

# **Western Area Power Administration Overview with Emphasis on Post-2017 Marketing**

August 9, 2012

# Meeting Purpose/Agenda

Provide AMPS Board Overview and Information Regarding:

- Lower Colorado River Operations
  - Agency Roles & Responsibilities
  - Turning water into power
- Western Area Power Administration
  - Who we are and what we do
  - Power projects and associated allocations
- Power Marketing
  - Public Process
  - Recent Allocation Efforts
- Boulder Canyon Project Post 2017
  - Hoover Power Allocation Act of 2011 (HPAA)
  - Where we are and where we are heading
- Share information – Informal consultation



# Lower Colorado River Basin Operations

## Bureau of Reclamation

- Serves as the “water master” for the lower Colorado River
- Manages river operations, water delivery contract & repayment, and water accounting
- Works with States, Tribes, federal agencies, environmental groups, water and power agencies
- Operates and manages major dams, reservoirs, diversion works, and other facilities on the Colorado River

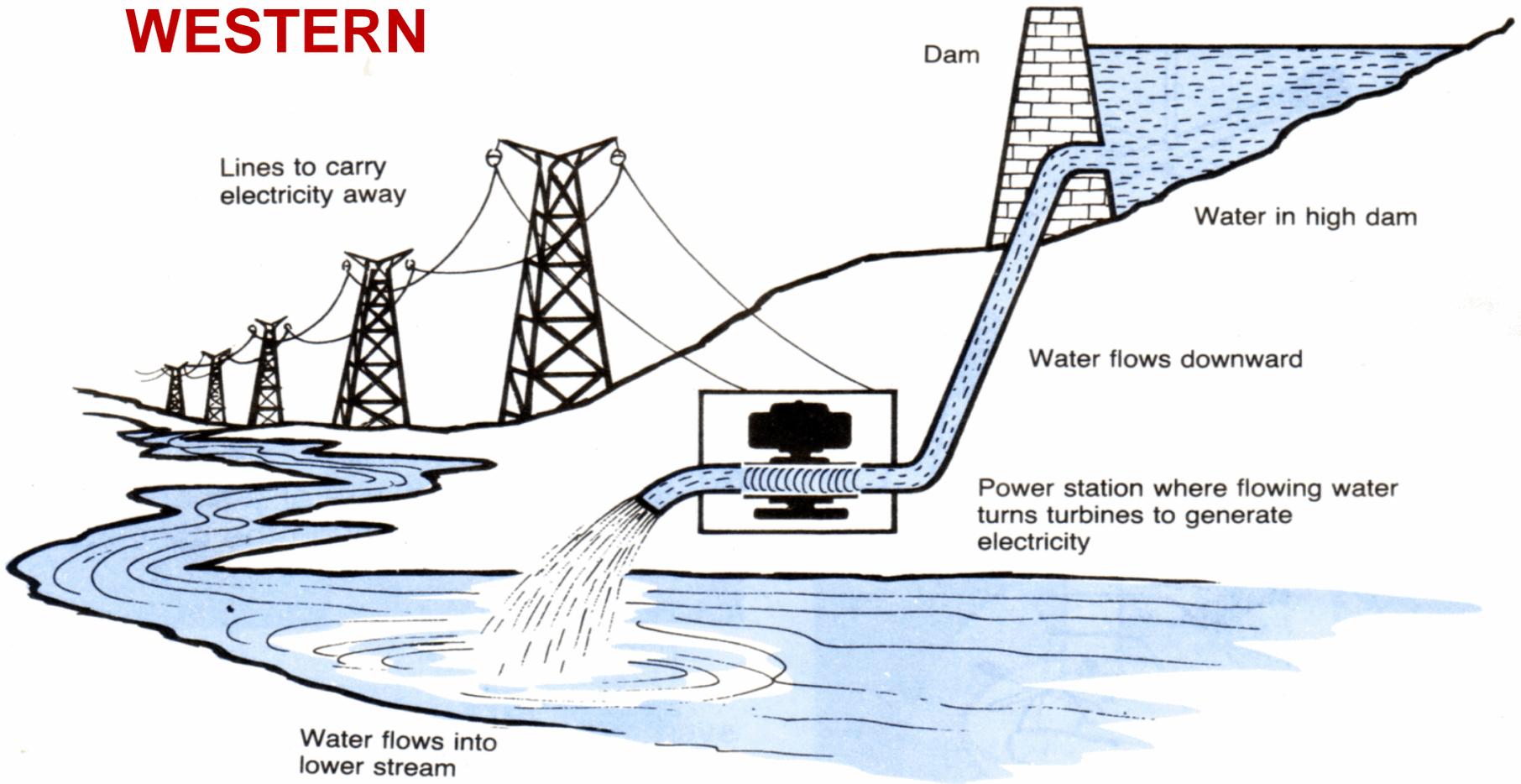
## Western Area Power Administration

- Markets and delivers reliable, renewable, cost-based hydroelectric power and related services
- Operates and maintains 17,000 line miles of transmission
- Delivers power from 56 power plants operated by Reclamation and the U.S. Army Corps of Engineers

# Water and Power Roles

**WESTERN**

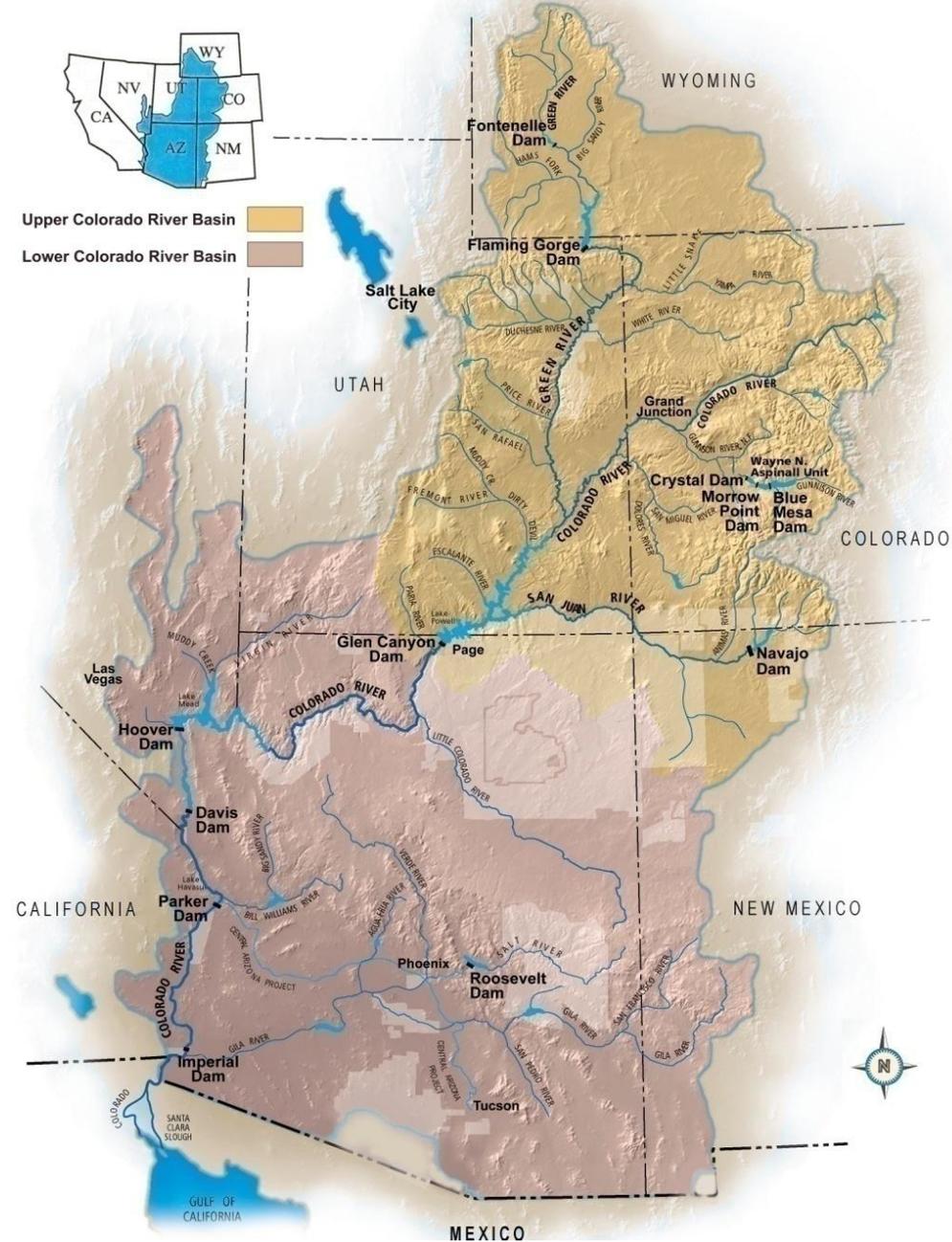
**RECLAMATION**



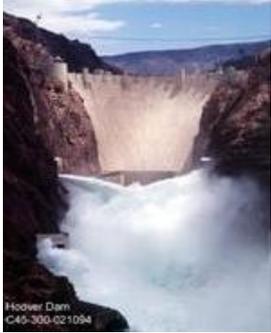
# Colorado River Basin Hydrology

- 16.5 million acre-feet (maf) allocated annually
- 13 to 14.5 maf of consumptive use annually
- 60 maf of storage
- 15.0 maf average annual “natural” inflow into Lake Powell over past 100 years
- Inflows are highly variable year-to-year
- 1.5 maf to Mexico

## Colorado River Basin



## Lake Mead



## Hoover Dam

## Lake Mohave



## Davis Dam

## Lake Havasu



## Parker Dam

# Lower Basin Colorado River Management Objectives

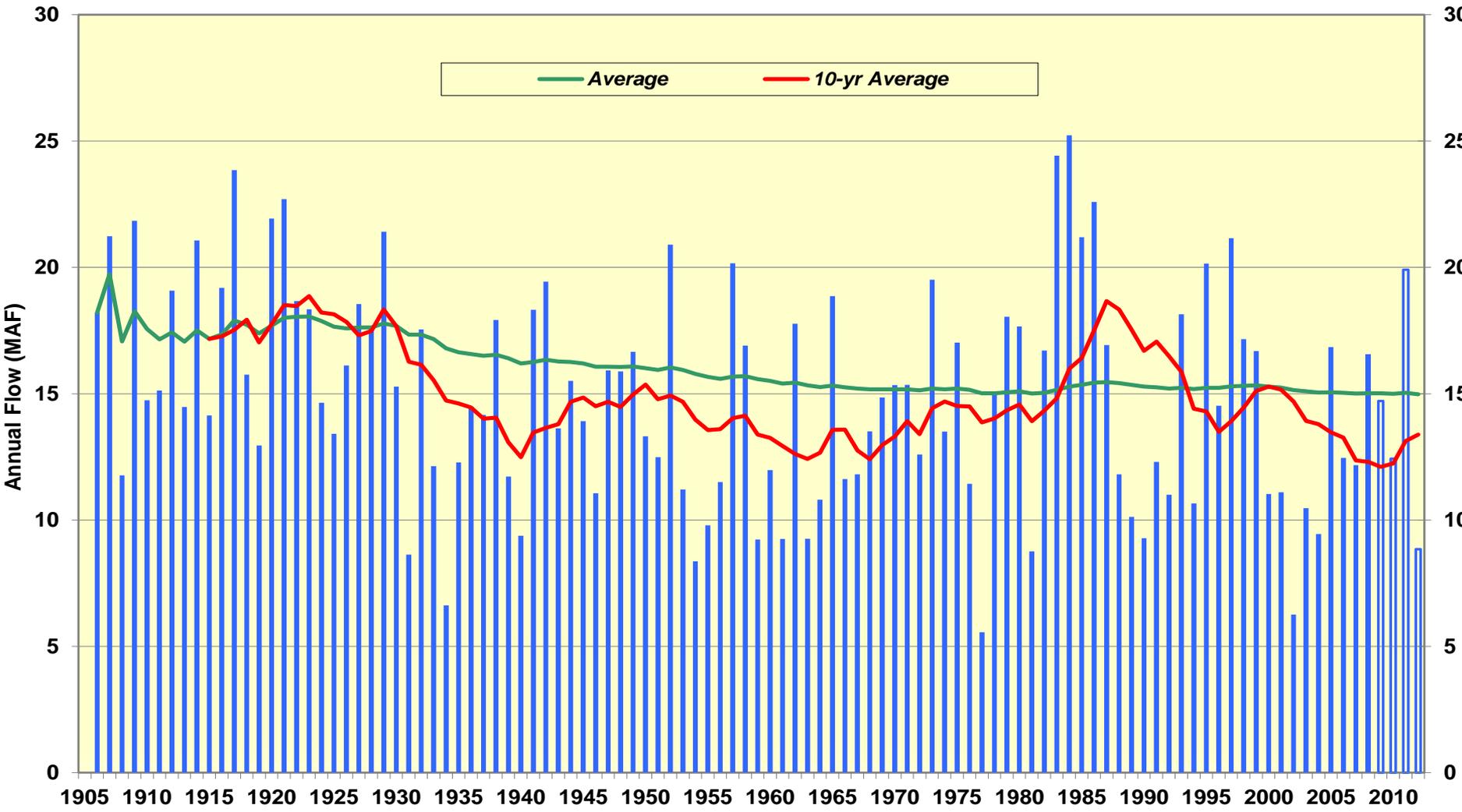
- ▶ Provide flood control and river regulation
- ▶ Meet water demands
- ▶ Enhance and maintain ecosystem habitat
- ▶ Recover and protect endangered species
- ▶ Provide recreation
- ▶ Generate hydropower

# Natural Flow

## Colorado River at Lees Ferry Gaging Station, Arizona

### Water Year 1906 to 2012

Colorado River at Lees Ferry, AZ - Natural Flow



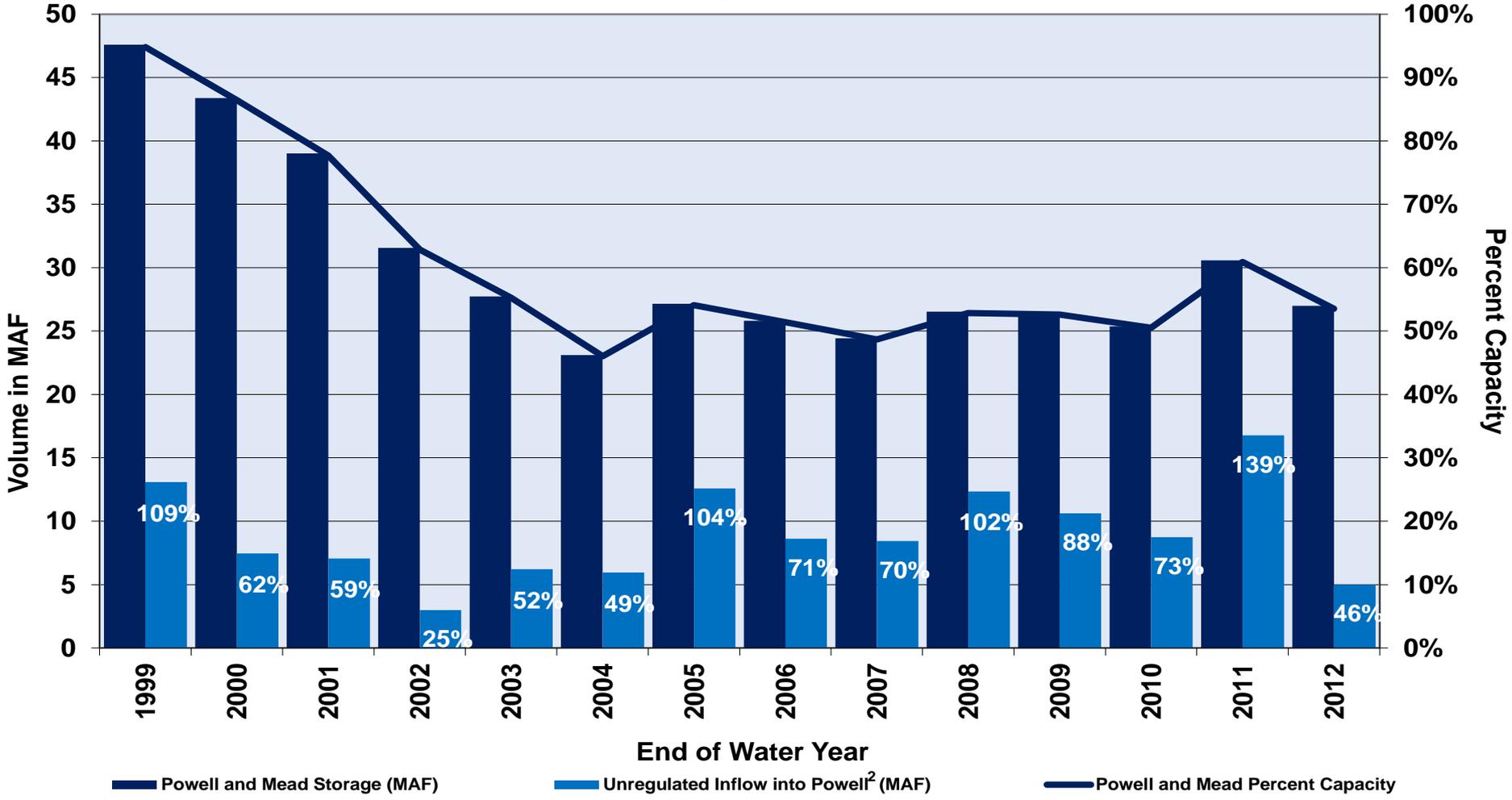
Provisional data, subject to change

Water Year

Estimated values for 2009-2012

# State of the System (Water Years 1999-2012)<sup>1</sup>

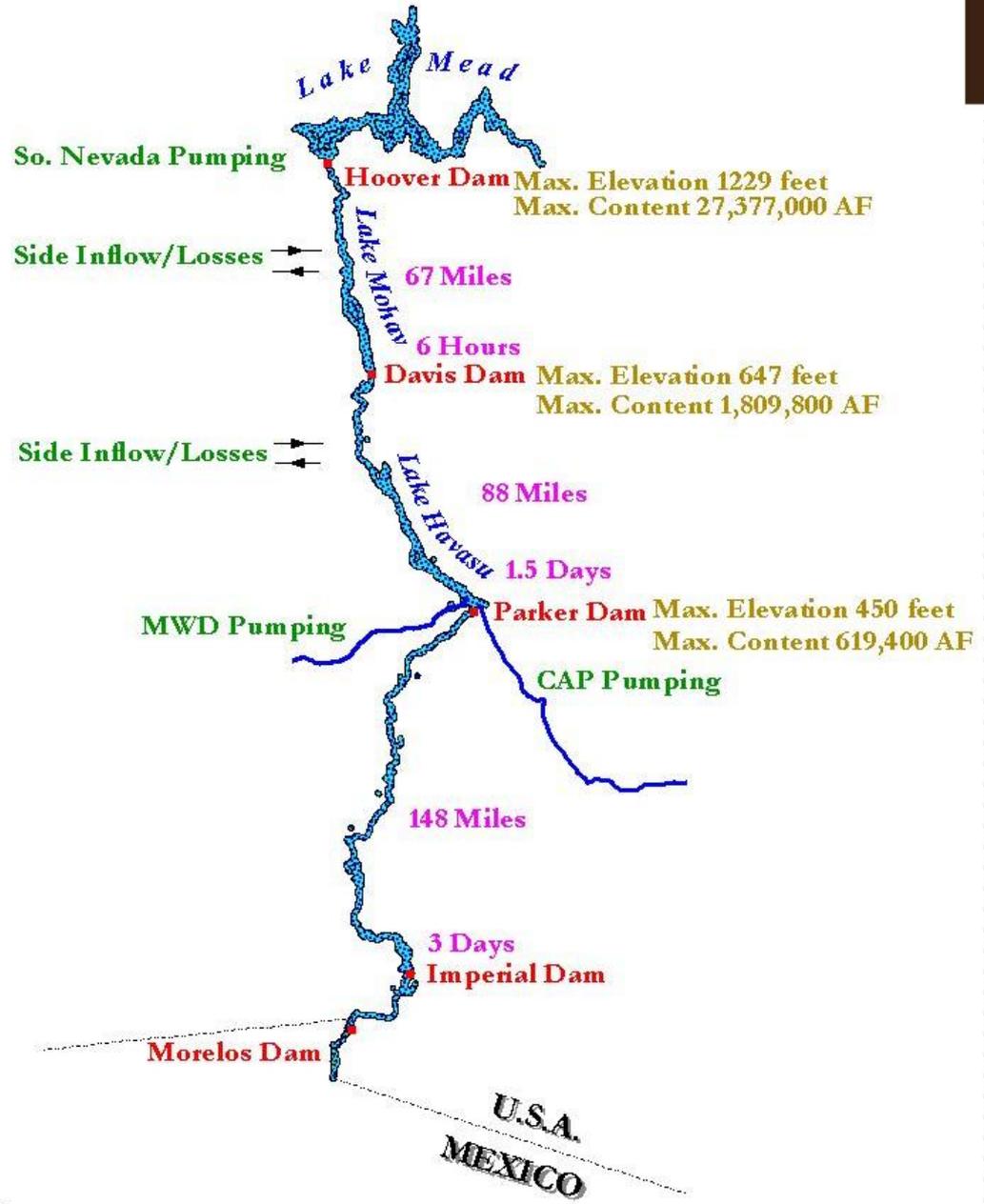
## Unregulated Inflow into Lake Powell Powell-Mead Storage and Percent Capacity



<sup>1</sup> Values for water year 2012 are projected. Unregulated inflow is based on the latest CBRFC forecast. Storage and percent capacity are based on the July 2012 24-Month Study.

<sup>2</sup> Percentages at the top of the light blue bars represent percent of average unregulated inflow into Lake Powell for a given water year. Water years 1999-2011 are based on the 30-year average from 1971 to 2000. Water year 2012 is based on the 30-year average from 1981-2010.

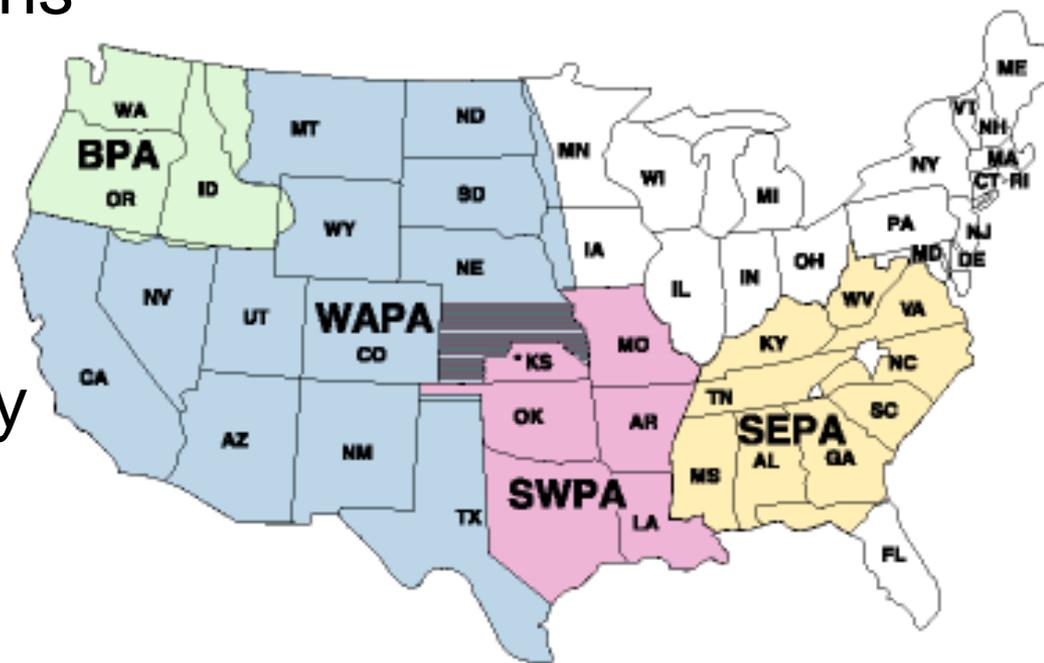
# Lower Colorado River Flow Diagram



RS/amas, USBR, LC-G/IS  
March 22, 2001 (1/3/2001)

# Western Area Power Administration

- One of four Federal power marketing administrations under DOE
- Market power from 56 Federal power plants
- 10,000+ MW of capacity
- Wholesale firm power customers



# PROJECT MARKETING AREAS



## MARKETING AREA BOUNDARIES

- Central Valley and Washoe Projects
- Parker-Davis, Boulder Canyon, Pacific NW-SW Intertie and Central Arizona Projects
- Falcon-Amistad Project
- Provo River Project
- Loveland Area Projects  
*(Pick-Sloan Missouri Basin — Western Division and Fryingpan-Arkansas Project)*
- Pick-Sloan Missouri Basin Program — Eastern Division
- Salt Lake City Area/Integrated Projects  
*(Colorado River Storage Project, Collbran, Rio Grande, Seedskadee and Dolores projects)*

- State Boundaries
- ★ Regional Office
- ⊙ Corporate Services Office
- ★ CRSP Management Center

**Western Area Power Administration  
Transmission Lines**

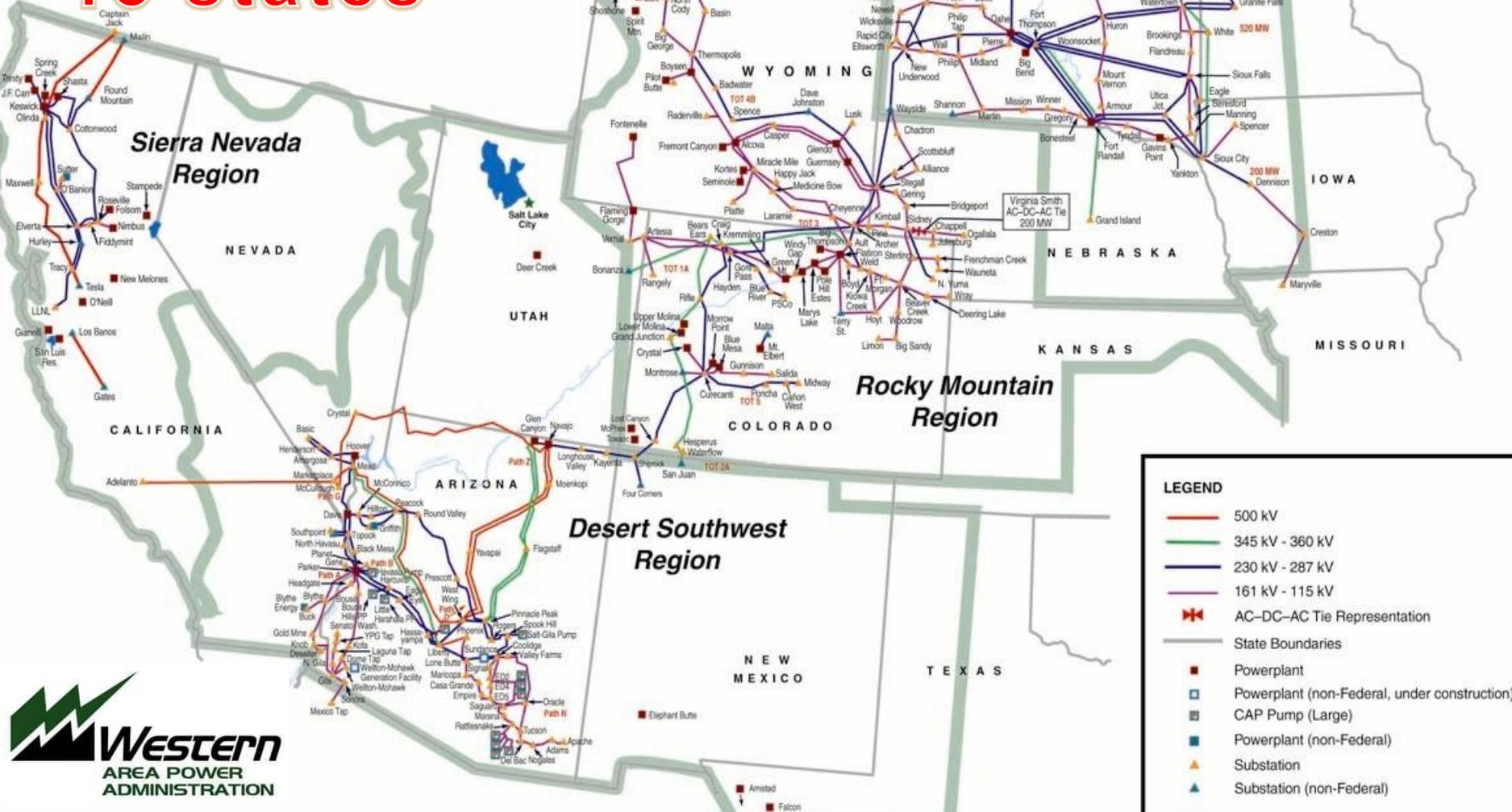
**17,000 mi**  
**15 states**

**Sierra Nevada  
Region**

**Upper Great  
Plains Region**

**Rocky Mountain  
Region**

**Desert Southwest  
Region**



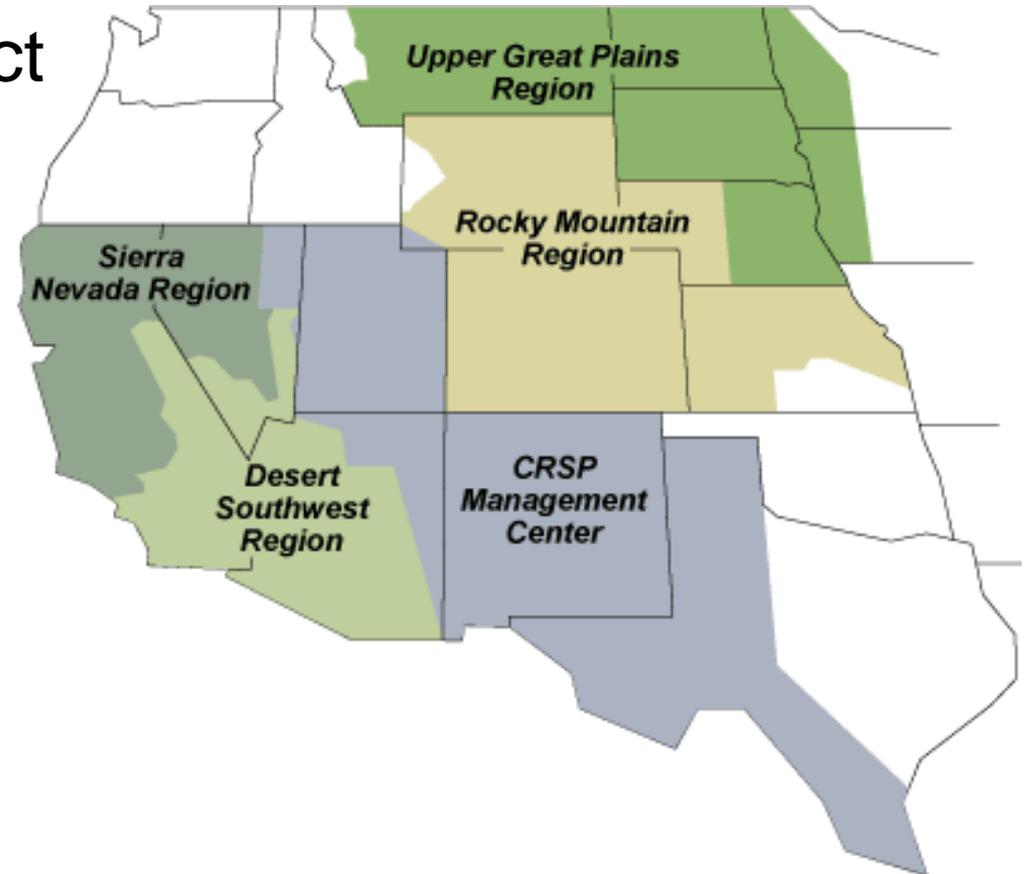
**LEGEND**

- 500 kV
- 345 kV - 360 kV
- 230 kV - 287 kV
- 161 kV - 115 kV
- AC-DC-AC Tie Representation
- State Boundaries
- Powerplant
- Powerplant (non-Federal, under construction)
- CAP Pump (Large)
- Powerplant (non-Federal)
- Substation
- Substation (non-Federal)



# Generation Projects Overview

- ▶ Colorado River Storage Project
- ▶ Boulder Canyon Project
- ▶ Parker-Davis Project



# Colorado River Storage Project

## Authorized by CRSP Act on April 11, 1956

- ▶ Consists of 6 Dams
  - Glen Canyon Dam
  - Blue Mesa Dam
  - Crystal Dam
  - Flaming Gorge Dam
  - Morrow Point Dam
  - Navajo Dam
- ▶ Project Nameplate Capacity of 1,830 MW
- ▶ Marketed out of Western's CRSP office
- ▶ 20 Year Contracts started in October 2004



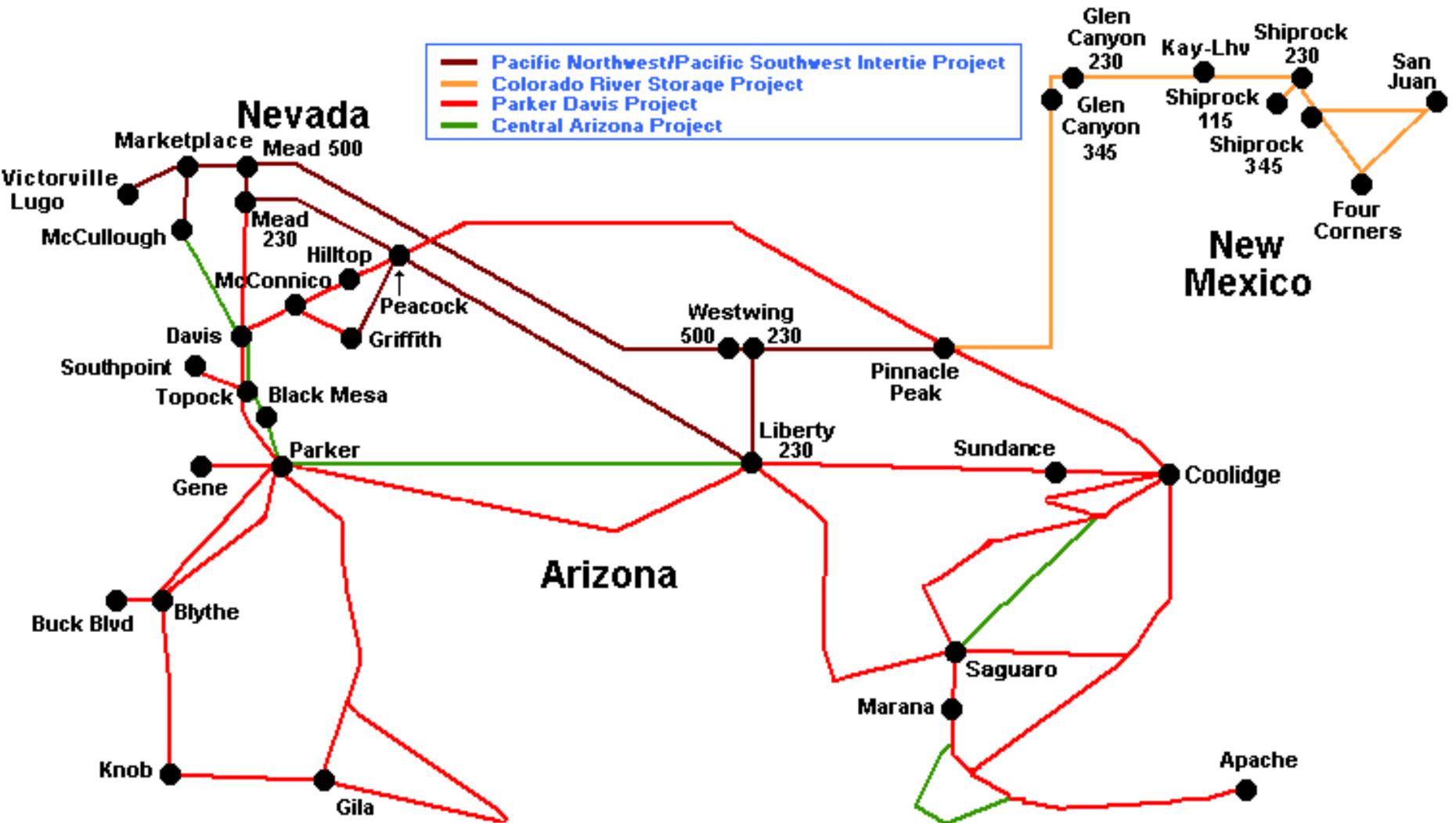
# CRSP Allocations Southern Division

Customer	Capacity	Energy
AEPCO	11.7	25,632
ED 2 Pinal	9.4	29,575
Mesa, AZ (City of)	4.3	14,095
Ak-Chin Municipal Chandler Heights ID	4.2	11,244
Cocopah Indian Tribe	0.4	1,190
Colorado River Agency (BIA)	1.3	4,312
Colorado River Indian Tribes	0.4	2,427
ED 3	6.0	17,893
ED 4	8.0	19,519
ED 5 Maricopa	4.6	14,562
ED 5 Pinal	1.2	2,553
ED 6	2.7	9,479
	5.8	10,570

Customer	Capacity	Energy
ED 7	4.5	9,380
Fort Mojave Indian Tribe	0.3	1,026
Ft. McDowell Yavapai Nation	2.3	8,530
Gila River Indian Community	13.9	50,357
Havasupai Tribe	0.2	809
Hualapai Tribe	0.6	2,281
Luke AFB	2.1	5,360
Maricopa Co. Mun. WCD	5.3	13,775
Ocotillo ID	1.1	2,431
Pascua Yaqui Tribe	1.3	4,332
Quechan Indian Tribe	0.5	2,296
Queen Creek ID	1.8	3,193
Roosevelt ID	4.9	11,876
Roosevelt WCD	31.5	146,409

Customer	Capacity	Energy
Safford	1.1	3,032
Salt River Pima- Maricopa Indian Community	16.1	54,427
Salt River Project	96.0	263,571
San Carlos Apache Tribe San Carlos IP (BIA)	4.2	14,645
	1.4	5,860
San Tan ID	0.8	1,493
Thatcher	0.5	1,560
Tohono O'Odham Utility Authority	1.0	7,688
Tonto Apache Tribe	0.4	1,351
Wellton-Mohawk ID	0.1	1,010
Yavapai Apache Nation	1.9	6,184
Yavapai Prescott Indian Tribe	0.7	2,848
Yuma Proving Grounds	0.3	1,359
<b>Total&gt;&gt;</b>	<b>255.0</b>	<b>790,135</b>

# DSW Transmission



# Parker-Davis Project (PDP)

## Parker and Davis Dam Projects Consolidated in 1954

- ▶ Davis Nameplate of 240 MW Parker Nameplate of 120 MW (1/2 goes to MWD)
- ▶ Total Project Capacity of 300 MW
- ▶ Re-regulates the river after Hoover
- ▶ Used as “water delivery” facilities and are statically scheduled
- ▶ Marketed as “Firm” power for assured delivery across the PDP transmission system
- ▶ Inclusive of 1,500 miles of high-voltage transmission lines and 32 substations
- ▶ Currently serves 37 Contractors
- ▶ 20 Year Contracts started in October 2008



# Parker-Davis Project Allocations

Customer	Capacity	Energy	Customer	Capacity	Energy	Customer	Capacity	Energy
AEPCO	23.6	112,473	IID	32.3	155,745	SRP	31.5	146,409
AguaCaliente	1.0	5,144	Luke AFB	2.6	13,407	Thatcher	1.0	5,144
Corona	2.0	8,585	MARANA	1.0	5,144	Tohono O'Odham	2.9	13,847
CRA	8.8	40,468	March AFB	4.5	22,579	VIEJAS	1.0	5,144
CRC	56.6	264,024	MCAS Yuma	2.1	10,409	Wickenburg	2.0	9,471
EAPPA	1.0	5,144	MESA	10.4	49,253	WILLIAMS	1.0	5,144
ED 3	5.2	24,927	NAVYFECSSW	2.0	10,288	WMK IDD APM	35.9	173,087
Edwards AFB	18.2	87,247	Needles	5.1	24,388	WMK IDD	3.1	14,733
Fredonia	2.0	9,154	Nellis AFB	2.9	14,315	YCWUA	4.6	22,179
Ft Mohave	4.0	15,794	NV Test Site	2.2	11,355	YID	1.0	5,144
Gilbert	1.0	5,144	PECHANGA	1.0	5,144	YPG	5.2	24,794
HOHOKAMIDD	1.0	5,144	SANLUISREY	2.0	8,585	YUMAPW	1.0	5,144
			SCIP	17.1	80,947	<b>Total&gt;&gt;</b>	<b>299.7</b>	<b>1,425,045</b>

# Boulder Canyon Project

Authorized by the Boulder Canyon Project Act of 1928

- ▶ Initiated operation in 1936
- ▶ Original Nameplate Capacity of 1,345 MW
- ▶ Marketed and up-rated in the 1980's pursuant to the Hoover Power Plant Act of 1984
- ▶ Nameplate capacity of 2,074 MW
- ▶ Power delivered to Mead Substation
- ▶ No significant transmission associated with BCP
- ▶ Dynamic Generation – regulates for power and river operations
- ▶ Marketed as “Unit-Contingent”
- ▶ Currently Serves 15 Contractors
- ▶ Post 2017 Marketing Underway



# Boulder Canyon Project Allocations

Customer	Capacity	Energy	Customer	Capacity	Energy
APA	377.0	857,989	Banning	2.0	2,000
CRC	377.0	1,057,989	Burbank	20.1	26,600
MWD	247.5	1,291,974	Colton	3.0	4,000
LADWP	490.9	698,193	Glendale	20.0	71,862
SCE	277.5	250,694	Pasadena	20.0	61,700
Anaheim	40.0	52,000	Riverside	30.0	39,000
Azusa	4.0	5,000	Vernon	22.0	28,000
			Boulder City	20.0	80,000

**Total>> 1,951.0 4,527,001**

## Power Marketing Effort Overview

- Prior to expiration of existing electric service contracts, Western markets future power output on a project by project basis
- Western seeks to promote “Most Widespread Use” principles when allocating power
- In order to meet the public’s best interest, power marketing efforts are facilitated through a public process consisting of:
  - Informal Consultation – Optional informal meetings and dialogue to seek public input prior to initiating the public process
  - Proposals – Announced through Federal Register Notices (FRN) a proposal of MW/MWH, Marketing Criteria, & /or Allocations
  - Information Forums – A formal public meeting in which Western presents material/background related to the proposals announced in the FRN
  - Comment Forums – A formal public meeting in which customers and interested parties may provide comments on the record regarding the proposals announced in the FRN

# Power Marketing Effort Overview (cont.)

## Typical Marketing Process – For Example Purposes Only

- Proposal of Marketing Initiative
  - Amount of resource to be renewed to existing contractors
  - Amount of resource to be set aside for a resource pool
  - Term of new electric service contracts
  - ❖ Information and Comment Forums
- Decision of Marketing Initiative
  - Establish a resource pool and renewal percentages
  - Establish the term of new electric service contracts
- Proposal of Marketing Criteria & Call for Applications
  - Announces a call for applications for those interested in the resource pool
  - Proposes methods of resource pool Marketing Criteria...ie How should Western allocate the pool?
  - ❖ Information and Comment Forums
- Decision on Marketing Criteria
- Proposed Allocations
  - ❖ Information and Comment Forums
- Final Allocations



# Hoover Power Allocation Act of 2011 Overview

The Act Requires the Following:

- Marketable Resource – 2,074 MW 4,527,001 MWH
- Defined Schedules A & B Offers to Existing Contractors
- Defined Schedule C Excess Energy Provisions
- Creates a 5% Resource Pool – 103.7 MW 226,352 MWH as “Schedule D”
- Prescribes a portion of Schedule D to be allocated by or through the Arizona Power Authority (APA) and Colorado River Commission of Nevada (CRC)
- New Allottee Requirements:
  - Pay a proportionate share of MSCP funding
  - Pay a proportionate share of repayable advances
  - Execute the BCP Implementation Agreement No. 95-PAO-10616
- Defined provisions for resources not put under contract by 10/1/17

# Western's Role for Hoover Remarketing

- Carry forward directives as provided in the legislation
- Conform its marketing process to the legislation
- Allocate Schedule D to New Allottees
- Develop and Execute Contracts for post-2017 Hoover power with all New Allottees and Existing Contractors
- Initiate Service October 1, 2017

# Schedule D Resource Pool

State	Contingent Capacity (kW)	Firm energy (thousands of kWh)		
		Summer	Winter	Total
New Entities Allocated by the Secretary of Energy	69,170	105,637	45,376	151,013
New Entities Allocated by State				
Arizona.....	11,510	17,580	7,533	25,113
California*.....	11,510	17,580	7,533	25,113
Nevada.....	11,510	17,580	7,533	25,113
Totals.....	103,700	158,377	67,975	226,352

\*Allocated by Western to California Entities

# Overview of June 14, 2012 FRN

- Conformed '84 Criteria to the HPAA
- Established the Following:
  - Marketable Resource – 2,074 MW 4,527,001 MWH
  - Schedule C Excess Energy Provisions
  - Schedule D Resource Pool – 103.7 MW 226,352 MWH
  - Allocated Schedules A & B to Existing Contractors
  - Allocated Prescribed Portions of Schedule D to APA/CRC
  - New Allottee Requirements
  - Provisions for resources not put under contract by 10/1/17

# Remarketing Milestone Goals



**BCP  
2017**

December 2011.....Hoover Power Allocation Act enacted

December 2011.....Withdraw 4/27/11 Decisions & Proposals

June 2012.....Conform Criteria to Legislation

Fall 2012.....Propose Criteria & Call for Applications

Spring 2013.....Finalize Criteria

Fall 2013.....Propose Allocations

Summer 2014.....Finalize Allocations

Summer 2015.....Finalize All Contracts



# Questions & Answers

## **BCP Post 2017 website:**

[http://www.wapa.gov/dsw/pwrmkt/BCP\\_Remarketing/BCP\\_Remarketing.htm](http://www.wapa.gov/dsw/pwrmkt/BCP_Remarketing/BCP_Remarketing.htm)

### **Point of Contact:**

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If you would like to receive all the notices Western issued relative to this process, please contact Mike to get on our e-mail distribution list.