (ENR) *Last increased in 2018*	Catch-Up Inflation	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	0.0%
	Current Year Inflation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**3.0%**

At the committee's February meeting, they formulated a set of draft recommendations to take back to their stakeholder groups for initial review. Following the meeting, a draft recommendations report was compiled and provided to the committee. At the August 26, 2020 meeting, they approved their final recommendations and recommendations report.

III. Recommendations

After careful evaluation of the issues and options, the Committee reached consensus on several recommendations, which will be transmitted to the SNWA Board of Directors for consideration and approval.

The 22 recommendations are listed below and grouped by topic.

GENERAL RECOMMENDATIONS

1. **Work with community stakeholders to implement IRPAC recommendations.**
   All of these recommendations and initiatives will require community support, engagement and participation. The committee recognized the importance of involving stakeholders in the development and implementation of these efforts.

MCCP AND FACILITIES

2. **Maintain current asset management funding levels and practices to ensure reliable water treatment and transmission in Southern Nevada.**
   Continued rehabilitation and improvement to SNWA's existing water storage and transmission infrastructure is critical to sustained water system reliability and conservation efforts. The committee recognized the value of uninterrupted service levels and demonstrated a keen interest in moving forward on necessary asset management projects.

3. **Pursue projects to meet Nevada's Renewable Portfolio Standard.**
   Given Nevada's Renewable Portfolio Standard of 50 percent by 2030, the SNWA must pursue additional power resource options. SNWA has the opportunity to enter into a power purchase agreement with a private company that is constructing a large-scale solar photovoltaic energy project. This partnership represents low-cost solar resources for the SNWA and an increase in renewable supplies.

4. **Include the candidate projects presented to IRPAC 2020, totaling $3.166 billion, in the SNWA's Major Construction and Capital Plan (MCCP).**
   After receiving information about the projects proposed for the MCCP amendment, which includes new facilities, new water supplies and conservation programming, the committee supported moving forward with the projects as proposed. They also supported including a contingency amount to fund Colorado River water resource opportunities or conservation opportunities that may arise.

WATER RESOURCES

5. **Pursue emerging water resource opportunities with Colorado River partners to increase Nevada's water supplies, as presented to IRPAC on December 18, 2019.**
   The committee agreed that funding should be made available for SNWA to capitalize on partnership opportunities with other Colorado River users to secure additional water supplies for the community.

Potential projects include a large-scale water recycling project in Southern California or desalination plants, and these projects were presented to IRPAC at the December 18, 2019 meeting. Given the success of similar projects, this committee felt like this is a worthwhile opportunity that would yield important water resources to meet future demands.

6. **Require out-of-valley development to return wastewater to Lake Mead and embed the principles of the SNWA's Out-of-Valley Water Use Policy within municipal codes and Las Vegas Valley Water District (LVVWD) Service Rules.**
   The SNWA's Out-of-Valley Water Use policy was developed to address and minimize Colorado River water use in areas where it cannot be returned. The committee understood the importance of return-flow credits and supported implementing the tenets of this policy in regional regulations.

CONSERVATION

7. **Pursue changes necessary to achieve the SNWA's current water conservation goal of a minimum of 105 GPCD by 2035 and further efforts to achieve additional conservation thereafter.**
   The committee recognized the importance of meeting the regional conservation goal and how the resource plan changes if further progress is made. With climate change impacts making the goal more challenging, more initiatives are required to meet the goal and continue to pursue additional conservation thereafter.

8. **Reduce existing non-functional turf acreage by 50 percent by 2035.**
   Non-functional turf represents a wasteful use of water resources and covers approximately 5,000 acres within Southern Nevada. The committee supported the organization's efforts to continue to incentivize turf removal and explore new opportunities to accelerate non-functional turf removal to reduce existing non-functional turf acreage by one-half.

9. **Embed the principles of the SNWA's Non-Functional Turf Resolution in municipal codes and LVVWD Service Rules.**
   In July 2019, the SNWA Board of Directors approved a resolution that further refined prohibitions on non-functional turf applications and applied standards to new turf installations to maximize the functionality of future turf installations. These standards included size and slope limitations that have not yet been codified. The committee supported codifying these principles to ensure more sustainable development moving forward.

10. **Limit future installations of cool-season turf in public spaces and expedite the conversion of cool-season turf to warm-season turf at existing public facilities.**
    Water savings can be achieved through the conversion of functional cool season turf to more water-efficient varieties of grass (also known as warm-season turf). The committee was in favor of accelerating conversion of parks and school fields to warm season turf and requiring the use of warm season grasses as functional turf is installed.

11. **Implement smart controller technology to automate landscape watering compliance and increase outreach and enforcement efforts.**
    Compliance with mandatory day of week and time of day watering restrictions saves significant water resources. The increased usage of smart irrigation controller technology can have a significant impact on water use during weather events. Further exploration and implementation of emerging

technology may lead to better compliance with watering restrictions. The committee agreed that future efforts such as smart controller technology, incentives, enforcement, and advertising should be used to maximize compliance with watering restrictions.

12. **Pursue implementation of advanced metering infrastructure and develop partnerships and programs to improve the speed of customer leak repairs.**
    Advanced metering infrastructure (AMI) and technology can help to notify water providers and customers alike of water leaks in near real-time. This type of immediate notification would greatly reduce the time it currently takes for leaks to be detected and repaired, and ultimately reduce water loss. While AMI pilot programs exist throughout the valley, the committee supported continued implementation as quickly as possible.

13. **Evaluate changes necessary to reduce current and future consumptive water losses associated with evaporative cooling technology.**
    Evaporative cooling represents a large consumptive use in Southern Nevada. New technologies such as geothermal cooling and single pass cooling may greatly reduce the amount of water currently being lost by evaporative cooling practices, and additional research is needed to assess how best to deploy and utilize more water efficient cooling technologies. The committee supported continued efforts towards reducing water use in this sector.

14. **Establish an efficiency review policy and process for new large water users to encourage efficient development and disincentivize consumptive use.**
    While the number of customers who use more than 1 million gallons of water per month remains relatively small, an opportunity to reduce water use in this sector does exist. Currently, there is no opportunity for the regional water agency to affect or influence water use on these large properties and implementing a review process would be beneficial to ensure when these properties are constructed that water is being used efficiently.

15. **Continue to make investments that will maintain or improve the existing water loss rates among wholesale and retail water purveyors.**
    Ongoing assessment, repair and rehabilitation of existing water systems is critical in maximizing system efficiencies and reducing water loss. The committee supported maintaining or reducing current water loss levels through the regional and retail water systems.

16. **Continue outreach efforts to engage the public and effectuate the changes needed to meet the community's regional conservation goal.**
    Public outreach is essential to SNWA's conservation programs, especially to increase compliance with the mandatory watering schedule. The committee recommended continuing these efforts to invoke community-wide conservation participation.

FUNDING

17. **Fund the MCCP with a combination of debt capital and pay-go to manage unrestricted reserve balances at adequate levels consistent with the Reserve Policy.**
    The committee evaluated how different debt capital and pay-go scenarios affected reserve targets and funding levels. The committee quickly agreed to not continue evaluating scenarios at a 50 percent debt capital / 50 percent pay-go approach as funding levels were well below target in future

years. Ultimately, the committee supported a flexible approach to maintain adequate reserve balances consistent with the SNWA Board-approved Reserve Policy.

18. **Implement a six-year annual increase to SNWA charges effective January 2022 to:**
    1) Phase-in an inflationary catch up, and
    2) Adjust for subsequent annual inflation within the six-year period:
    – Increase the Connection Charge by 9.5% annually for six years effective Mar. 2022
    – Increase the Infrastructure Charge by 4.6% annually for six years effective Jan. 2022
    – Increase the Commodity Charge by 4.8% annually for six years effective Jan. 2022

    The SNWA Infrastructure Charge and Commodity Charge had not been increased since they were last adjusted by a previous IRPAC committee and as a result, neither have kept pace with inflation. The SNWA Connection Charge has not been adjusted for more than 10 years, and inflation has increased significantly since that time.

    The committee thought it was prudent to (1) catch the existing rates up to what they would have been had they kept pace with inflation, and (2) ensure rates moving forward keep pace with inflation. SNWA staff prepared a table that showed both increases: the catch-up rate and the inflationary rate based on historical averages. Rather than keeping them separate, the committee opted to lock in the rate as proposed for the first six years, and then adjust the rates to reflect increases to inflation, noting that fixing the rate helps budget and planning efforts.

19. **Implement an indexed rate component to the SNWA Infrastructure and Commodity charges annually, effective January 2028, and limit future increases to a floor of 1.5% and a ceiling of 4.5% each year.**
    – Infrastructure Charge in accordance with Engineering News Record (ENR) index
    – Commodity Charge in accordance with the Consumer Price Index (CPI)

    Do not implement inflationary increases in a year in which the five-year forecast unrestricted reserve balance is projected to be greater than 150% of targeted reserve balances.
    To maintain pace with inflation and avoid rate shock in future years, the committee also recommended that an inflationary index be applied to the SNWA Infrastructure Charge and the SNWA Commodity Charge. The committee recommends collaring those inflationary-based increases to achieve revenue stability and avoid unnecessary customer impacts.

    The inflationary index applied to the SNWA Infrastructure Charge is the Engineering News Record, which tracks costs associated with building materials and labor and is appropriate for a charge designed to reflect the costs of constructing and maintaining the water system. The inflationary index applied to the SNWA Commodity Charge is the Consumer Price Index, which measures prices paid by urban consumers on goods and services.

20. **Implement an indexed rate component to the SNWA Connection Charge annually in accordance with the ENR index, effective March 2028.**
    To maintain pace with inflation, the committee recommended that an inflationary index be applied to SNWA Connection Charges after the approved rates are phased in through 2027. The inflation index applied to the Connection Charge is the ENR index, similar to the Infrastructure Charge.

21. **Eliminate the $16.1 million Connection Charge threshold, require SNWA Connection Charge revenues to fund the pay-go portion of capital expenditures and related debt service, and exclude from funding recurring operating expenses.**

    A previous IRPAC committee made a recommendation to help reduce the reliance on Connection Charge revenues and dedicated Connection Charge revenues in excess of $16.1 million be restricted to specific funding activities. In the current environment, the committee opted to remove the threshold, but carry over some of the original intent of the previous committee recommendations by explicitly prohibiting spending Connection Charge revenues on recurring operating expenses.

22. **Provide IRPAC 2020 with an annual update of the funding model and convene the committee as necessary.**

    The committee felt it was appropriate to receive an update on activities within the MCCP and the funding model with the understanding that they may need to convene if there are issues or changes that require additional discussion or clarification.

APPENDIX A

Meeting Synopsis

The following provides a brief synopsis of discussion topics for each committee meeting. A summary was developed for each meeting and is available on snwa.com or by contacting the SNWA.

Meeting 1 – *October 30, 2019*: Introduction of committee members, facilitator and key SNWA staff. Review committee process and administrative items. Receive an overview of past SNWA committees; and SNWA's history and key initiatives.

Meeting 2 – *November 20, 2019*: Receive an overview of the SNWA's capital planning efforts; and proposed regional water and power facilities recommended for inclusion in the SNWA's Major Construction and Capital Plan.

Meeting 3 – *December 18, 2019*: Receive an overview of Southern Nevada's water resources and potential new water resources for Southern Nevada that can be developed through Colorado River partnerships.

Meeting 4 – *January 8, 2020*: Receive an overview of Southern Nevada's water conservation efforts and future water conservation initiatives for Southern Nevada. Review initial financial model assumptions.

Meeting 5 – *January 29, 2020*: Overview of SNWA's financial structure and discussion of capital funding scenarios. Review rate model assumptions and sample customer impacts; discuss recommendations.

Meeting 6 – *February 12, 2020*: Review additional rate model assumptions and sample customer impacts. Review and discuss all draft board recommendations.

Meeting 7 – *March 4, 2020*: Finalize recommendations report.

Facility Tour – Committee members were given the option to participate in a facility tour of Southern Nevada's water infrastructure.

Meeting 8 – *August 19, 2020:* Receive an update on IRPAC status since last meeting, including COVID-19 impacts and responses and review updated funding model.

Meeting 9 – *August 26, 2020:* Review sample customer bills and committee recommendations and approve as appropriate.

APPENDIX B

Rate Models

Pursuant to the committee's recommendation no. 17, they suggested a flexible approach to funding the MCCP with a combination of debt and pay-go capital to manage unrestricted reserve balances at adequate levels consistent with the Reserve Policy. The committee was shown a number of financial model scenarios. In August 2020, they were presented with a revised scenario that included an updated financial forecast with revised revenue projections, a result of the Covid-19 impact.

Revised Base Scenario: 90% Debt / 10% Pay-go

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Sources										
Wholesale Delivery Charge	$ 142,032,734	$ 151,054,569	$ 159,997,507	$ 169,139,321	$ 178,472,142	$ 183,837,022	$ 189,046,936	$ 194,581,133	$ 200,999,698	$ 207,350,154
Infrastructure Charge	166,934,981	172,406,642	181,849,073	192,414,768	204,005,022	216,049,955	228,592,687	239,810,540	249,417,084	259,246,049
Commodity Charge	66,773,853	64,712,078	70,647,220	75,607,114	82,146,496	86,939,629	91,681,593	94,900,603	98,556,045	102,183,408
Connection Charge	19,108,425	17,225,998	33,363,222	50,611,541	65,208,884	65,339,225	66,248,816	65,609,151	62,089,064	59,678,120
Reliability Surcharge	5,448,046	5,584,247	5,723,853	5,866,950	6,013,623	6,163,964	6,318,063	6,476,015	6,637,915	6,803,863
Sales Tax	44,678,049	59,409,554	76,243,776	79,032,781	82,085,469	85,161,076	88,273,297	91,420,458	94,600,730	97,829,763
Investment Income	7,154,023	7,713,427	7,459,364	8,527,883	8,905,659	8,819,021	9,182,550	9,916,110	10,789,769	11,903,296
Groundwater Management Fee:	894,208	894,208	894,208	894,208	894,208	894,208	894,208	894,208	894,208	894,208
LV Wash Program Fees	443,863	443,863	443,863	443,863	443,863	443,863	443,863	443,863	443,863	443,863
Grant Proceeds	1,988,014	1,988,014	1,988,014	1,988,014	1,988,014	1,988,014	1,988,014	1,988,014	1,988,014	1,988,014
Other Sources	6,819,897	6,819,897	6,819,897	6,819,897	6,819,897	6,819,897	6,819,897	6,819,897	6,819,897	6,819,897
Subtotal	462,276,092	488,252,498	545,429,995	591,346,340	636,983,277	662,455,872	689,489,924	712,859,992	733,236,287	755,140,634
Debt Issuance Proceeds	-	339,941,318	-	563,668,596	-	778,312,684	-	603,290,460	-	640,030,849
SNWA Sources	462,276,092	828,193,816	545,429,995	1,155,014,936	636,983,277	1,440,768,556	689,489,924	1,316,150,452	733,236,287	1,395,171,484
Uses										
Water Resource Investments	17,914,000	8,111,850	8,314,646	8,522,512	8,735,575	8,953,965	9,177,814	9,407,259	9,642,441	9,883,502
Energy	38,222,458	39,300,000	39,000,000	32,000,000	34,400,000	35,260,000	36,141,500	37,045,038	37,971,163	38,920,443
Payroll & Related	88,229,311	83,605,551	84,252,383	87,335,188	82,747,273	79,007,343	95,079,264	99,048,024	103,180,502	107,483,396
Operating Expenses	62,181,852	63,736,398	65,329,808	66,963,053	68,637,130	70,353,058	72,111,884	73,914,682	75,762,549	77,656,612
Capital Expenditures	89,125,693	168,208,653	228,833,295	243,679,396	414,998,374	572,538,447	337,149,489	347,263,973	357,681,893	368,412,349
Debt Service	289,141,521	306,339,907	305,656,804	336,928,067	326,812,567	371,987,079	364,060,006	384,187,571	348,329,110	385,665,701
SNWA Uses	584,814,835	669,302,359	731,386,937	775,428,216	936,330,919	1,138,099,892	913,719,956	950,866,547	932,567,658	988,022,003
Annual Surplus/(Deficit)	$ (105,894,720)	$ (28,707,567)	$ (13,530,707)	$ 39,158,848	$ 23,646,688	$ 59,738,303	$ 698,758	$ 82,285,578	$ 62,961,077	$ 105,533,260
Reserve Balance	$ 573,177,795	$ 544,599,462	$ 530,814,691	$ 571,042,059	$ 595,066,522	$ 654,718,187	$ 655,780,474	$ 738,799,613	$ 802,634,349	$ 909,281,137
Reserve Target	670,958,239	694,395,743	701,687,706	734,835,920	730,857,577	770,548,075	745,306,224	762,093,562	720,896,672	750,290,418
Excess/(Deficit) of Reserve Target	(97,780,443)	(149,796,281)	(170,873,015)	(163,793,861)	(135,791,055)	(115,829,888)	(89,525,750)	(23,293,949)	81,737,677	158,990,719
% of Reserve Target	85%	78%	76%	78%	81%	85%	88%	97%	111%	121%
Debt Coverage Ratio	3.21	2.80	2.89	2.72	3.04	2.78	3.06	2.95	3.53	3.39

APPENDIX C

Approved Rate Impact Table

		6 YEAR PHASE-IN STARTING 2022						INDEXING
		2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Connection Charge (ENR) *Last increased in 2008*	Catch-Up Inflation	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	0.0%
	Current Year Inflation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**9.5%**	**9.5%**	**9.5%**	**9.5%**	**9.5%**	**9.5%**	**3.0%**
Commodity Charge (CPI) *Last increased in 2017*	Catch-Up Inflation	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	0.0%
	Current Year Inflation	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
	Total	**4.8%**	**4.8%**	**4.8%**	**4.8%**	**4.8%**	**4.8%**	**2.5%**
Infrastructure Charge (ENR) *Last increased in 2018*	Catch-Up Inflation	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	0.0%
	Current Year Inflation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**3.0%**

APPENDIX D

Projected Average Monthly Bills for Sample Customers

IRPAC Revised Sample Customer Bill Information:2022 Rate Implementation

**Sample bills also include an already-approved LVVWD rate increase*

Type	Current 2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential 5/8" - Typical Use									
2022 Phase-In	41.88	42.49	43.87	45.28	46.78	48.40	50.09	51.82	53.23
Single Family Residential 5/8" - High Use									
2022 Phase-In	93.14	94.90	97.69	100.53	103.45	106.73	110.10	113.51	116.48
Single Family Residential 1" - Typical Use									
2022 Phase-In	105.23	106.72	110.25	113.85	117.65	121.76	126.09	130.50	134.08
Single Family Residential 1" - High Use									
2022 Phase-In	358.56	365.82	376.21	386.88	397.74	409.83	422.33	434.91	446.11
Mobile Home - Boulder Cascade									
2022 Phase-In	4,808.29	4,874.16	5,023.65	5,175.63	5,345.27	5,535.69	5,728.96	5,925.19	6,085.06
High Rise - Queensridge									
2022 Phase-In	15,024.51	15,261.20	15,680.11	16,104.69	16,544.55	17,040.21	17,549.58	18,065.84	18,503.56
Office Park - Desert Canyon									
2022 Phase-In	1,820.48	1,838.74	1,866.15	1,893.79	1,921.92	1,954.24	1,987.07	2,020.19	2,049.23
Resort and Hotel - Bellagio									
2022 Phase-In	127,312.22	130,055.16	133,640.72	137,236.76	140,855.52	145,091.96	149,348.22	153,617.01	157,487.40
Restaurant - Lawry's									
2022 Phase-In	2,094.69	2,123.17	2,166.17	2,209.51	2,253.67	2,304.35	2,355.85	2,407.80	2,453.32
Retail Complex - Fashion Show									
2022 Phase-In	28,645.60	29,205.80	30,044.06	30,889.23	31,749.18	32,738.02	33,742.35	34,754.83	35,643.24
School - Palo Verde									
2022 Phase-In	12,485.93	12,719.18	13,055.44	13,393.93	13,737.42	14,134.14	14,536.06	14,940.67	15,298.78
Municipal Park - All American									
2022 Phase-In	9,109.44	9,269.85	9,528.70	9,790.37	10,058.09	10,363.27	10,674.38	10,988.88	11,260.36
Hospital - Sunrise									
2022 Phase-In	28,499.70	29,071.76	29,865.16	30,667.24	31,477.17	32,409.45	33,353.64	34,303.26	35,152.20
Locals Hotel - Palace Station									
2022 Phase-In	31,195.46	31,746.85	32,688.80	33,643.14	34,621.45	35,731.83	36,862.70	38,008.28	38,985.45
Shopping Center - Renaissance West									
2022 Phase-In	9,499.66	9,623.08	9,935.95	10,256.06	10,592.02	10,961.08	11,343.80	11,735.19	12,047.85
Industrial - Brady Linen									
2022 Phase-In	43,917.21	44,809.18	46,035.56	47,268.22	48,511.97	49,957.96	51,415.63	52,880.80	54,192.59
Apartment Complex - Foothill Village									
2022 Phase-In	14,855.21	15,176.20	15,576.34	15,992.47	16,410.47	16,871.87	17,350.21	17,829.75	18,271.92
Warehouse - Baldwin Motorsports									
2022 Phase-In	566.49	567.86	572.06	576.36	580.93	585.85	590.99	596.28	600.42
Strip Mall									
2022 Phase-In	10,678.72	10,834.21	11,107.42	11,385.50	11,671.26	11,992.04	12,320.99	12,654.61	12,937.99
Strip Mall (Small)									
2022 Phase-In	6,293.55	6,402.97	6,557.73	6,717.51	6,879.71	7,059.31	7,245.36	7,432.73	7,599.92
College - UNLV									
2022 Phase-In	113,115.55	115,325.84	118,582.81	121,864.94	125,199.55	129,044.57	132,934.77	136,855.09	140,307.35
Six-Year Fixed Rate Increase									

APPENDIX E

SNWA Connection Charges

CUSTOMER TYPE – RESIDENTIAL	CURRENT CHARGE	6 YEAR PHASE-IN							INDEXING
		2021	NEW 2022	NEW 2023	NEW 2024	NEW 2025	NEW 2026	NEW 2027	NEW 2028
5/8" residential meter size	$4,870	$4,870	$5,333	$5,840	$6,395	$7,003	$7,668	$8,396	$8,648
3/4" residential meter size	4,870	4,870	5,333	5,840	6,395	7,003	7,668	8,396	8,648
1" residential meter size	9,610	9,610	10,523	11,523	12,618	13,817	15,130	16,567	17,064
1.5" residential meter size	19,170	19,170	20,991	22,985	25,169	27,560	30,178	33,045	34,036
2" residential meter size	30,680	30,680	33,595	36,787	40,282	44,109	48,299	52,887	54,474
Rates based on factors other than meter size									
Residential: Individually Metered more than 8 Units per acre & Mobile Homes (per Dwelling Unit)	$3,400	$3,400	$3,723	$4,077	$4,464	$4,888	$5,352	$5,860	$6,036
Residential: Master Metered more than 8 Units per acre & Mobile Homes (per Dwelling Unit)	3,400	3,400	3,723	4,077	4,464	4,888	5,352	5,860	6,036

CUSTOMER TYPE – NON-RESIDENTIAL	CURRENT CHARGE	6 YEAR PHASE-IN							INDEXING
		2021	NEW 2022	NEW 2023	NEW 2024	NEW 2025	NEW 2026	NEW 2027	NEW 2028
5/8" non-residential meter size	$4,870	$4,870	$5,333	$5,840	$6,395	$7,003	$7,668	$8,396	$8,648
3/4" non-residential meter size	4,870	4,870	5,333	5,840	6,395	7,003	7,668	8,396	8,648
1" non-residential meter size	9,610	9,610	10,523	11,523	12,618	13,817	15,130	16,567	17,064
1.5" non-residential meter size	19,170	19,170	20,991	22,985	25,169	27,560	30,178	33,045	34,036
2" non-residential meter size	64,260	64,260	70,365	77,050	84,370	92,385	101,162	110,772	114,095
3" non-residential meter size	237,900	237,900	260,501	285,249	312,348	342,021	374,513	410,092	422,395
4" non-residential meter size	353,100	353,100	386,645	423,376	463,597	507,639	555,865	608,672	626,932
Rates based on factors other than meter size									
Non-Residential: 6" and Larger, excluding Hotels, Motels, Golf Courses, and Laundries (Based on Annual Usage in 1,000 gallons)	$29.20	$29.20	$31.97	$35.01	$38.34	$41.98	$45.97	$50.34	$51.85
Hotels & Motels (per Room)	2,780	2,780	3,044	3,333	3,650	3,997	4,377	4,793	4,937
Golf Course (per Acre)	45,640	45,640	49,976	54,724	59,923	65,616	71,850	78,676	81,036
RV Parks (per Space)	1,380	1,380	1,511	1,655	1,812	1,984	2,172	2,378	2,449

APPENDIX F

Total Capital Cost Assumptions

Horizon Lateral	$1,596.7 million	
Garnet Valley Water System	129.8	
Garnet Valley Wastewater System	120.0	
Boulder City Wastewater System	26.0	
Solar PV Project	20.8	
Asset Management	229.7	
Total MCCP Facility Projects		**$2,123.0**
Future Water Supplies	587.7	
Virgin & Muddy River Water	98.4	
Minute 323	36.4	
Arizona Water Banking	5.5	
Total MCCP Water Supplies		**$728.0**
Water Smart Landscaping		**152.3**
Resources/Conservation Contingency		**162.3**
TOTAL MCCP EXPENDITURES AS PROPOSED		**$3,165.6**
Operating Capital		176.7
Capital Equipment		50.0
Lower Las Vegas Wash		122.5
TOTAL CAPITAL		**$3,514.8 million***

** Amount shown above in today's dollars*

APPENDIX G

September 17, 2020 SNWA Board Agenda Item

SOUTHERN NEVADA WATER AUTHORITY
BOARD OF DIRECTORS
AGENDA ITEM
September 17, 2020

Subject: Integrated Resource Planning Advisory Committee Recommendations
Petitioner: John J. Entsminger, General Manager
Recommendations: That the Board of Directors receive a presentation on the Integrated Resource Planning Advisory Committee 2020 process and adopt the committee's recommendations report.

Fiscal Impact:
None by approval of the above recommendation.

Background:
On October 17, 2019, the Board of Directors established the 11-member Integrated Resource Planning Advisory Committee (Committee) to evaluate various issues critical to the Authority's mission and develop formal recommendations for Board consideration.

Since October 2019, the Committee met seven times in public meetings to review and develop recommendations on infrastructure, water resources, water conservation, water use outside the Las Vegas Valley and water rates. Throughout the process, the Committee received a series of informational briefings on key issues affecting the Authority. A neutral facilitator was utilized to ensure all perspectives were heard and considered throughout the process.

The Committee's deliberations resulted in 22 recommendations. The recommendations suggest specific actions to meet the Authority's current conservation goal, pursue opportunities to increase Nevada's water supplies, provide for the long-term sustainable use of Southern Nevada's water resources, maintain reliable water treatment and delivery, and fund the Authority's Major Construction and Capital Plan. The Recommendations Report summarizes the activities and discussions that took place and details the Committee's final recommendations.

The Committee reconvened in August 2020 to receive an update on the Authority's COVID-19 response, evaluate the impacts of the pandemic, and review an updated funding model. The committee also reviewed its original recommendations and revised them as appropriate.

At this time, the Board is being asked to receive a presentation on the Integrated Resource Planning Advisory Committee 2020's Recommendations Report.

This action is authorized pursuant to Section 6(P) of the SNWA 1995 Amended Cooperative Agreement. The office of the General Counsel has reviewed and approved this item.

Respectfully submitted:

John J. Entsminger, General Manager
JJE:CNP:AMB:KH:jb
Attachment

AGENDA
ITEM #