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Long Beach Water Department

*The Standard in Water Conservation and  
Environmental Stewardship*

## **Water Supply Assessment**

Prepared for:

**Alamitos Energy Center  
Long Beach, California**

Approved by:

**The City of Long Beach  
Board of Water Commissioners**

January 21, 2016

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## I. Findings

The proposed Alamitos Energy Center (Project) does not include a "subdivision" as defined by Government Code §66473.7(a)(1) and is therefore exempt from the SB 221 requirement of an affirmative written verification of sufficient water supply (Government Code §66473.7).

However, the Project is not exempt from SB 610 requirement that a water availability assessment be completed because the Project is expected to use an amount of water equivalent to, or greater than, that used by a 500 dwelling unit project.

The water availability assessment must be approved by the Board of Water Commissioners and transmitted to the Project's lead agency on or before January 27, 2016, for inclusion in any environmental documentation for the Project (California Water Code §10912(a)(7)).

State law allows water availability assessment to be based on the most recently adopted Urban Water Management Plan (Plan). For LBWD that is the Board-adopted Plan of 2010.

This water availability assessment anticipates adequate water supplies will be available during normal, single- and multiple-dry water years to meet the projected water demand associated with the Project, in addition to the existing and other planned future uses, including agricultural and manufacturing uses, of Long Beach Water Department's (LBWD) system. This finding is based on LBWD's rights to a reliable supply of groundwater and LBWD's preferential rights to water from the Metropolitan Water District of Southern California (MWD), per Section 135 of the Metropolitan Water District Act.



## II. Background

### A. Water Supply Assessment Background

Effective January 1, 2002, California Senate Bill 221 and Senate Bill 610 amended the following:

- Public Resources Code Section 21151.9
- Water Code Sections 10631, 10656, 10910-12, and 10915
- Business and Professions Codes Section 11010
- Government Code Section 65867.5

SB 221 and 610 also added:

- Government Code Sections 66455.3 and 66473.7

The Senate Bills were designed to improve the link between information on water availability and certain land use decisions made by cities and counties. SB 221 and SB 610 are companion measures which seek to promote more collaborative planning between local water suppliers and cities and counties.

Both statutes require certain information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. Both statutes also require this information to be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects. Both measures recognize local control and decision making regarding the availability of water approval of the projects.

SB 221 conditions approval by a city or county of certain residential subdivisions on an affirmative written verification of sufficient water supply.

SB 610 requires a water assessment to be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912(a)) subject to the California Environmental Quality Act.

*10910(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13, beginning Section 21000 of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.*

Under SB 610 and Water Code section 10911(b), the assessment must be completed prior to the issuance of a draft Environmental Impact Report or proposed Negative Declaration:



*The city or county shall include the water assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.*

The Long Beach City Charter, Section 1400, states as follows:

*There is hereby created a Water Department which shall be under the exclusive jurisdiction and control of five commissioners who shall be known as the Board of Water Commissioners. Said Water Department shall have full and complete jurisdiction over all water works necessary and incidental to the use, sale and distribution of water owned and controlled by the City.*

Per California Water Code 10910(b), LBWD is responsible for performing the SB 610 assessment because LBWD is a public water system of over 3,000 service connections and will provide domestic water to the site.

*The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912.*

## B. Project Background

This Project is for a 1,040 megawatt natural gas fired, air-cooled, combined-cycle and simple-cycle electrical generating facility as according to the following description from the Application for Certification submitted to the California Energy Commission on October 26, 2015 (Executive Summary included as Attachment A):

*AES Alamitos Energy, LLC, will construct, own, and operate the Alamitos Energy Center (AEC), a natural- gas fired, air-cooled, combined-cycle and simple-cycle, electrical generating facility in Long Beach, California. The proposed AEC will have a nominal generating capacity of 1,040 megawatts (MW). The AEC will be constructed on the site of the existing AES Alamitos Generating Station (AGS), located on an approximately 21-acre site within a larger, 71.1-acre parcel.*

*The AEC will meet the demand for new generation in the Los Angeles basin local electrical reliability area caused in large part to the closure of the San Onofre Nuclear Generating Station and anticipated retirement of older,*



*natural-gas-fired generation currently using once-through ocean water cooling (OTC)...*

*...The AEC will feature two gas turbine power blocks. Combined-cycle power block will consist of two natural gas-fired combustion turbine generators (CTG) in a combined-cycle configuration, two unfired heat recovery steam generators (HRSG), one steam turbine generators, an air-cooled condenser, an auxiliary boiler, and related ancillary equipment. Simple-cycle power block will consist of four simple-cycle LMS-100 CTGs with fin-fan coolers and ancillary facilities...*

*...Site preparation will commence in January 2017 and construction on the AEC CCGT is expected to be complete by the first quarter of 2020. The AEC SCGT power block is scheduled to commence in the second quarter of 2020 and be complete by the third quarter of 2021...*

*...The demolition of the existing AGS units is not necessary for construction of AEC. Existing AGS Units 1–6 are currently in operation and will continue to provide essential electrical service concurrent with the construction of the AEC CCGT power block. Units 1, 2, and 5 will be retired after the AEC CCGT commences operation. Units 3, 4, and 6 will likely operate through at least December 31, 2020. The City and Project Owner have entered into a Memorandum of Understand for the demolition of the existing units. Demolition of Units 1-6 will be conducted in accordance with the MOU once all necessary regulatory approvals to retire and decommission the existing units are received. The MOU provides certainty for the public that the existing AGS units will be removed after the AEC is constructed and operating.*



### III. Water Supply Assessment is Required

#### A. SB 610 Applicable

Water Code 10912(a) and (b) and SB 610 require that a water availability assessment be adopted if the development is expected to demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling units.

According to the conventional assumptions for the amount of water use per household from the Department of Water Resources “Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001”, the water demand of 500 dwelling units is equivalent to 150-250 acre-feet:

*In determining whether a project would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, it is generally acknowledged that one acre-foot of water can serve two to three households on an annual basis; therefore, one dwelling unit typically consumes .3 to .5 acre-feet of water per year, depending upon several factors, including the regional climate.*

In calendar year 2015, 500 dwelling units in multi-family settings (apartments and condominiums) averaged 78 acre-feet of water use, 500 dwelling units in duplex settings used 96 acre-feet, and 500 single family homes used 130 acre-feet. The 130 acre-feet for 500 single family homes is close to the low end of DWR’s estimate of 150 acre-feet.

Based on the water use estimates for the Project, contained Table 2.1-1 and Table 2.1-2 from the Application for Certification (Attachment B), if the Project is assumed to operated continuously non-stop at peak capacity for the entire year, the annual water demand for the Project would be 575 acre-feet. Water demand assuming continuous operation at peak capacity is unrealistic but meant to serve as a reference point for the absolute maximum amount of water that would be demanded by the Project.

The Project is expected to operate annually for 4,600 hours at the combined-cycle gas turbine and 2,000 hours at the simple-cycle gas turbine. The water demand calculated using these projected hours of operation at peak capacity would be 225 acre-feet per year.

Based on the above assumptions, the projected water demand for the Project will exceed the expected water demand for 500 dwelling units. Therefore, a water supply assessment was performed subject to the requirements of SB 610.





## B. SB 221 Not Applicable

Government Code §66473.7(a)(1) defines a "subdivision" as "a proposed residential development of more than 500 dwelling units" The Project does not include a subdivision and is therefore exempt from SB 221 requirement of an affirmative written verification of sufficient water supply (Government Code 66473.7).

## IV. Approval of Water Supply Assessment

The water supply governing body of the public water system in this case is the City of Long Beach Board of Water Commissioners (Board). Because the Project is a "project" as defined by SB 610, the Board must approve the assessment and deliver it to the lead agency within 90 days after that agency requests the assessment (per Water Code section 10910(g)(1):

*...the governing body of each public water system shall submit the assessment to the city or county no later than 90 days from the date on which the request was received. The governing body of each public water system shall approve the assessment prepared pursuant to this section at a regular or special meeting.*

LBWD received a request from Karim Abulaban, an Associate Civil Engineer with the California Energy Commission, to conduct the assessment on October 29, 2015 (Attachment C). Therefore, the Board must approve the assessment and transmit that assessment to Mr. Abulaban no later than January 27, 2016.

## V. LBWD'S 2010 UWMP

### A. UWMP Demand Projections

If the projected water demand associated with the Project had been accounted for in a water supplier's most recently adopted urban water management plan, the water supplier may rely on information from that plan in preparing certain elements of the assessment.

LBWD's most recently adopted urban water management plan, its 2010 UWMP as revised in 2011, hereafter referred to as the 2010 UWMP, did not articulate specific development projects but factored in their expected demand by projecting increases in factors influencing this demand, such as increases in housing, population, and employment.

The overall water demand for this Project is partially accounted for in the employment growth projections used in the 2010 UWMP, but the high water needs



of an electrical generating facility far exceed any comparable estimates based on the number of employees typically used to account for commercial water demand growth. However, the additional demand of the Project is within LBWD's total projected water supplies available during normal, single dry, and multiple dry water years for the next 20 years. The Project will be assessed as a demand projected by the 2010 UWMP. Per Water Code Section 10910(c)(2):

*If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).*

## B. UWMP Supply Projections

LBWD has used the 2010 UWMP to develop water availability assessments for projects since 2011. Previous water supply assessments have found that projected water supplies for twenty years would be available during normal, single-dry, and multiple-dry water years to meet the projected water demand associated with those past projects, in addition to the existing and other planned future uses of LBWD's system. Those assessments were fundamentally based on three factors:

1. LBWD groundwater reliability
2. Long Beach preferential rights to MWD water supplies
3. MWD statements of reliability

What has not materially changed from the water supply assumptions in the 2010 UWMP are the reliability of LBWD's groundwater and the Long Beach preferential rights to MWD supplies. Therefore, for the purpose of this water availability assessment, the 2010 UWMP as it pertains to groundwater and preferential rights is an appropriate reference, except as noted below. The 2010 UWMP can be found at: [http://www.lbwater.org/sites/default/files/file\\_attach/pdf/2010\\_uwmp.pdf](http://www.lbwater.org/sites/default/files/file_attach/pdf/2010_uwmp.pdf).

What has materially changed from the 2010 UWMP is the reliability of MWD's imported water supplies and the severe drought conditions prevailing at the time of this water availability assessment. MWD supplies are less reliable than MWD anticipated in 2010 and therefore less reliable than LBWD assumed in its 2010 UWMP.

## VI. MWD Imported Water Supply and Reliability

LBWD purchases imported water from MWD to meet demand in excess of what can be satisfied using LBWD's groundwater supplies. Imported water has historically accounted for approximately 40-50% of the LBWD water supply. In 2010 LBWD purchased 22,237 acre-feet of imported water from MWD. The amount of imported water LBWD purchases from MWD varies from year to year, but the fluctuations in purchased amounts have been due primarily to resource management decisions and LBWD demand rather than any supply constraints.

### A. Preferential Rights to MWD Supplies

By virtue of certain capital investment in MWD since the early 1930's, Long Beach is entitled to certain rights to MWD's water. This entitlement is embedded in State law and comes in the form of a preferential right to MWD supplies. Section 135 of the Metropolitan Water District Act states:

*Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purposes, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense.*

A copy of the Metropolitan Water District Act can be found online at: [http://mwdh2o.com/PDF\\_Who\\_We\\_Are/1.2\\_MWD\\_Act.pdf](http://mwdh2o.com/PDF_Who_We_Are/1.2_MWD_Act.pdf).

MWD recalculates each of its member agency's preferential rights on an annual basis. Preferential rights are expressed as a percent of MWD's available supplies. MWD has validated LBWD's preferential rights on many occasions, including the correspondence shown in Attachment D. The letter reaffirms LBWD's Preferential Rights, stating:

*Section 135 of the Metropolitan Water District Act does not relate to pricing but to amounts of water that can be purchased for domestic and municipal uses within a member agency service area. As such, any member agency is permitted to purchase supplies consistent with the Metropolitan Water District Act, including Section 135.*

At the time of the adoption of the 2010 UWMP, LBWD had a preferential right to 2.54% of MWD supplies. Based on a conservative estimate that MWD will have a supply of 1.5 million acre-feet in multiple dry years, this 2.54% preferential right means that LBWD will have access to a supply of at least 38,100 acre-feet of imported water.

It is highly unlikely that MWD will have less than 1.5 million acre-feet of water. MWD’s 2010 Regional UWMP assumes during multiple dry years that supplies will be more than 50-percent greater than this amount. Even though the 1.75 million acre-feet MWD budgeted to sell in 2015 after multiple extremely dry years was less than predicted by their 2010 Regional UWMP, it was still more than 1.5 million acre-feet.

LBWD Preferential Rights in Multiple-Dry Years		
LBWD Preferential Right (% of MWD supplies)	2.54	%
MWD supplies in multiple dry year	1,500,000	AF
<b>LBWD Preferential Right in multiple dry year</b>	<b>38,100</b>	<b>AF</b>

## B. Reliability of Imported Water

MWD is a wholesale water provider serving most of southern California, and as such, MWD’s reliability is essential for the water reliability of the region. MWD supplies are imported from the Sacramento-San Joaquin Delta region through the State Water Project and from the Colorado River through the Colorado River Aqueduct. Both of these supplies are projected to be less reliable in the future than they have been in the past.

Although projected decreases in the water supply reliability of the State Water Project and the Colorado River compromise the reliability of MWD imported water supplies to the MWD service area as a whole, LBWD has reliability in imported MWD supplies as a result of its preferential rights.

### 1. State Water Project Reliability

California’s Department of Water Resources (DWR) manages the State Water Project (SWP). DWR performs a bi-annual assessment of the reliability of the SWP, the latest of which is the 2015 Delivery Capability Report, which states:

*SWP exports have decreased since 2005, although the bulk of the change occurred by 2009 as the federal Biological Opinions went into effect,*



*restricting operations. These effects are also reflected in the SWP delivery estimates. The most salient findings in this report are as follows:*

- *Under existing conditions, the average annual delivery of Table A water estimated for this 2015 Report is 2,550 taf/year, 3 taf less than the 2,553 taf/year estimated for the 2013 Report.*
- *The likelihood of existing-condition SWP Article 21 deliveries (supplemental deliveries to Table A water) being greater than 20 taf/year has decreased by 3% relative to the likelihood presented in the 2013 Report.*

The 2015 reductions in delivery estimates come following delivery estimate reductions in the previous 2013 Delivery Reliability Report, which stated:

*The analyses in this report consider climate change and the effects of sea level rise on water quality, but do not incorporate the probability of catastrophic levee failure. The differences between the 2011 and 2013 Reports can be attributed primarily to updates in the assumptions and inputs to the computer simulation analyses.*

*As noted in the discussion of SWP exports in Chapter 4 of this report, estimated average annual Delta exports (that is, SWP water of various types pumped by and transferred to contractors from the Banks Pumping Plant) have decreased since 2005, although the bulk of the change occurred by 2009 as the federal BOs went into effect, restricting operations. These effects are also reflected in the SWP delivery estimates provided in Chapters 5 and 6 of this report. Chapters 5 and 6 characterize the SWP's water delivery reliability under existing conditions and future conditions, respectively. The most salient findings in this report are as follows:*

- *The estimated average annual SWP exports decrease from 2,612 thousand acre-feet (taf)/year to 2,466 taf/year (146 taf/year or about 5.6%) between the existing- and future-conditions scenarios.*
- *Under existing conditions, the average annual delivery of Table A water estimated for this 2013 Report is 2,553 taf/year, 29 taf (1%) more than the 2,524 taf/year estimated for the 2011 Report.*
- *Under future conditions, the average annual delivery of Table A water estimated for this 2013 Report is 2,400 taf/year, about 1% less than the 2,465-taf/year estimate for the future-conditions scenario presented in the 2011 Report.*



## 2. Colorado River Reliability

The U.S. Department of the Interior Bureau of Reclamation (BOR) manages the Colorado River water rights, and has projected potential reductions in future supplies. The BOR December 2012 Colorado River Basin Water Supply and Demand Study stated:

*Looking ahead, concerns regarding the reliability of the Colorado River system to meet future Basin resource needs are even more apparent, given the likelihood of increasing demand for water throughout the Basin coupled with projections of reduced supply due to climate change...*

*...Future projected development of water supplies and increased consumptive use in the Upper Basin combined with potential reductions in future supply results in reduced volumes of water stored in system reservoirs. With lower water elevations in reservoirs, the needs for resources such as hydropower and shoreline recreation were less frequently satisfied, while water delivery shortages increased.*

## 3. MWD Declares Extreme Shortage

On April 14, 2015, the Board of Directors of the MWD declared a 15% water shortage allocation, which according to the criteria it used in the 2010 Regional UWMP (Page 2-21), constitutes an “Extreme Shortage” condition:

*The WSDM Plan distinguishes between Shortages, Severe Shortages, and Extreme Shortages. Within the WSDM Plan, these terms have specific meaning relating to Metropolitan’s ability to deliver water to its customers.*

*Shortage: Metropolitan can meet full-service demands and partially meet or fully meet interruptible demands, using stored water or water transfers as necessary.*

*Severe Shortage: Metropolitan can meet full service demands only by using stored water, transfers, and possibly calling for extraordinary conservation. In a Severe Shortage, Metropolitan may have to curtail Interim Agricultural Water Program deliveries.*

*Extreme Shortage: Metropolitan must allocate available supply to full-service customers.*

## VII. Groundwater Supply and Reliability

### A. Groundwater Supply

The Central Basin is a groundwater aquifer under 277 square miles in mostly urbanized southern Los Angeles County. The basin was seriously over-drafted by the mid-1900's. The basin was adjudicated in the Los Angeles County Superior Court in the early 1960's, strictly limiting extractions to apportioned rights, and apportioning the pumping rights to certain parties. This adjudication provides the framework for groundwater management of this basin. LBWD now has the right to pump 32,692 acre-feet per year from the Central Basin Aquifer. A copy of the judgment is available upon request or on the LBWD website at: <http://www.lbwater.org/sites/default/files/documents/CentralBasinJudgment.pdf>.

LBWD also has 0.7 acre-feet of rights in the West Coast Basin, but LBWD has no wells in the West Coast Basin and, therefore, does not pump those water rights.

### B. Groundwater Reliability

Because there are strict limits on the amount of water that can legally be extracted from the basin, and because there are multiple on-going projects for replenishing the basin, and because there is sufficient storage within the basin, the Central Basin provides LBWD with a very reliable supply of groundwater, even during multiple-dry years.

The Central Basin Judgement limits the extractions from the Central Basin and guarantees adequate replenishment. Although the annual pumping rights allocated in the Central Basin judgment exceed the natural yield of the basin, the judgment charges the Water Replenishment District of Southern California (WRDSC) with the responsibility of replenishing the basin. Parties extracting water from the basin pay an assessment to WRDSC on a per acre-foot extracted basis. This assessment is used by WRDSC to purchase replenishment water and to fund other programs for the replenishment and protection of the basin. Replenishment of the basin occurs through the following:

#### 1. *Natural replenishment*

To the extent possible, San Gabriel River stream flows are used for replenishing the groundwater basin. To the extent possible, this water is captured and pooled in "spreading grounds" or "percolation basins" and allowed to filter into the groundwater basin. The quantity of water from this source fluctuates with changes in weather patterns.



## *2. In-lieu replenishment*

Under certain conditions, parties with extraction rights may forgo their right to pump a certain amount of groundwater in a given year and purchase MWD water instead. In this way, the groundwater basis is replenished “in-lieu” of pumping. In these cases, the pumper would normally receive some sort of financial consideration to offset the higher cost of purchasing the MWD water.

## *3. Recycled water*

Recycled water is mixed with imported water and/or natural runoff and allowed to percolate into the groundwater basin, where the waters will be filtered through the aquifer’s soil, sometimes for decades before being extracted. This supply is reliable even during fluctuations in weather, including multiple dry years.

## *4. Imported water*

MWD’s imported water is sometimes available for purchased for replenishment purposes. Depending on the prevailing MWD Board policy, replenishment water may be available at either the full imported water price or at a discounted rate.



## VIII. Normal, Single-Dry, and Multiple-Dry Year Conditions

The demand for domestic water in Long Beach is met with a combination of groundwater and imported water purchased from MWD. LBWD has rights to both of these sources of water in quantities sufficient to meet the projected water demand of the Project in addition to LBWD’s existing and planned future uses, including agricultural and manufacturing uses, during normal, single-dry and multiple-dry water years through a 20-year projection period. LBWD’s water supply and demand projections, except as noted in this document, are found in the 2010 UWMP, which is incorporated into this analysis by reference.

LBWD Water Supply and Demand: Normal Year					
	2015*	2020	2025	2030	2035
<b>Supplies</b>					
MWD Preferential Rights	38,100	38,100	38,100	38,100	38,100
Central Basin Groundwater Rights	33,000	33,500	34,000	34,500	35,000
Recycled Water	10,100	11,300	13,400	13,700	14,000
Desalinated Water	0	0	5,000	5,000	10,000
<b>Total Supply</b>	<b>81,200</b>	<b>82,900</b>	<b>90,500</b>	<b>91,300</b>	<b>97,100</b>
<b>Demands</b>	<b>67,620</b>	<b>68,846</b>	<b>70,951</b>	<b>70,677</b>	<b>70,929</b>
<b>Supply in Excess of Demand</b>	<b>13,580</b>	<b>14,054</b>	<b>19,549</b>	<b>20,623</b>	<b>26,171</b>

\* Shown are the projections from the 2010 UWMP. Actual Central Basin Groundwater Rights in 2015 were 32,680 AF; actual demand in FY 2015 was 53,098 AF of potable and 5,170 AF of recycled, for a total of 58,268 AF.

LBWD Water Supply and Demand: Single-Dry Year					
	2015*	2020	2025	2030	2035
<b>Supplies</b>					
MWD Preferential Rights	38,100	38,100	38,100	38,100	38,100
Central Basin Groundwater Rights	33,000	33,500	34,000	34,500	35,000
Recycled Water	10,100	11,300	13,400	13,700	14,000
Desalinated Water	0	0	5,000	5,000	10,000
<b>Total Supply</b>	<b>81,200</b>	<b>82,900</b>	<b>90,500</b>	<b>91,300</b>	<b>97,100</b>
<b>Demands</b>	<b>67,620</b>	<b>68,846</b>	<b>70,951</b>	<b>70,677</b>	<b>70,929</b>
<b>Supply in Excess of Demand</b>	<b>13,580</b>	<b>14,054</b>	<b>19,549</b>	<b>20,623</b>	<b>26,171</b>

\* Shown are the projections from the 2010 UWMP. Actual Central Basin Groundwater Rights in 2015 were 32,680 AF; actual demand in FY 2015 was 53,098 AF of potable and 5,170 AF of recycled, for a total of 58,268 AF.



<b>LBWD Water Supply and Demand: Multiple-Dry Year</b>					
	<b>2015*</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
<b>Supplies</b>					
MWD Preferential Rights	38,100	38,100	38,100	38,100	38,100
Central Basin Groundwater Rights	33,000	33,500	34,000	34,500	35,000
Recycled Water	10,100	11,300	13,400	13,700	14,000
Desalinated Water	0	0	5,000	5,000	10,000
<b>Total Supply</b>	<b>81,200</b>	<b>82,900</b>	<b>90,500</b>	<b>91,300</b>	<b>97,100</b>
<b>Demands</b>					
	<b>67,620</b>	<b>68,846</b>	<b>70,951</b>	<b>70,677</b>	<b>70,929</b>
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*\* Shown are the projections from the 2010 UWMP. Actual Central Basin Groundwater Rights in 2015 were 32,680 AF; actual demand in FY 2015 was 53,098 AF of potable and 5,170 AF of recycled, for a total of 58,268 AF.*



## **IX. Attachments**

- A. Application for Certification: Executive Summary
- B. Application for Certification: Table 2.1-1 and Table 2.1-2
- C. Lead Agency Request for Water Supply Assessment
- D. Letter from MWD Reaffirming Preferential Rights



**A. Application for Certification: Executive Summary**



**B. Application for Certification: Table 2.1-1 and Table 2.1-2**



### C. Lead Agency Request for Water Supply Assessment



D. Letter from MWD Reaffirming Preferential Rights