THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

February 22, 2021

Via Electronic Mail Only

Mr. Keene Simonds, Executive Officer
Mr. Robert Barry, Project Manager
San Diego Local Agency Formation Commission
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San Diego, CA 92123
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Proposals by Rainbow Municipal Water District and Fallbrook Public Utility District, Reference Nos. RO20-04 and RO20-05

Dear Mr. Simonds and Mr. Barry:

The Metropolitan Water District of Southern California (Metropolitan) was recently asked to respond to questions 5 and 7 posed by the San Diego Local Agency Formation Commission's (SDLAFCO) consultant regarding the proposal by Rainbow Municipal Water District (Rainbow) and Fallbrook Public Utility District (Fallbrook) to detach from the San Diego County Water Authority (SDCWA) and attach to Eastern Municipal Water District (Eastern). Copies of Metropolitan's responses are attached for your consideration. Also attached are copies of Metropolitan's Rate Structure Administrative Procedures Handbook FY 2020/21 and Water Supply Allocation Plan that should be helpful to SDLAFCO's understanding of Metropolitan's rates and operations.

Metropolitan also reviewed the comments submitted to SDLAFCO by SDCWA on January 6, 2021, and the reports prepared by SDCWA's consultant, Stratecon, Inc. (Stratecon), dated September 1, 2020 and December 31, 2020 (Stratecon Reports).

In sum, Metropolitan finds SDCWA's continued focus on Metropolitan's reliability not only incorrect, but misplaced, and the Stratecon Reports add nothing to bolster SDCWA's arguments. The proposed reorganization makes no physical changes to Metropolitan's boundary or operations, nor any changes to Metropolitan's rates or voting structure. It is entirely a financial and accounting proceeding for Metropolitan.

Additionally, the molecules of water Eastern would deliver to Rainbow and Fallbrook will be exactly the same in quantity and quality, and would be delivered through the exact same Metropolitan infrastructure whether they are in Eastern's or SDCWA's service area. The

revenues to Metropolitan will also be unchanged by this reorganization because Metropolitan's postage-stamp rate structure will remain the same.

If SDLAFCO approves the proposed reorganization, there simply will not be any material changes in the composition, volume, or delivery method of Metropolitan's blended supplies delivered to the pipelines that serve Rainbow and Fallbrook except that they will be billed to Eastern rather than SDCWA. Hence, there will not be any increase in demands on the Delta and no changes to Metropolitan's reliability.

Additionally, the reorganization of the applicants from one Metropolitan member agency to another Metropolitan member changes nothing about the resources available to Metropolitan. Stratecon claims SDCWA's conserved exchange water deliveries from Metropolitan "back" or "secure" current deliveries to the applicants. However, that goes to whether SDCWA is more reliable than Eastern—not whether Metropolitan's reliability changes. There would be no impacts to Metropolitan's reliability based on this proposal. Otherwise, Stratecon concedes that the operations will remain the same for Metropolitan to deliver water to the same locations, with only minor connection matters to sort out.

Overall Stratecon's review of Metropolitan's rates and charges—and particularly of Metropolitan's volumetric System Access Rate and Tier 1 rate components—are irrelevant to the applicants' proposal. Metropolitan sets uniform postage-stamp rates for all its member agencies and under the current structure, those rates remain the same for SDCWA as they are for Eastern. You may find further explanation of Metropolitan's financial information on its website at http://www.mwdh2o.com/WhoWeAre/Management/Financial-Information/Pages/default.aspx#tab2. Contrary to Stratecon's incorrect statements, the applicants will not become Metropolitan customers; only Metropolitan member agencies are Metropolitan's customers. Again, the proper comparison is between SDCWA, a wholesaler, and Eastern, another wholesaler—not between SDCWA and Metropolitan, the regional wholesale provider to both SDCWA and Eastern.

Finally, if SDLAFCO grants Fallbrook's and Rainbow's request to reorganize, it will not violate the state's reduced reliance policy because:

1. The Delta Plan policy applies to covered actions in the Sacramento-San Joaquin Delta so granting the applicants requests to reorganize will not violate that policy.
2. Whether Rainbow and Fallbrook remains with SDCWA or detach and annex to Eastern, the molecules of Metropolitan water received by Rainbow and Fallbrook will be exactly the same.
3. The state's statutory policy is not a mandate, but a policy statement, and it applies to "regions" of the state, not individual water suppliers.
4. Metropolitan's water supply portfolio will not change with a reorganization of agencies within Metropolitan's already-existing jurisdiction.

We also attached more detailed comments on the Stratecon Reports. We copied the Delta Stewardship Council Chair with these comments so the Council has the benefit of Metropolitan's response regarding Delta supplies.

We would be happy to provide any additional information desired. Please feel free to contact me if you have any questions or would like anything further.

Sincerely,

Jeffrey Kightlinger
General Manager

Attachments:

1. SDLAFCO's questions and Metropolitan responses
2. Metropolitan's Rate Structure Administrative Procedures Handbook FY 2020/21
3. Metropolitan's Water Supply Allocation Plan
4. Metropolitan's comments on the Stratecon Reports

cc via electronic mail only w/attachments:

Susan Tatayon, Chair, Delta Stewardship Council, susan.tatayon@deltacouncil.ca.gov
Sandra Kerl, General Manager, SDCWA, skerl@sdcwa.org
Paul Jones, General Manager, Eastern, jonesp@emwd.org
Tom Kennedy, General Manager, Rainbow, tkennedy@rainbowmwd.com
Jack Bebee, General Manager, Fallbrook, jackb@fpud.com

Attachment 1A - SDLAFCO Questions

Please review the set of questions below and provide the relevant published source.

If any additional information is warranted, please include.

QUESTIONS:

- What local water supplies do Fallbrook and Rainbow each have access to?
  - If so, what are the direct costs to Fallbrook and Rainbow? (Please provide cost breakdown)

- What water supplies are controlled independently by SDCWA?
  - What are the present and future water amounts of those supplies?

- What are the costs to SDCWA per each local water resource?
  - Please include breakdown by source and cost component
  - Capital costs (i.e. when occurred, how financed and time expectation to be paid off)
  - Operating and related annual costs

- How does SDCWA allocate to its members agencies the water supplies that it controls?
  - During water shortages and droughts, how much water is allocated to Fallbrook and Rainbow?
  - What water sources are utilized and how is that determined?

- How does MWD allocate to its member agencies the water supplies that it controls?
  - In shortage situation, how much water would be made available to Fallbrook and Rainbow?
  - What water sources would be utilized and how is that determined?

- What are the various charges made by SDCWA to its member agencies?
  - Has the structure in charges changed in any way over the last 5-10 years?
  - If so, what factors caused the changes?

- What are the various charges made by MWD to its member agencies?
  - Has the structure in charges changed in any way over the last 5-10 years?
  - If so, what factors caused the changes?

- What major investments or capital projects have been made by SDCWA over the last 10 years?
  - i.e. water supplies, distribution, storage, treatment, facilities, etc.
  - Procedurally, how are those investments decided?
  - How does each member agency contribute/participate to the process?
  - What is the nature of each member agencies' commitment to future improvements?

Question 5:

How does MWD allocate to its member agencies the water supplies that it controls?

Metropolitan does not allocate any specific quantity of water to its member agencies. The amount and timing of water deliveries is determined by the member agency. The agencies order as much water as they determine they need from Metropolitan and Metropolitan operates its system to meet those needs as much as is possible. Metropolitan manages its system to make water deliveries to all member agencies based on several factors such as system capacity, water supply or storage availability, the location of the water supply resources, and water quality requirements and goals.

In a shortage situation, how much water would be made available to Fallbrook and Rainbow?

For shortage situations, Metropolitan has a Water Supply Allocation Plan (Plan), adopted by the Board in 2008 and implemented in 2009 and again in 2015. The goal of the Plan is to even out the hardships of water shortages throughout the entire Metropolitan service area so that some member agencies are not severely more impacted than others. It sets water delivery allocations and thresholds for its member agencies (not individual customers of those member agencies, such as Fallbrook and Rainbow) that trigger an increase in volumetric pricing should water use be higher than the thresholds outlined in the Plan. The base allocations and thresholds are calculated based on factors such as the member agency's past total water demand, reduced by that agency's available local supplies, non-Metropolitan supplies, and credited for certain types of extraordinary supplies, thereby reflecting the need of the agencies and the Plan's goals. The threshold level implemented is based on the depth of annual regional water supply shortage.

It is important to highlight that the Plan does not contemplate physically reducing or shutting off an agency's water deliveries from Metropolitan in response to an allocation. Instead, the financial implications of purchasing more water when the Plan is implemented encourages aggressive conservation during shortages. Therefore, during shortage, Eastern and SDCWA would be able to purchase as much water from Metropolitan as they decide to for deliveries to Fallbrook and Rainbow, subject to the factors mentioned above, such as system capacity and water supply or storage availability. A copy of the Plan is attached for reference.

What water sources would be utilized and how is that determined?

The primary sources of water for Metropolitan consist of water from the State Water Project and the Colorado River. On average SWP water is roughly 60% of Metropolitan's supplies with Colorado River water approximately 40% of Metropolitan's supply. Metropolitan manages those supplies to make current year deliveries and in wetter year when supply exceeds demands, Metropolitan stores the excess supply in storage accounts in reservoirs and groundwater basins for use in dry years and drought conditions.

As mentioned above, the water sources Metropolitan utilizes to make deliveries to member agencies are determined by considering several factors such as system capacity, water supply or storage availability, the location of the water supply resources, and water quality requirements and goals. Having an integrated and flexible system with multiple supply and storage resources allows Metropolitan to optimize deliveries in a way that maximizes regional water supply reliability for current and future years. The water sources that Metropolitan uses are not determined agency-by-

agency and as every year has its own unique hydrology, every year Metropolitan delivers a different blend of supply from different facilities to Eastern and SDCWA.

Question 7:

What are the various charges made by MWD to its member agencies?

Metropolitan has "postage stamp" water rates and charges for its wholesale water service, meaning the rates and charges apply uniformly to all member agencies. The rate structure is made up mostly of a volumetric full-service rate, including rate components recovering costs for the system, power, and supply. The supply rate has a tier structure that applies a Tier 1 rate for deliveries up to a specific level proportional to a percentage of a member agency's historical deliveries, and a higher Tier 2 water supply rate that applies to deliveries that exceed this level. The level at which Tier 2 is triggered depends upon whether a member agency has a purchase order commitment with Metropolitan, which allows it a higher level of purchases at the Tier 1 rate. Additionally, there is a treatment surcharge for treated potable water delivered by Metropolitan. Member agencies that purchase Metropolitan's untreated water deliveries (because they have their own water treatment facilities or use the water for agricultural use, for example) do not pay this treatment surcharge on their untreated water purchases.

Additionally, there are transactions-based fixed charges: a capacity charge and a readiness-to-serve charge. The capacity charge recovers the cost of providing peaking capacity within the distribution system which Metropolitan owns or has the rights to use. The readiness-to-serve charge is a fixed charge that recovers the costs of providing emergency service and available capacity to meet outages, emergencies and hydrologic variability. The amount each agency pays for each fixed charge is based on historical firm demands from Metropolitan. The attached Rates Handbook summarizes Metropolitan's currently applicable rates and charges.

Has the structure in charges changed in any way over the last 5-10 years?

No. This rate structure has been in effect since 2003. However, currently Metropolitan is not collecting the Water Stewardship Rate component of the Full-Service rate, or on the price of the Exchange Agreement with SDCWA through December 31, 2022. The Water Stewardship Rate is the component of the Full-Service rate that recovers the costs of demand management. Metropolitan is currently in a rate refinement process with its member agencies, part of which is to recommend a new cost recovery mechanism for demand management costs.

If so, what factors caused the changes?

Not applicable.

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Rate Structure Administrative Procedures Handbook

FY 2020/21

Table of Contents

1 Overview

The Rate Structure Administrative Procedures Handbook (Handbook) is provided to document Metropolitan's procedures for calculating, invoicing, collecting, and reconciling the components of Metropolitan's rate structure.

Metropolitan's current rate structure was adopted by its Board of Directors on October 16, 2001 through a lengthy and open process. The rate structure is designed in accordance with the Rate Structure Action Plan of December 12, 2000; the Composite Rate Structure framework of April 11, 2000; the Strategic Plan Policy Principles of December 14, 1999; and the Strategic Plan Steering Committee Guidelines of January 6, 2000.

The rate structure supports the strategic planning vision that Metropolitan is a regional provider of services, encourages the development of additional local supplies through programs such as recycling and conservation and accommodates a water transfer market. Through its regional services, Metropolitan ensures a baseline of reliability and quality for imported water deliveries in its service area. By unbundling its full-service water rate, Metropolitan provides transparency regarding its costs and a greater opportunity for member agencies to competitively manage their supplies and demands to meet future needs in a responsible and cost-effective manner.

This document supersedes all previous Rate Structure Administrative Procedures Handbooks and is supplemental and secondary to the definitions and procedures contained in Metropolitan's Administrative Code.

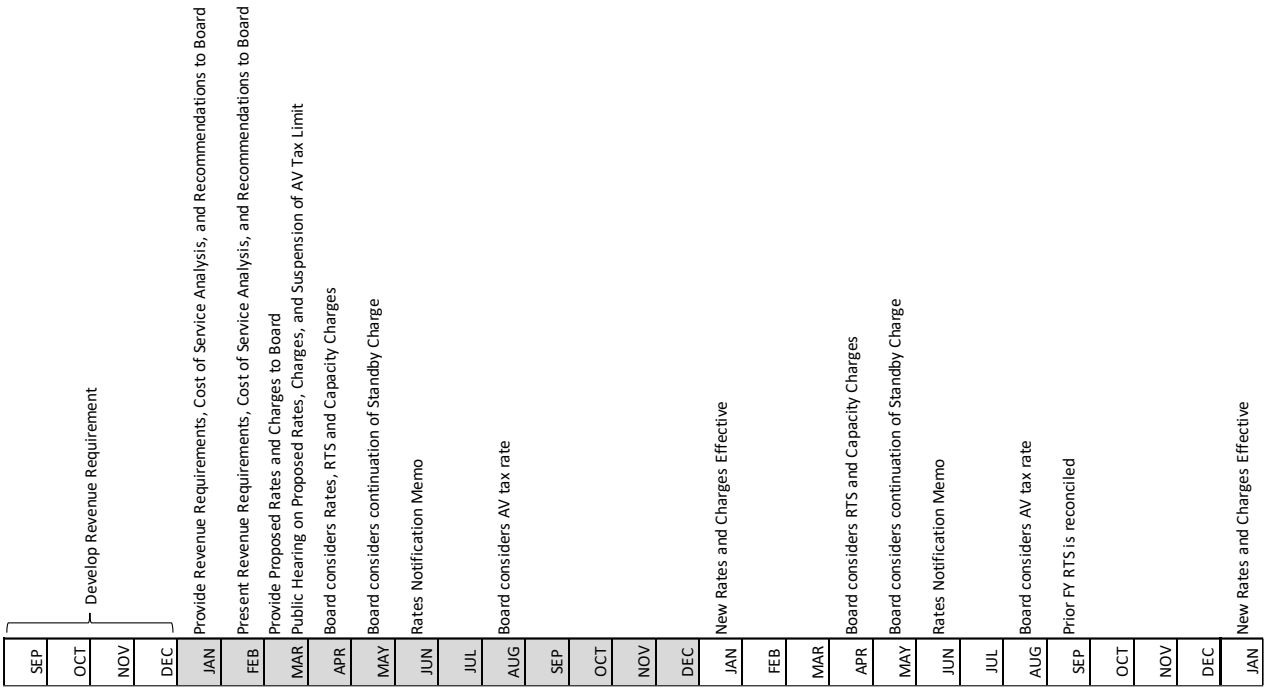
2 Rate Structure At-A-Glance

2.1 Current Rates

Table 1

Effective January 1st	2020	2021	2022
Tier 1 Supply Rate ($/AF)	$208	$243	$243
Tier 2 Supply Rate ($/AF)	$295	$285	$285
System Access Rate ($/AF)	$346	$373	$389
Water Stewardship Rate ($/AF)	$65	$0	$0
System Power Rate ($/AF)	$136	$161	$167
Full Service Untreated Volumetric Cost ($/AF)			
Tier 1	$755	$777	$799
Tier 2	$842	$819	$841
Treatment Surcharge ($/AF)	$323	$327	$344
Full Service Treated Volumetric Cost ($/AF)			
Tier 1	$1,078	$1,104	$1,143
Tier 2	$1,165	$1,146	$1,185
Readiness-to-Serve Charge ($M)	$136	$130	$140
Capacity Charge ($/cfs)	$8,800	$10,700	$12,200

2.2 Typical Two-year Rate Cycle & Billing Cycle Milestones



Every two years, the Board adopts a biennial budget for two fiscal years and water rates for two calendar years. Every year, including in mid-budget years, the Board adopts the Readiness-to-Serve (RTS) and Capacity Charges for one calendar year and determines whether to continue the Standby Charge for another fiscal year.

In April 2020, the Board:

(i) approved a Biennial Budget for fiscal year (FY) 2020/21 and FY 2021/22;
(ii) adopted rates for calendar year (CY) 2021 and CY 2022; and
(iii) adopted RTS and Capacity Charges for CY 2021.

In May 2020, the Board voted to continue the Standby Charge for FY 2020/21. In April 2021, the Board will consider whether to adopt charges (RTS and Capacity Charges) for CY 2022. In May 2021, the Board will consider whether to continue the Standby Charge for FY 2021/22.

Every year in August, the Board also sets the rates for ad valorem property taxes. The current biennial budget, rates, and charges adopted by the Board are based on maintaining the current ad valorem tax rate.

2.3 Water Services and Programs and Rate Components

2.3.1 Metropolitan Services to Member Agencies and Rate Components

	Rates & Charges That Apply						
Service	**System Access**	**Water Stewardship**	**System Power**	**Tier1/ Tier2**	**RTS**	**Capacity Charge**	**Treatment Surcharge**
Full Service Untreated	Yes	No*	Yes	Yes	Yes	Yes	No
Full Service Treated	Yes	No*	Yes	Yes	Yes	Yes	Yes
Wheeling Service**	Yes	No*	No***	No	Yes	Yes	Yes†

*In December 2019, the Board directed staff: (1) to incorporate the use of the 2019/20 fiscal-year-end balance of the Water Stewardship Fund to fund all demand management costs in the proposed FY 2020/21 and 2021/22 biennial budget; and (2) to not incorporate the Water Stewardship Rate, or any other rates or charges to recover demand management costs, with the proposed rates and charges for CYs 2021 and 2022.

**Metropolitan's rate for wheeling service applies to wheeling to member agencies in transactions of up to one year. The published wheeling rate, which has included the Water Stewardship Rate, is inapplicable for CYs 2021 and 2022. The rate for wheeling service at Metropolitan's Administrative Code Section 4405(b) is deemed inapplicable during that period. Any wheeling service to any member agency pursuant to Section 4405(a) will be provided at a price for the transaction to be agreed upon by Metropolitan and the member agency (as is already the case for wheeling of over one year to member agencies and wheeling of any duration to third parties).

***Under Metropolitan's rate for wheeling service, wheeling parties must pay for their own cost for power (if such power can be scheduled by Metropolitan) or pay Metropolitan for the actual cost (not system average) of power service utilized for delivery of the wheeled water. In addition, wheeling parties shall be assessed an administration fee of not less than $5,000 per transaction.

†If applicable.

Full Service

Full service water service, formerly known as non-interruptible water service, includes water sold for domestic and municipal uses.

Wheeling Service

Wheeling Service, to which Metropolitan's rate for wheeling service normally applies, refers to the use of Metropolitan's facilities, including its rights to use State Water Project facilities, to transport water not owned or controlled by Metropolitan to its member public agencies, in transactions entered into by Metropolitan for a period of up to one year. The wheeling rate for such water service was previously applicable as set forth in Section 4405(b), and included the Water Stewardship Rate. However, pursuant to the Board's direction, the Water Stewardship Rate does not apply in CYs 2021 and 2022 and therefore, the rate for wheeling service at Metropolitan's Administrative Code Section 4405(b) is deemed inapplicable during that period. Any wheeling service to any member agency pursuant to Section 4405(a) will be provided at a price for the transaction to be agreed upon by Metropolitan and the member agency (as is already the case for wheeling of over one year to member agencies and wheeling of any duration to third parties).See Section 9 for more information regarding Metropolitan's wheeling service to its member agencies.

2.3.2 Programs and Rate Components

Program	Rates & Charges That Apply						Tier1 Maximum
	Supply	System Access	Water Stewardship	System Power	RTS	Capacity Charge	
Full Service	Yes	Yes	No*	Yes	Yes	Yes	Yes
Conjunctive Use	Yes	Yes	No*	Yes	Yes	No	Yes
Cyclic	Yes	Yes	No*	Yes	Yes	No	Yes
Emergency Storage	Yes	Yes	No*	Yes	No	No	No

*In December 2019, the Board directed staff: (1) to incorporate the use of the 2019/20 fiscal-year-end balance of the Water Stewardship Fund to fund all demand management costs in the proposed FY 2020/21 and 2021/22 biennial budget; and (2) to not incorporate the Water Stewardship Rate, or any other rates or charges to recover demand management costs, with the proposed rates and charges for CYs 2021 and 2022.

Conjunctive Use Program

The Conjunctive Use Program is operated through individual agreements with member and retail agencies for groundwater storage within Metropolitan's service area. Wet-year imported supplies are stored to enhance reliability during dry, drought, and emergency conditions. Metropolitan has the option to call water stored in the groundwater basins for the participating member agency pursuant to its contractual conjunctive use agreement. At the time of the call, the member agency pays the prevailing rate for that water, but the deliveries are excluded from the calculation of the Capacity Charge because Conjunctive Use Program deliveries are made at Metropolitan's discretion. Conjunctive use programs may also contain cost-sharing terms related to operational costs.

Cyclic Program

The Cyclic Program refers collectively to the existing Cyclic Storage Program agreements and the Pre-Deliveries Program. The Program is operated through individual agreements with member agencies for groundwater or surface water storage or pre-deliveries within Metropolitan's service area. Wet-year imported supplies are stored or delivered in advance of a scheduled sale to enhance reliability for Metropolitan during dry, drought, and emergency conditions. Deliveries to the cyclic accounts are at Metropolitan's discretion while member agencies have discretion on whether they want to accept the water. At the time the water is delivered from the cyclic account, the prevailing full-service rate applies, but deliveries are excluded from the calculation of the Capacity Charge because Cyclic Program deliveries are made at Metropolitan's discretion. Cyclic agreements may also contain a credit payable to the member agencies under terms approved by the Board in April 2019.

Emergency Storage Program

The Emergency Storage Program is used for delivering water for emergency storage in surface water reservoirs and storage tanks. Emergency Storage Program purposes include initially filling a newly constructed reservoir or storage tank and replacing water used during an emergency. Because Metropolitan could interrupt delivery of this water, Emergency Storage Program Deliveries are excluded from the calculation of the RTS Charge, the Capacity Charge, and the Tier 1 maximum.

2.4 Billing Measurement Basis

Rate Component	Based on		Year Type	Notes
Tier 1 Limit (Tier 1/Tier 2 Breakpoint)	With Purchase Order: 90% Base Period Demand Without Purchase Order: 60% of Revised Base Firm Demand		Calendar	With Purchase Order: 10-year cumulative calculation Without Purchase Order: Annual
	Base Period Demand	Choice of (1) Revised Base Firm Demand or (2) the highest fiscal year purchases in FY 03- FY 14, with potential reset to Five-Year Rolling-Average	Fiscal	One-year lag
	Revised Base Firm Demand	Amounts listed in Administrative Code Section 4122	Calendar	
RTS Charge	Ten-Year Rolling Average Firm Demands		Calendar	One-year lag
Capacity Charge	3-Year Trailing Peak		Calendar	One-year lag; Only May-Sept. flows

3 Purchase Order

3.1 Background

Purchase Orders are voluntary agreements that determine the amount of water that a member agency can purchase at the Tier 1 Supply Rate. Under the Purchase Orders, member agencies have the option to purchase a greater amount of water at the lower Tier 1 Supply Rate in exchange for a commitment to purchase a minimum amount of water (based on past purchase levels) over the term of the Purchase Order. Such agreements allow member agencies to manage costs and provide Metropolitan with a measure of secure revenue.

In November 2014, the Metropolitan Board approved new Purchase Orders effective January 1, 2015 through December 31, 2024 (the "Purchase Order Term"). Twenty-one of the twenty-six member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the "Purchase Order Commitment").

The key terms of the Purchase Orders include:

- A ten-year term, effective January 1, 2015 through December 31, 2024;
- A higher Tier 1 limit based on the Base Period Demand, determined by the member agency's choice between (1) the Revised Base Firm Demand, which is the highest fiscal year purchases during the 13-year period of FY 1990 through FY 2002, or the highest year in the most recent 12-year period of FY 2003 through FY 2014. The demand base is unique for each member agency, reflecting its use of Metropolitan's system water over time;
- An overall purchase commitment by the member agency based on the Demand Base Period chosen, times ten to reflect the ten-year Purchase Order term. Those agencies choosing the more recent 12-year period may have a higher Tier 1 Maximum and commitment. The commitment is also unique for each member agency;
- The opportunity to reset the Base Period Demand using a five-year rolling average;
- Any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any Purchase Order commitment obligation; and
- An appeals process for agencies with unmet purchase commitments that will allow each acre-foot of unmet commitment to be reduced by the amount of production from a local resource project that commences operation on or after January 1, 2014.

Member agencies that do not have Purchase Orders in effect are subject to Tier 2 Supply Rates for amounts exceeding 60 percent of their base amount (equal to the member agency's highest fiscal year demand between 1989-90 and 2001-02) annually.

3.2 Administration

3.2.1 Purchase Order Commitment

Purchase Order Commitments are unique for each member agency. The commitment is calculated based on the demand base chosen (the "Base Period Demand") and multiplied by ten to reflect the ten-year Purchase Order Term. If a member agency opted to use the Revised Base Firm Demand, which is the highest fiscal year purchases during the original 13-year period of FY 1990 through FY 2002 for their Purchase Order, their Commitment is 60% of the 2003 Initial Base Firm Demand, the same as the previous Amended and Restated Purchase Order agreement, multiplied by ten. If a member agency opted to use the more recent 12-year period of FY 2003 through FY 2014 for their Purchase Order, their Commitment is 60% of the highest year in the period of FY 2003 through FY 2014, multiplied by ten. The Purchase Order Commitment is fixed for the Purchase Order Term.

At the end of the Purchase Order Term, if the member agency has not purchased enough firm supply to meet its Purchase Order Commitment, it will be billed for the remaining balance of the Purchase Order Commitment at the

average of the Tier 1 Supply Rate in effect during the Term. This payment may be prorated with interest evenly over the next 12 invoices.

If a member agency fulfills its Purchase Order Commitment prior to the end of the Purchase Order Term, then the member agency has met its obligation under the Purchase Order. The member agency may continue to purchase up to 90 percent of its cumulative Base Period Demand over the Term at the Tier 1 Supply Rate for the duration of the Purchase Order Term.

Firm water purchases made under the terms of the Purchase Order agreements are subject to reduction in accordance with the shortage allocation provisions of the Water Surplus and Drought Management Plan (WSDM Plan) implemented through the Water Supply Allocation Plan (WSAP). In the event that Metropolitan's Board or General Manager determines to reduce, interrupt or suspend deliveries of water, any outstanding balance of the Purchase Order Commitment at the end of the Term will be reduced by the "Purchase Order Commitment—Annual Average" for each and every fiscal or calendar year that a reduction, interruption or suspension occurred.

The following water sales will be counted toward the Purchase Order Commitment:

- Tier 1 sales
- Tier 2 sales
- Conjunctive Use sales
- Cyclic Program sales

The following table shows the remaining purchase order commitments:

Table 2

Purchase Orders (acre-feet)			
Member Agency	Commitments (Jan. 2015 - Dec. 2024)	Firm Purchases (Jan. 2015 - Feb. 2020)	Remaining PO Commitments
Anaheim	148,270	71,208	77,062
Beverly Hills	89,200	51,120	38,080
Burbank	108,910	75,021	33,889
Calleguas	788,180	457,726	330,454
Central Basin*	-	185,870	-
Compton*	-	62	-
Eastern	783,900	417,548	366,352
Foothill	73,310	40,410	32,900
Fullerton	75,320	32,207	43,113
Glendale	174,810	76,266	98,544
Inland Empire	398,350	281,637	116,713
Las Virgenes	162,390	98,650	63,740
Long Beach	263,140	142,196	120,944
Los Angeles	2,033,130	1,149,008	884,122
MWDOC	2,144,230	1,003,955	1,140,275
Pasadena	153,100	94,049	59,051
San Diego CWA*	-	1,003,513	-
San Fernando*	-	-	-
San Marino	9,610	4,821	4,789
Santa Ana	80,860	40,688	40,172
Santa Monica*	-	17,920	-
Three Valleys	537,920	323,117	214,803
Torrance	128,030	77,527	50,503
Upper San Gabriel	110,080	207,480	-
West Basin	902,780	579,103	323,677
Western MWD	705,220	328,048	377,172
TOTAL	9,870,740	6,759,151	4,416,354

*No Purchase Order

Data as of 3/2020

3.2.2 Tier 2 Supply Rate

The Tier 2 Supply Rate applies to purchases in excess of a member agency's Tier 1 Maximum, which is 60 percent of a member agency's Revised Base Firm Demand, for those without purchase orders, and 90 percent of the Base Period Demand, for those with purchase orders. The Base Period Demand is the peak year of the member agency's selected demand base period.

Unlike the fixed Purchase Order Commitment, the Tier 1 Maximum may increase over time. The five-year rolling average is compared to the Base Period Demand annually. If the five-year rolling average exceeds the current Base Period Demand, the Base Period Demand will reset to the current five-year rolling average. Once a Base Period Demand is reset it will not decrease.

For member agencies with Purchase Orders, the obligation to pay the Tier 2 Supply Rate will be calculated over the Purchase Order Term, consistent with the calculation of the commitment obligation. In this way, the Purchase Order

focuses any Tier 2 obligation on demands exceeding Metropolitan's long-term averages. Calculating member agencies' Tier 2 obligations over the entire Term also accommodates responsible and sustainable water management by member agencies that may be cost prohibitive if Tier 2 obligations were calculated annually. For example, the cumulative calculation of any Tier 2 obligation allows member agencies with Purchase Orders to take large amounts of water in a short period of time in order to replenish storage but still stay within their Tier 1 base demand as long as they manage their deliveries.

At the end of year five of the Purchase Order, no member agency had exceeded the Tier 1 Maximum. Therefore, any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any purchase order commitment obligation. Any member agency without a Purchase Order must pay their Tier 2 obligation in the calendar year in which it accrues.

The table below shows the Base Period Demand and Tier 1 Maximum for each member agency:

Table 3

Tier 1 annual maximum (acre-feet)					
Member Agency	Base Selected	5-Year Rolling Average No Allocation Years (FY14/15, FY16/17, FY17/18, FY18/19)	Base Reset Year	2021 Base	Annual Average Tier 1 Maximum
Anaheim	27,154	13,890		27,154	24,439
Beverly Hills	14,867	10,195		14,867	13,380
Burbank	18,640	14,426		18,640	16,776
Calleguas	131,364	90,791		131,364	118,228
Central Basin*	119,617	37,014		119,617	71,770
Compton*	5,620	6		5,620	3,372
Eastern	130,650	83,526		130,650	117,585
Foothill	13,081	8,164		13,081	11,773
Fullerton	12,554	6,902		12,554	11,299
Glendale	29,135	15,380		29,135	26,222
Inland Empire	103,648	59,696		103,648	93,283
Las Virgenes	27,065	20,033		27,065	24,359
Long Beach	57,560	29,969		57,560	51,804
Los Angeles	372,959	224,228	2016	415,136	373,623
MWDOC	357,372	214,117		357,372	321,635
Pasadena	25,517	18,540		25,517	22,965
San Diego CWA*	655,903	216,691		655,903	393,542
San Fernando*	1,049	25		1,049	629
San Marino	1,602	956		1,602	1,442
Santa Ana	21,797	8,871		21,797	19,617
Santa Monica*	12,344	3,761		12,344	7,406
Three Valleys	89,653	62,620		89,653	80,688
Torrance	21,338	15,559		21,338	19,204
Upper San Gabriel	74,698	42,818		74,698	67,228
West Basin	150,464	113,562		150,464	135,418
Western MWD	117,537	68,744		117,537	105,783
TOTAL	2,593,188	1,380,484		2,635,365	2,133,470

*No Purchase Order; T1 maximum is annual, not cumulative

Data as of 3/2020

4 Tier 1 and Tier 2 Supply Rates

4.1 Purpose

The Tier 1 Supply Rate is a volumetric rate charged on Metropolitan water sales that are within a member agency's Tier 1 maximum, reflecting the costs of water supply. The Tier 2 Supply Rate is a volumetric rate that reflects Metropolitan's cost of purchasing water transfers north of the Delta. The Tier 2 Supply Rate encourages the member agencies and their customers to maintain existing local supplies and develop cost-effective local supply resources and conservation.

Due to Metropolitan's role as a supplemental supplier of imported water, Metropolitan's water transactions are highly variable and unpredictable from year to year. Variation occurs for many reasons. The demand for supplemental supplies is dependent on water use at the retail consumer level and the amount of local water supplies available to member agencies. Consumer demand and locally supplied water vary from year to year, resulting in variability in Metropolitan's water transactions. Both economic growth and recessions can lead to increases and decreases in demand. Weather also affects demands. Member agencies rely on Metropolitan during times of operational emergencies.

The cost of service analysis and the resulting RTS Charge, Capacity Charge, and volumetric rates capture the costs of these varying needs. Tiered rates allow Metropolitan to cover higher incremental resource costs and encourage member agencies to manage demand and other sources in a manner that is consistent to Metropolitan's long-term average forecasts.

4.2 Administration

The rate structure recovers supply costs through a two-tiered price structure. Both the Tier 1 Supply Rate and the Tier 2 Supply Rate are uniform, volumetric rates. The Tier 2 Supply Rate is charged to member agencies that have demands from Metropolitan that exceed their Tier 1 Maximum.

Member agencies that submitted a Purchase Order may purchase up to 90 percent of their Base Period Demand at the lower Tier 1 Supply Rate. At the end of year five of the Purchase Order, no member agency had exceeded the Tier 1 Maximum. Therefore, any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any purchase order commitment obligation.

Member agencies that did not submit a Purchase Order will be charged the higher Tier 2 Supply Rate for supplies that exceed 60 percent of their Revised Base Firm Demand. Any member agency without a Purchase Order must pay their Tier 2 obligation in the calendar year in which it accrues.

An agency that exceeds its Tier 1 Annual Limit will most likely do so in the latter part of the calendar year. Therefore, from a member agency cash flow perspective, the Tier 2 Supply Rate, when applicable, will most likely be incurred at the beginning of a member agency's fiscal year.

4.3 Tier 2 Supply Rate Billing Method

Because the Tier 1 Maximum is set at a total member agency level and not at a meter level, all system water delivered will be billed at the Tier 1 Supply Rate. Any water delivered that exceeds the Tier 1 maximum will be billed an additional amount equivalent to the difference between the Tier 2 and Tier 1 Supply Rates.

For member agencies without Purchase Orders and member agencies with Purchase Orders that accrue a cumulative Tier 2 obligation at the end of year five of the Purchase Order, the Tier 2 Supply Rate will be applied in the month where the Tier 1 maximum is surpassed on all applicable deliveries. For member agencies with a Purchase Order that do not accrue a cumulative Tier 2 obligation at the end of year five of the Purchase Option, any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, at the end of the Purchase Order term, consistent with the calculation of any Purchase Order Commitment obligation.

4.4 Certification Effects

As water sales are reclassified via the certification process, the year-to-date total of Tier 1 and Tier 2 purchases may also be changed. If the total falls below the Tier 1 Maximum, then the volume of water that had been billed at the Tier 2 Supply Rate will be adjusted for the difference between the Tier 2 and Tier 1 Supply Rates. Credits and charges will be applied to the monthly invoice as appropriate.

5 Capacity Charge

5.1 Purpose

The Capacity Charge recovers costs incurred to provide peaking capacity within Metropolitan's distribution system.

The Capacity Charge provides a price signal to encourage member agencies to reduce peak day demands on the system and to shift demands that occur during the May 1 through September 30 period into the October 1 through April 30 period. This results in more efficient utilization of Metropolitan's existing infrastructure and defers capacity expansion costs.

5.2 Administration

Each member agency will pay the Capacity Charge based on a three-year trailing maximum peak day flow. Due to accepted certifications and error corrections, peak day flows may change for up to three years after the month of delivery. Therefore, the Three Year Trailing Max Peak Day is calculated with a one-year lag.

Table 4

Calendar Year 2021 Capacity Charge

	Peak Day Demand (cfs) (May 1 through September 30) Calendar Year				Rate ($/cfs): $10,700
AGENCY	2017	2018	2019	3-Year Peak	Calendar Year 2021 Capacity Charge
Anaheim	33.0	37.2	37.1	37.2	398,040
Beverly Hills	25.7	27.8	23.5	27.8	297,460
Burbank	14.0	17.1	17.3	17.3	185,110
Calleguas	186.5	184.7	168.9	186.5	1,995,550
Central Basin	36.7	39.2	48.6	48.6	520,020
Compton	0.1	6.9	2.9	6.9	73,830
Eastern	216.6	225.1	223.3	225.1	2,408,570
Foothill	18.6	19.9	16.0	19.9	212,930
Fullerton	13.0	13.3	13.1	13.3	142,310
Glendale	41.4	33.5	32.2	41.4	442,980
Inland Empire	140.5	147.8	118.7	147.8	1,581,460
Las Virgenes	44.6	45.9	39.4	45.9	491,130
Long Beach	55.2	80.4	51.8	80.4	860,280
Los Angeles	250.4	284.6	283.2	284.6	3,045,220
MWDOC	418.6	442.3	263.2	442.3	4,732,610
Pasadena	39.9	43.0	40.0	43.0	460,100
San Diego	749.7	855.5	672.0	855.5	9,153,850
San Fernando	-	-	-	-	-
San Marino	7.5	4.5	2.3	7.5	80,250
Santa Ana	19.9	19.3	19.4	19.9	212,930
Santa Monica	16.6	16.7	20.7	20.7	221,490
Three Valleys	126.4	142.9	128.1	142.9	1,529,030
Torrance	34.0	32.6	27.8	34.0	363,800
Upper San Gabriel	12.1	23.3	29.1	29.1	311,370
West Basin	201.7	202.4	211.8	211.8	2,266,260
Western	175.2	194.7	170.5	194.7	2,083,290
Total	**2,877.9**	**3,140.6**	**2,660.9**	**3,184.1**	**34,069,870**

Totals may not foot due to rounding
Data as of 3/2020

5.3 Adjustment for Excluded Transactions

Some water programs are not subject to the Capacity Charge. Some water programs are certified on a monthly basis and it is not known at what point in time during a month that water was delivered. Metered daily flows used to calculate the Three Year Trailing Max Peak Day are reduced using the ratio of certified water program deliveries to total monthly deliveries (see example below). This adjustment is performed annually in November.

Monthly volumetric delivery to member agency (acre-feet)	1,000
Monthly delivery certified as exempt from Capacity Charge	100
Ratio of exempt delivery to total delivery	10.0%
Unadjusted Peak Day Flow (cfs)	40.0
Reduction in peak day flow (cfs) = Peak Day Flow * Ratio	4.0
Adjusted Peak Day Flow (cfs)	36.0

5.4 Adjustment for Conjunctive Use Program

Conjunctive Use deliveries are excluded from the calculation of the Capacity Charge because Conjunctive Use Program deliveries are made at Metropolitan's discretion. Peak day flows are adjusted for Conjunctive Use Program deliveries as described in 5.3 above.

5.5 Adjustment for Cyclic Program

Cyclic deliveries are excluded from the calculation of the Capacity Charge because Cyclic deliveries are made at Metropolitan's discretion. Peak day flows are adjusted for Cyclic deliveries as described in 5.3 above.

5.6 Adjustment for H-Constant Meters

Beginning January 1, 2004, agencies that receive deliveries using connections with "H Constant Meters" or non-AMR meters will have the daily average flow in cfs calculated for those meters included in the Capacity Charge. The daily average flow will only be calculated for the period that the meter was in operation.

Due to data constraints, the daily average flow for "H Constant Meters" or non-AMR meters will be calculated using the entire month as a denominator for any period prior to January 1, 2004.

5.7 Billing

Member agencies may elect to pay their Capacity Charge semiannually, quarterly, or monthly. Unless the member agency provides a written request to the Chief Financial Officer by July 31st to change its current billing preference it will continue to be billed under its current preference.

Billing for the Capacity Charge will be based on the Resolution adopted by Metropolitan's Board at its April meeting. Billing determinants for the Capacity Charge will be determined based on billing data around March 1st of the year prior to the test year. Certifications for water programs must be received by this date to be included in the billing determinants for the capacity charge.

For the purpose of assessing the Capacity Charge, the daily average flows by meter are calculated as the average of 96 meter reads recorded every 15-minute interval during the day. These daily average meter flows are aggregated for each member agency to develop the daily average flows for the agency. This calculation is repeated for each day in the applicable 15-month period (May through September, of last three years). The highest daily average flow establishes the peak day demand for the purpose of computing the Capacity Charge.

6 Readiness-To-Serve Charge

6.1 Purpose

The Readiness-to-Serve ("RTS") Charge recovers the costs of providing emergency storage capacity and available capacity to meet outages and hydrologic variability.

6.2 Administration

The RTS Charge is a fixed charge that is allocated among the member agencies based on each agency's proportional share of a ten-fiscal year rolling average of all firm demands, including water exchanges and transfers (such as wheeling) that use Metropolitan system capacity.

Firm demands include:

- Tier 1 sales
- Tier 2 sales
- Seasonal Storage Service – Shift sales
- Conjunctive Use sales
- Cyclic Program sales
- Water transfers (such as wheeling)
- Water exchanges

The table below shows the Total RTS Charge effective during Fiscal Year 2020/21.

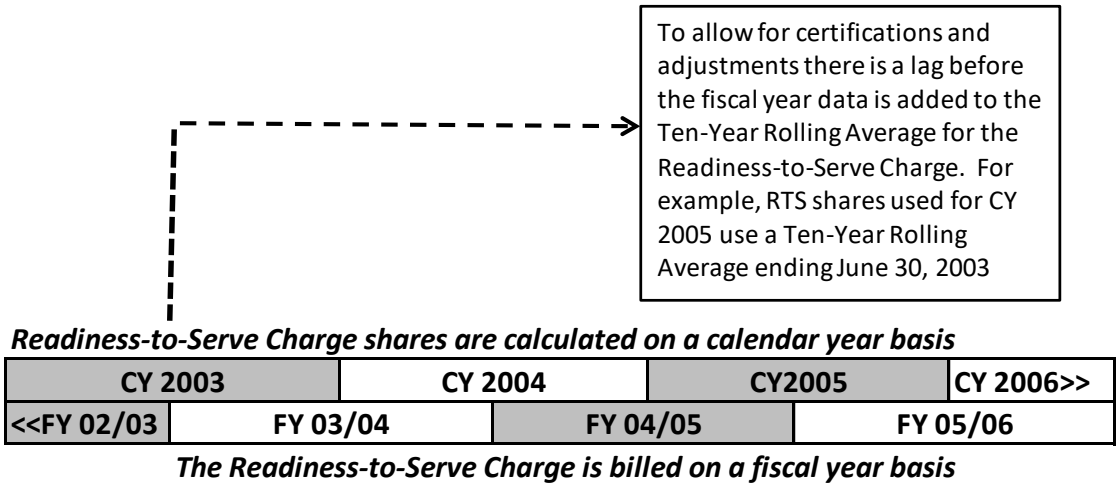
Table 5

Fiscal Year 2020/21 READINESS-TO-SERVE (RTS) CHARGE

Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2008/09 - FY2017/18	RTS Share	6 months @ $136 million per year (7/20-12/20)	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2009/10 - FY2018/19	RTS Share	6 months @ $130 million per year (1/21-6/21)	Total RTS Charge
Anaheim	18,484.7	1.19%	$ 808,227	17,327.0	1.17%	$ 763,281	$ 1,571,508
Beverly Hills	10,636.8	0.68%	465,085	10,447.3	0.71%	460,220	$ 925,304
Burbank	12,505.3	0.80%	546,783	12,323.6	0.84%	542,874	$ 1,089,657
Calleguas	100,327.3	6.45%	4,386,723	97,187.9	6.59%	4,281,277	$ 8,668,000
Central Basin	45,375.1	2.92%	1,983,986	42,103.2	2.85%	1,854,711	$ 3,838,697
Compton	1,052.6	0.07%	46,024	779.3	0.05%	34,329	$ 80,353
Eastern	95,589.5	6.15%	4,179,567	94,362.5	6.40%	4,156,814	$ 8,336,381
Foothill	8,761.7	0.56%	383,098	8,395.4	0.57%	369,830	$ 752,928
Fullerton	8,520.9	0.55%	372,569	8,125.5	0.55%	357,941	$ 730,510
Glendale	17,219.1	1.11%	752,890	16,548.0	1.12%	728,965	$ 1,481,855
Inland Empire	58,335.2	3.75%	2,550,655	56,560.7	3.83%	2,491,586	$ 5,042,242
Las Virgenes	20,859.4	1.34%	912,059	20,448.6	1.39%	900,792	$ 1,812,851
Long Beach	31,074.3	2.00%	1,358,696	30,374.2	2.06%	1,338,030	$ 2,696,727
Los Angeles	298,801.6	19.21%	13,064,838	269,779.5	18.28%	11,884,203	$ 24,949,041
MWDOC	214,227.5	13.77%	9,366,909	207,817.5	14.08%	9,154,682	$ 18,521,591
Pasadena	19,306.1	1.24%	844,142	18,839.6	1.28%	829,913	$ 1,674,056
San Diego	287,538.4	18.49%	12,572,364	258,318.0	17.51%	11,379,307	$ 23,951,671
San Fernando	35.7	0.00%	1,561	35.6	0.00%	1,568	$ 3,129
San Marino	854.7	0.05%	37,371	837.7	0.06%	36,902	$ 74,273
Santa Ana	11,281.3	0.73%	493,265	10,780.4	0.73%	474,893	$ 968,158
Santa Monica	6,403.0	0.41%	279,966	5,511.2	0.37%	242,777	$ 522,742
Three Valleys	62,968.2	4.05%	2,753,229	62,229.1	4.22%	2,741,288	$ 5,494,517
Torrance	16,507.9	1.06%	721,793	15,990.2	1.08%	704,393	$ 1,426,186
Upper San Gabriel	22,639.8	1.46%	989,905	26,406.0	1.79%	1,163,225	$ 2,153,130
West Basin	116,023.0	7.46%	5,073,004	115,327.9	7.82%	5,080,372	$ 10,153,376
Western	69,876.5	4.49%	3,055,289	68,688.3	4.66%	3,025,826	$ 6,081,114
MWD Total	**1,555,205.6**	**100.00%**	**$ 68,000,000**	**1,475,544.2**	**100.00%**	**$ 65,000,000**	**$ 133,000,000**

Totals may not foot due to rounding
Data as of 3/2020

6.3 RTS Charge Annual Calculation and Application Timeline



6.4 Application of Standby Charge Revenues

Twenty-two of the twenty-six member agencies have elected since FY 1993/94 to have Metropolitan collect the Standby Charge on property tax bills for parcels of land in the agency's service area to offset all or a portion of their RTS obligation.

See Section 7 of this Handbook for more detail on Standby Charge revenues.

6.5 RTS Charge Invoice Schedule

Member agencies may elect to pay their RTS obligation (net of estimated Standby Charge revenues, if applicable) semiannually, quarterly, or monthly. Each year, member agencies will be notified of the amount payable under each alternative payment schedule for the fiscal year. Member agencies will notify Metropolitan prior to July 31 of their choice for their RTS Charge payment schedule for fiscal year invoices.

Semi-annual payments will be invoiced with the October and April water invoices, due in December and June, respectively. Quarterly charges will be invoiced with the July, October, January, and April water invoices, due September, December, March, and June, respectively. Monthly charges paid in twelve (12) equal installments will be invoiced beginning with the July water invoice, which is due in September, and ending with the June water invoice, which is due in August.

In the event that actual net Standby Charge revenues collected in an agency's service area exceed the member agency's RTS obligation, the excess revenues may (1) be credited to other outstanding obligations of such member agency to Metropolitan that may be paid by the Standby Charge, or (2) carried forward to offset future RTS obligations.

Billing for the RTS Charge is based on the Resolution, as adopted by the Board at its April meeting. Billing determinants for the RTS Charge will be determined based on billing data around March 1st of the year the new charge goes into effect. Certifications for water programs must be received by this date to be included in the billing determinants for the RTS Charge.

If any member agency believes there is a miscalculation of its RTS Charge, we ask that member agency staff notify the Chief Financial Officer's Budget and Financial Planning contacts identified in this Handbook. Staff will work with member agency representatives to resolve any miscalculations in a timely manner.

6.6 Estimated Net RTS Charge

Table 6 indicates the estimated net RTS Charge obligation for FY 2020/21, after application of estimated standby charge collections.

Table 6

ESTIMATED NET FY 2020/21 READINESS-TO-SERVE (RTS) CHARGE

		ESTIMATED STANDBY CHARGES			
Member Agency	Total RTS Charge	Gross Standby Charge Revenues	Delinquencies & Administrative	Net Standby Charge	Estimated Net RTS Charge
Anaheim	$ 1,571,508	$ 586,789	$ 26,631	$ 560,159	$ 1,011,349
Beverly Hills	925,304	-	-	-	925,304
Burbank	1,089,657	413,833	17,895	395,938	693,719
Calleguas MWD	8,668,000	2,484,527	111,319	2,373,207	6,294,793
Central Basin MWD	3,838,697	3,552,963	157,784	3,395,179	443,518
Compton	80,353	90,721	4,464	86,257	(5,904)
Eastern MWD	8,336,381	2,784,940	129,869	2,655,071	5,681,310
Foothill MWD	752,928	311,994	13,877	298,117	454,811
Fullerton	730,510	377,521	16,723	360,798	369,712
Glendale	1,481,855	551,143	24,120	527,023	954,832
Inland Empire Utilities Agency	5,042,242	1,979,191	91,171	1,888,020	3,154,221
Las Virgenes MWD	1,812,851	429,823	19,657	410,166	1,402,685
Long Beach	2,696,727	1,124,411	49,233	1,075,178	1,621,549
Los Angeles	24,949,041	-	-	-	24,949,041
Municipal Water District of Orange County	18,521,591	7,497,253	330,243	7,167,010	11,354,581
Pasadena	1,674,056	460,865	20,243	440,622	1,233,434
San Diego County Water Authority	23,951,671	12,774,707	562,078	12,212,629	11,739,042
San Fernando	3,129	-	-	-	3,129
San Marino	74,273	40,972	1,868	39,104	35,169
Santa Ana	968,158	431,940	19,801	412,139	556,019
Santa Monica	522,742	-	-	-	522,742
Three Valleys MWD	5,494,517	1,858,926	81,365	1,777,561	3,716,956
Torrance	1,426,186	496,476	21,728	474,748	951,439
Upper San Gabriel Valley MWD	2,153,130	1,983,041	89,169	1,893,872	259,259
West Basin MWD	10,153,376	-	-	-	10,153,376
Western MWD	6,081,114	3,571,097	160,653	3,410,444	2,670,670
MWD Total	$ 133,000,000	$ 43,803,133	$ 1,949,890	$ 41,853,242	$ 91,146,757

Totals may not foot due to rounding
Data as of 3/2020

7 Standby Charge

7.1 Purpose

Metropolitan's Standby Charge is collected from parcels within the service areas of 22 member agencies that have elected since FY 1993/94 to pay all or a portion of their RTS Charge obligation through the Standby Charge. Each year, the Board considers the continuation of the Standby Charge for the participating member agencies at amounts not to exceed the rates in place in FY 1996/97, when Proposition 218 was approved by the voters. The Standby Charge rates for the participating member agencies have not exceeded the rates since FY 1993/94.

7.2 Standby Charge Per Parcel

The Standby Charge for each acre or parcel of less than an acre will vary from member agency to member agency as shown in Table 7. The Standby Charge has been collected at rates that do not exceed the rates set in FY 1993/94.

Table 7

Estimated Standby Charge Revenues FY2020/21

Member Agencies	Total Parcel Charge	Number of Parcels or Acres	Gross Revenues [1]
Anaheim	$ 8.55	68,630	$ 586,789
Beverly Hills	-	-	-
Burbank	14.20	29,143	413,833
Calleguas MWD	9.58	259,345	2,484,527
Central Basin MWD	10.44	340,322	3,552,963
Compton	5.00	18,144	90,721
Eastern MWD	6.94	401,288	2,784,940
Foothill MWD	10.28	30,350	311,994
Fullerton	10.71	35,249	377,521
Glendale	12.23	45,065	551,143
Inland Empire Utilities Agency	7.59	260,763	1,979,191
Las Virgenes MWD	8.03	53,527	429,823
Long Beach	12.16	92,468	1,124,411
Los Angeles	-	-	-
MWD of Orange [2]	10.09	659,398	7,497,253
Pasadena	11.73	39,289	460,865
San Diego CWA	11.51	1,109,879	12,774,707
San Fernando	-	5,102	-
San Marino	8.24	4,972	40,972
Santa Ana	7.88	54,815	431,940
Santa Monica	-	-	-
Three Valleys MWD	12.21	152,246	1,858,926
Torrance	12.23	40,595	496,476
Upper San Garbriel Valley MWD	9.27	213,920	1,983,041
West Basin MWD	-	-	-
Western MWD of Riverside Co.	9.23	386,901	3,571,097
MWD Total		4,301,414	$ 43,803,133

(1) Estimates per FY2019/20 applied amounts
(2) Adjusted for inclusion of Coastal MWD

Note: Totals may not foot due to rounding

7.3 Collections

The Standby Charge is collected on the tax rolls, together with *ad valorem* property taxes. Any Standby Charge amounts so collected will be applied as a credit against the participating member agency's RTS Charge obligation. Delinquent payments collected on behalf of a member agency will be credited to the member agency in the year of collection. Copies of reports and/or statements from county tax collectors showing standby charges collected on behalf of a member agency are available for inspection at Metropolitan's headquarters and will be provided to member agencies upon request.

If a participating member agency's Standby Charge collections exceed that agency's RTS Charge obligation, those additional collections shall be credited to other outstanding obligations of that agency that fund the capital costs or maintenance and operation expenses for Metropolitan's water system, or future RTS Charge obligations of such agency. If a participating member agency's Standby Charge collections are not sufficient to meet that agency's RTS Charge obligation, that agency shall pay Metropolitan within fifty days after Metropolitan issues an invoice for any remaining RTS Charge obligation.

7.4 Estimation of Net Standby Charge Revenues

Metropolitan estimates net Standby Charge revenues that would be available as a credit against a member agency's RTS obligation for the following fiscal year. The estimate of gross Standby Charge revenue is based on the most recent estimate of the number of parcels or acres (billing units) in each member agency's service area, which is the current fiscal year 2019/20.

The Standby Charge revenues estimate also includes a reduction for Standby Charges that will not be collected by Metropolitan during the current fiscal year. Actual Standby Charge revenue received by Metropolitan on behalf of member agencies may be less than projected collections due to:

- Delinquent collections
- Unbilled charges
- County charges for collection services
- Exempted properties.

Revenue adjustments for FY 2020/21 were estimated to be 2 percent of each member agency's gross Standby Charge revenues based on past collections.

7.5 Administrative Charges

Metropolitan contracts for the administration of the Standby Charge. The estimated costs for this service (data management, the acquisition of county assessors tax rolls, and revenue collections) for each agency is allocated to member agencies from which Standby Charges are collected according to proportionate billing units Metropolitan will determine the amount of actual Standby Charge revenues collected on behalf of member agencies for the previous fiscal year ending June 30. Actual administrative charges will then be allocated to member agencies in proportion to the number of billing units associated with actual Standby Charge revenues received from county tax collectors for the fiscal year to determine actual net Standby Charge revenues.

7.6 Invoice Adjustments

Metropolitan will prepare a statement by September 30 reconciling estimated and actual net Standby Charge revenues for the previous fiscal year ending June 30. Copies of all documentation supporting the accounting review are available at Metropolitan headquarters.

Metropolitan is responsible for making the adjustments on the next regularly scheduled water invoice (October 10). Credits or additional charges are shown on a separate line noted "Readiness-to-Serve Adjustment" for the previous fiscal year. If a member agency's actual net Standby Charge revenues in the fiscal year are higher than its estimated net Standby Charge revenues, the difference will be credited to the agency in the manner set forth in the Resolution and in Section 7.3 above. If a member agency's actual net Standby Charge revenues in the fiscal year are less than its estimated net Standby Charge revenues, the difference will be invoiced as an adjustment to RTS charges.

7.7 Exemptions

The Standby Charge resolution provides that the following lands are exempt from the Standby Charge: (1) lands owned by the Government of the United States, the State of California, or by any political subdivisions thereof or any entity of local government; (2) lands permanently committed to open space and maintained in their natural state that are not now and will not in the future be supplied water; (3) lands not included in (1) or (2) above, which the General Manager, in his discretion, finds do not now and cannot reasonably be expected to derive a benefit from the projects to which the proceeds of the Standby Charge will be applied; and (4) lands within any member public agency, subagency, or city if the governing body of such public entity elects and commits to pay out of funds available for that purpose, in installments at the time and in the amounts established by Metropolitan, the entire amount of the Standby Charge which would otherwise be imposed upon lands within those public entities.

Each year Metropolitan makes available to interested parties procedures for filing an Application to be Exempt from the Standby Charge. Metropolitan reviews any such applications for exemption and determines whether or not the lands are eligible for exemption. If it is determined that the lands are eligible for exemption, an Exemption Agreement is signed by both parties and recorded at the respective county. If the exemption request is denied, there is an appeals process by which the Finance & Insurance Committee shall consider such appeal and make recommendations to the Board to affirm or reverse the General Manager's determinations. The Board acts upon such recommendations and its decision as to such appeals is final.

No exemption from the Standby Charge shall reduce the applicable member agency's RTS Charge obligation, nor shall any failure to collect, or any delay in collecting, any portion of the Standby Charge excuse or delay payment of any portion of the RTS Charge when due.

8 Local Resources Program Effective Rate

Metropolitan provides financial incentives through its Local Resources Program (LRP) for the development of local water supplies, including recycled water and recovered water. The incentive is based on the difference between the LRP Effective Rate (referenced in the LRP agreements as Metropolitan's "full service treated water rate" or "Treated Non-Interruptible Water Rate") and the project's per unit ($/AF) cost. For new projects, member agencies can choose instead from three alternative incentive payment structures: up to $340/AF sliding scale incentive over 25 years, up to $475/AF sliding scale incentive over 15 years, and up to $305 fixed incentive over 25 years.

8.1 Full Service Treated Rate / Treated Non-Interruptible Water Rate

Since the current rate structure utilizes a tiered pricing system, the LRP Effective Rate is determined using the weighted average of the tiered "Full Service Treated Water Rate" or "Treated Non-Interruptible Water Rate". The LRP Effective Rate is the sum of the System Access Rate, Water Stewardship Rate, System Power Rate and Tier 1 or Tier 2 Supply Rates, respectively, plus the Treatment Surcharge. Therefore for purposes of agreements existing under the Local Resource***s*** Program, the "Full Service Treated Water Rate" or "Treated Non-Interruptible Water Rate" is now defined as being equal to the sum of the System Access Rate, Water Stewardship Rate, System Power Rate, Treatment Surcharge and weighted average (by expected Tier 1 and Tier 2 sales) of the Tier 1 and Tier 2 Supply Rates effective in the relevant calendar year, and the Capacity Charge expressed in dollars per acre-foot. Metropolitan staff calculates this LRP effective rate annually. For CYs 2021 and 2022, no Water Stewardship Rate applies. Therefore, the LRP Effective Rate effective January 1, 2021 and January 1, 2022, do not include any amount for a Water Stewardship Rate.

Table 8
Local Resources Program Effective Rate

Effective date	$/AF
1/1/06	$479
1/1/07	$503
1/1/08	$530
1/1/09	$603
9/1/09	$721
1/1/10	$724
1/1/11	$767
1/1/12	$817
1/1/13	$862
1/1/14	$908
1/1/15	$948
1/1/16	$967
1/1/17	$999
1/1/18	$1,036
1/1/19	$1,068
1/1/20	$1,096
1/1/21	$1,128

9 Wheeling

9.1 Metropolitan Wheeling Service

Subject to the General Manager's determination of available system capacity, Metropolitan will offer wheeling service. The determination whether there is unused capacity in Metropolitan's conveyance system will be made by the General Manager on a case-by-case basis in response to particular requests for wheeling. Wheeling service, to which Metropolitan's rate for wheeling service normally applies, refers to the use of Metropolitan's facilities, including Metropolitan's rights to use State Water Project facilities, to transport water not owned or controlled by Metropolitan to its member public agencies, in transactions entered into by Metropolitan for a period of up to one year. The rate for wheeling service to Metropolitan's member agencies normally includes the System Access Rate, Water Stewardship Rate and, for treated water, the Treatment Surcharge. In addition, wheeling parties must pay for their own cost for power (if such power can be scheduled by the District) or pay the District for the cost (not system average) of power service utilized for delivery of the wheeled water. Further, wheeling parties shall be assessed an administration fee of not less than $5,000 per transaction.

Pursuant to the Board's direction, the Water Stewardship Rate does not apply in CYs 2021 and 2022 and therefore, the rate for wheeling service at Metropolitan's Administrative Code Section 4405(b) is deemed inapplicable during that period. Any wheeling service to any member agency pursuant to Section 4405(a) will be provided at a price for the transaction to be agreed upon by Metropolitan and the member agency (as is already the case for wheeling of over one year to member agencies and wheeling of any duration to third parties).

9.2 Capacity Charge

Wheeled water will be included in the measurement of the peak day flow for the purpose of billing the Capacity Charge to member agencies.

9.3 Readiness-to-Serve Charge

Wheeled water will be included in the calculation of a member agency's Ten Year Rolling Average demands for allocating the RTS Charge among member agencies.

Organizational Responsibility

Administrative Procedure	Group	Section	Contact		
			Name	Email	Phone
Rate Cycle (setting rates & charges)					
	Chief Financial Officer	Budget & Financial Planning	Arnout Van den Berg	avandenberg@mwdh2o.com	213-217-5771
		Budget & Financial Planning	Stathis Kostopoulos	skostopoulos@mwdh2o.com	213-217-6955
Billing (Invoices)					
	Chief Financial Officer	Controller	Bernadette Robertson	mwdwaterbilling@mwdh2o.com	213-217-7547
		Controller	Maria Galvan	mwdwaterbilling@mwdh2o.com	213-217-7892
		Controller	Melissa Tang	mwdwaterbilling@mwdh2o.com	213-217-76542
Special Program Certifications					
Cyclic Programs/Conjunctive Use Program/Emergency Storage Program	Water System Operations	Water Operations & Planning	Keith Nobriga	knobriga@mwdh2o.com	213-217-6540
Local Resources Program	Water Resource Management	Resource Implementation	James Bodnar	jbodnar@mwdh2o.com	213-217-6099
Conservation Credits Program	Water Resource Management	Resource Implementation	Bill McDonnell	bmcdonnell@mwdh2o.com	213-217-7693

Water Supply Allocation Plan

December 2014 Revision

Metropolitan Water District of Southern California

Inside cover: Photo courtesy of Cora Edmonds/ArtXchange for the Healing Planet

Water Supply Allocation Plan

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List of Tables and Figures

List of Acronyms

AF – Acre-feet
CUP – Groundwater Conjunctive Use Program
CWD – County Water District
DWP – Drought Management Plan
IAWP – Interim Agricultural Water Program Reductions and Rates
IICP – Incremental Interruption and Conservation Plan
IRP – Integrated Resources Plan
GPCD – Gallons per Capita per Day
M&I – Municipal and Industrial
MWD – Municipal Water District
RUWMP – Regional Urban Water Management Plan
SWP – State Water Project
WSAP – Water Supply Allocation Plan
WSDM – Water Surplus and Drought Management

Definitions

Extraordinary Supplies- Deliberate actions taken by member agencies to augment the total regional water supply only when Metropolitan is allocating supplies through the WSAP.

Groundwater Recovery- The extraction and treatment of groundwater making it usable for a variety of applications by removing high levels of chemicals and/or salts.

In-lieu deliveries- Metropolitan-supplied water bought to replace water that would otherwise be pumped from the groundwater basins.

Seawater Barrier- The injection of fresh water into wells along the coast to protect coastal groundwater basins from seawater intrusion. The injected fresh water acts like a wall, blocking seawater that would otherwise seep into groundwater basins as a result of pumping.

Section 1: Introduction

Calendar Year 2007 introduced a number of water supply challenges for the Metropolitan Water District of Southern California (Metropolitan) and its service area. Critically dry conditions affected all of Metropolitan's main supply sources. In addition, a ruling in the Federal Courts in August 2007 provided protective measures for the Delta Smelt in the Sacramento-San Joaquin River Delta which brought uncertainty about future pumping operations from the State Water Project. This uncertainty, along with the impacts of dry conditions, raised the possibility that Metropolitan would not have access to the supplies necessary to meet total firm demands[1] and would have to allocate shortages in supplies to the member agencies.[2]

In preparing for this possibility, Metropolitan staff worked jointly with the member agency managers and staff to develop a Water Supply Allocation Plan (WSAP). The WSAP includes the specific formulas for calculating member agency supply allocations and the key implementation elements needed for administering an allocation should a shortage be declared. The WSAP became the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and was incorporated into Metropolitan's 2010 Regional Urban Water Management Plan (RUWMP).

Section 2: Development Process

Member Agency Input

Between July 2007 and February 2008, Metropolitan staff worked cooperatively with the member agencies through a series of member agency manager meetings and workgroups to develop a formula and implementation plan to allocate supplies in case of shortage. These workgroups provided an arena for in-depth discussion of the objectives, mechanics, and policy aspects of the different parts of the WSAP. Metropolitan staff also met individually with fifteen member agencies for detailed discussions of the elements of the recommended proposal. Metropolitan introduced the elements of the proposal to many nonmember retail agencies in its service area by providing presentations and feedback to a number of member agency caucuses, working groups, and governing boards. The discussions, suggestions, and comments expressed by the member agencies during this process contributed significantly to the development of this WSAP.

Board of Directors Input

Throughout the development process Metropolitan's Board of Directors was provided with regular progress reports on the status of this WSAP, with oral reports in September, October, and December 2007, an Information Board of Directors Letter with a draft of the WSAP in November 2007, and a Board of Directors Report with staff recommendations in January 2008. Based on Water Planning and Stewardship Committee discussion of the staff recommendations and further review of the report by

[1] Firm demands are also referred to as uninterruptable demands; likewise non-firm demands are also called interruptible demands.

[2] See Appendix A: Metropolitan Member Agencies.

the member agencies, refinements were incorporated into the WSAP for final consideration and action in February 2008. The WSAP was adopted at the February 12, 2008 Board of Directors meeting.[3]

The 12-Month Review Process

When the Board adopted the WSAP in February 2008, the decision specified a formal revisit of the WSAP commencing in February 2010. The scheduled revisit was meant to ensure the opportunity for Metropolitan staff and the member agencies to re-evaluate the WSAP and recommend appropriate changes to the Board of Directors.

In April 2009, the Board voted to implement the WSAP for the first time. The WSAP was implemented at a Level 2 allocation level, and was in effect for the period of July 1, 2009, through June 30, 2010. Since implementation of the 2009/10 WSAP began in July 2009, a number of practical issues relating to the WSAP were identified by staff and the member agencies for further consideration during the 12-Month Review Process. Metropolitan staff engaged with the member agencies in a formal review of the WSAP from January through May 2010. During the review process the member agency managers participated in a series of six workshops. The focus of these workshops was to facilitate in-depth discussion on WSAP-related issues and lessons learned since the WSAP was implemented in July 2009. The proposed adjustments to the WSAP developed during the review process were adopted at the August 17, 2010 Board of Directors meeting[4].

The Three-Year Review Process

The Board action to adopt of the WSAP in February 2008 also directed staff to review the WSAP formula three years after the February 2008 adoption. February 2011 marked the three-year anniversary since the adoption of the WSAP. Similar to the 12-Month Review Process, the purpose of the Three-Year Review Process was to provide an opportunity for Metropolitan staff and the member agencies to re-evaluate the plan and recommend appropriate changes for board consideration.

Metropolitan staff met with the member agencies in a formal review of the WSAP from February through August 2011. Staff and member agency managers participated in a series of eleven workshops. Proposed adjustments to the WSAP developed during the process were adopted at the September 13, 2011 Board of Directors meeting.[5]

[3] A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix B: Water Supply Allocation Plan Process Timeline.

[4] A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix C: 12-Month Review Process and Results.

[5] A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix D: Three-Year Review Process and Results.

2014 Review Process

In 2014, California was challenged with a third year of severe drought.[6] Metropolitan managed its operations through significant use of regional storage reserves. It was anticipated that end of year total dry storage reserves would approach levels similar to those when the WSAP was last implemented in 2009.

Following discussion at the June 2014 Water Planning and Stewardship Committee, Metropolitan staff convened a member agency working group to revisit the WSAP. The purpose of the working group was to collaborate with member agencies to identify potential revisions to the WSAP in preparation for mandatory supply allocations in 2015. There were eight working group meetings and three discussions at the monthly Member Agency Managers' Meetings.

The process focused on three areas of the WSAP: the Base Period, the Allocation Formula, and the Allocation enforcement mechanism. Proposed adjustments to the WSAP developed during the process were adopted at the December 9, 2014 Board of Directors meeting. [7]

[6] The Governor of California proclaimed a State of Emergency due to drought conditions on January 17, 2014 and, on April 24, 2014 issued an Executive Order proclaiming a continued State of Emergency noting drought conditions have persisted for the last three years and authorizing adoption and implementation of emergency regulations.

[7] A complete listing of member agency meetings and Board of Directors reporting activities is contained in Appendix E: 2014 Review Process and Results.

Section 3: Review of Historical Shortage Plans[8]

The WSAP incorporates key features and principles from the following historical shortage allocation plans but will supersede them as the primary and overarching decision tool for water shortage allocation.

Interruptible Water Service Program

As part of the new rate structure implemented in 1981, Metropolitan's Board of Directors adopted the Interruptible Water Service Program (Interruptible Program) which was designed to address short-term shortages of imported supplies. Under the Interruptible Program, Metropolitan delivered water for particular types of use to its member agencies at a discounted rate. In return for this discounted rate, Metropolitan reserved the right to interrupt delivery of this Interruptible Program water so that available supplies could be used to meet municipal and industrial demands.

Incremental Interruption and Conservation Plan

The ability to interrupt specific deliveries was an important element of Metropolitan's strategy for addressing shortage conditions when it adopted the Incremental Interruption and Conservation Plan (IICP) in December 1990. Reductions in IICP deliveries were used in concert with specific objectives for conservation savings to meet needs during shortages. The IICP reduced Interruptible Service deliveries in stages and provided a pricing incentive program to insure that reasonable conservation measures were implemented.

1995 Drought Management Plan

The 1995 Drought Management Plan (DMP) was a water management and allocation strategy designed to match supply and demand in the event that available imported water supplies were less than projected demands. Adopted by the Metropolitan Board of Directors in November 1994, the 1995 DMP was a short-term plan designed to provide for the 1995 calendar year only. The primary objective of the 1995 DMP was to identify methods to avoid implementation of mandatory reductions. The 1995 DMP included various phases and a step-by-step strategy for evaluating supply and demand conditions and utilizing Metropolitan's available options, with the final phase being implementation of the revised IICP.

1999 Water Surplus and Drought Management Plan

Metropolitan staff began work on the Water Surplus and Drought Management (WSDM) Plan in March 1997 as part of the Integrated Water Resources Plan (IRP), which was adopted by Metropolitan's Board of Directors in January 1996. The IRP established regional water resource targets, identifying the need for developing resource management policy to guide annual operations. The WSDM Plan defined Metropolitan's resource management policy by establishing priorities for the use of regional resources to achieve the region's reliability goal identified in the IRP. In April 1999, Metropolitan's Board of Directors adopted the WSDM Plan.

[8] A summary of the key elements in the following allocation plan is found in Appendix F: Summary of Historical Shortage Plans.

The WSDM Plan also included a set of principles and considerations for staff to address when developing specific allocation methods. The WSDM Plan stated the following guiding principle to be followed in developing any future allocation scheme:

> *"Metropolitan will encourage storage of water during periods of surplus and work jointly with its member agencies to minimize the impacts of water shortages on the region's retail consumers and economy during periods of shortage."*[9]

This principle reflects a central desire for allocation methods that are both equitable and minimize regional hardship to retail water consumers. The specific considerations postulated by the WSDM Plan to accomplish this principle include the following:[10]

- The impact on retail customers and the economy
- Allowance for population and growth
- Change and/or loss of local supply
- Reclamation/Recycling
- Conservation
- Investment in local resources
- Participation in Metropolitan's interruptible programs
- Investment in Metropolitan's facilities.

Section 4: Water Supply Allocation Formula

Based on the guiding principle and considerations described in the WSDM Plan, Metropolitan staff and the member agencies developed a specific formula for allocating water supplies in times of shortage. The formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level, and takes into account growth, local investments, changes in supply conditions and the demand hardening[11] aspects of non-potable recycled water use and the implementation of conservation savings programs. The formula, described below, is calculated in three steps: base period calculations, allocation year calculations, and supply allocation calculations.[12] The first two steps involve standard computations, while the third section contains specific methodology developed for this WSAP.

Base Period Calculations

The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the fiscal years (July through June) ending 2013 and 2014.[13]

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[9] WSDM Plan, p. 1. Emphasis added.
[10] WSDM Plan, p. 2.
[11] Demand hardening is the effect that occurs when all low-cost methods of decreasing overall water demand have been applied (e.g., low-flow toilets, water recycling) and the remaining options to further decrease demand become increasingly expensive and difficult to implement.
[12] Detailed operational elements of these objectives and a numerical example are discussed in Appendix G: Water Supply Allocation Formula Example.
[13] Exceptions to this methodology are noted in the descriptions of base period calculations.

Base Period Local Supplies: Local supplies for the base period are calculated using a two-year average of groundwater production, groundwater recovery, Los Angeles Aqueduct supply, surface water production, and other imported supplies. Non-potable recycling production is not included in this calculation due to its demand hardening effect.

Base Period Wholesale Demands: Demands on Metropolitan for the base period are calculated using a two-year average of firm purchases and in-lieu deliveries to long-term groundwater replenishment, conjunctive use, cyclic, and supplemental storage programs.

Base Period Retail Demands: Total retail-level municipal and industrial (M&I) demands for the base period are calculated by adding the Base Period Wholesale Demands and the Base Period Local Supplies. This estimates an average total demand for water from each agency.

Base Period Mandatory Conservation Credit: Metropolitan allows a consultation process that enables member agencies to describe mandatory water use restrictions and/or rationing restrictions that were in place within their service areas during the Base Period. Restrictions may vary among agencies but include restricted water uses, fines, and water budget or penalty based rate structures that are enacted by the governing body of the member agency or retail agency. Following the consultation process, Metropolitan staff will recommend adjustments based on evidence of reduced GPCD. To qualify for an adjustment, GPCD reductions would have to be observed that are beyond those expected from the agency's ongoing conservation efforts and trends.

Allocation Year Calculations

The next step in calculating the water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population or economic growth and changes in local supplies.

Allocation Year Retail Demands: Total retail M&I demands for the allocation year are calculated by adjusting the Base Period Retail Demands for baseline inflation and growth.

Baseline Inflation Adjustment: Baseline inflation occurs when non-potable recycling or conservation is developed after the Base Period. The development of these supplies reduces actual demands for water in the Allocation Year. Because non-potable-recycling and conservation are excluded from the WSAP formula, the actual need for water in the Allocation year is overestimated. The Baseline Inflation Adjustment removes increases in non-potable recycling and conservation annually from the Base Period forward to better reflect the true need for water in the Allocation Year.

Growth Adjustment: The growth adjustment is calculated using the estimated actual annual rate of population growth at the county level, as generated by the California Department of Finance, whenever possible. For years without complete data, the growth rate is calculated using an average of the three most recent years available. Growth will be allocated based on historical per capita water use during the Base Period, with a cap equal to Metropolitan's IRP Target for Water Use Efficiency. For

allocation years up to and including 2014, the cap will be 163 GPCD, and for allocation years 2015-2020 the cap will reduce linearly from 163 to 145 GPCD. On an appeals basis, member agencies may request that their adjustment be calculated using member agency level population growth. A weighted combination of actual population and actual employment growth rates may also be requested.

Allocation Year Local Supplies: Allocation Year Local Supplies include groundwater production, groundwater recovery, Los Angeles Aqueduct supply, surface water production, seawater desalination, and other imported supplies. Estimates of Allocation Year Local Supplies are provided by the member agencies upon implementation of a WSAP. If estimates are not provided, Metropolitan will use the sum of the Base Period Local Supplies and Base Period In-Lieu Deliveries as a default. Agencies may provide updated estimates at any time during the Allocation Year to more accurately reflect their demand for Metropolitan supplies.

Extraordinary Supplies: Under the WSAP formula, local supply production in the Allocation Year can either be designated as a "planned" supply, or as an "extraordinary" supply.[14] This is an important designation for a member agency because the two types of supplies are accounted for differently in the WSAP formula. Local supplies classified at Extraordinary Supply are only partially included (scaled depending on the WSAP Level) as local supplies. This has the effect of providing significantly more benefit to the member agency in terms of total water supply that is available to the retail customer.[15]

Allocation Year Wholesale Demands: Demands on Metropolitan for the allocation year are calculated by subtracting the Allocation Year Local Supplies from the Allocation Year Retail Demands.

Water Supply Allocation Calculations

The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2. The following table displays the elements that form the basis for calculating the supply allocation. Each element and its application in the allocation formula are discussed below.

Table 1: Shortage Allocation Index

(a) Regional Shortage Level	(b) Wholesale Minimum Percentage	(c) Maximum Retail Impact Adjustment Percentage
1	92.5%	2.5%
2	85.0%	5.0%
3	77.5%	7.5%
4	70.0%	10.0%

[14] Appendix H: Board Policy Principles on Determining the Status of Extraordinary Supply lists the key Board principles used in determining if a supply qualifies as an Extraordinary Supply.

[15] See Appendix G: Water Supply Allocation Formula Example for specific allocation formulae.

5	62.5%	12.5%
6	55.0%	15.0%
7	47.5%	17.5%
8	40.0%	20.0%
9	32.5%	22.5%
10	25.0%	25.0%

Regional Shortage Level: The WSAP formula allocates shortages of Metropolitan supplies over ten levels.

Wholesale Minimum Allocation: The Wholesale Minimum Allocation ensures a minimum level of Metropolitan supplied wholesale water service to each member agency.

Maximum Retail Impact Adjustment: The purpose of this adjustment is to ensure that agencies with a high level of dependence on Metropolitan do not experience disparate shortages at the retail level compared to other agencies when faced with a reduction in wholesale water supplies. The Maximum Retail Impact Percentage is prorated on a linear scale based on each member agency's dependence on Metropolitan at the retail level. This percentage is then multiplied by the agency's Allocation Year Wholesale Demand to determine an additional allocation.

Conservation Demand Hardening Credit: The Conservation Demand Hardening Credit addresses the increased difficulty in achieving additional water savings at the retail level that comes as a result of successful implementation of water conserving devices and conservation savings programs. To estimate conservation savings, each member agency will establish a historical baseline Gallons Per Person Per Day (GPCD) calculated in a manner consistent with California Senate Bill SBx7-7.[16] Reductions from the baseline GPCD to the Allocation Year are used to calculate the equivalent conservation savings in acre-feet. The Conservation Demand Hardening Credit is based on an initial 10 percent of the GPCD-based Conservation savings plus an additional 5 percent for each level of Regional Shortage set by the Board during implementation of the WSAP. The credit will also be adjusted for:

- The overall percentage reduction in retail water demand
- The member agency's dependence on Metropolitan

The credit is calculated using the following formula:

Conservation Demand Harding Credit = Conservation Savings x (10% + Regional Shortage Level Percentage) x (1 +((Baseline GPCD – Allocation Year GPCD)/Baseline GCPD)) x Dependence on MWD Percentage

[16] California Department of Water Resources, February 2011, "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use. Available at: http://www.water.ca.gov/wateruseefficiency/sb7/docs/MethodologiesCalculatingBaseline_Final_03_01_2011.pdf

This provides a base demand hardening credit equal to 10 percent of conservation savings and increases the credit as deeper shortages occur, which is when conservation demand hardening has a bigger impact on the retail consumer. The credit also increases based on the percentage of an agency's demand that was reduced through conservation. This accounts for increased hardening that occurs as increasing amounts of conservation are implemented. Lastly, the credit is scaled to the member agency's dependence on Metropolitan to ensure that credits are being applied to the proportion of water demand that is being affected by reductions in Metropolitan supply.

Minimum Per-Capita Water Use Credit: This adjustment creates a minimum per capita water use threshold. Member agencies' retail-level water use is compared to two different thresholds. The proposed minimum thresholds are based upon compliance guidelines established under Senate Bill X7-7.

- 100 GPCD total water use
- 55 GPCD residential water use

Agencies that fall below either threshold under the WSAP will receive additional allocation from Metropolitan to bring them up to the minimum GPCD water use level. If an agency qualifies under both thresholds, the one resulting in the maximum allocation adjustment will be given.[17] To qualify for this credit, member agencies must provide documentation of the total agency level population and the percent of retail level demands that are residential; no appeal is necessary.

Total WSAP Allocation: The allocation to an agency for its M&I retail demand is the sum of the Wholesale Minimum Allocation, the Retail Impact Adjustment, the Conservation Demand Hardening Credit, and the Minimum Per-Capita Water Use Credit.[18]

Total Metropolitan Supply Allocations: In addition to the WSAP Allocation described above, agencies may also receive separate allocations of supplies for and seawater barrier and groundwater replenishment demands. Allocations of supplies to meet seawater barrier demands are to be determined by the Board of Directors independently but in conjunction with the WSAP. Separating the seawater barrier allocation from the WSAP allocation allows the Board to consider actual barrier requirements in the Allocation Year and address the demand hardening issues associated with cutting seawater barrier deliveries. According to the principles outlined for allocating seawater barrier demands, allocations should be no deeper than the WSAP Wholesale Minimum Percentage implemented at that time.

The WSAP also provides a limited allocation for drought-impacted groundwater basins based on the following framework:[19]

[17] See Appendix J: Per Capita Water Use Minimum Example for specific minimum per-capita water use credit formulae and example.
[18] See Appendix G: Water Supply Allocation Formula Example for specific allocation formulae.
[19] See Appendix L: Groundwater Replenishment Allocation for more information.

1. Metropolitan staff will hold a consultation with the requesting member agency and the appropriate groundwater basin manager to document whether the basin is in one of the following conditions:
    a. Groundwater basin overdraft conditions that will result in water levels being outside normal operating ranges during the WSAP allocation period; or
    b. Violations of groundwater basin water quality and/or regulatory parameters that would occur without imported deliveries
2. An allocation is provided based on the verified need for groundwater replenishment. The allocation would start with a member agency's ten-year average purchases of imported groundwater replenishment supplies (excluding years in which deliveries were curtailed). The amount would then be reduced by the declared WSAP Regional Shortage Level.

Section 5: WSAP Implementation

The WSAP will take effect if a regional shortage is declared by the Board of Directors. The following implementation elements are necessary for administering the WSAP during a time of shortage. These elements cover the processes needed to declare a regional shortage level as well as provide information pertaining to the allocation surcharge.

Allocation Period

The allocation period covers twelve consecutive months, from July of a given year through the following June. This period was selected to minimize the impacts of varying State Water Project (SWP) allocations and to provide member agencies with sufficient time to implement their outreach strategies and rate modifications.

Setting the Regional Shortage Level

Metropolitan staff is responsible for recommending a Regional Shortage Level for the Board of Directors' consideration. The recommendation shall be based on water supply availability, and the implementation of Metropolitan's water management actions as outlined in the WSDM Plan. Metropolitan staff will keep the Board of Directors apprised to the status of water supply conditions and management actions through monthly reports to the Water Planning and Stewardship Committee. To further facilitate staff in the development of a recommended regional shortage level, member agency requests for local supply adjustments shall be submitted by April 1st.

Metropolitan's Board of Directors, through the Water Planning and Stewardship Committee, is responsible for approving the final Regional Shortage Level at its April meeting. By the April meeting, the majority of the winter snowfall accumulation period will have passed and will allow staff to make an allocation based on more stable water supply estimates. Barring unforeseen large-scale circumstances, the Regional Shortage Level will be set for the entire allocation period, which will provide the member agencies an established water supply level for their planning.

Exit Strategy

While the Board ultimately has discretion to implement or lift and allocation at any point of time during the year; the WSAP includes a two-part exit strategy that is meant to streamline the WSAP implementation decision making process.

- If the Board decides to implement the WSAP, then any current WSAP allocation would remain in place until the end of the Allocation Year.
- If the Board decides not to implement the WSAP, then any current WSAP allocation would be terminated concurrent with the Board decision.

Allocation Appeals Process

An appeals process is necessary for the administration of any changes or corrections to an agency's allocation. Metropolitan's General Manager will designate, subsequent to a declaration of an allocation by the Board of Directors, an Appeals Liaison as the official point of contact for all information and inquiries regarding appeals. All member agency General Managers will be notified in writing of the name and contact information of the Appeals Liaison. Only appeals that are made through the Appeals Liaison and in accordance with the provisions outlined in Appendix N: Allocation Appeals Process will be evaluated. Basis for appeals claims can include but are not limited to:

- Adjusting erroneous historical data used in base period calculations
- Adjusting for population growth rates
- Determining if a local supply qualifies as Extraordinary Supply

Additional details and a checklist for the appeals process are available in Appendix N: Allocation Appeals Process and Appendix O: Appeals Submittal Checklist.

Allocation Surcharge

Member agency allocations are supported by an Allocation Surcharge. The Allocation Surcharge is charged to water use above the Member Agency allocation and is charged in addition to Metropolitan's standard rates for water service. Allocation Surcharges will only be assessed to the extent that an agency's total annual usage exceeds its total annual allocation. Any revenues collected through the Allocation Surcharge will be applied towards Metropolitan's Water Management Fund, which is used to in part to fund expenditures in dry-year conservation. No billing or assessment of allocation surcharges rates will take place until the end of the twelve-month allocation period.

Allocation Surcharge: The application of the Allocation Surcharge structure is a two tier structure that provides a lower level of Allocation Surcharge for minor overuse of allocations and a higher level of Allocation Surcharge for major overuse of allocations. The structure and applicable Allocation Surcharges are listed in Table 2.

Table 2: Allocation Surcharge			
Water Use	**Base Water Rate[20]**	**Allocation Surcharge[21]**	**Total Rate**
100% of Allocation	Tier 1	0	Tier 1
Between 100% and 115%	Tier 1	$1,480	Tier 1 + ($1,480)
Greater than 115%	Tier 1	$2,960	Tier 1 + ($2,960)

Qualifying Income-Based Rate Allocation Surcharge Adjustment:[22] Any Allocation Surcharges incurred by a member agency under the WSAP will be adjusted to reflect the extent to which retail customers within a member agency's service area are served under a "lifeline" or similar qualified discounted rate program based on income or ability to pay ("Income-Based Rate").

Any member agency who is assessed Allocation Surcharges under the WSAP may submit an acre-foot equivalent of water used by retail customers served under a qualifying Income-Based Rate.[23] This amount of water use would be multiplied by the percentage of retail-level reduction in allocation year demand necessary for that member agency to avoid exceeding its WSAP allocation. The monetary amounts resulting from these acre feet are subtracted from the total monetary amounts incurred by an agency for exceeding its allocation. In the case that the monetary amounts associated with the Income-Based Rate are greater than the total Allocation Surcharges an agency incurs, no Allocation Surcharges will be incurred. The end result of this adjustment is that the member agency will not be subject to Allocation Surcharges for the use of water by their retail customers served under a qualifying Income-Based Rate.

Growth Rate Allocation Surcharge Adjustment": In recognition of member agency differences in geography and climate, a Growth Rate Allocation Surcharge Adjustment will be given to any agency that exceeds its WSAP Allocation. The Allocation Surcharge reduction will be based on the difference in acre-feet between the Growth Adjustment applied at Metropolitan's IRP planning goal rate, and the greater of the following:

- The IRP planning goal rate adjusted for the member agency's ETo, or
- The member agency's certified and documented 20x2020 targeted GPCD

If both of these alternatives result in a lower growth adjustment than the IRP planning goal, no Allocation Surcharge reduction will be made.

[20] The base water rate shall be the applicable water rate for the water being purchased. In most cases, it will be the Tier 1 rate (plus Treatment Surcharge for treated water deliveries). However, it is possible that the water being purchased would be in the amount that would put an agency beyond its Tier 1 limit. In that case, the base water rate will be the Tier 2 rate (plus Treatment Surcharge for treated water deliveries).

[21] Allocation Surcharge is applied to water use in excess of an agency's WSAP allocation.

[22] See Appendix K: Qualifying Income-Based Rate Allocation Surcharge Adjustment Example for specific penalty adjustment formulae and example.

[23] Appropriate documentation and certification will be required.

Tracking and Reporting

Subsequent to a declared regional shortage by the Board of Directors, Metropolitan staff will produce monthly reports of each member agency's water use compared to its allocations based on monthly delivery patterns to be submitted by the member agency. In order to produce these reports, member agencies are requested to submit their local supply use on a monthly basis and certify end of allocation year local supply use. These reports and comparisons are to be used for the purposes of tracking and communicating potential underage/overage of an agency's annual allocations.

Key Dates for Water Supply Allocation Implementation

The timeline for implementation of an allocation is shown in Table 3. A brief description of this timeline follows:

January to March: Water Surplus and Drought Management reporting occurs at Metropolitan's Water Planning and Stewardship Committee meetings. These reports will provide updated information on storage reserve levels and projected supply and demand conditions.

April: Member agencies report their projected local supplies for the coming allocation year. This information is incorporated in staff analysis of storage reserves and projected supply and demand conditions in order to provide an allocation recommendation to the Board. Metropolitan's Board will consider whether an allocation is needed. A declaration of an allocation will include the level of allocation to be in effect for the allocation year. Likewise, member agencies will report their projected demands and local supplies needed to meet seawater barrier and groundwater replenishment requirements for the allocation year. Metropolitan's Board will consider whether allocations for seawater barrier demands and groundwater replenishment demands are needed independently from the WSAP allocation decision.**July 1st**: If the Board declared an allocation in April, then it will be effective starting July 1st. The allocation level will be held through June 30th, barring unforeseen circumstances. Member agencies will now be requested to submit their local supply use on a monthly basis and certify end of allocation year local supply use. Local production data must be reported to Metropolitan by the end of the month following the month of use (use in July must be reported by the end of August). This information will be combined with Metropolitan sales information in order to track retail water use throughout Metropolitan's service area. Each month Metropolitan will report on member agency water sales compared to their allocation amounts.

June 30th: The allocation year is complete.

July: Member agency local supplies must be certified for the month of June, the last month of the previous allocation year.

August: Metropolitan will calculate each member agency's total potable water use based on local supply certifications and actual sales data for the allocation year of July through June. Allocation surcharges will be assessed for usage above a given member agency's final adjusted allocation (reflecting the actual local supply and imported water use that occurred in the allocation year).

Table 3: Board Adopted Allocation Timeline					
Year	**Month**	**Year 1 Board Decision**	**Year 1 Allocation Year**	**Year 2 Board Decision**	**Year 2 Allocation Year**
Year 1	January				
	February				
	March				
	April	Declaration *			
	May				
	June				
	July		**Effective Period** Continuous Tracking of Member Agency Local Supply and Imported Water Use		
	August				
	September				
	October				
	November				
	December				
Year 2	January				
	February				
	March				
	April			Declaration *	
	May				
	June				
	July				
	August		Assess		
	September				
	October				
	November				
	December				
Year 3	January				**Effective Period** Continuous Tracking of Member Agency Local Supply and Imported Water Use
	February				
	March				
	April				
	May				
	June				

*Member agency projections of local supplies are due on April 1st to assist Metropolitan staff in determining the need for an allocation in the coming allocation year.

Appendix A: Metropolitan Member Agencies

Table 4: Member Agencies		
City of Anaheim	City of Glendale	City of San Marino
City of Beverly Hills	Inland Empire Utilities Agency	City of Santa Ana
City of Burbank	Las Virgenes MWD	City of Santa Monica
Calleguas MWD	City of Long Beach	Three Valleys MWD
Central Basin MWD	City of Los Angeles	City of Torrance
City of Compton	MWD of Orange County	Upper San Gabriel MWD
Eastern MWD	City of Pasadena	West Basin MWD
Foothill MWD	San Diego CWA	Western MWD
City of Fullerton	City of San Fernando	

Source: http://mwdh2o.com/WhoWeAre/Member-Agencies/

Appendix B: Water Supply Allocation Plan Process Timeline

July 2007

- City of Long Beach Water Department staff briefing
- Member Agency Managers/Member Agency Workgroup meeting
- Northern Managers Group meeting
    - Foothill MWD, City of Pasadena, City of Long Beach, Calleguas MWD, City of Los Angeles, West Basin MWD, City of Burbank, Three Valleys MWD, City of Glendale, Upper San Gabriel MWD

August 2007

- Central Basin MWD staff briefing
- Eastern MWD staff briefing
- San Diego CWA staff briefing
- Member Agency Managers/Member Agency Workgroup meeting
- Western MWD staff briefing
- City of Beverly Hills staff briefing

September 2007

- Member Agency Subgroup meetings
    - MWD of Orange County, San Diego CWA, West Basin MWD, Central Basin MWD
- MWD of Orange County staff briefing
- Member Agency Workgroup meeting
- Member Agency Workgroup meeting
- MWD Board of Directors Oral Report

October 2007

- Inland Empire Utilities Agency staff briefing
- Central Basin MWD Caucus Meeting (included sub-agencies)
- Three Valleys MWD staff briefing
- MWD of Orange County staff briefing
- West Basin MWD staff briefing
- MWD Board of Directors Oral Report

November 2007

- West Basin MWD Caucus Meeting (included sub-agencies)
- West Basin Water Users Association presentation
- Walnut Valley MWD staff briefing (sub-agency of Three Valleys MWD)
- Foothill MWD Managers Meeting (included sub-agencies)
- Central Basin MWD staff briefing
- City of Claremont City Council (sub-agency of Three Valleys MWD)
- MWD Board of Directors Information Letter with Draft Proposal

December 2007

- Northern Managers Group Meeting
- California Department of Public Health staff briefing
- City of Long Beach Water Department staff briefing
- Santa Ana River Watershed Project Authority presentation
- Foothill MWD Managers Meeting (included sub-agencies)
- MWD Board of Directors Oral Report

January 2008

- Northern Managers Group Meeting
- Water Replenishment District Board of Directors presentation
- Three Valleys MWD staff briefing
- Member Agency Conservation Coordinator's Group presentation
- Member Agency Managers/Member Agency Workgroup meeting
- City of Chino Hills presentation (sub-agency of IEUA)
- Member Agency Workgroup meeting
- Hemet/San Jacinto Exchange Club presentation
- MWD Board of Directors Report with Staff Recommended Water Supply Allocation Plan

February 2008

- MWD of Orange County and Irvine Ranch WD staff briefing
- MWD Board of Directors Action Item
- San Gabriel Valley Water Association Meeting
- Orange County Water Policy Meeting
- SCAG Water Policy Task Force Meeting

Appendix C: 12-Month Review Process and Results

January 2010

- WSAP 12-Month Review Process workshop #1
    - Focused discussion of WSAP issues identified by Metropolitan staff and by member agencies since the July 2009 implementation began.

February 2010

- WSAP 12-Month Review Process workshop #2
    - Continuation of focused discussion
- WSAP 12-Month Review Process workshop #3
    - Continuation of focused discussion

March 2010

- WSAP 12-Month Review Process workshop #4
    - Continuation of focused discussion
- MWD Board of Directors information item
    - Review of potential modifications to the WSAP definition of Extraordinary Supply

April 2010

- WSAP 12-Month Review Process workshop #5
    - Recap of identified issues and discussion of Metropolitan staff proposals for adjustments to the WSAP
- Member Agency Managers Meeting
    - Update on the 12-Month Review Process
- WSAP 12-Month Review Process workshop #6
    - Discussion of WSAP issues related to groundwater replenishment
- Member Agency Managers conference call
    - Clarification of WSAP definition for Extraordinary Supply

May 2010

- Member Agency Managers Meeting
    - Discussion of proposed Extraordinary Supply policy principles and WSAP Local Supply certification process.
- Member Agency Managers conference call
    - Discussion of proposed Extraordinary Supply policy principles

June 2010

- MWD Board of Directors action item

July 2010

- MWD Board of Directors information item
    - Review of proposed adjustments to the WSAP developed in the 12-Month Review Process

August 2010

- MWD Board of Directors action item

Resulting Changes

- Removed references to Gains and Losses of Local Supply
    - Removed references in the WSAP to "gains and losses of local supplies" in order to better facilitate the accounting of historical base year and allocation year local supplies. This change did not affect the WSAP formula or allocations.
- Removed references to the Regional Shortage Percentage
    - Removed references to the "Regional Shortage Percentage" in the WSAP to reduce unintended confusion between calculation factors and shortage amounts. This change did not affect the WSAP formula or allocations.
- Included the Retail Impact Adjustment in all shortage levels
    - Included the Retail Impact Adjustment for Regional Shortage Levels 1 and 2. This change results in additional allocations to Metropolitan-dependent agencies under Level 1 and Level 2 regional shortages.
- Revised the accounting of Extraordinary Supplies
    - Revised the methodology for accounting of Extraordinary Supply in the WSAP formula by:
        - Removing the Base Period Local Supply threshold provision,
        - Removing the sliding-scale sharing mechanism from the formula, and
        - Including the full amount of the Extraordinary Supply in the calculation of the Retail Impact Adjustment.
- Included a Minimum Per Capita Water Use Threshold
    - Developed a minimum water use credit based on two GPCD water use thresholds. Member agencies would receive additional Metropolitan allocation for an acre-foot equivalent of GPCD below the minimum threshold. Member agency water use, on a gallon per capita per day (GPCD) basis, is compared to the following minimum thresholds established under Senate Bill X7-7 (Water Conservation Act of 2009)
        - 100 GPCD total use or
        - 55 GPCD residential indoor use
- Excluded Seawater Barrier from the WSAP Formula
    - Excluded seawater barrier supplies from the WSAP Base Period and Allocation Year local supply calculations. This allows the Board to determine allocations for seawater barrier demands separately from the WSAP.

Appendix D: Three-Year Review Process and Results

February 2011

- WSAP 3-Year Review Process workshop #1
    - Review of the existing WSAP policy formula; review of the process timeline; and focused discussion of WSAP issues identified by Metropolitan staff and by member agencies since the WSAP's adoption in February 2008

March 2011

- WSAP 3-Year Review Process workshop #2
    - Discussion of issues related to local supplies and baseline inflation due to adjustments for recycling in the WSAP formula
- WSAP 3-Year Review Process workshop #3
    - Continuation of prior workshop

April 2011

- WSAP 3-Year Review Process workshop #4
    - Discussion of issues and alternatives related to base period selection and baseline inflation in the WSAP formula
- WSAP 3-Year Review Process workshop #5
    - Discussion of recommendations to address baseline inflation in the WSAP formula

May 2011

- WSAP 3-Year Review Process workshop #6
    - Discussion of issues and alternatives for the growth adjustment methodology in the WSAP formula
- WSAP 3-Year Review Process workshop #7
    - Continuation of prior workshop

June 2011

- WSAP 3-Year Review Process workshop #8
    - Continuation of prior workshop, discussion of WSAP implementation exit strategy
- WSAP 3-Year Review Process workshop #9
    - Continuation of exit strategy discussion, discussion of baseline inflation due to conservation and related conservation demand hardening issues

July 2011

- WSAP 3-Year Review Process workshop #9
    - Continued discussion of baseline inflation and conservation issues, and discussion of sharing allocations between agencies with common local resources

August 2011

- WSAP 3-Year Review Process workshop #10
    - Discussion of WSAP Allocation Year timing vs. Tier 1-Tier 2 rate cycle timing, discussion of approaches for encouraging completion of WSAP local supply certifications
- Review WSAP at Member Agency Managers Meeting
    - Discussion of proposed WSAP adjustments to address baseline inflation issues, revise the growth adjustment methodology, and establish a WSAP exit strategy

September 2011

- MWD Board of Directors action item

Resulting Changes

- Baseline Inflation Adjustment
    - Removed non-potable recycling and conservation from the WSAP baseline
        - Increases in recycling and conservation will be subtracted annually from the Base Period forward
        - The annual population growth rate will be applied after deducting the annual increases in recycling and conservation
        - If an agency ends up in allocation penalty, a penalty reduction will be applied in an amount equal to the Code-Based and rate Structure conservation savings that were removed from the WSAP baseline
- Changed the Growth Adjustment methodology
    - Growth will be allocated at historical per capita rate capped at the 2010 Integrated Water Resource Plan (IRP) Target for Water Use Efficiency
        - For years up to and including 2014, the cap will be 163 GPCD
        - For years 2015-2020, the cap will reduce linearly from 163 to 145 GPCD
    - If an agency exceeds its allocation, a penalty reduction will be applied based on either:
        - The differential Evapotranspiration (ETo) of its service area compared to the MWD average, or
        - Certified and documented 20 x 2020 targeted GPCD
- Exit Strategy
    - Clarified the course of action for an existing WSAP allocation when Metropolitan's Board makes a declaration decision for the following WSAP year
        - If there is an allocation for the next year, then the current allocation stays in place
        - If there is no allocation for the next year, then the current allocation is lifted concurrent with the April decision

Appendix E: 2014 Review Process and Results

July 2014

- WSAP Workgroup Meeting #1
  - First meeting of the 2014 WSAP Review process; review of the existing WSAP policy and formula; review of the process timeline; began discussion of issues related to base period selection
- WSAP Workgroup Meeting #2
  - Discussion of base period selection

August 2014

- WSAP Workgroup Meeting #3
  - Continuation of prior workshop discussion; comparison of base period alternatives

September 2014

- WSAP Workgroup Meeting #4
  - Discussion of a base period proposal; discussion of replenishment issues in the WSAP; discussion of 2015 water supply scenarios
- Review WSAP at Member Agency Managers Meeting
  - Review of WSAP workgroup process; discussion on issues related to base period, demand hardening, and local resources development
- WSAP Workgroup Meeting #5
  - Review of base period recommendation; discussion of issues regarding agencies in mandatory conservation during a base period; discussion on replenishment in the WSAP

October 2014

- WSAP Workgroup Meeting #6
  - Continuation of prior workshop discussion; discussion of alternative methods for conservation demand hardening credit; discussion of new and existing local supplies
- Review WSAP at Member Agency Managers Meeting
  - Review of WSAP workgroup process; discussion of issues related to base period and demand hardening

November 2014

- WSAP Workgroup Meeting #7
  - Review and discussion of issues and potential methods for base period selection and adjustment, replenishment allocation, and conservation demand hardening credit; review of estimated effects of potential WSAP changes at the regional level
- WSAP Workgroup Meeting #8
  - Review of proposed recommendations for the WSAP based on workgroup discussion
- Review WSAP at Member Agency Managers Meeting
  - Review of proposed recommendations for the WSAP based on workgroup discussion

Resulting Changes

- Base Period Update to FY2013 and FY2014
    - Changed the WSAP Base Period from calendar years 2004-2006 to fiscal years ending July 2013 and 2014
    - Mandatory Conservation Adjustment
        - Agencies with mandatory conservation in effect during the base period (FY 2013 and/or FY 2014) may qualify for a demand hardening adjustment, adjustment is subject to a consultation process that includes consideration historical demand and GPCD information

- Modify Conservation Demand Hardening Credit
    - Replaced device calculation-based estimates of conservation savings with a GPCD-based method
        - Conservation savings are calculated by comparing GPCD from a historical baseline to the Allocation Year; the difference is converted to acre-feet using the Allocation Year population.
            - Baseline GCPD is 10-year average ending between 2004 and 2010, with gross water, using gross water use minus non-potable recycled water production and documented historical population
    - Replaced formula for calculating the credit for each Regional Shortage Level
    - Conservation Demand hardening credit will be based on an initial 10 percent of GPCD-based conservation savings plus an additional 5 percent for each level of Regional Shortage; the credit will also be adjusted for the overall percentage reduction in retail water demand and the member agency's dependence on Metropolitan.
- Allocation Surcharge
    - Replaced the WSAP Penalty Rate with an Allocation Surcharge based on the estimated cost of Turf Replacement conservation programs

Appendix F: Summary of Historical Shortage Plans

These five elements incorporated into the WSAP have, in four out of five instances, been used in previous shortage plans. Both the IICP and the 1995 DMP used a historical base period calculation, adjusted for growth, made local supply adjustments, and used conservation hardening credits in their formulations. The retail impact adjustment is the only feature of the WSAP that has not been used historically.

Table 5: Historical Shortage Plan Overview

Plan Element	1991 IICP	1995 DMP	WSAP
Historical Base Period	√	√	√
Growth Adjustment	√	√	√
Local Supply Adjustment	√	√	√
Conservation Hardening Credit	√	√	√
Retail Impact Adjustment			√

Appendix G: Water Supply Allocation Formula Example

The following example gives a step-by-step description of how the formula would be used to calculate an allocation of Metropolitan supplies for a hypothetical member agency. All numbers are hypothetical for the purpose of the example and do not reflect any specific member agency.

Step 1: Calculate Base Period Retail Demand

Base Period Local Supplies: Calculated using a two-year average of groundwater (gw), groundwater recovery (gwr), Los Angeles Aqueduct supply (laa), surface water (sw), seawater desalination (sd), and other non-Metropolitan imported supplies (os). For the purpose of this example, assume that the two year average is 59,000 af.

$$[(gw1+gwr1+laa1+sw1+sd1+os1) + (gw2+gwr2+laa2+sw2+sd2+os2)] \div 2 = 59{,}000 \text{ af}$$

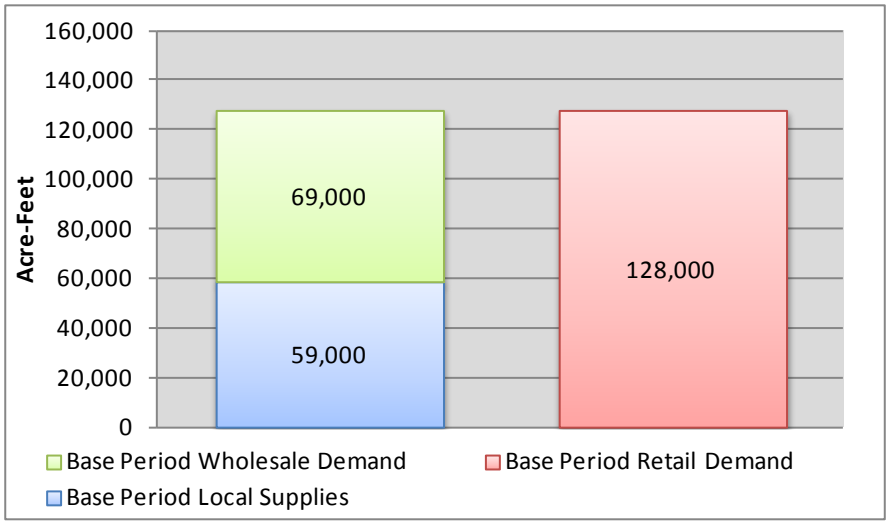
Base Period Wholesale Demands: Calculated using the same two-year time period as the Base Period Local Supplies. The Base Period Wholesale Demands include firm purchases (fp) and in-lieu deliveries to long-term groundwater replenishment (il), conjunctive use (cup), cyclic (cyc), and supplemental storage programs (ss). For the purpose of this example, assume that the two year average is 69,000 af.

$$[(fp^1{+}{+}il^1{+}cup^1{+}cyc^1{+}ss^1) + (fp^2{+}il^2{+}cup^2{+}cyc^2{+}ss^2)] \div 2 = 69{,}000 \text{ af}$$

Base Period Retail Demands: Calculated as the sum of the Base Period Local Supplies and Base Period Wholesale Demand.

$$59{,}000 + 69{,}000 = 128{,}000 \text{ af}$$

Figure 1: Base Period Retail Demand Calculation



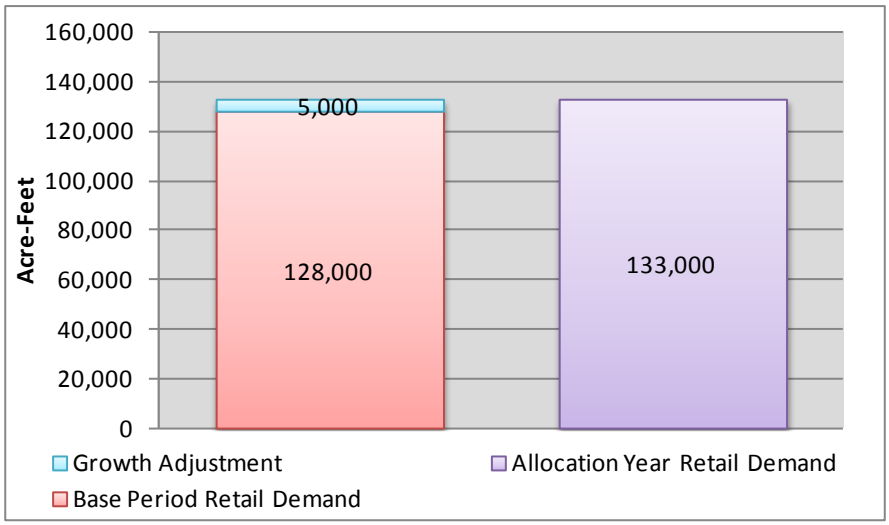
Calculate Adjustment for Base Period Mandatory Rationing (if applicable): The hypothetical agency used in this example is assumed not to qualify for the Base Period Mandatory Rationing Adjustment. A detailed discussion of the adjustment methodology can be found in Appendix I: Base Period Rationing Adjustment Example.

Step 2: Calculate Allocation Year Retail Demand

Allocation Year Retail Demand: Calculated by adjusting the Base Period Retail Demand for any baseline inflation and growth that occurred since the Base Period.

128,000 af + 5,000 af (net adjustment to retail demand) = 133,000 af

Figure 2: Allocation Year Retail Demand Calculation



Step 3: Calculate Allocation Year Wholesale Demand

Allocation Year Local Supplies: Estimates of Allocation Year Local Supplies are provided by the member agencies upon implementation of a WSAP. If estimates are not provided, Metropolitan will use the sum of the Base Period Local Supplies and Base Period In-Lieu Deliveries as a default. Agencies may provide updated estimates at any time during the Allocation Year to more accurately reflect their demand for Metropolitan supplies. For this example assume that the Allocation Year Local Supplies total 65,000 acre-feet.

Allocation Year Local Supplies = 65,000 af

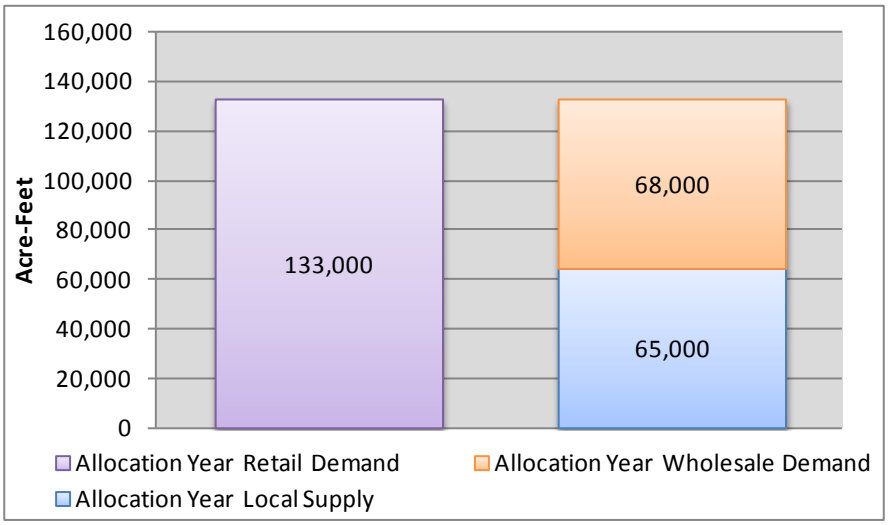
For this example assume also that this agency has an additional 5,000 acre-feet of supplies that meet the determinations for Extraordinary Supply. These supplies are withheld from the allocation formula except for in calculating the Retail Impact Adjustment Allocation.

Extraordinary Local Supplies = 5,000 af

Allocation Year Wholesale Demands: Calculated by subtracting the Allocation Year Local Supplies (65,000 af) from the Allocation Year Retail Demands (133,000 af).

133,000 af - 65,000 af = 68,000 af

Figure 3: Allocation Year Wholesale Demand Calculation



Step 4: Calculate the Wholesale Minimum Allocation

Wholesale Minimum Percentage: Calculate from Table 1 for Regional Shortage Level 4.

Table 1: Shortage Allocation Index		
(a) Regional Shortage Level	(b) Wholesale Minimum Percentage	(c) Maximum Retail Impact Adjustment Percentage
4	70.0%	10.0%

Wholesale Minimum Allocation: Calculated by multiplying the agency's Allocation Year Wholesale Demand (68,000 af) by the Wholesale Minimum Percentage (70%) from the Table 1 for Regional Shortage Level 4.

68,000 af * 70% = 47,600 af

Step 5: Calculate the Retail Impact Adjustment Allocation

Maximum Retail Impact Adjustment Percentage: Calculate from Table 1 for Regional Shortage Level 4.

Retail Impact Adjustment Allocation: Calculated first by determining the agency's dependence on Metropolitan by dividing the Allocation Year Wholesale Demand (68,000 af) minus the Extraordinary Supply (5,000 af) by the Allocation Year Retail Demand (133,000 af) and multiplying by 100.

[(68,000 af - 5,000 af)/ 133,000 af] * 100 = 47%

Next, this percentage dependence on Metropolitan (47%) is multiplied by the Maximum Retail Impact Percentage for Shortage Level 4 (10%).

47% * 10% = 4.7%

This percentage is now multiplied by the Allocation Year Wholesale Demand (68,000 af) for the Retail Impact Adjustment Allocation.

68,000 af * 4.7% = 3,221 af

Step 7: Calculate the Conservation Demand Hardening Adjustment

Calculate Baseline GPCD: To estimate conservation savings, each member agency will establish a historical baseline GPCD calculated in a manner consistent with California Senate Bill SBx7-7, using a 10 or 15-year average ending between 2004 and 2010, using gross water use minus non-potable recycle water production and documented historical population. For this example assume that the Baseline GPCD is 154 GPCD

Baseline GPCD = 154 GPCD

Calculate Allocation Year GPCD: Next, calculate the allocation year GPCD by converting the Allocation Year Retail Demand to GPCD and dividing by the Allocation Year Population from the WSAP. For this example the Allocation Year Retail Demand is 133,000 AF (see Step 2 above) and assume the Allocation Year Population is 905,000 persons. The resulting GPCD is 131 GPCD.

Allocation Year GPCD = 133,000 af/year * 325,851 gallons/af ÷ 365 days/year ÷ 905,000 persons = 131 GPCD

Calculate Reduction in GPCD: Subtract Allocation Year GPCD from Baseline GPCD to determine the GPCD Reduction.

GPCD Reduction = 154 GPCD – 131 GPCD = 23 GPCD

Calculate Conservation Savings: Convert the GPCD Reduction to the equivalent annual conservation savings in acre-feet, using the Allocation Year Population.

$$\text{Conservation Savings} = \frac{(\text{GPCD Reduction}) \times 365 \text{ days/yr} \times \text{Population}}{325{,}851 \text{ gallons/af}}$$

Conservation Savings = 23 x 365 x 905,000 ÷ 325,851 = 23,316 af

Multiply by Regional Shortage Level Percentage: Multiply the Conservation Savings by 10 percent plus an additional 5 percent for each level of Regional Shortage (see Step 4 above). This example assumes a Regional Shortage Level of 4. This scales the hardening credit by the level of regional shortage, thereby increasing the credit as deeper shortages occur when demand hardening has a larger impact on the retail consumer.

23,316 af x (10% + (4 x 5%) = 6,995 af

Multiply by Conservation Savings Percentage: Next, multiply by the percentage of an agency's demand that was reduced through conservation. This scales the hardening by the total percentage reduction to recognize that increased hardening occurs as increasing amounts of conservation are implemented.

Conservation Savings Percentage = 1 + ((Baseline GPCD – Allocation Year GPCD)/Baseline GPCD)

Conservation Savings Percentage = 1+ ((154 GPCD – 131 GPCD)/154 GPCD) = 115%

6,995 af x 115% = 8,044 af

Multiply by Dependence on MWD: Next, multiply by the agency's percentage dependence on MWD as shown in Step 5 above. This scales the credit to the member agency's dependence on MWD to ensure that credits are being applied to the proportion of water demand that is being affected by reductions in MWD's supply. For this example, dependence on MWD is 47%.

8.044 af x 47% = 3,781 af

Summary: The Conservation Demand Hardening Adjustment calculation is summarized by the following formula:

Conservation Demand Hardening Adjustment = Conservation Savings x (10% + Regional Shortage Level %) x (1+Conservation%) x Dependence on MWD %

Conservation Demand Hardening Adjustment = 23,316 af x (10% + (4 x 5%)) x (115%) x (47%) = 3,781 af

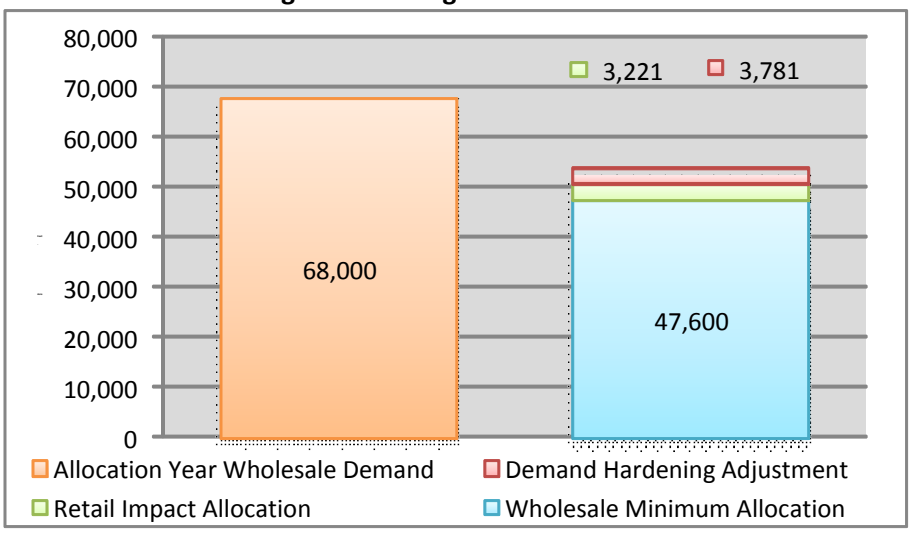
Step 8: Calculate the Low Per-Capita Adjustment Allocation: The hypothetical agency used in this example is assumed not to qualify for the Low Per-Capita Adjustment. A detailed discussion and example of the Low Per-Capita Adjustment calculation can be found in Appendix J: Per Capita Water Use Minimum Example.

Step 9: Calculate the total WSAP Allocation

WSAP Allocation: Calculated by adding the Wholesale Minimum Allocation (47,600 af), the Maximum Retail Impact Adjustment (3,221 af), the Demand Hardening Adjustment (3,781 af), and the Low Per-Capita Adjustment (0 af).

47,600 af + 3,221 af + 3,781 af + 0 af = 54,602 af

Figure 4: WSAP Allocation Regional Shortage Level 4



Step 10: Calculate total retail level reliability

Retail level reliability: Calculated by adding the WSAP Allocation (54,602 af), the Allocation Year Local Supply (65,000 af) and the Extraordinary Local Supply (5,000 af) and dividing by the Allocation Year Retail Demand (133,000 af).

(54,602 af + 65,000 af + 5,000 af) ÷ 133,000 af = 93.7%

Total Metropolitan Supply Allocations: In addition to the WSAP Allocation described above, agencies may also receive separate allocations of supplies for groundwater replenishment and seawater barrier demands. More information on the groundwater replenishment allocation is located in Appendix L: Groundwater Replenishment Allocation.

Appendix H: Board Policy Principles on Determining the Status of Extraordinary Supply

At the June 8, 2010 Water Planning and Stewardship Committee meeting Metropolitan's Board of Directors adopted the following policy principles to guide staff in determining the Extraordinary Supply status of future member agency supply programs.

No Negative Impacts to Other Member Agencies

A potential Extraordinary Supply for a member agency should not decrease the amount of Metropolitan water supply that would be available to the other member agencies in a WSAP. Programs that utilize Metropolitan supplies as a primary or in-lieu source or as a means of payback or future replenishment may have the effect of decreasing supplies, available to other agencies, if designated as Extraordinary Supply.

Provides Supply in Addition to Existing Regional Supplies

A potential Extraordinary Supply should provide a water supply that increases the overall water supplies that are available to the region in a WSAP. A program that is designed to move existing regional supplies from year to year would not qualify.

Specifically Designed Program or Supply Action

A potential Extraordinary Supply must be intentionally created and operated to provide additional supply yield. Normal variations in existing and planned local supply programs would not qualify.

Intended for Consumptive Use in a WSAP

A potential Extraordinary Supply should be designed with the primary intention to deliver water supply to a member agency only at a time when Metropolitan is allocating supplies. Programs designed to deliver water on a regular basis would not qualify. Exceptions for reasonable use of a supply program for emergency or other extenuating local circumstances should be considered.

Fully Documented Resource Management Actions

A potential Extraordinary Supply should have a full description as to the source, transmission, distribution, storage, and delivery of the water supply.

These principles are intended to identify deliberate actions taken by member agencies to augment supplies only when Metropolitan is allocating supplies through the WSAP. Production from existing local supplies, programs that are operated on an ongoing basis, and incidental increases in water supply would not qualify as Extraordinary Supply. The intent of the Extraordinary Supply designation is to recognize programs and actions that are additive to the total regional water supply as the region continues to confront the water supply challenges from drought and regulatory conditions. To that end, any supply actions taken after the initial implementation of the WSAP in July 2009 that utilize Metropolitan supplies either as a primary source, or to refill or replenish an incurred obligation or deficit at a future date would not qualify as Extraordinary Supply.

Appendix I: Base Period Mandatory Rationing Adjustment

Agencies that were under mandatory water use restrictions during the Base Period may have water use that is lower due to the mandatory actions already taken. Without adjusting for this, those agencies could be required to enforce even higher levels of restrictions under an allocation than those agencies that had not started mandatory restrictions.

To qualify for a Base Period Mandatory Rationing Adjustment, the member agency must provide Metropolitan staff with the following information:

- Time period when the mandatory conservation was in effect; it must be in effect during the Base Period
- A statement, with documentation, of how drought restrictions comply with the following Mandatory Conservation qualifications:
    - Governing Body-authorized or enacted
    - Includes mandatory demand reduction actions, restrictions or usage limitations including penalty-backed water budgets
    - Enforced by assessing penalties, fines, or rates based upon violating restrictions or exceeding usage limitations
- If the agency in question is a retail subagency, then the retailer's base period water demands during the Base Period in order to determine proportion to the member agency's total demand
- Historical data to construct GPCD base and trend for the consultation

Calculating the Base Period Rationing Adjustment involves following steps:

- Use the Baseline GPCD 10 or 15-year period selected by member agency for the Conservation Demand Hardening Adjustment calculation.
- Interpolate from the GPCD value of the midpoint of the Baseline GPCD period to the average GPCD of the two years preceding the agency's mandatory conservation
- Extrapolate to the WSAP Base Period (FY2013 and FY2014)
- Calculate the difference between estimated and observed GPCD for FY2013 and FY2014
- Convert to Acre-Feet and add to the member agency's Base Period Retail Demands

Appendix J: Per-Capita Water Use Minimum Example

This adjustment creates a minimum per capita water use threshold. Member agencies' retail-level water use under the WSAP is compared to two different thresholds. The minimum water use levels are based on compliance guidelines for total and residential water use established under Senate Bill X7-7.

Total Retail Level Use: 100 GPCD
Residential Retail Level Use: 55 GPCD

Agencies that fall below either threshold under the WSAP would receive additional allocation from Metropolitan to bring them up to the minimum GPCD water use level. To qualify for this credit, member agencies must provide documentation of the total agency level population and the percent of retail level demands that are residential; no appeal is necessary.

The following example gives a step-by-step description of how the Low Per-Capita Water Use Adjustment would be calculated for a hypothetical member agency. All numbers are hypothetical for the purpose of the example and do not reflect any specific member agency. This example was calculated using the following assumptions:

Allocation Year Retail Demand: 50,000 acre-feet
Allocation Year Local Supplies: 25,000 acre-feet;
Allocation Year Wholesale Demand: 25,000 acre-feet
Base Period Conservation: 5,000 acre-feet
Agency Population: 375,000
Percent of Retail Demands that are Residential: 60%

Step 1: Calculate Total Retail-Level Allocation Year Supplies

Table 6 shows the Allocation Year Local Supply, WSAP Allocation, and the total Allocation Year Supplies for the example agency at each Regional Shortage Level. The WSAP Allocation was calculated using the methodology detailed in Appendix G: Water Supply Allocation Formula Example and the assumptions listed above.

Table 6: Total Retail Level Allocation Year Supplies			
Regional Shortage Level	**Allocation Year Local Supply**	**WSAP Allocation**	**Total Allocation Year Supply**
1	25,000	23,594	48,594
2	25,000	22,188	47,188
3	25,000	20,781	45,781
4	25,000	19,375	44,375
5	25,000	17,969	42,969
6	25,000	16,563	41,563
7	25,000	15,156	40,156
8	25,000	13,750	38,750
9	25,000	12,344	37,344
10	25,000	10,938	35,938

Step 2: Calculate the Equivalent Total and Residential GPCD

The next step is to calculate the equivalent water use in gallons per capita per day (GPCD) for the Total Allocation Year Supply. The following equation shows the GPCD calculation under Regional Shortage Level 10.

35,938 af * 325,851 gallons ÷ 375,000 people ÷ 365 days = 85.6 GPCD

The residential per-capita water use is calculated in the same manner. Based on the assumption that 60% of the agency demands are residential, the following equation shows the residential GPCD calculation under Regional Shortage Level 10.

35,938 af * 60% * 325,851 gallons ÷ 375,000 people ÷ 365 days = 51.3 GPCD

Step 3: Compare the Total and Residential GPCD to the Minimum Water Use Thresholds

The next step is to compare the total GPCD water use to the 100 GPCD total water use threshold. In a Regional Shortage Level 10, the WSAP results in an allocation that is 14.4 GPCD below the minimum threshold.

100 GPCD – 85.6 GPCD = 14.4 GPCD

Likewise the residential GPCD water use is compared to the 55 GPCD residential water use threshold.

55 GPCD – 51.3 GPCD = 3.7 GPCD

Step 4: Determine the Allocation Adjustment in Acre-Feet

The final step is to calculate the acre-foot equivalent of the GPCD that fell below the minimum threshold. In a Regional Shortage Level 10, the adjustment provides 6,068 acre-feet of additional allocation to the agency; the results for Shortage Levels 1-10 are shown in Table 7.

14.4 GPCD ÷ 325,851 gallons * 375,000 people * 365 days = 6,068 acre-feet

Table 7: Total Per-Capita Water Use Adjustment				
Regional Shortage Level	**Allocation Year Supply**	**Equivalent GPCD**	**GPCD Below Threshold**	**Allocation Adjustment**
1	48,594	115.7	0	0
2	47,188	112.3	0	0
3	45,781	109.0	0	0
4	44,375	105.6	0	0
5	42,969	102.3	0	0
6	41,563	98.9	1.1	443
7	40,156	95.6	4.4	1,849
8	38,750	92.3	7.7	3,255
9	37,344	88.9	11.1	4,662
10	35,938	85.6	14.4	6,068

Again, this step is repeated for the residential water use. In a Regional Shortage Level 10, the adjustment provides 1,540 acre-feet of additional allocation to the agency; the residential water use results for Regional Shortage Levels 1-10 are shown in Table 8.

3.7 GPCD ÷ 325,851 gallons * 375,000 people * 365 days = 1,540 acre-feet

Table 8: Residential Per-Capita Water Use Adjustment				
Regional Shortage Level	**Allocation Year Supply**	**Equivalent GPCD**	**GPCD Below Threshold**	**Allocation Adjustment**
1	29,156	69.4	0	0
2	28,313	67.4	0	0
3	27,469	65.4	0	0
4	26,625	63.4	0	0
5	25,781	61.4	0	0
6	24,938	59.4	0	0
7	24,094	57.4	0	0
8	23,250	55.4	0	0
9	22,406	53.3	1.7	697
10	21,563	51.3	3.7	1,540

Agencies that fall below either threshold under the WSAP would receive additional allocation from Metropolitan to bring them up to the minimum GPCD water use level. If an agency qualifies under both thresholds, the one resulting in the maximum allocation adjustment would be given. Under this example the agency would receive 6,068 acre-feet of additional allocation in a Regional Shortage Level 10.

Appendix K: Qualifying Income-Based Rate Allocation Surcharge Adjustment Example

The following example provides a step by step description of how the qualifying income-based rate allocation surcharge adjustment is calculated. To qualify for this adjustment, member agencies must provide documentation showing the amount of retail demands that are covered by a qualifying income-based rate; no appeal is necessary.

The following list summarizes the allocation year demands, local supplies, and allocation as calculated in Appendix G: Water Supply Allocation Formula Example for a hypothetical agency under a Level 4 Regional Shortage. For detailed instructions on how to calculate these figures, reference Appendix G: Water Supply Allocation Formula Example.

Allocation Year Retail Demand: 133,000 acre-feet
Allocation Year Local Supplies: 68,000 acre-feet;
Level 4 WSAP Allocation: 52,735 acre-feet

Step 1: Allocation Surcharge Calculation

(a) **Water Use above Allocation:** The first step in calculating the income-based rate Allocation Surcharge adjustment is to calculate the agency's total Allocation Surcharge under the WSAP. If the agency did not incur any Allocation Surcharge from the allocation year, the income-based rate allocation surcharge adjustment would not apply. For the purpose of this example, the agency used 61,000 acre-feet of MWD supplies in the allocation year. This represents 8,265 acre-feet of use above the water supply allocation.

WSAP Allocation	52,735 af
Actual MWD Water Use	61,000 af
Use Above WSAP Allocation	8,265 af

(b) **Total Allocation Surcharge:** In this example the agency used 115.7% of its water supply allocation. 7,910 of the 8,265 acre-feet of use above the allocation would be assessed the Allocation Surcharge at an amount of $1,480 per acre-foot and 354 of the 8,265 acre-feet of use above the allocation would be assessed the Allocation Surcharge at an amount of $2,960.

Between 100% and 115% of Allocation	7,910 af	$1,480/af	$11,706,800
Greater than 115% of Allocation	354 af	$2,960/af	$1,047,840
Total	8,265 af		$12,754,640

Step 2: Effective Income-Based Rate Cutback

(a) **Calculate Retail Cutback:** The second step in calculating the income-based rate allocation surcharge adjustment is to calculate the amount of supply cutback that would have been expected from qualifying income-based rate customers under the WSAP. Using the water supply allocation that was calculated above, the total retail level impact on the agency can be

determined. In this example the agency receives a retail level cutback of 15,265 acre-feet, or 11.5% of their retail level demand.

WSAP Allocation + Allocation Year Local Supplies	117,735 af
Allocation Year Retail Demand	133,000 af
Effective Cutback	**15,265 af (11.5%)**

(b) Income-based Rate Customer Retail Cutback: To calculate the effective income-based rate cutback, the amount of demand covered by a qualifying income-based rate is multiplied by the effective retail level cutback. For this example assume that the agency has 10,000 acre-feet of qualifying demands.

Qualifying Income-Based Rate Demand	10,000 af
Effective Cutback Percentage	11.5%
Effective Income-Based Rate Cutback	**1,148 af**

(c) Income-based Rate Cutback Allocation Surcharge: Once the effective cutback has been calculated, the amount of Allocation Surcharge that is associated with qualifying income-based rate customers can be determined.

Between 100% and 115% of Allocation	794 af	$1,480/af	$1,175,120
Greater than 115% of Allocation	354 af	$2,960/af	$1,047,840
Total	**1,148 af**		**$2,222,960**

(d) Adjusted Allocation Surcharge Calculation: Finally, the Allocation Surcharge attributable to qualifying income-based rate customers is subtracted from the total Allocation Surcharge that was calculated above to determine the qualifying income-based rate adjusted allocation surcharge. In the case that the monetary amounts associated with the Income-Based Rate are greater than the total amounts an agency incurs, no Allocation Surcharge will be incurred.

Total Allocation Surcharge	$12,754,640
Qualifying Income-Based Rate Allocation Surcharge	$2,222,960
Qualifying Income-Based Rate Adjusted Allocation	**$10,531,680**

Appendix L: Groundwater Replenishment Allocation

Groundwater basins help provide vital local supplies that can buffer the region from short-term drought impacts. Longer droughts can result in reductions to the many sources of water that replenish groundwater basins, resulting in lower basin levels and potential impacts to the overlying consumptive demands. Limited imported deliveries under these conditions may help avoid impacts to the basins that may be drawn out of their normal operating range or subject to water quality or regulatory impacts. To this end, Metropolitan provides a limited allocation for drought impacted groundwater basins based on the following framework:

a) Staff hold a consultation with qualifying member agencies who have taken groundwater replenishment deliveries since 2010 and the appropriate groundwater basin managers to document whether their basins are in one of the following conditions:
    i. Groundwater basin overdraft conditions that will result in water levels being outside normal operating ranges during the WSAP allocation period; or
    ii. Violations of groundwater basin water quality and/or regulatory parameters that would occur without imported deliveries.

b) Provide an allocation based on the verified need for groundwater replenishment. The allocation would start with a member agency's ten-year average purchases of imported groundwater replenishment supplies (excluding years in which deliveries were curtailed). The amount would then be reduced by the declared WSAP Regional Shortage Level (5 percent for each Regional Shortage Level).

c) Any allocation provided under this provision for drought impacted groundwater basins is intended to help support and maintain groundwater production for consumptive use. As such, a member agency receiving an allocation under this provision will be expected to maintain groundwater production levels equivalent to the average pumping in the Base Period. Any adjustments to a member agency's M&I allocation due to lower groundwater production would be reduced by deliveries made under this provision.

d) Agencies for which this allocation does not provide sufficient supplies for the needs of the groundwater basin may use the WSAP Appeals Process to request additional supply (subject to Board approval). The appeal should include a Groundwater Management Plan that documents the need for additional supplies according to the following tenets:
    i. Maintenance of groundwater production levels;
    ii. Maintenance of, or reducing the further decline of, groundwater levels;
    iii. Maintenance of key water quality factors/indicators;
    iv. Avoidance of permanent impacts to groundwater infrastructure or geologic features; and
    v. Consideration of severe and/or inequitable financial impacts.

Final amounts and allocations will be determined following the consultations with groundwater basin managers and member agencies.

Appendix M: Water Rates, Charges, and Definitions

Table 9: Water Rates and Charges Dollars per acre-foot (except where noted)			
Rate	**Effective 1/1/2014**	**Effective 1/1/2015**	**Effective 1/1/2016**
Tier 1 Supply Rate	$148	$158	$156
Tier 2 Supply Rate	$290	$290	$290
System Access Rate	$243	$257	$259
Water Stewardship Rate	$41	$41	$41
System Power Rate	161	$126	$138
Tier 1	$593	$582	$594
Tier 2	$735	$714	$728
Treatment Surcharge	$297	$341	$348
Full Service Treated Volumetric Cost			
Tier 1	$890	$923	$942
Tier 2	$1,032	$1,055	$1,076
Readiness-to-Serve Charge (millions of dollars)	$166	$158	$153
Capacity Charge (dollars per cubic foot second)	$8,600	$11,100	$10,900

Definitions:

(1) **Tier 1 Supply Rate -** recovers the cost of maintaining a reliable amount of supply.

(2) **Tier 2 Supply Rate** - set at Metropolitan's cost of developing additional supply to encourage efficient use of local resources**.**

(3) **System Access Rate** – recovers a portion of the costs associated with the delivery of supplies.

(4) **System Power Rate** – recovers Metropolitan's power costs for pumping supplies to Southern California.

(5) **Water Stewardship Rate** – recovers the cost of Metropolitan's financial commitment to conservation, water recycling, groundwater clean-up and other local resource management programs.

(6) **Treatment Surcharge** – recovers the costs of treating imported water.

(7) **Readiness-to-Serve Charge -** a fixed charge that recovers the cost of the portion of system capacity that is on standby to provide emergency service and operational flexibility.

(8) **Capacity Charge** – the capacity charge recovers the cost of providing peak capacity within the distribution system.

Source: http://www.mwdh2o.com/WhoWeAre/Management/Financial-Information

Appendix N: Allocation Appeals Process

Step 1: Appeals Submittal

All appeals shall be submitted to the Appeals Liaison in the form of a written letter signed by the member agency General Manager. Each appeal must be submitted as a separate request, submittals with more than one appeal will not be considered. The appeal request is to include:

- A designated member agency staff person to serve as point of contact.
- The type of appeal (erroneous baseline data, loss of local supply, etc.).
- The quantity (in acre-feet) of the appeal.
- A justification for the appeal which includes supporting documentation.

A minimum of 60 days are required to coordinate the appeals process with Metropolitan's Board process.

Step 2: Notification of Response and Start of Appeals Process

The Appeals Liaison will phone the designated member agency staff contact within 3 business days of receiving the appeal to provide an initial receipt notification, and schedule an appeals conference. Subsequent to the phone call, the Liaison will send an e-mail to the Agency General Manager and designated staff contact documenting the conversation. An official notification letter confirming both receipt of the appeal submittal, and the date of the appeals conference, will be mailed within 2 business days following the phone contact

Step 3: Appeals Conference

All practical efforts will be made to hold an appeals conference between Metropolitan staff and member agency staff at Metropolitan's Union Station Headquarters within 15 business days of receiving the appeal submittal. The appeals conference will serve as a forum to review the submittal materials and ensure that there is consensus understanding as to the spirit of the appeal. Metropolitan staff will provide an initial determination of the size of the appeal (small or large) and review the corresponding steps and timeline for completing the appeals process.

Steps 4-7 of the appeals process differ depending upon the size of the appeal

Small Appeals

Small appeals are defined as those that would change an agency's allocation by less than 10 percent, or are less than 5,000 acre-feet in quantity. Small appeals are evaluated and approved or denied by Metropolitan staff.

Step 4: Preliminary Decision

Metropolitan staff will provide a preliminary notice of decision to the member agency within 10 business days of the appeals conference. The preliminary decision timeline may be extended to accommodate requests for additional information, data, and documentation. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the preliminary decision and the rationale for approving or denying the appeal.

Step 5: Clarification Conference

Following the preliminary decision the Appeals Liaison will schedule a clarification conference. The member agency may choose to decline the clarification conference if they are satisfied with the preliminary decision. Declining the clarification conference serves as acceptance of the preliminary decision, and the decision becomes final upon approval by Metropolitan's executive staff.

Step 6: Final Decision

Metropolitan staff will provide a final notice of decision to the member agency within 10 business days of the clarification conference, pending review by Metropolitan's executive staff. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the final decision and the rationale for the decision. A copy of the letter will also be provided to Metropolitan executive staff.

Step 6a: Board Resolution of Small Appeal Claims

Member agencies may request to forward appeals that are denied by Metropolitan staff to the Board of Directors through the Water Planning and Stewardship Committee for final resolution. The request for Board resolution shall be submitted to the Appeals Liaison in the form of a written letter signed by the member agency General Manager. This request will be administered according to Steps 6 and 7 of the large appeals process.

Step 7: Board Notification

Metropolitan staff will provide a report to the Board of Directors, through the Water Planning and Stewardship Committee, on all submitted appeals including the basis for determination of the outcome of the appeal.

Large Appeals

Large appeals are defined as those that would change an agency's allocation by more than 10 percent, and are larger than 5,000 acre-feet. Large appeals are evaluated and approved or denied by the Board of Directors.

Step 4: Preliminary Recommendation

Metropolitan staff will provide a preliminary notice of recommendation to the member agency within 10 business days of the appeals conference. The preliminary decision timeline may be extended to accommodate requests for additional information, data, and documentation. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the preliminary recommendation and the rationale for the recommendation. A copy of the draft recommendation will also be provided to Metropolitan executive staff.

Step 5: Clarification Conference

Following the preliminary recommendation the Appeals Liaison will schedule a clarification conference. The member agency may choose to decline the clarification conference if the satisfied with preliminary recommendation. Declining the clarification conference signifies acceptance of the preliminary recommendation, and the recommendation becomes final upon approval by Metropolitan's executive staff.

Step 6: Final recommendation

Metropolitan staff will provide a final notice of recommendation to the member agency within 10 business days of the clarification conference, pending review by Metropolitan executive staff. The Appeals Liaison will mail a written letter to the member agency staff contact and General Manager, stating the final recommendation and the rationale for the recommendation. A copy of the final recommendation will also be provided for Metropolitan executive review.

Step 7: Board Action

Metropolitan staff shall refer the appeal to the Board of Directors through the Water Planning and Stewardship Committee for approval.

Appendix O: Appeals Submittal Checklist

Appeal Submittal

- ☐ Written letter (E-mail or other electronic formats will not be accepted)
- ☐ Signed by the Agency General Manager

Mailed to the appointed Metropolitan Appeals Liaison

Contact Information

- ☐ Designated staff contact
  - o Name
  - o Address
  - o Phone Number
  - o E-mail Address
- ☐ General Manager
  - o Name
  - o Address
  - o Phone Number
  - o E-mail Address

Type of Appeal

- ☐ State the type of appeal
  - o Erroneous historical data used in base period calculations
    - Metropolitan Deliveries
    - Local Production
    - Growth adjustment
    - Conservation savings
  - o Exclusion of physically isolated areas
  - o Extraordinary supply designation
  - o Groundwater Replenishment Allocation
  - o Base Period Mandatory Rationing Adjustment
  - o Other

Quantity of Appeal

- ☐ State the quantity in acre-feet of the appeal

Justification and Supporting Documentation

- ☐ State the rationale for the appeal
- ☐ Provide verifiable documentation to support the stated rationale
  - o Examples of verifiable documentation Include, but are not limited to:
    - Billing Statements
    - Invoices for conservation device installations
    - Basin Groundwater/Watermaster Reports
    - California Department of Finance economic or population data
    - California Department of Public Health reports

Attachment 4A

Comments on
September 1, 2020, Stratecon, Inc. Memorandum to San Diego County Water Authority (SDCWA) General Counsel, RE: Impact of Fallbrook and Rainbow Detachment on Southern California's Reliance on the Bay Delta[1]

For supporting information to the responses to the claims of Stratecon addressed in this paper, see Metropolitan's September 17, 2020, submittal to the San Diego Local Agency Formation Commission.

Specific Comment 1: Inaccurate Representation of Exchange Agreement Deliveries

Excerpt from Page 4:

> Understanding the sources of water delivered to Fallbrook and Rainbow requires consideration of the sources and operations of Water Authority's water supplies. Under its Exchange Agreement with Metropolitan, the Water Authority exchanges water available from its long-term water conservation and transfer agreement with the Imperial Irrigation District ("IID") and the lining of the All American Canal and Coachella Canal at Imperial Dam (collectively "QSA water") for a like amount of water Metropolitan makes available to San Diego. The Water Authority receives its purchases of water from Metropolitan commingled with the exchange water from the IID transfer and canal lining.

First, the exchange of Colorado River water acquired by SDCWA from the Imperial Irrigation District and conserved water allocated to SDCWA from the All-American and Coachella canal lining projects (collectively, for the purposes of these comments, "SDCWA's QSA water") does not take place at Imperial Dam. Under the QSA and related agreements, and in particular the October 10, 2003, Colorado River Water Delivery Agreement,[2] SDCWA's QSA water is released from Lake Mead by the Secretary of the Interior and made available for exchange with Metropolitan at Metropolitan's Colorado River Aqueduct intake at Lake Havasu—not Imperial Dam.

Second, pursuant to the October 10, 2003, Exchange Agreement between Metropolitan and SDCWA,[3] Metropolitan delivers Exchange Water to SDCWA, which is not "QSA Water" "commingled" with Metropolitan supplies. Rather, Metropolitan takes possession of SDCWA's QSA water at Lake Havasu and manages that supply together with Metropolitan's other supplies from the Colorado River and from the State Water Project for the benefit of all Metropolitan member agencies. All Metropolitan deliveries to SDCWA are comprised of Metropolitan blended supplies from these sources. The blend varies from day-to-day, month-to month, and

[1] Exhibit 49 to the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"
[2] Exhibit 8, "Federal QSA", to the September 18, 2020, submittal to San Diego LAFCO entailed "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow," See Section 4.c
[3] Exhibit 8, "Exchange Agreement Restated", to the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"

year-to-year based on a number of factors.[4] On any given day, Exchange Water delivered to SDCWA is comprised of the same molecules as Metropolitan Full Service delivery to SDCWA and Eastern. The only distinction is a billing distinction in SDCWA's invoices.

Specific Comment 2: Inaccurate Description of Metropolitan Operations

> The Water Authority operates its system using QSA water as a base supply and purchases of Metropolitan water as a supplemental supply. Table 2 shows the 2020 monthly volume of treated water purchased from Metropolitan and the volume of QSA water treated at Lake Skinner. Treatment of purchased Metropolitan water equals only about 11 percent of the QSA water treated at Lake Skinner through July. Even if all purchases of treated Metropolitan water were for only Fallbrook and Rainbow through July 2020, QSA water provides the backbone of current water service to Fallbrook and Rainbow (see Figure 1).

Metropolitan does not treat "QSA water" at Lake Skinner, a term Stratecon inappropriately uses to refer to Metropolitan deliveries to SDCWA invoiced as Exchange Water. Metropolitan receives water under the Exchange Agreement at Lake Havasu, where it diverts Colorado River water into the Colorado River Aqueduct. From there, Metropolitan manages all Colorado River supplies without any distinction and blends it with its other sources, where necessary. Stratecon suggests "QSA water provides the backbone of current water service to Fallbrook and Rainbow." However, there is no such designation of water once Metropolitan receives water at Lake Havasu, since it is entitled to all water at that point to use as it sees most efficient for the benefit of its member agencies. In exchange for water made available at Lake Havasu pursuant to the Exchange Agreement, Metropolitan does have an obligation to make deliveries to SDCWA of like quantities, but in equal monthly installments of Metropolitan water. On any given day, Exchange Water delivered to SDCWA is comprised of the of the same molecules as Metropolitan Full Service delivery to SDCWA and Eastern,, the Exchange Agreement deliveries are distinguished only for billing purposes.

The statement that, "Treatment of purchased Metropolitan water equals only about 11 percent of the QSA water treated at Lake Skinner through July" is inaccurate, because there is no such thing as "QSA water" treated at Metropolitan's treatment plant. SDCWA may consider its agreements for transfers and exchanges as a backbone for its own water resource and reliability planning, but Metropolitan's water and its operation of its system is not and cannot be separated to identify the Exchange water billed to SDCWA.

Specific Comment 3: Inaccurate Representations Regarding Metropolitan Deliveries to SDCWA

In Table 2, SDCWA compares its purchases of Full Service treated water with treated water billed under the Exchange Agreement. The table purports to display, "QSA Water Treated at Lake Skinner." However, as explained above, there is no distinction of Metropolitan's own

[4] For a graphic showing the varying blend of water delivered to SDCWA and Eastern since 1999 see Figure 3 to Metropolitan's September 17, 2020, submittal to the San Diego Local Agency Formation Commission.

water treated at its treatment plants. Additionally, all invoiced "Exchange Water" is untreated in many months, which is not received by Fallbrook or Rainbow MWD.

Monthly Metropolitan deliveries to SDCWA invoiced as "Exchange Water" from January 2019 through December 2020 were as follows:

(acre-feet)

month	Treated	Untreated	Total	month	Treated	Untreated	Total
Jan-19	216.8	14,570.2	14,787.0	Jan-20	3,593.2	18,923.4	22,516.6
Feb-19	524.4	12,775.6	13,300.0	Feb-20	3,531.7	18,984.9	22,516.6
Mar-19	0.0	14,487.0	14,487.0	Mar-20	2,624.2	19,892.4	22,516.6
Apr-19	1,123.5	20,556.5	21,680.0	Apr-20	4,341.0	12,804.6	17,145.6
May-19	431.1	21,248.9	21,680.0	May-20	6,490.6	16,026.0	22,516.6
Jun-19	0.0	21,680.0	21,680.0	Jun-20	4,240.6	18,276.0	22,516.6
Jul-19	0.0	21,681.0	21,681.0	Jul-20	5,674.5	22,213.1	27,887.6
Aug-19	0.0	21,681.0	21,681.0	Aug-20	0.0	22,516.6	22,516.6
Sep-19	0.0	21,681.0	21,681.0	Sep-20	0.0	22,516.6	22,516.6
Oct-19	0.0	21,681.0	21,681.0	Oct-20	0.0	22,516.6	22,516.6
Nov-19	172.0	21,509.0	21,681.0	Nov-20	0.0	22,516.6	22,516.6
Dec-19	1,721.5	19,970.5	21,692.0	Dec-20	0.0	22,517.4	22,517.4

Based on the overwhelming proportion of untreated water billed under the Exchange Agreement, and the fact that Fallbrook and Rainbow do not receive untreated water, Metropolitan does not understand the basis for Stratecon's following conclusion:

> Before detachment, Fallbrook's and Rainbow's water deliveries are backed by QSA water. For water deliveries through July of this year, QSA water made up 70% of Fallbrook's and Rainbow's water supplies.

Specific Comment 4: Inaccurate Statement Regarding Metropolitan's Customers; Only its 26 Member Agencies Purchase Water From Metropolitan

The following statement at the bottom of page 5 is factually incorrect:

> After detachment, Fallbrook and Rainbow would purchase all their water directly from Metropolitan. Deliveries to Fallbrook and Rainbow would no longer be backed by the Water Authority's QSA water. Instead, Fallbrook and Rainbow would rely on Metropolitan's own Colorado River water supplies and imported water from the State Water Project ("SWP").

Metropolitan's customers are only its 26 member agencies and that would not change with the detachment of Fallbrook and Rainbow from SDCWA and their annexation to Eastern Municipal Water District ("Eastern"). Presently, those agencies receive water service from SDCWA. Should they detach from SDCWA and annex to Eastern, those agencies would then purchase water from Eastern —not "from Metropolitan" as Stratecon represents. To the extent Eastern decides to continue to serve those agencies with Metropolitan supplies delivered to Eastern, as explained in **Specific Comment 1,** Fallbrook and Rainbow would receive exactly the same

molecules from Metropolitan's Skinner Area facilities as they would as member agencies of SDCWA.[5]

Stratecon's statement that deliveries would no longer be "backed" by SDCWA's other supplies may intend to convey Fallbrook and Rainbow's benefit from SDCWA's water resource portfolio. However, its suggestion that Metropolitan's resources are less reliable is unsupported by any evidence and is irrelevant, as those agencies are seeking to transfer from SDCWA to Eastern. Their location within Metropolitan's service area and system would not change.

Specific Comment 5: Stratecon's Misinterpretation of Metropolitan's Operations and Data Results in Unsupported Conclusions

The following paragraph at page 6 consists of unsupported conclusions:

> Metropolitan is substantially more reliant on Northern California water than the Water Authority. Figure 2 shows Metropolitan's imported water sources since 2000: (1) Metropolitan's water supplies from its Priority 4 entitlement and Colorado River programs, (2) Colorado River water exchanged by the Water Authority, and (3) water from the State Water Project.[10] The annual variability in water supplies from the State Water Project reflects variability in the annual SWP allocation.[11]

Metropolitan's management of its annual available imported water supplies for the benefit of all member agencies

With respect to the highlighted sentence, all of Metropolitan's 26 member agencies, including SDCWA and Eastern, rely on Metropolitan to manage its available State Water Project supplies and Colorado River supplies, including SDCWA's QSA Water made available to Metropolitan at Lake Havasu, to meet their respective supplemental water needs. Like all Metropolitan member agencies, SDCWA is reliant on Metropolitan for imported supply deliveries to supplement its non-imported water supplies and Metropolitan manages all of its available resources to ensure reliability for its member agencies.

From year-to-year Metropolitan's available imported supply varies significantly. The State Water Project annual allocation has ranged from approximately 0.1 to 1.9 million acre-feet, compared to Colorado River supplies ranging from 0.8 to 1.0 million acre-feet. To manage annual supply fluctuations Metropolitan has developed nearly 5.3 million acre-feet of storage capacity to capture and hold available water that is in excess of demands. In years when available supplies are insufficient, or in an emergency, Metropolitan withdraws water from storage to supplement available imported supplies. This storage capacity is dispersed through a number of reservoirs and storage programs on the Colorado River, adjacent to the Colorado

[5] For a depiction of the Skinner Area facilities beginning with the San Diego Canal and extending southward through Riverside County toward and into San Diego County see Figure 4 from Metropolitan's September 17, 2020, submittal to the San Diego Local Agency Formation Commission.

River Aqueduct, within and adjacent to the State Water Project, and within Metropolitan's service area.[6]

Decisions to store Metropolitan's annual available Colorado River supplies are made at Metropolitan's discretion without consideration of the relative volume of SDCWA's QSA water that Metropolitan receives. Potential management actions include (i) conveying all available Colorado River supplies to other member agencies not served from the Skinner Area facilities, while serving SDCWA and Eastern from Diamond Valley Lake Storage, or from 100% State Water Project supplies; (ii) delivering most if not all available Colorado River supplies to storage; (iii) serving SDCWA and Eastern with a varying blend of State Water Project and Colorado River supplies; or (iv) serving SDCWA and Eastern with 100% Colorado River supplies.

Metropolitan's various resources and integrated system are coordinated to optimize reliability for all of its agencies. Thus, Stratecon's comparison of Metropolitan's reliance on the State Water Project, a regional cooperative of 26 member agencies, with one of its agencies' is inaccurate. None of Metropolitan's member agencies, including SDCWA, have any participation contracts in the State Water Project, nor do they hold a Boulder Canyon Project Section 5 Colorado River water delivery contract. SDCWA does have an agreement for transfer of Colorado River from IID and with the Secretary of the Interior for canal lining water, which it then exchanges with Metropolitan for a like amount of more consistent monthly deliveries of Metropolitan water. The agreement is part of SDCWA's portfolio, but it relies on exchanging its "QSA water" for Metropolitan water deliveries.

<u>Incorrect use of Metropolitan water supply data in Figures 2 and 3</u>

Stratecon's interpretation of Metropolitan's water supply data is incorrect. Figure 2 is a bar chart that claims to show "Metropolitan's Water Sources" in calendar year volumes broken down by "QSA," "CRA," and "SWP." Based on the supporting data paper,[7] it appears that these data points were intended to represent the following annual volumes:

QSA: SDCWA's QSA water made available to Metropolitan at Lake Havasu
CRA: Total volume conveyed by the Colorado River Aqueduct less the Exchange Water volume
SWP: Total volume conveyed for Metropolitan through the State Water Project

Metropolitan confirms the reported "QSA" volumes with exception of a minor difference for 2019 in which Stratecon assumed 238,658 acre-feet when the actual volume was 237,711 acre-feet.

[6] For a listing of the Metropolitan storage accounts see Attachment 1 to the December 28, 2020 staff report to the Metropolitan Board entitled, "Water Surplus and Drought Management Update" at http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2021/01-January/Reports/01112021%20Jt.%20WPS-CLR%206c%20Report.pdf

[7] Exhibit 37 to the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"

Attachment 4A

As noted in Footnote 10, the source of the "CRA" and "SWP" volumes is from "Data compiled from Metropolitan's 2015 Urban Water Management Plan and Metropolitan staff 'Water Supply and Drought Management' memoranda for data after 2015." Stratecon misinterpreted the data from these two different sources and as a result the graphical representation in Figure 2 and Figure 3 is inaccurate and inconsistent. The following are brief descriptions of the data taken from these two sources:

Calendar Years 2000 through 2014

For calendar year 2000 through 2014 Stratecon took the reported volumes of "Colorado River Aqueduct" supplies and "State Water Project Supplies" from Table A.2-1 from Metropolitan's 2015 Urban Water Management Plan dated June 2016.[8] This Table A.2-1 reports only those volumes of imported water conveyed into Metropolitan's service area. It does not include imported supplies available to Metropolitan in the year that were placed into storage accounts outside of Metropolitan's service area. In years when these stored supplies were withdrawn and conveyed to the Metropolitan service area, those volumes are included in Table A.2-1.

Calendar Years 2015 through 2019

For calendar year 2015 through 2019 Stratecon relied upon the end-of-year "Water Supply and Drought Management" staff reports to the Metropolitan Board.[9] These are end-or-year estimates, not final reports. The reported volumes used by Stratecon represent the respective total supply available during the year from the Colorado River and the State Water Project, comprised of the volume conveyed into Metropolitan's service area and the volume placed into storage accounts outside of Metropolitan's service area. The volumes include stored supplies withdrawn and conveyed to the Metropolitan service area.[10]

To align the data the 2015 through 2019 data with the pre-2015 data the following adjustments are required:

(acre-feet)

Calendar Year	"Total Colorado River Aqueduct Moved by MWD"			"MWD State Water Project"		
	(Stratecon)	(Corrected)	Difference	(Stratecon)	(Corrected)	Difference
2015	1,178,000	1,178,000	0	549,000	593,000	(44,000)
2016	996,000	961,000	35,000	1,156,000	1,009,000	147,000
2017	1,040,000	282,000	758,000	1,769,000	1,473,000	296,000
2018	937,000	757,000	180,000	718,000	845,000	(127,000)
2019	936,000	298,000	638,000	1,500,000	1,232,000	268,000

[8] http://www.mwdh2o.com/PDF_About_Your_Water/2.4.2_Regional_Urban_Water_Management_Plan.pdf.
[9] For hyperlinks to these reports see Exhibit 37 o the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"
[10] Water withdrawn from Metropolitan's State Water Project storage accounts for conveyance into the Metropolitan service area is water that was pumped from the Bay-Delta during a previous year.

This data misinterpretation demonstrates Stratecon's lack of awareness that SDCWA's QSA water made available to Metropolitan is managed at Metropolitan's complete discretion along with its other available imported supplies in conjunction with its 5.3 million acre-foot storage capacity to ensure reliability for all of its member agencies.

Specific Comment 6: Stratecon's Projections of Metropolitan Deliveries to SDCWA Incorrectly Excludes Exchange Water and is Inconsistent with SDCWA's Recent Reports

The following Stratecon conclusion at page 7 is based on outdated SDCWA projections:

> In contrast, the Water Authority is substantially less reliant on imported water from Northern California (see Figure 4).[12] With Metropolitan purchases 61.3% reliant on water from Northern California, the Water Authority's reliance on water from Northern California is 6.7% in 2020 and projected at 1.2% in 2035.[13]

Figure 4 claims that the "Water Authority's Reliance on Purchased Metropolitan Water" was 11% in 2020 and projected to be 2% in 2035.[11] The term "Purchased Metropolitan Water" is in reference to Metropolitan Full Service delivery and excludes Exchange Water delivery. As explained herein Metropolitan Full Service water delivered to SDCWA is comprised of the same molecules as Exchange Water delivered to SDCWA, comprised of a blend of State Water Project water ranging from 0% to 100% at Metropolitan's discretion based on the conditions at the time of delivery. Stratecon's claim that, "the Water Authority's reliance on water from Northern California is 6.7% in 2020 and projected at 1.2% in 2035," is not consistent with these facts. Further, Stratecon based that calculation on outdated SDCWA projections.

The data source for Figure 4 is described in Footnote 12 as "Water Authority staff 'Increasing San Diego Water Supply Reliability Through Supply Diversification.'" This source is actually a SDCWA webpage,[12] a screen shot from which is included as Exhibit 1 to these comments. SDCWA no longer stands behind that information. The following table from a November 2020 staff report to the SDCWA Board[13] shows the updated projected volumes, including larger volumes of Metropolitan Full Service deliveries.

[11] In the second paragraph below Figure 4 Stratecon elaborates, "...projected demand for Metropolitan water by 2035 to 10,225 acre-feet."
[12] https://www.sdcwa.org/sites/default/files/FY%202018%20Reliability%20Pie%20Chart.jpg
[13] See 8th through the 14th pages of the document posted at https://www.sdcwa.org/sites/default/files/2016-12/Board/2020_agendas/2020_11_12SpecialWPE.pdf

Attachment 4A

Table 6
Water Reliability Assessment
Preliminary Verifiable Water Resource Mix, Normal Weather Year (AF)

	2025	2030	2035	2040	2045
IID Water Transfer	200,000	200,000	200,000	200,000	200,000
ACC and CC Lining Transfers	78,700	78,700	78,700	78,700	78,700
Seawater Desalination	50,000	50,000	50,000	50,000	50,000
Water Authority Supplies	**328,700**	**328,700**	**328,700**	**328,700**	**328,700**
Surface Water [1]	46,542	46,442	46,342	46,242	46,242
Water Recycling	54,805	58,305	58,405	58,505	58,605
Groundwater	22,070	23,270	23,270	19,770	19,770
Groundwater Recovery	9,000	9,000	9,000	9,000	9,000
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
San Luis Rey Water Transfer	15,800	15,800	15,800	15,800	15,800
Potable Reuse	33,042	53,202	53,202	53,202	53,202
Member Agency Verifiable Local Supplies	**187,259**	**212,019**	**212,019**	**208,519**	**208,619**
MWD Supplies [2]	**45,610**	**43,502**	**63,374**	**82,353**	**98,937**
Total Projected Supplies	***561,569***	***584,221***	***604,093***	***619,572***	***636,256***
Long-Range Water Demand Forecast	***561,569***	***584,221***	***604,093***	***619,572***	***636,256***

1 Local surface water supply reflects normal year conditions, no future increase in surface water yield is anticipated.
2 MWD purchases are calculated as the difference between the water demand forecast and total local and regional supplies.

Based on this table, the actual fraction of Metropolitan deliveries to total projected SDCWA service area supplies for 2035 are as follows:

Metropolitan Delivery	SDCWA Table Line Item	Fraction of service area supplies
Exchange Water	"IID Water Transfer" + "ACC and CC Lining Transfers"	46%
San Luis Rey Supplemental Water†	"San Luis Rey Water Transfer"	3%
Metropolitan Full Service Delivery	"MWD Supplies"	10%
	Total fraction Metropolitan deliveries	**59%**

†A QSA related agreement, the Allocation Agreement, a copy of which is posted at,

https://www.usbr.gov/lc/region/g4000/QSA/allocation.pdf

provides for the allocation of 16,000 acre-feet of water conserved from the All-American Canal Lining Project and Coachella Canal Lining Project to the San Luis Rey Settlement Parties. Another QSA related agreement, the Supplemental Water Agreement, a copy of which is posted at,

https://www.usbr.gov/lc/region/g4000/QSA/suppwater.pdf

provides for the 16,000 acre-feet to be made available to Metropolitan at Lake Havasu in exchange for Metropolitan supplies delivered to SDCWA for the benefit of the San Luis Rey Settlement Parties.

Specific Comment 7: Statements Regarding Alleged Impacts on the Delta are Wholly Unsupported

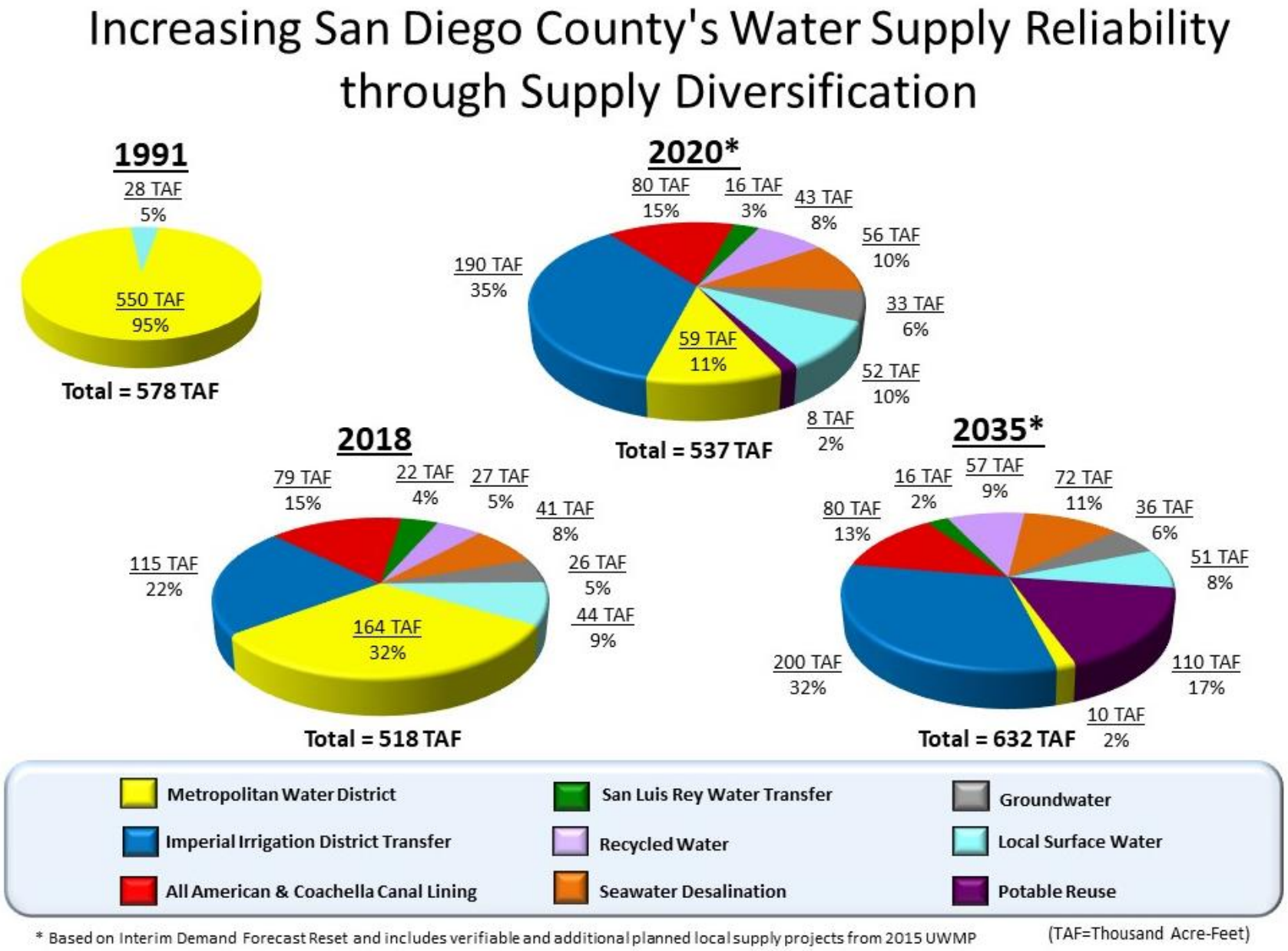
Stratecon's following conclusion is wholly unsupported:

> ***Conclusion***
>
> The detachment will increase Southern California's reliance on Northern California for water supplies. Eastern's Technical Memorandum asserts the contrary by assumption. It fails to mention, let alone analyze, the role of the Water Authority's historic agreements with IID and the Coachella Valley Water District in the Water Authority's water sources and how the Water Authority uses QSA water. Eastern further relies only on information available from 2015 Urban Water Management Plans, despite the availability of a 2018 update from the Water Authority that suggests that the Water Authority's future may be one of minor, if any, reliance on Metropolitan water with no detachment.

Stratecon has presented no evidence to support that detachment would result in increased reliance on Northern California for water supplies. Stratecon repeatedly claimed that Exchange Water delivered by Metropolitan to SDCWA does not include water from the Bay-Delta. As explained herein, Metropolitan Full Service water delivered to SDCWA is comprised of the same molecules as Exchange Water delivered to SDCWA, comprised of a blend of State Water Project water ranging from 0% to 100% at Metropolitan's discretion based on the conditions at the time of delivery.

Attachment 1 – Exhibit 1

Screen shot from https://www.sdcwa.org/sites/default/files/FY%202018%20Reliability%20Pie%20Chart.jpg



Attachment 4B

Comments on
December 31, 2020, Stratecon, Inc. Memorandum to San Diego County Water Authority (SDCWA) General Counsel regarding the Fallbrook Public Utility District (Fallbrook) and Rainbow Municipal Water District (Rainbow) proposals, Reference Nos. R020-04 and R020-05[1]

Metropolitan's comments regarding Stratecon's September 1, 2020, paper are incorporated herein by reference.

Specific Comment 1: "San Luis Rey Settlement Water" is Colorado River Water Exchanged for Metropolitan Water

The following highlighted statement appears at page 3:

> These member agencies' supplies are collectively comprised of local surface water, groundwater, recycled water, and Colorado River water received under San Luis Rey settlement (see Figure 2).[3] Local surface water is the most volatile local supply source, ranging from 18,000 acre-feet to 45,000 acre-feet annually, whereas groundwater and recycled water supplies are relatively stable. With water deliveries starting in Fiscal Year 2017-18, San Luis Rey water became another source of local water supply.

While SDCWA characterizes "water received under San Luis Rey settlement" as "local water," it is in fact imported water delivered by Metropolitan to SDCWA. Stratecon incorrectly claims that the "water received under San Luis Rey settlement" is Colorado River water, but that water is exchanged for Metropolitan water.

A QSA-related agreement, the Allocation Agreement,[2] provides for the allocation of 16,000 acre-feet of water conserved from the All-American Canal Lining Project and Coachella Canal Lining Project to the San Luis Rey Settlement Parties located in northern San Diego County. Another QSA-related agreement, the Supplemental Water Agreement,[3] provides for the 16,000 acre-feet of conserved Colorado River water to be made available to Metropolitan at Lake Havasu in exchange for Metropolitan supplies delivered to SDCWA for the benefit of the San Luis Rey Settlement Parties. Under a separate agreement,[4] SDCWA conveys the water to the San Luis Rey Settlement Parties.

Similar to Exchange Water, but called "Supplemental Water", Metropolitan takes possession of canal lining water at Lake Havasu and manages that supply together with Metropolitan's other supplies from the Colorado River and from the State Water Project for the benefit of all Metropolitan member agencies. All Metropolitan deliveries to SDCWA, including those invoiced as "Supplemental Water", are comprised of Metropolitan blended supplies from these sources. The blend varies from day-to-day, month-to month, and year-to-year based on a

[1]Attachment 2 to the January 6, 2021, submittal to San Diego County LAFCO entitled *Rainbow Municipal Water District ("Rainbow") and Fallbrook Public Utilities District ("Fallbrook") Applications for Detachment and Annexation (the "Reorganizations")*
[2] https://www.usbr.gov/lc/region/g4000/QSA/allocation.pdf
[3] https://www.usbr.gov/lc/region/g4000/QSA/suppwater.pdf
[4] https://www.usbr.gov/lc/region/g4000/QSA/waterconveyance.pdf

number of factors, and can range from 100% Colorado River supplies, a varying blend of State Water Project and Colorado River supplies, or 100% State Water Project supplies.[5]

Note that Figure 2, "Composition of Member Agency Local Supplies," fails to reflect the 2,991.6 acre-feet of Metropolitan deliveries to SDCWA invoiced as "Supplemental Water" in fiscal year ending June 2017. Furthermore, the sum of the annual volumes do not match the "Local Supply" quantified in Figure 1. The following table shows the differing stated volumes of "Local Supply" between Figure 1 and Figure 2:

(thousand acre-feet)

	fiscal year ending				
	2016	2017	2018	2019	2020
San Luis Rey Water	0	0	22	9	18
Recycled Water	23	24	27	22	23
Groundwater	21	16	26	25	25
Local Surface Water	18	26	44	36	45
Total Figure 2	**62**	**66**	**119**	**92**	**111**
Figure 1	**63**	**72**	**126**	**98**	**117**

Specific Comment 2: The Stratecon Report Misconstrues the Exchange Agreement

The Stratecon Report Misrepresents the Exchange Agreement Terms

The highlighted sentence from the paragraph that immediately follows Figure 2 indicates that in 2021, Colorado River water acquired by SDCWA from the Imperial Irrigation District and conserved water allocated to SDCWA from the All-American and Coachella canal lining projects, which Stratecon refers to as "QSA water", will reach a maximum stabilized volume of 278,700 acre-feet.

supplemental supply (see Figure 3).[4] The volume of transfer water from the Imperial Irrigation District has increased over the past five fiscal years and will stabilize at its maximum annual quantity of 200,000 acre-feet in 2021. Canal lining water is at long-term annual volume of about 78,700 acre-feet, inclusive of the unused water from environmental mitigation projects the Water Authority is projected to receive. Desalinated seawater is approaching its maximum annual

Stratecon failed to recognize that the October 2003 Exchange Agreement between Metropolitan and SDCWA[6] limits Metropolitan's obligation to invoice deliveries to SDCWA as "Exchange

[5] For a graphic showing the varying blend of water delivered to SDCWA and Eastern since 1999 see Figure 3 to Metropolitan's September 17, 2020, submittal to the San Diego Local Agency Formation Commission.
[6] Exhibit 8, "Exchange Agreement Restated", to the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"

Water" at 277,700 acre-feet in a year[7]—less than the 278,700 acre-feet total Stratecon represents will be billed as Exchange Water.

The following discussion and Table 1, both on page 9, also incorrectly indicate the Exchange water volume at 278,700 acre-feet per year. Accordingly, the "Canal Lining Water" volume should be reduced by 1,000 acre-feet and the "Metropolitan Water" volume should be increased by 1,000 acre-feet.

> The future portends a continuation of the trend of reduced reliance on Metropolitan water through 2030 (see Table 1).[11] With the Water Authority's base supply stabilizing at its long-term annual amount of 328,700 acre-feet by 2021, the Water Authority's demand for Metropolitan water will reach bottom at 43,502 acre-feet by 2030 (almost 50% below the Water Authority's purchase of Metropolitan in the Fiscal Year 2019-20). After 2030, the projected increase in member agency demand for Water Authority water will increase the Water Authority's demand for Metropolitan water, although the projected demand does not exceed the Water Authority's purchases of Metropolitan water in Fiscal Year 2019-20 until after 2040.

Again, notwithstanding the labeling used in Table 1 and in the discussion, "Metropolitan water" includes Metropolitan water deliveries (i) invoiced at the Full Service rate and (ii) invoiced at the "Exchange Water" rate. Based on the volumes shown in Table 1 and the proper characterization of Metropolitan supplies, the following table demonstrates that SDCWA projects that water delivered by Metropolitan will comprise nearly 90 percent of the projected SDCWA supplies needed to meet its member agency demands for supplemental water.

(acre-feet)

Item	2025	2030	2035	2040	2045
Water Authority Demand	374,310	372,202	391,974	411,053	427,637
Metropolitan Exchange Water†	277,700	277,700	277,700	277,700	277,700
Metropolitan Full Service‡	46,610	44,502	64,274	83,353	99,937
Total Metropolitan Supply	324,310	322,202	341,974	361,053	377,637
Water Authority Demand met from Metropolitan Supply	87%	87%	87%	88%	88%

†Metropolitan's maximum obligation to invoice deliveries to SDCWA as "Exchange Water."
‡Volumes shown in Table 1 increased by 1,000 acre-feet to account for the adjustment downward of Table 1's over-projection of Exchange Water.

Note that the above table does not incorporate 16,000 acre-feet of Metropolitan deliveries invoiced as "Supplemental Water" for SDCWA conveyance to the San Luis Rey Settlement Parties. Table 1 reflects SDCWA's characterization of this Metropolitan delivery as "Local Supply" (see **Specific Comment 1** herein).

[7]The October 2003 Exchange Agreement provides for 10,000 acre-feet of "Early Transfer Water" from IID to SDCWA scheduled for 2020 (2,500 acre-feet), 2021 (5,000 acre-feet), and 2022 (2,500 acre-feet), which is in addition to the annual cap 277,700 acre-feet.

The Stratecon Report Inaccurately Characterizes Metropolitan Deliveries of Exchange Water

Figure 3 appears to include Metropolitan water deliveries to SDCWA broken down into three categories with labels assigned by Stratecon as follows:

"Metropolitan" – This label appears to reference Metropolitan deliveries invoiced as Metropolitan Full Service

"Canal Lining" – This label appears to reference Metropolitan deliveries invoiced as "Exchange Water" attributed by Stratecon as All-American and Coachella canal lining water allocated to SDCWA and made available to Metropolitan at Lake Havasu

"IID Transfer" – This label appears to reference Metropolitan deliveries invoiced as "Exchange Water" attributed by Stratecon as IID water transferred to SDCWA and made available to Metropolitan at Lake Havasu

Metropolitan does not deliver "Canal Lining" water nor "IID Transfer" water to SDCWA. In exchange for that water being made available to Metropolitan at Lake Havasu, Metropolitan delivers a like amount of Metropolitan water to SDCWA, billed as "Exchange Water". As explained in Specific Comment 1 to Metropolitan's comments on Stratecon's September 1, 2020, paper, there is no comingling of different categories of water delivered to SDCWA by Metropolitan. The blend of Metropolitan's supplies delivered to SDCWA varies from day-to-day, month-to month, and year-to-year based on a number of factors.

The portion of the monthly Metropolitan delivery to SDCWA invoiced as "Exchange Water" is determined pursuant to the October 2003 Exchange Agreement between Metropolitan and SDCWA. Exchange Water is accounted for on a calendar year basis. The monthly volume is determined as the total volume of SDCWA's QSA water made available to Metropolitan at Lake Havasu for exchange from January through December of the current year divided by 12.[8]

The following table shows that the Stratecon-labeled volumes from Figure 3 do not correlate to Metropolitan Exchange water deliveries to SDCWA, as invoiced.

[8] Mutually agreed upon adjustments to this determination were made for calendar years 2019 and 2020, which are accurately reflected in Stratecon's Figure 4.

(thousand acre-feet)

Fiscal Year Ending	"Metropolitan" Figure 3	Invoiced Metropolitan Full Service†	"IID Transfer" Figure 3	"Canal Lining" Figure 3	Subtotal	Invoiced Exchange Water
2016	187	284	100	79	179	179
2017	193	198	100	78	178	178
2018	164	174	119	79	198	194
2019	133	134	113	79	192	212
2020	83	62	144	86	230	260
Total	760	852	576	401	977	1,023
Departure From Figure 3		92			Departure From Figure 3	46

†Sum of treated and untreated deliveries invoiced at the Metropolitan Full Service rate. Does not included Metropolitan deliveries to SDCWA invoiced as (i) "Supplemental Water" totaling 52,012.5 acre-feet, (ii) wheeling deliveries for SDCWA member agency of 206.8 acre-feet, and (iii) wheeling deliveries of 985.6 acre-feet for SDCWA conveyance to Tijuana, Baja California.

The departure of Stratecon's Figure 3 volumes from the volumes reported in the monthly Metropolitan invoices to SDCWA is significant, suggesting that Stratecon does not understand Metropolitan's deliveries to SDCWA.

Specific Comment 3: The Stratecon Report Inaccurately Characterizes Data on Metropolitan's Sources of Water

On page 10, under the heading "Metropolitan's Sources of Water," lies the following paragraph:

> Metropolitan states that "on average, water supply to Metropolitan's service area is made up approximately 30% SWP, 20% Colorado River (including the Water Authority's QSA water), and 50% Local Supplies."[12] Excluding the 50% local supplies, Figure 8 shows imported water sources since 2000: (1) Metropolitan's water supplies from its Priority 4 entitlement and Colorado River programs, (2) the Water Authority's IID transfer and canal lining waters, and (3) Metropolitan water from the State Water Project.[13] The annual variability in water supplies from the State Water Project reflects variability in annual SWP allocations.[14]

Figure 8 that follows this paragraph is a bar chart that claims to show "Metropolitan's Water Sources" in calendar year volumes broken down by "QSA," "CRA," and "SWP." Based on the supporting data paper,[9] it appears that these data points were intended to represent the following annual volumes:

QSA: SDCWA's QSA Water made available to Metropolitan at Lake Havasu
CRA: Total volume conveyed by the Colorado River Aqueduct less Exchange Water volume

[9] Exhibit 37 to the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"

SWP: Total volume conveyed to Metropolitan from the State Water Project

Metropolitan confirms the reported "QSA" volumes with exception of a minor difference for 2019 in which Stratecon assumed 238,658 acre-feet when the actual volume was 237,711 acre-feet.

As noted in Footnote 13, the source of the "CRA" and "SWP" volumes is from "Data compiled from Metropolitan's 2015 Urban Water Management Plan and Metropolitan staff 'Water Supply and Drought Management' memoranda for data after 2015." Stratecon misinterpreted the data from these two different sources and as a result the graphical representation in Figure 2 and Figure 3 is inaccurate and inconsistent. The following are brief descriptions of the data taken from these two sources:

Calendar Years 2000 through 2014

For calendar year 2000 through 2014 Stratecon took the reported volumes of "Colorado River Aqueduct" supplies and "State Water Project Supplies" from Table A.2-1 from Metropolitan's 2015 Urban Water Management Plan dated June 2016.[10] This Table A.2-1 reports only those volumes of imported water conveyed into Metropolitan's service area. It does not include imported supplies available to Metropolitan in the year that were placed into storage accounts outside of Metropolitan's service area. In years when these stored supplies were withdrawn and conveyed to the Metropolitan service area, those volumes are included in Table A.2-1.

Calendar Years 2015 through 2019

For calendar year 2015 through 2019 Stratecon relied upon the end-of-year "Water Supply and Drought Management" staff reports to the Metropolitan Board.[11] These are end-or-year estimates, not final reports. The reported volumes used by Stratecon represent the respective total supply available during the year from the Colorado River and the State Water Project, comprised of the volume conveyed into Metropolitan's service area and the volume placed into storage accounts outside of Metropolitan's service area. The volumes include stored supplies withdrawn and conveyed to the Metropolitan service area.[12]

To align the data the 2015 through 2019 data with the pre 2015 data the following adjustments are required:

[10] http://www.mwdh2o.com/PDF_About_Your_Water/2.4.2_Regional_Urban_Water_Management_Plan.pdf.
[11] For hyperlinks to these reports see Exhibit 37 of the September 18, 2020, submittal to San Diego LAFCO entitled "San Diego County Water Authority Combined Response to Reorganization Applications by Fallbrook/Rainbow"
[12] Water withdrawn from Metropolitan's State Water Project storage accounts for conveyance into the Metropolitan service area is water that was pumped from the Bay-Delta during a previous year.

(acre-feet)

Calendar Year	"Total Colorado River Aqueduct Moved by MWD"			"MWD State Water Project"		
	(Stratecon)	(Corrected)	Difference	(Stratecon)	(Corrected)	Difference
2015	1,178,000	1,178,000	0	549,000	593,000	(44,000)
2016	996,000	961,000	35,000	1,156,000	1,009,000	147,000
2017	1,040,000	282,000	758,000	1,769,000	1,473,000	296,000
2018	937,000	757,000	180,000	718,000	845,000	(127,000)
2019	936,000	298,000	638,000	1,500,000	1,232,000	268,000

This data misinterpretation demonstrates Stratecon's lack of awareness that SDCWA's QSA water made available to Metropolitan is managed at Metropolitan's complete discretion along with its other available imported supplies in conjunction with its 5.3 million acre-foot storage capacity to ensure reliability for all of its member agencies.

Specific Comment 4: Stratecon Ignores Metropolitan's Prior Submissions to LAFCO

Near the top of page 12 Stratecon makes the following statement:

> Metropolitan's discussion is silent on how Metropolitan would use its own water sources to deliver water to the Water Authority or Eastern, before and after a detachment.

and three paragraphs later the following correlated statement:

> For the purposes of assessing the impact of detachment, one must discuss how Metropolitan would source its water deliveries before and after a detachment (see below). Metropolitan is silent.

As highlighted in Exhibit 1 to these comments, pages 5-7 of Metropolitan's submittal to San Diego LAFCO dated September 17, 2020, explains the sources of supplies available to and managed by Metropolitan for delivery to Eastern Municipal Water District ("Eastern") and SDCWA, which would not be affected in any manner by the reorganization.

Specific Comment 5: Stratecon's Review of Metropolitan's Storage is Incorrect and Irrelevant

SDCWA incorrectly compares the reliability of SDCWA's wholesale service to its member agencies in San Diego County to Metropolitan's regional wholesale service extending over six counties. However, the comparison is not appropriate, as SDCWA is a member agency of Metropolitan and the proposed annexations would not transfer Fallbrook and Rainbow as customers to Metropolitan. The proposal is for a reorganization from SDCWA to Eastern. Yet, the following passage at the bottom of page 12, shows Stratecon's improper and irrelevant comparison. Stratecon incorrectly describes Metropolitan's emergency storage, claiming it would not be reliable for Fallbrook and Rainbow if the reorganization is approved. But Fallbrook and Rainbow are already within Metropolitan's service area.

Metropolitan's Emergency Storage

Metropolitan summarizes how Metropolitan's storage is reserved to meet water supply emergencies. The discussion includes the statements:[19]

> "Together, Metropolitan's diverse portfolio of supplies, flexible, interconnected regionwide infrastructure and emergency storage provide its member agencies with *water supply reliability*. In fact, Metropolitan's overall water storage is at historic levels, currently in excess of approximately 3.8 million acre-feet." (emphasis added)

The first sentence is an assertion of water supply reliability, not a demonstration of water supply reliability (see below). The second sentence does not acknowledge that Metropolitan's current storage reflects an unusually high SWP allocation in 2019 (75%)—the 2020 SWP allocation is 20%. Metropolitan storage has also increased due to a decade long decline in water sales (see below). In addition, Metropolitan also does not discuss the numerous calls by non-Metropolitan agencies on Metropolitan's stored water.

As of the writing of these comments Metropolitan's overall storage is in excess of 3.9 million acre-feet, 0.1 million acre-feet greater than September 2020.[13] Of that overall volume, 0.75 million acre-feet is reserved for emergencies. The remaining 3.2 million acre-feet is reserve supplies providing water supply reliability as discussed on page 3 of Metropolitan's September 17, 2020, submittal to San Diego LAFCO.

Exhibit 2 to these comments contains two charts showing Metropolitan storage balances. The top chart shows total Metropolitan end-of-year storage balances from 2000 through 2020 broken down by the volume reserved for emergencies and the "Dry-Year Storage" component, which is available to supplement available State Water Project the Colorado River supplies. As can be seen, storage has varied year-to-year. Storage increases when available supplies from these sources exceed member agency demands and decreases when storage is drafted to supplement available supplies. Storage was significantly drafted two times since 2000 – from 2007 through 2009 and from 2013 through 2015 – to help meet member agency demands during those periods of insufficient supplies. The present storage level marks the culmination of the third recovery in storage since 2000.

Stratecon dismisses the present storage level as being the result of a single event – the 75 percent State Water Project allocation for calendar year 2019. That is neither a fair nor accurate assessment. As can be seen from the top chart in Exhibit 2, and from the historical annual State Water Project allocations shown in the table below, storage began to recover in 2016 when the allocation was 60 percent and further increased in 2017 when the allocation was 85 percent, held

[13] See Attachment 1 to the Metropolitan staff report to Board, *Water Surplus and Drought Management Update – Conditions as of 12/28/2020*, at http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2021/01-January/Reports/01112021%20Jt.%20WPS-CLR%206c%20Report.pdf

steady when the allocation was 35 percent, increased in 2019 when the allocation was 75 percent, and increased slightly in 2020 when the allocation was 20 percent.

Historical annual State Water Project allocation:

Year	Allocation	Year	Allocation	Year	Allocation	Year	Allocation
2001	39%	2006	100%	2011	80%	2016	60%
2002	73%	2007	60%	2012	65%	2017	85%
2003	90%	2008	35%	2013	40%	2018	35%
2004	65%	2009	40%	2014	5%	2019	75%
2005	90%	2010	50%	2015	20%	2020	20%

State Water Project allocation is not the only variable affecting Metropolitan storage. During the 2016 through 2020 period Metropolitan's core supplies from the Colorado River were boosted with over 450,000 acre-feet of additional Colorado River supplies from unused agricultural Priority 3a water, the annual volumes of which were as follows:

(acre-feet)

Year	Additional Colorado River water
2016	63,491
2017	40,021
2018	113,915
2019	60,573
2020	172,389
Total	450,389

The bottom chart shown in Exhibit 2 shows Metropolitan end-of-year dry-year storage levels only since 2010, broken down by the volume held in and adjacent to SWP facilities, on the Colorado River, and local storage, which includes storage adjacent to the Colorado River Aqueduct in the Upper Coachella Valley. As can be seen in the chart. Metropolitan storage is well distributed among the three regions to maximize reliability.

Stratecon also cited "a decade long decline in water sales" as another contributor to the present storage level. Most certainly member agency demand is a variable that affects Metropolitan storage, but Metropolitan has not experienced "a decade long decline in water sales." Metropolitan water transactions with member agencies (Full Service deliveries to all member agencies plus Exchange Water deliveries to SDCWA) from 2010 through 2019 were as follows:

Calendar year Metropolitan water transactions[14]
(million acre-feet)

Year	Transactions	Year	Transactions
2010	1.66	2015	1.74
2011	1.65	2016	1.68
2012	1.75	2017	1.43
2013	1.95	2018	1.54
2014	2.02	2019	1.28

Lastly, Metropolitan is not aware of any pending call on Metropolitan storage by non-Metropolitan agencies.

Specific Comment 6: Stratecon Incorrectly Reviews a Comparison of Service under SDCWA and Metropolitan

At page 14, Stratecon bases its comments on the erroneous assumption that Fallbrook and Rainbow propose to detach from SDCWA to join Metropolitan. That is not part of the proposal and it is not possible, as Metropolitan has explained many times. The proposal, as Metropolitan understands it, is for those agencies to join Eastern. Only member agencies of Metropolitan are customers of Metropolitan. To the extent Stratecon wishes to review reliability of service before and after the proposed reorganization, it must compare SDCWA and Eastern. Yet, at page 14, Stratecon concludes:

> The Water Authority serves its member agencies using QSA water and desalinated seawater as a base supply and purchases of Metropolitan water as a supplemental supply (see above). Before detachment, Fallbrook's and Rainbow's water deliveries are backed by QSA water and desalinated seawater. Purchases of Metropolitan water are supplemental water supplies mostly to address seasonal variability in water demands (see discussion of Figures 4 and 5). After detachment, Fallbrook and Rainbow would purchase all their water directly from Metropolitan. Deliveries to Fallbrook and Rainbow would no longer be backed by the Water Authority's QSA water and desalinated seawater. Instead, Fallbrook and Rainbow would rely solely on Metropolitan's own Colorado River water supplies and imported SWP water.

Fallbrook and Rainbow would not "rely solely on Metropolitan's [water]," at the exclusion of SDCWA's QSA water, because that water is exchanged by SDCWA for Metropolitan water. It appears Stratecon admits SDCWA does not deliver specific "QSA water" (Exchange Water) or desalinated water to Fallbrook and Rainbow. Instead, the report states that such water "backs" service to those agencies. Stratecon's statement that deliveries would no longer be "backed" by SDCWA's other supplies may intend to convey Fallbrook and Rainbow's benefit from SDCWA's water resource portfolio. However, its suggestion that Metropolitan's resources are

[14] For a year-by-year report of calendar year transactions and SWP allocation see http://www.mwdh2o.com/2020%20Other%20Background%20Materials/Chart%20-%20MWD%20Water%20Transactions%20and%20SWP%20Conditions%20%E2%80%93%20All%20Years%20(1990-2019).pdf

less reliable is unsupported by any evidence and is irrelevant, as those agencies are seeking to transfer from SDCWA to Eastern. Their location within Metropolitan's service area and system would not change.

Additionally, the Stratecon stated points that follow these paragraphs through Table 3 and Table 4 have no factual support as they are based on the false premise that SDCWA's QSA water made available to Metropolitan at Lake Havasu is not a supply of Colorado River water made available for Metropolitan's management. That ignores the basic terms and operations of the agreement, which would not be affected by detachment.

Specific Comment 7: The Report Contains Errors Related to the Colorado River

Stratecon's discussion of the Colorado River "priority system", "Priority 3 versus Priority 4", "PVID Land Fallowing and IID Conservation Agreements", and "SWP water" extending from page 16 through page 22 is irrelevant to the question of Metropolitan deliveries to SDCWA and Eastern with or without detachment. The external factors that control Colorado River and State Water Project supplies available to Metropolitan will be the same with or without detachment. Notwithstanding the irrelevance of these discussions Metropolitan offers the following factual corrections:

- Page 16, sentence following "*The Priority System*":
  California's apportionment to Colorado River water is 4.4 million acre-feet plus one-half of any surplus Colorado River water available to the Lower Basin.
- First two bullets following "*The Priority System*":
  Most present perfected rights are incorporated into the first three priorities of the California Seven Party Agreement[15] amounting to 3.85 million acre-feet. Those that are not are "Indian and miscellaneous Present Perfected Rights."
- Second bullet following "The Priority System":
  "Palos Verde Irrigation District" is actually the *Palo Verde Irrigation District*.
- Discussion of the Drought Contingency Plan ("DCP") on pages 17 to 18:
  The most recent U.S. Bureau of Reclamation modeling studies indicate the risk of Metropolitan making a DCP Contribution through the term of the DCP that ends after 2026 is low.[16] Recent model runs under the stress test hydrology show Metropolitan making a DCP Contribution in 3% of the traces in 2023, 10% in 2024, and 4% in 2025. The source referenced by Stratecon in his Footnote 27 concludes that, "The plan won't cause immediate water cuts. This year's wet winter means that Lake Mead's elevation, currently 1,090 feet above sea level, may remain above the 1,045-foot threshold at which the mandate is triggered for California."[17]

[15] https://www.usbr.gov/lc/region/pao/pdfiles/ca7pty.pdf
[16] https://www.usbr.gov/lc/region/g4000/riverops/crss-5year-projections.html
[17] The staff Board letter and accompanying presentation to the Metropolitan Board that served as the basis of Board approval of the Drought Contingency Plan can be accessed at (i) http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2019/03-March/Letters/064881245.pdf#search=Drought%20Contingency%20Plan, and (ii) http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2019/03-March/Presentations/064882821.pdf#search=Drought%20Contingency%20Plan

- Analysis of PVID Land Fallowing program:
  Using the context of the Priority 1, 2, and 3b adjustment to Metropolitan's Colorado River supplies under the QSA, at the top of page 21 Stratecon incorrectly states that Metropolitan's net increase in Colorado River supplies from the PVID fallowing program is "about 21% of the average annual amount of 94,293 acre-feet of land fallowing." In fact, every acre-foot of reduced consumptive use by PVID is an acre-foot of Colorado River water that is made available to Metropolitan.

- Table 5, Metropolitan's annual Colorado River supplies:
  Table 5 fails to provide a complete report of Colorado River supplies available to Metropolitan under the QSA since 2003. Most striking is the omission of SDCWA's QSA water made available to Metropolitan at Lake Havasu. For a full accounting of Colorado River supplies available to Metropolitan in each year see the U.S. Bureau of Reclamation's annual Colorado River water accounting reports, in particular the pages reporting California Transfers, Exchanges, and Water Made Available by Extraordinary Conservation.[18]

- Impact of the 2009 Delta Reform Act on SWP allocations:
  The provisions of the "2009 Delta Reform Act," as referenced by Stratecon, had no direct impact on the annual State Water Project allocations since 2009, as was suggested by Stratecon on page 22.

- Priority 5 water available to Metropolitan:
  The statement on page 23 that "the era of large volumes of Priority 5 Colorado River water ended with implementation of the QSA" is not factual. Since 2003 Metropolitan has continued to divert varying amounts of Colorado River water under priority 5. For example, in 2009 Metropolitan diverted 555,232 acre-feet in excess of its Priority 4 entitlement to 550,000 acre-feet while leaving an additional 55,836 acre-feet stored in Lake Mead. In 2010 Metropolitan diverted 549,061 acre-feet in excess of its Priority 4 entitlement while leaving an additional 100,864 acre-feet stored in Lake Mead.

Specific Comment 8: Stratecon's Inaccurate Characterization of the Exchange Water Deliveries Appears Throughout the Report

The bar chart in Figure 16 is based on the false premise that Metropolitan deliveries to SDCWA invoiced as "Exchange Water" is something other than Metropolitan's blended supply. As demonstrated in **Specific Comment 2** herein, the SDCWA projected reliance on Metropolitan supplies relative to SDCWA's total available supplies for the years shown in Figure 16 was nearly 90 percent.

[18] https://www.usbr.gov/lc/region/g4000/wtracct.html

Attachment 4B

Exhibit 1
Pages from Metropolitan's submittal to San Diego LAFCO dated September 17, 2020, highlighting text that explains the sources of supplies available to and managed by Metropolitan for delivery to Eastern MWD and SDCWA, which would not be affected in any manner by detachment

Figure 3 – TDS Levels to SDCWA and Eastern

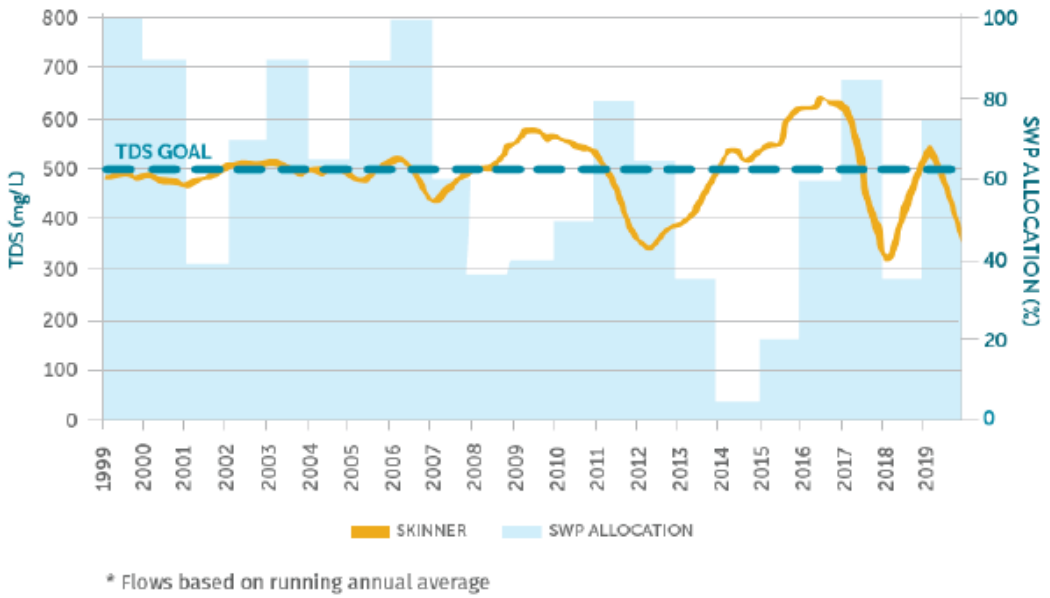


Figure 3 shows the water quality benefits from blending Metropolitan's supplies. The shaded bars showing the SWP Allocation percentage or the amount of Metropolitan's share of SWP it receives in a given year. The yellow line indicates the levels of TDS in Metropolitan's blended supplies at it Skinner Plant. Thus, the graph show that when SWP supplies are high, Metropolitan's supplies at its Skinner Plant are blended with the CRA supplies to lower overall TDS levels.

C. Metropolitan Water Sales Deliveries to SDCWA and Eastern

SDCWA and Eastern are both Metropolitan member agencies and as such, they purchase water from Metropolitan. They both receive a blend of water from the SWP, Colorado River, and the additional Metropolitan water resources described in Figure 2. These supplies are conveyed through Metropolitan's interconnected conveyance and distribution system. Some of the water delivered is processed through Metropolitan's regional water treatment plants for delivery as potable drinking water while other water is delivered untreated to the member agencies for their own storage or treatment. Figure 4 illustrates the ways these supplies travel through Metropolitan's distribution system to Metropolitan's San Diego Canal.

Attachment 4B

Exhibit 1
Pages from Metropolitan's submittal to San Diego LAFCO dated September 17, 2020, highlighting text that explains the sources of supplies available to and managed by Metropolitan for delivery to Eastern MWD and SDCWA, which would not be affected in any manner by detachment

Figure 4 – Metropolitan's Integrated System

D. Metropolitan Exchange Deliveries to SDCWA

Member agencies, and third parties, may also secure other supplies, which they may convey through or exchange using Metropolitan's integrated system by agreement with Metropolitan. SDCWA has acquired Colorado River water and SDCWA has an agreement with Metropolitan to exchange that water with Metropolitan for deliveries of Metropolitan water. The exchange water that Metropolitan delivers is no different than the water SDCWA purchases from Metropolitan.

On April 29, 1998, SDCWA and Imperial Irrigation District (IID) executed an agreement (the "IID-SDCWA Transfer Agreement") for SDCWA's purchase of Colorado River water that is conserved within IID. On October 10, 2003, an amendment to the IID-SDCWA Transfer Agreement, executed as one of the set of agreements related to the Colorado River Quantification Settlement Agreement (QSA), set the maximum transfer amount at 205,000 acre-feet in calendar year 2021, with the transfer gradually ramping up to that amount over a 19-year period, then stabilizing at 200,000 acre-feet per year beginning in 2023.

SDCWA has no independent facility to convey its purchased Colorado River water to its service area. Accordingly, in 1998, after SDCWA and Metropolitan determined not to enter into a

Attachment 4B

Exhibit 1
Pages from Metropolitan's submittal to San Diego LAFCO dated September 17, 2020, highlighting text that explains the sources of supplies available to and managed by Metropolitan for delivery to Eastern MWD and SDCWA, which would not be affected in any manner by detachment

wheeling agreement, the parties entered into an exchange agreement, pursuant to which SDCWA would make available the conserved IID Colorado River water to Metropolitan at the Colorado River Aqueduct intake on Lake Havasu as it became available, and Metropolitan would exchange it for 12 equal monthly Metropolitan water deliveries at the Metropolitan-SDCWA connections. The exchange deliveries consist of water from Metropolitan's own sources of supply through its delivery system to SDCWA, which are no different than Metropolitan's full-service water sales deliveries to SDCWA (see Figure 4 above). SDCWA agreed to pay Metropolitan a fixed unit price, not tied to Metropolitan's rates, with an annual escalator for the exchange under the 1998 Agreement.

Under the 1998 SDCWA-Metropolitan Exchange Agreement, SDCWA agreed to pay Metropolitan a discounted unit price, and Metropolitan was to receive an appropriation of $235 million from the California Legislature to fund lining the All-American and Coachella Valley Canals to conserve water being lost to seepage and other projects. This funding was intended to compensate Metropolitan for the discounted exchange price. Metropolitan had acquired rights to the estimated 77,700 acre-feet per year of the resulting conserved water (Canal Lining Water) upon completion of the canal lining pursuant to Federal legislation.

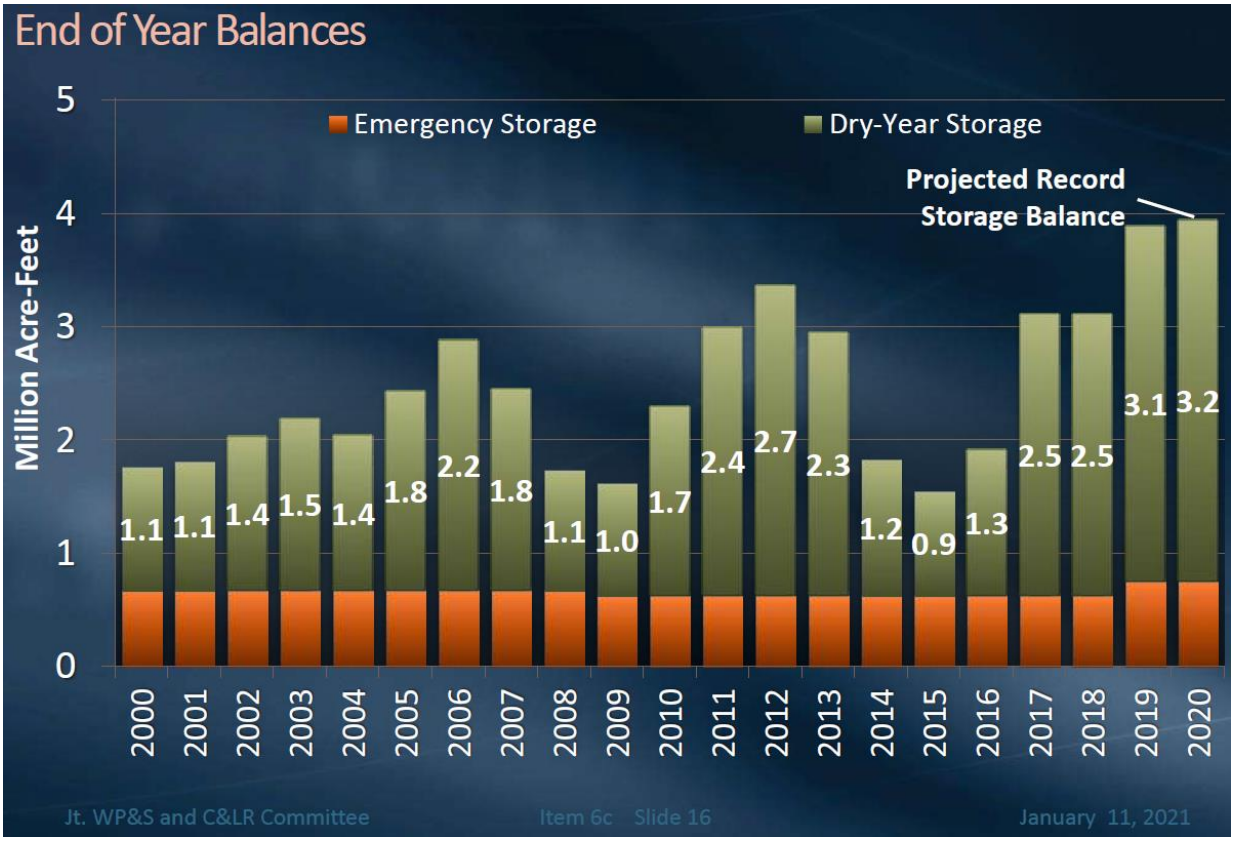
In 2003, at SDCWA's request, SDCWA and Metropolitan amended their 1998 Exchange Agreement, changing the fixed unit price term to a higher price equal to Metropolitan's transportation rates and assigning to SDCWA the Canal Lining Water for 110 years and the $235 million in state funding. Metropolitan assigned these assets to SDCWA in an Allocation Agreement that was also part of the QSA. The amended Exchange Agreement provided that both the Canal Lining Water and IID water would be exchanged for delivery of Metropolitan water. Metropolitan has delivered exchange water to SDCWA under the 2003 Exchange Agreement, which water is the same as blended water Metropolitan delivers to SDCWA pursuant to SDCWA's purchases. The only difference between the two deliveries is the billing distinction in the monthly invoices.

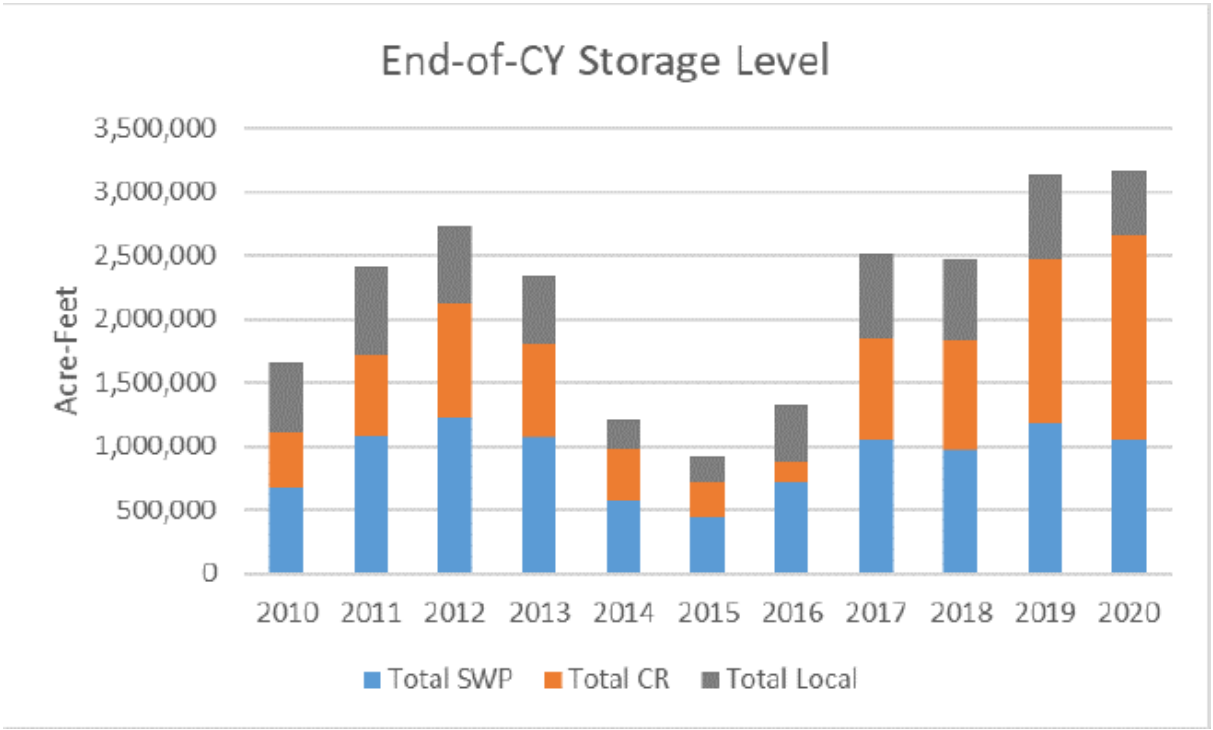
The term of the 2003 Exchange Agreement, as it relates to conserved water transferred by IID to SDCWA, extends through 2047 (because SDCWA elected to extend the agreement by 10 years), and as it relates to Canal Lining Water, extends through 2112. These terms are each subject to the right of SDCWA, upon a minimum of five years' advance written notice to Metropolitan, to permanently reduce the aggregate quantity of conserved water made available to Metropolitan under the Exchange Agreement to the extent SDCWA decides to transport the water through alternative facilities (which do not presently exist).

E. Metropolitan's Emergency Storage

A portion of Metropolitan's storage is reserved for emergencies bolstering Metropolitan's and its member agencies' reliability. Metropolitan's need for emergency storage is based on the potential for major earthquake damage to the Colorado River Aqueduct, State Water Project, and Los Angeles Aqueduct rendering the aqueducts out of service, isolating the region from its imported water supplies. Metropolitan's objective is to provide regional emergency storage that could allow Metropolitan to deliver supplies to all its member agencies during this period of outage. Diamond Valley Lake is one of Metropolitan's emergency storage reservoirs. As shown

Exhibit 2
End-of-year Metropolitan storage volumes





Slide 16 and Slide 17 from January 11, 2021 staff presentation to Metropolitan Water Planning and Stewardship Committee entitled "Water Surplus and Drought Management Update"
http://www.mwdh2o.com/WhoWeAre/Board/Board-Meeting/Board%20Archives/2021/01-January/Presentations/01112021%20WPS%20and%20CLR%206c%20Presentation.pdf