THE SECRETARY OF THE INTERIOR

WASHINGTON

JUN 08 2007

Honorable Bill Richardson
Governor of New Mexico
Santa Fe, New Mexico 87501

Dear Governor Richardson:

I am writing this letter to inform you that I have approved and signed the 2007 Hydrologic Determination (Determination) for a proposed contract from Navajo Reservoir to support the Navajo-Gallup Water Supply Project (Project). The Project, if authorized through legislation, has been proposed to settle the water rights claims of the Navajo Nation in the San Juan River Basin of New Mexico.

Each of the Colorado River Basin States has a vital interest in the Colorado River, and I wanted to personally inform you of the completion of the Determination in light of the importance of having direct and open communication on this valuable resource. A Determination for all proposed long-term contracts for water from Navajo Reservoir is mandated by Public Law 87-483, which requires the Secretary of the Interior to undertake an investigation of whether there is sufficient water within New Mexico's Compact apportionment to support any such long-term contract for water from Navajo Reservoir. That law further requires the Determination and the proposed contract be forwarded to Congress for its approval. Because the United States has not negotiated a contract with the Navajo Nation, the City of Gallup, or any other potential water users of the Project as of this time, it is premature to forward the Determination to Congress. As soon as such a contract(s) is(are) negotiated, we will forward them and the Determination to Congress.

The finding in the Determination that there is likely to be sufficient water to support the proposed contract removes any Department of the Interior concerns about potential limitations on water supply. This is in keeping with my commitment to the New Mexico Congressional delegation that we will attempt to resolve all procedural requirements in order to facilitate a fair and open debate on the merits of the proposed settlement, even though the Administration has no position on the settlement at this time.

In developing the Determination, the Bureau of Reclamation has worked closely with all of the Colorado River Basin States in a manner keeping with the spirit of cooperation the Basin is currently enjoying and is in compliance with the Colorado River Compact and the Law of the River. I am personally thankful for the assistance of all the Basin States in finding a way to allow the Determination to move forward.

Please contact me if you have any questions or concerns in this matter.

Sincerely,

DIRK KEMPTHORNE

Enclosure

Identical Letters Sent To:

Honorable Dave Freudenthal
Governor of Wyoming
Cheyenne, Wyoming 82002

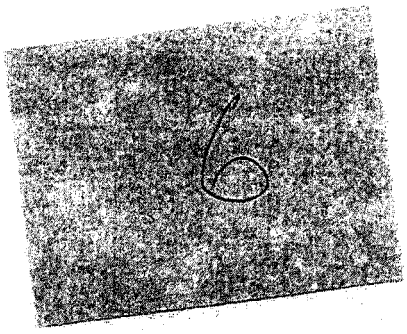
Honorable Jon Huntsman, Jr.
Governor of Utah
Salt Lake City, Utah 84114-2220

Honorable Bill Ritter
Governor of Colorado
Denver, Colorado 80203

Honorable Jim Gibbons
Governor of Nevada
Carson City, Nevada 89701

Honorable Janet Napolitano
Governor of Arizona
Phoenix, Arizona 85007

Honorable Arnold Schwarzenegger
Governor of California
Sacramento, California 95814



Whipple, John J., OSE

From: Dave Trueman [DTRUEMAN@uc.usbr.gov] **Sent:** Wed 6/13/2007 9:19 AM
To: Lopez, Estevan, OSE; Dantonio, John, OSE; Whipple, John J., OSE; Don Ostler
Cc: David Sabo; Rick Gold
Subject: Fwd: Hydro Determination
Attachments: transmittal letter to Governors.pdf(138KB) Final Hydrologic Determination-May 23, 2007.pdf(628KB)

Good News,

By now the governor's should have received the Secretary's approval letter by federal express and we are free to share the signed HD as promised. I only have a PDF copy of the letter to Utah to share with you, but each governor in the Basin received an identical letter. Thanks go to you and your staff for helping us work thru the HD.

Regards - DaveT

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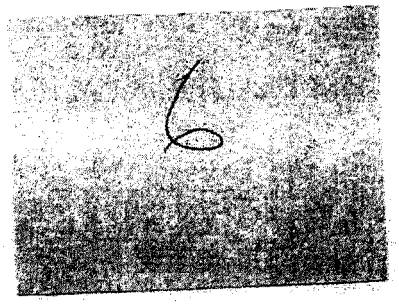


DRAFT MEMORANDUM
August 28, 2007

To: File
From: John Whipple, Staff, Interstate Stream Commission
Subject: Upper Basin Yield Available for Development

The Bureau of Reclamation's 1988 Hydrologic Determination found that the critical-period yield available at Lee Ferry for use by the Upper Basin is at least 6.00 maf/yr, including shared Colorado River Storage Project (CRSP) reservoir evaporation, assuming a tolerable shortage averaging 6 percent for the period 1953-1977. The Bureau of Reclamation's 2007 Hydrologic Determination, signed by the Secretary of the Interior in May 2007, found that the yield available at Lee Ferry for use by the Upper Basin for the period 1953-1977 is at least 6.04 maf/yr, including shared CRSP reservoir evaporation, assuming a tolerable shortage averaging about 6 percent for the period 1953-1977, or at least 6.01 maf/yr assuming a shortage averaging about 5 percent for the period. The difference between determinations is due to adjustments to the natural flow data for 1971-1980 to reflect consistent application of the modified Blaney-Criddle method to compute historic Upper Basin irrigation depletions prior to and after 1980.

Both the 1988 Hydrologic Determination and the 2007 Hydrologic Determination included a delivery to the Lower Basin of up to 8.25 maf/yr at Lee Ferry, and protection of the inactive pool at Navajo Reservoir and of the minimum power pools at the other CRSP reservoir units. If the CRSP reservoir minimum pools are used to meet Lower Basin delivery demands, then the 1988 Hydrologic Determination indicates an Upper Basin yield of 6.09 maf/yr and the 2007 Hydrologic Determination indicates an Upper Basin yield of 6.11 maf/yr, both including shared CRSP reservoir evaporation, assuming a 6 percent average shortage for the period 1953-1977.

Interstate Stream Commission staff recently obtained a copy of the Bureau of Reclamation's Colorado River Basin natural flow data base that was updated in June 2007 for revised natural flow computations from 1971 to present. Comparison of the Lee Ferry natural flows obtained from the updated data base and the Lee Ferry natural flows used in the 2007 Hydrologic Determination indicates that the 2007 Hydrologic Determination apparently used natural flows at the Lees Ferry gaging station on the Colorado River that exclude Paria River inflows in the reach between the gage and Lee Ferry. Consequently, the natural flow at Lee Ferry is understated in the 2007 Hydrologic Determination by the amount of Paria River inflow, or by an average of about 21,120 af/yr for the period of record and 18,430 af/yr for the period 1953-1977. Also, updating the natural flows after 1970 resulted in revised flows in several of the earlier years due to the effects of data revisions on stream flow correlations.

Using the Bureau of Reclamation's natural flows at Lee Ferry through 2005 that were updated in June 2007 and Reclamation's unofficial preliminary estimates of natural flows at Lee Ferry for 2006 and 2007, Interstate Stream Commission staff prepared an annual mass balance yield and shortage analysis for the Upper Basin similar to the mass balance analyses used in the 2007 Hydrologic Determination. The yield and shortage analysis assumed: (1) the June 2007 updated natural flows at Lee Ferry, including Paria River inflows: (2) an annual Upper Basin consumptive use demand of 5.76 maf, exclusive of shared CRSP reservoir evaporation, which is the minimum annual yield available for use by

the Upper Basin in accordance with the Resolution of the Upper Colorado River Commission adopted June 5, 2006; (3) an annual Lower Basin delivery at Lee Ferry of 8.25 maf; (4) maintenance of the inactive pool at Navajo Reservoir of the minimum power pools at the other CRSP reservoir units; (5) reduction in reservoir capacity at Lake Powell for sediment deposition through 2060; and (6) use of all non-CRSP reservoir storage in the Upper Basin to meet water demands, including the addition of Ridges Basin Reservoir active capacity. The results of the analysis are attached, and indicate that the total depletion at Lee Ferry by the Upper Basin for the period 1953-1977 is 6.02 maf/yr, including shared CRSP reservoir evaporation, with a shortage averaging less than 5 percent for the period 1953-1977.

A second mass balance yield and shortage analysis for the Upper Basin was prepared for a scenario wherein the CRSP reservoir minimum power pools might be used to meet Lower Basin delivery demands. For this scenario, the amount of storage in Lake Powell available for release to the Lower Basin from the minimum power pool was limited to the estimated storage above elevation 3440 feet because physical limitations on the outlet tubes at Glen Canyon Dam restrict the release capability to less than 8.23 maf/yr once the head falls below this elevation (see the attached report on River Outlet Works at Glen Canyon Dam). To estimate the available storage above elevation 3440 feet in Lake Powell, it was assumed that half of the estimated sedimentation rate for the inactive storage pool in Lake Powell would be deposited above elevation 3440 feet. Also, the inactive storage in Navajo Reservoir below the Navajo Indian Irrigation Project intake was not considered available for release to meet Lower Basin deliveries or Upper Basin demands. Maintenance of the inactive pool at Navajo Reservoir is required to support about ¾ of the State of New Mexico's Upper Basin consumptive uses, which are serviced from the Navajo Reservoir water supply either directly or by exchange, and therefore has priority over maintenance of the minimum pools established at other CRSP unit reservoirs for the generation of hydroelectric power. These restrictions on the availability of live storage from CRSP reservoirs were not included in the 2007 Hydrologic Determination's evaluations of yield using CRSP live storage.

The results of the analysis for the scenario wherein the CRSP reservoir minimum power pools might be used to meet Lower Basin delivery demands are attached, and indicate that under this scenario the total depletion at Lee Ferry by the Upper Basin for the period 1953-1977 would average about 5.97 maf/yr, including shared CRSP reservoir evaporation, with a shortage averaging about 2 percent for the period 1953-1977. The lesser total Upper Basin depletion under this scenario of using the CRSP minimum pools, as compared to the total Upper Basin depletion of 6.02 maf/yr when the CRSP minimum power pools are maintained, is due to reduced shared CRSP reservoir evaporation as a result of CRSP reservoirs being drawn down to lower levels. To compute shared CRSP reservoir evaporation, the analyses attached hereto used the relationships of shared CRSP reservoir evaporation to CRSP active storage and CRSP live storage, respectively, from the 2007 Hydrologic Determination.

Also, Tom Ryan of the Bureau of Reclamation's Upper Colorado Regional Office recently informed me that Lake Powell net evaporation estimates historically have been underestimated by approximately 30,000 af/yr due to the calculation of salvage using channel cross-section data downstream from Lake Powell that were off by a factor of ten. The error in computed historic Lake Powell net evaporation losses is embedded both in the natural flows estimated using the computed evaporation losses and in the regressions for estimating shared CRSP reservoir evaporation from CRSP storage contents. Therefore, the natural flows at Lee Ferry after 1963 may be understated by up to about 0.03 maf/yr, and the

estimated CRSP shared evaporation also may be understated by up to about 0.03 maf/yr in the 2007 Hydrologic Determination and in the attached analyses.

It will be another year or so before Reclamation revises its natural flow data base to reflect revised Lake Powell historic net evaporation calculations. In the meantime, the effect of the errors in computed Lake Powell evaporation on the Upper Basin yield can be estimated as follows. The errors in shared CRSP reservoir evaporation and the errors in Lee Ferry natural flows will tend to balance out beginning 1964, but the error in computed Lake Powell net evaporation losses that is embedded in the evaporation regression equations is not offset by corresponding errors in natural flows prior to 1964. Thus, the error could affect the water balance analysis for 1953-1963, or for about 44 percent of the period 1953-1977. Consequently, the total depletion at Lee Ferry averaged for the period 1953-1977 may be understated by an amount up to about 0.015 maf/yr on account of erroneous net evaporation calculations at Lake Powell. Increasing the total Upper Basin depletions by an average of 0.015 maf/yr for the period 1953-1977 would not result in an increase in average Upper Basin shortages for the period above 5 percent or above about 2 percent for the two scenarios analyzed herein, respectively.

In conclusion, the described changes to the natural flow hydrology at Lee Ferry and correction of the historic Lake Powell net evaporation losses have no net affect on the yield available for development in the Upper Basin as determined by the 2007 Hydrologic Determination and the June 2006 Resolution of the Upper Colorado River Commission. The assumptions used in each analysis described herein should not be construed as agreement of the State of New Mexico or the Upper Colorado River Commission to the assumptions used in the 2007 Hydrologic Determination, including regarding annual deliveries to the Lower Basin at Lee Ferry. Also, computed shortages in each analysis do not necessarily equate to administrative calls to curtail Upper Basin uses because they do not reflect all relevant factors, including determinations of the Upper Basin obligations under Article III(c) of the Colorado River Compact and the occurrences of physical water supply shortages in the Upper Basin.

Upper Basin Yield Under 2060 Storage Sedimentation Conditions

Protect Minimum Power Pools at Lake Powell, Flaming Gorge Reservoir and the Aspinall Unit Reservoirs, and Protect the NIIP Intake at Navajo Reservoir

CY	CR Natural Flow at Lee Ferry (plus)	Total Carry-Over Storage (plus)	CRSP Carry-Over Storage	Lower Basin Delivery (minus)	Upper Basin Use (minus)	Shared CRSP Evap (minus)	Net Available to Store (subtotal)	Equalize or Spill to LC (minus)	Shortage (plus)	UC Basin Year-end Storage (equals)	CRSP Year-end Storage
1906	18,746,193	29,598,367	24,822,440	8,250,000	5,760,000	748,663	33,585,896	3,987,530	0	29,598,367	24,822,440
1907	20,910,016	29,598,367	24,822,440	8,250,000	5,760,000	748,663	35,749,719	6,151,353	0	29,598,367	24,822,440
1908	11,733,558	29,598,367	24,822,440	8,250,000	5,760,000	717,519	26,604,406	0	0	29,598,367	24,822,440
1909	22,217,876	29,598,367	24,822,440	8,250,000	5,760,000	717,519	34,094,762	4,468,356	0	29,598,367	24,822,440
1910	14,618,679	29,598,367	24,822,440	8,250,000	5,760,000	747,202	29,457,844	0	0	29,457,844	24,704,592
1911	15,677,701	29,457,844	24,704,592	8,250,000	5,760,000	747,202	30,378,343	779,577	0	29,598,367	24,822,440
1912	18,854,328	29,598,367	24,822,440	8,250,000	5,760,000	748,663	33,494,031	3,895,665	0	29,598,367	24,822,440
1913	14,566,339	29,598,367	24,822,440	8,250,000	5,760,000	746,580	29,398,125	0	0	29,398,125	24,654,509
1914	21,372,378	29,398,125	24,654,509	8,250,000	5,760,000	746,580	35,013,923	6,415,556	0	29,598,367	24,822,440
1915	13,640,850	29,598,367	24,822,440	8,250,000	5,760,000	737,155	29,492,061	0	0	29,492,061	23,894,648
1916	20,168,113	29,492,061	23,894,648	8,250,000	5,760,000	737,155	33,931,619	4,332,553	0	29,598,367	24,822,440
1917	22,960,098	29,598,367	24,822,440	8,250,000	5,760,000	748,663	37,769,711	8,201,345	0	29,598,367	24,822,440
1918	15,889,506	29,598,367	24,822,440	8,250,000	5,760,000	748,663	30,729,209	1,130,843	0	29,598,367	24,822,440
1919	12,675,801	29,598,367	24,822,440	8,250,000	5,760,000	727,220	27,536,948	0	0	27,536,948	23,093,647
1920	22,318,053	27,536,948	23,093,647	8,250,000	5,760,000	727,220	35,115,781	5,517,414	0	29,598,367	24,822,440
1921	22,558,254	29,598,367	24,822,440	8,250,000	5,760,000	748,663	37,397,957	7,799,591	0	29,598,367	24,822,440
1922	18,470,389	29,598,367	24,822,440	8,250,000	5,760,000	748,663	33,310,092	3,711,726	0	29,598,367	24,822,440
1923	19,040,976	29,598,367	24,822,440	8,250,000	5,760,000	748,663	33,880,679	4,282,313	0	29,598,367	24,822,440
1924	13,885,625	29,598,367	24,822,440	8,250,000	5,760,000	739,778	28,744,213	0	0	28,744,213	24,106,111
1925	14,475,892	28,744,213	24,106,111	8,250,000	5,760,000	728,175	28,462,930	0	0	28,462,930	23,886,958
1926	15,230,057	28,462,930	23,886,958	8,250,000	5,760,000	730,549	28,972,438	0	0	28,972,438	24,297,510
1927	19,584,410	28,972,438	24,297,510	8,250,000	5,760,000	742,152	33,804,856	4,206,329	0	29,598,367	24,822,440
1928	16,969,961	29,598,367	24,822,440	8,250,000	5,760,000	748,663	31,809,664	2,211,298	0	29,598,367	24,822,440
1929	21,883,608	29,598,367	24,822,440	8,250,000	5,760,000	748,663	36,705,311	7,106,945	0	29,598,367	24,822,440
1930	14,641,852	29,598,367	24,822,440	8,250,000	5,760,000	747,461	29,482,758	0	0	29,482,758	24,725,488
1931	8,484,422	29,482,758	24,725,488	8,250,000	5,760,000	681,688	23,275,492	0	0	23,275,492	19,519,811
1932	17,460,272	23,275,492	19,519,811	8,250,000	5,760,000	646,286	26,079,478	0	0	26,079,478	21,871,352
1933	12,201,254	26,079,478	21,871,352	8,250,000	5,760,000	649,878	23,620,854	0	0	23,620,854	19,809,446
1934	8,196,078	23,620,854	19,809,446	8,250,000	5,760,000	637,429	15,269,502	0	0	15,269,502	12,805,649
1935	12,647,629	15,269,502	12,805,649	8,250,000	5,760,000	431,890	13,475,241	0	0	13,475,241	11,300,906
1936	14,585,739	13,475,241	11,300,906	8,250,000	5,760,000	415,928	13,735,052	0	0	13,735,052	11,518,754
1937	14,332,258	13,735,052	11,518,754	8,250,000	5,760,000	417,639	13,639,671	0	0	13,639,671	11,438,804
1938	18,173,864	13,639,671	11,438,804	8,250,000	5,760,000	455,225	17,348,330	0	0	17,348,330	14,549,042
1939	11,197,462	17,348,330	14,549,042	8,250,000	5,760,000	458,764	14,076,027	0	0	14,076,027	11,804,751
1940	9,959,914	14,076,027	11,804,751	8,250,000	5,760,000	379,645	9,646,297	0	0	9,646,297	8,089,792
1941	20,148,522	9,646,297	8,089,792	8,250,000	5,760,000	393,329	15,391,490	0	0	15,391,490	12,907,553
1942	17,239,674	15,391,490	12,907,553	8,250,000	5,760,000	481,678	18,139,485	0	0	18,139,485	15,212,539
1943	13,753,225	18,139,485	15,212,539	8,250,000	5,760,000	502,367	17,380,343	0	0	17,380,343	14,575,890
1944	15,383,712	17,380,343	14,575,890	8,250,000	5,760,000	503,522	18,250,533	0	0	18,250,533	15,305,568
1945	14,161,561	18,250,533	15,305,568	8,250,000	5,760,000	508,858	17,893,237	0	0	17,893,237	15,006,024
1946	11,117,876	17,893,237	15,006,024	8,250,000	5,760,000	470,165	14,530,948	0	0	14,530,948	12,186,268
1947	16,462,164	14,530,948	12,186,268	8,250,000	5,760,000	455,954	16,527,157	0	0	16,527,157	13,860,372
1948	15,155,534	16,527,157	13,860,372	8,250,000	5,760,000	493,605	17,189,086	0	0	17,189,086	14,415,493
1949	16,953,305	17,189,086	14,415,493	8,250,000	5,760,000	515,744	19,616,647	0	0	19,616,647	16,451,349
1950	13,153,218	19,616,647	16,451,349	8,250,000	5,760,000	526,605	18,233,260	0	0	18,233,260	15,291,181
1951	12,521,127	18,233,260	15,291,181	8,250,000	5,760,000	491,613	16,252,773	0	0	16,252,773	13,630,262
1952	20,822,910	16,252,773	13,630,262	8,250,000	5,760,000	536,303	22,529,380	0	0	22,529,380	18,894,090
1953	11,183,540	22,529,380	18,894,090	8,250,000	5,760,000	566,302	19,136,618	0	0	19,136,618	16,048,776
1954	8,514,569	19,136,618	16,048,776	8,250,000	5,760,000	468,965	13,172,222	0	0	13,172,222	11,046,782
1955	9,428,775	13,172,222	11,046,782	8,250,000	5,760,000	355,587	8,235,431	0	0	8,235,431	6,906,580
1956	11,436,054	8,235,431	6,906,580	8,250,000	5,760,000	274,581	5,386,904	0	0	5,386,904	4,517,655
1957	21,529,593	5,386,904	4,517,655	8,250,000	5,760,000	319,844	12,586,653	0	0	12,586,653	10,555,699
1958	15,890,102	12,586,653	10,555,699	8,250,000	5,760,000	410,031	14,056,724	0	0	14,056,724	11,788,562
1959	9,612,332	14,056,724	11,788,562	8,250,000	5,760,000	375,669	9,283,387	0	0	9,283,387	7,785,441
1960	11,938,468	9,283,387	7,785,441	8,250,000	5,760,000	297,213	6,514,642	0	0	6,514,642	5,463,454
1961	10,038,780	6,514,642	5,463,454	8,250,000	5,760,000	224,743	2,316,679	0	0	2,316,679	1,942,965
1962	17,393,678	2,316,679	1,942,965	8,250,000	5,760,000	214,046	5,486,306	0	0	5,486,306	4,601,051
1963	8,381,023	5,486,306	4,601,051	8,250,000	5,760,000	191,464	145,868	0	0	145,868	122,331
1964	10,576,758	145,868	122,331	8,250,000	5,760,000	134,393	-3,121,787	0	2,121,787	0	0
1965	19,894,678	0	0	8,250,000	5,760,000	192,092	5,692,586	0	0	5,692,586	4,774,043
1966	10,694,529	5,692,586	4,774,043	8,250,000	5,760,000	214,589	2,162,527	0	0	2,162,527	1,813,568
1967	11,693,761	2,162,527	1,813,568	8,250,000	5,760,000	155,371	-309,084	0	309,084	0	0
1968	13,763,269	0	0	8,250,000	5,760,000	132,876	-379,607	0	379,607	0	0
1969	15,350,556	0	0	8,250,000	5,760,000	144,795	1,145,761	0	0	1,145,761	960,884
1970	15,358,765	1,145,761	960,884	8,250,000	5,760,000	158,996	2,325,541	0	0	2,325,541	1,950,296
1971	15,476,395	2,325,541	1,950,296	8,250,000	5,760,000	154,479	3,596,457	0	0	3,596,457	3,016,140
1972	13,219,464	3,596,457	3,016,140	8,250,000	5,760,000	197,422	2,808,498	0	0	2,808,498	2,187,597
1973	18,851,725	2,808,498	2,187,597	8,250,000	5,760,000	233,006	7,017,217	0	0	7,017,217	5,884,934
1974	13,378,356	7,017,217	5,884,934	8,250,000	5,760,000	269,494	6,116,079	0	0	6,116,079	5,129,202
1975	17,061,691	6,116,079	5,129,202	8,250,000	5,760,000	288,560	8,878,910	0	0	8,878,910	7,446,229
1976	11,295,125	8,878,910	7,446,229	8,250,000	5,760,000	286,380	5,877,656	0	0	5,877,656	4,929,250
1977	8,520,711	5,877,656	4,929,250	8,250,000	5,760,000	194,018	-2,805,651	0	2,805,651	0	0
1978	15,391,797	0	0	8,250,000	5,760,000	145,734	1,236,063	0	0	1,236,063	1,036,815
1979	17,569,160	1,236,063	1,036,815	8,250,000	5,760,000	197,720	4,997,503	0	0	4,997,503	4,191,117
1980	17,925,630	4,997,503	4,191,117	8,250,000	5,760,000	274,722	8,638,411	0	0	8,638,411	7,244,938
1981	9,008,965	8,638,411	7,244,938	8,250,000	5,760,000	267,891	3,379,485	0	0	3,379,485	2,834,179
1982	17,585,032	3,379,485	2,834,179	8,250,000	5,760,000	237,894	6,656,623	0	0	6,656,623	5,616,239
1983	24,482,829	6,656,823	5,616,239	8,250,000	5,760,000	377,220	16,792,432	0	0	16,792,432	14,082,843
1984	25,490,421	16,792,432	14,082,843	8,250,000	5,760,000	595,466	27,677,385	0	0	27,677,385	23,211,424
1985	21,002,708	27,677,385	23,211,424	8,250,000	5,760,000	728,881	33,941,412	4,343,045	0	29,598,367	24,822,440
1986	23,218,193	29,598,367	24,822,440	8,250,000	5,760,000	748,663	38,057,356	8,459,530	0	29,598,367	24,822,440
1987	15,894,636	29,598,367	24,822,440	8,250,000	5,760,000	748,663	30,534,341	935,975	0	29,598,367	24,822,440
1988	11,486,233	29,598,367	24,822,440	8,250,000	5,760,000	714,973	26,359,627	0	0	26,359,627	22,106,266
1989	10,057,763	26,359,627	22,106,266	8,250,000	5,760,000	633,579	21,773,811	0	0	21,773,811	18,260,438
1990	9,594,550	21,773,811	18,260,438	8,250,000	5,760,000	534,386	16,824,016	0	0	16,824,016	14,109,330
1991	12,272,735	16,824,016	14,109,330	8,250,000	5,760,000	460,039	14,626,712	0	0	14,626,712	12,266,578
1992	10,926,652	14,626,712	12,266,578	8,250,000	5,760,000	400,940	11,142,724	0	0	11,142,724	9,344,759
1993	18,471,704	11,142,724	9,344,759	8,250,000	5,760,000	406,878	15,197,550	0	0	15,197,550	12,745,307
1994	10,636,684	15,197,550	12,745,307	8,250,000	5,760,000	409,708	11,414,826	0	0	11,414,826	9,572,955
1995	20,471,952	11,414,826	9,572,955	8,250,000	5,760,000	433,074	17,443,704	0	0	17,443,704	14,629,627
1996	14,611,215	17,443,704	14,629,627	8,250,000	5,760,000	496,874	17,548,046	0	0	17,548,046	14,716,532
1997	21,806,412	17,548,046	14,716,532	8,250,000	5,760,000	573,098	24,771,359	0	0	24,771,359	20,774,307
1998	16,846,674	24,771,359	20,774,307	8,250,000	5,760,000	670,769	26,937,263	0	0	26,937,263	22,590,727
1999	16,280,125	26,937,263	22,590,727	8,250,000	5,760,000	709,328	28,478,061	0	0	28,478,061	23,882,604
2000	10,901,928	28,478,061	23,882,604	8,250,000	5,760,000	685,889	24,684,099	0	0	24,684,099	20,701,126
2001	10,816,414	24,684,099	20,701,126	8,250,000	5,760,000	606,889	20,883,624	0	0	20,883,624	17,513,389
2002	8,252,212	20,883,624	17,513,389	8,250,000	5,760,000	481,645	12,644,191	0	0	12,644,191	10,603,962
2003	10,579,977	12,644,191	10,603,962	8,250,000	5,760,000	356,546	8,857,621	0	0	8,857,621	7,428,375
2004	9,956,847	8,857,621	7,428,375	8,250,000	5,760,000	272,165	4,532,305	0	0	4,532,305	3,800,583
2005	16,929,909	4,532,305	3,800,583	8,250,000	5,760,000	254,892	7,197,322	0	0	7,197,322	6,035,978
2006	14,000,000	7,197,322	6,035,978	8,250,000	5,760,000	279,602	6,907,720	0	0	6,907,720	5,793,106
2007	12,000,000	6,907,720	5,793,106	8,250,000	5,760,000	253,048	4,644,671	0	0	4,644,671	3,895,218
Averages:											
1953-1977	13,104,359			8,250,000	5,760,000	280,207		0	264,644	9,669,707	4,754,856
1931-1977	13,613,222			8,250,000	5,760,000	371,283		0	140,788	11,145,595	9,347,168
1906-2005	15,093,369			8,250,000	5,760,000	493,905		378,636	66,161	17,241,186	14,469,187
1906-2007	15,052,322			8,250,000	5,760,000	489,443		362,397	64,864	17,015,382	14,270,657

Variables	
Powell Total Storage	24,322,000 af
Powell Active Storage	20,306,819 af
CRSP Active Storage	25,668,339 af
CRSP Active+Other Storage	30,257,576 af
Powell Sediment Rate	24,292 af/yr
Bank Storage	4%
Adj. CRSP Active Storage	24,822,440 af
Adj. CRSP Active+Other Stor.	29,598,367 af
UB Demand Level	5,760,000 af/yr
LB Delivery	8,250,000 af/yr

Total Upper Basin depletion, inc. CRSP evap:	
1953-1977	6,020,207 af/yr
1931-1977	6,131,283 af/yr
1906-2005	6,253,905 af/yr
1906-2007	6,249,443 af/yr

Average shortage:	
	4.6%
	2.4%
	1.1%
	1.1%

Upper Basin Yield Under 2060 Storage Sedimentation Conditions

Protect the NIIP Intake at Navajo Reservoir, and Do Not Protect Minimum Power Pools at Other CRSP Reservoir Units

CY	CR Natural Flow at Lee Ferry (plus)	Total Carry-Over Storage (plus)	CRSP Carry-Over Storage	Lower Basin Delivery (minus)	Upper Basin Use (minus)	Shared CRSP Evap (minus)	Net Available to Store (subtotal)	Equalize or Spill to LC (minus)	Shortage (plus)	UC Basin Year-end Storage (equals)	CRSP Year-end Storage
1906	16,746,193	33,919,910	29,112,783	8,250,000	5,760,000	724,439	37,931,664	4,011,754	0	33,919,910	29,112,783
1907	20,910,016	33,919,910	29,112,783	8,250,000	5,760,000	724,439	40,095,487	6,175,577	0	33,919,910	29,112,783
1908	11,733,558	33,919,910	29,112,783	8,250,000	5,760,000	652,949	30,950,519	0	0	30,950,519	26,564,214
1909	22,217,875	30,550,519	26,564,214	8,250,000	5,760,000	652,949	38,465,446	4,545,536	0	33,919,910	29,112,783
1910	14,816,679	33,919,910	29,112,783	8,250,000	5,760,000	723,203	33,803,386	0	0	33,803,388	29,012,773
1911	15,677,701	33,803,388	29,012,773	8,250,000	5,760,000	723,203	34,747,884	827,974	0	33,919,910	29,112,783
1912	18,654,326	33,919,910	29,112,783	8,250,000	5,760,000	724,439	37,839,799	3,919,889	0	33,919,910	29,112,783
1913	14,556,339	33,919,910	29,112,783	8,250,000	5,760,000	722,570	33,743,679	0	0	33,743,679	28,961,528
1914	21,372,378	33,743,679	28,961,528	8,250,000	5,760,000	722,570	40,383,487	6,463,577	0	33,919,910	29,112,783
1915	13,640,850	33,919,910	29,112,783	8,250,000	5,760,000	712,960	32,837,797	0	0	32,837,797	28,184,027
1916	20,188,113	32,837,797	28,184,027	8,250,000	5,760,000	712,963	38,300,947	4,381,037	0	33,919,910	29,112,783
1917	22,980,008	33,919,910	29,112,783	8,250,000	5,760,000	724,439	42,145,475	8,225,569	0	33,919,910	29,112,783
1918	15,988,606	33,919,910	29,112,783	8,250,000	5,760,000	724,439	35,074,977	1,155,067	0	33,919,910	29,112,783
1919	12,575,801	33,919,910	29,112,783	8,250,000	5,760,000	722,836	31,882,874	0	0	31,882,874	27,364,436
1920	22,316,053	31,882,874	27,364,436	8,250,000	5,760,000	722,836	39,486,091	5,566,181	0	33,919,910	29,112,783
1921	22,558,254	33,919,910	29,112,783	8,250,000	5,760,000	724,439	41,743,725	7,823,815	0	33,919,910	29,112,783
1922	18,470,389	33,919,910	29,112,783	8,250,000	5,760,000	724,439	37,655,860	3,735,950	0	33,919,910	29,112,783
1923	19,040,976	33,919,910	29,112,783	8,250,000	5,760,000	724,439	38,226,447	4,306,537	0	33,919,910	29,112,783
1924	13,895,625	33,919,910	29,112,783	8,250,000	5,760,000	719,637	33,085,858	0	0	33,085,858	28,400,401
1925	14,476,892	33,085,858	28,400,401	8,250,000	5,760,000	704,317	32,852,474	0	0	32,852,474	28,196,824
1926	15,230,057	32,852,474	28,196,824	8,250,000	5,760,000	707,237	33,365,293	0	0	33,365,293	28,636,767
1927	19,584,410	33,365,293	28,636,767	8,250,000	5,760,000	718,557	38,221,146	4,301,236	0	33,919,910	29,112,783
1928	16,969,961	33,919,910	29,112,783	8,250,000	5,760,000	724,439	36,155,432	2,235,522	0	33,919,910	29,112,783
1929	21,863,608	33,919,910	29,112,783	8,250,000	5,760,000	724,439	41,049,079	7,129,169	0	33,919,910	29,112,783
1930	14,641,852	33,919,910	29,112,783	8,250,000	5,760,000	723,467	33,828,295	0	0	33,828,295	29,034,152
1931	8,484,422	33,828,295	29,034,152	8,250,000	5,760,000	656,932	27,645,785	0	0	27,645,785	23,727,827
1932	17,460,272	27,645,785	23,727,827	8,250,000	5,760,000	621,368	30,474,685	0	0	30,474,685	26,155,919
1933	12,201,254	30,474,559	26,155,919	8,250,000	5,760,000	625,552	28,040,391	0	0	28,040,391	24,066,809
1934	6,786,975	28,040,391	24,066,809	8,250,000	5,760,000	511,449	19,715,917	0	0	19,715,917	16,921,007
1935	12,647,629	19,715,917	16,921,007	8,250,000	5,760,000	464,425	17,948,222	0	0	17,948,222	15,404,651
1936	14,665,739	17,948,222	15,404,651	8,250,000	5,760,000	368,732	18,235,229	0	0	18,235,229	15,650,934
1937	14,332,258	18,235,229	15,650,934	8,250,000	5,760,000	391,046	18,186,440	0	0	18,186,440	15,591,894
1938	18,173,894	18,186,440	15,591,894	8,250,000	5,760,000	429,914	21,960,410	0	0	21,960,410	18,796,586
1939	11,197,462	21,960,410	18,796,586	8,250,000	5,760,000	435,972	18,652,886	0	0	18,652,886	16,008,327
1940	5,959,914	18,652,800	16,009,327	8,250,000	5,760,000	353,529	14,248,785	0	0	14,248,785	12,229,449
1941	20,148,522	14,248,785	12,229,449	8,250,000	5,760,000	368,416	20,018,891	0	0	20,018,891	17,181,816
1942	17,239,674	20,018,891	17,181,816	8,250,000	5,760,000	458,988	22,789,577	0	0	22,789,577	19,559,640
1943	13,753,325	22,789,577	19,559,640	8,250,000	5,760,000	480,552	22,052,250	0	0	22,052,250	18,927,007
1944	15,393,712	22,052,250	18,927,007	8,250,000	5,760,000	482,187	22,943,776	0	0	22,943,776	19,692,186
1945	14,161,951	22,943,776	19,692,186	8,250,000	5,760,000	484,873	22,607,264	0	0	22,607,264	19,403,365
1946	11,117,876	22,607,264	19,403,365	8,250,000	5,760,000	449,072	19,266,068	0	0	19,266,068	16,535,683
1947	16,462,164	19,266,068	16,535,683	8,250,000	5,760,000	435,000	21,283,202	0	0	21,283,202	18,266,948
1948	15,155,534	21,283,202	18,266,948	8,250,000	5,760,000	483,653	21,065,084	0	0	21,065,084	18,082,184
1949	18,953,305	21,965,084	18,882,184	8,250,000	5,760,000	456,803	24,411,581	0	0	24,411,581	20,851,957
1950	13,153,218	24,411,581	20,951,957	8,250,000	5,760,000	508,296	23,046,483	0	0	23,046,483	19,780,337
1951	13,521,127	23,046,483	19,780,337	8,250,000	5,760,000	478,314	21,084,596	0	0	21,084,595	18,096,486
1952	20,822,910	21,084,595	18,096,489	8,250,000	5,760,000	518,959	27,378,551	0	0	37,378,551	23,498,465
1953	11,183,540	27,378,551	23,498,465	8,250,000	5,760,000	649,895	24,002,196	0	0	24,002,196	20,600,607
1954	8,514,669	24,002,196	20,600,607	8,250,000	5,760,000	451,029	18,055,736	0	0	18,055,736	15,496,876
1955	9,428,775	18,055,736	15,496,876	8,250,000	5,760,000	335,825	13,138,686	0	0	13,138,686	11,276,673
1956	11,436,054	13,138,686	11,276,673	8,250,000	5,760,000	253,695	10,311,045	0	0	10,311,045	8,849,765
1957	21,529,593	10,311,045	8,849,765	8,250,000	5,760,000	300,267	17,530,371	0	0	17,530,371	15,045,569
1958	15,890,102	17,530,371	15,045,569	8,250,000	5,760,000	392,601	19,017,873	0	0	19,017,873	16,322,661
1959	9,612,332	19,017,873	16,322,661	8,250,000	5,760,000	357,943	14,262,261	0	0	14,262,261	12,241,615
1960	11,538,468	14,262,261	12,241,615	8,250,000	5,760,000	278,350	11,512,380	0	0	11,512,380	9,880,848
1961	10,036,780	11,512,380	9,880,848	8,250,000	5,760,000	204,880	7,334,279	0	0	7,334,279	6,294,866
1962	17,393,670	7,334,279	6,294,866	8,250,000	5,760,000	194,394	10,523,561	0	0	10,523,561	9,032,163
1963	8,881,023	10,523,561	9,032,163	8,250,000	5,760,000	171,790	5,202,794	0	0	5,202,794	4,465,454
1964	10,876,758	5,202,794	4,465,454	8,250,000	5,760,000	80,746	1,982,806	0	321,217	2,504,023	2,149,153
1965	15,694,678	2,504,023	2,149,153	8,250,000	5,760,000	119,266	8,269,434	0	0	8,269,434	7,097,491
1966	10,694,529	8,269,434	7,097,491	8,250,000	5,760,000	143,723	4,810,240	0	0	4,810,240	4,129,533
1967	11,693,761	4,810,240	4,129,533	8,250,000	5,760,000	82,583	2,411,419	0	92,604	2,504,023	2,149,153
1968	13,763,269	2,504,023	2,149,153	8,250,000	5,760,000	58,126	2,199,166	0	304,857	2,504,023	2,149,153
1969	15,300,556	2,504,023	2,149,153	8,250,000	5,760,000	71,058	3,723,521	0	0	3,723,521	3,195,824
1970	15,358,765	3,723,521	3,195,824	8,250,000	5,760,000	97,263	4,975,023	0	0	4,975,023	4,269,963
1971	15,475,395	4,975,023	4,269,963	8,250,000	5,760,000	124,751	6,315,667	0	0	6,315,667	5,420,611
1972	13,219,464	6,315,667	5,420,611	8,250,000	5,760,000	129,213	5,395,916	0	0	5,395,916	4,631,207
1973	18,651,725	5,395,916	4,631,207	8,250,000	5,760,000	166,915	9,870,725	0	0	9,870,725	8,471,847
1974	13,378,366	9,870,725	8,471,847	8,250,000	5,760,000	209,492	9,033,589	0	0	9,033,589	7,753,350
1975	17,061,691	9,033,589	7,753,350	8,250,000	5,760,000	225,574	11,858,707	0	0	11,858,707	10,178,052
1976	11,235,125	11,858,707	10,178,052	8,250,000	5,760,000	225,353	8,918,479	0	0	8,918,479	7,654,553
1977	5,520,711	8,918,479	7,654,553	8,250,000	5,760,000	126,149	303,040	0	2,200,982	2,504,023	2,149,153
1978	15,391,757	2,504,023	2,149,153	8,250,000	5,760,000	72,016	3,813,904	0	0	3,813,904	3,273,312
1979	17,969,160	3,813,904	3,273,312	8,250,000	5,760,000	126,649	7,646,415	0	0	7,646,415	6,562,756
1980	17,925,630	7,646,415	6,562,756	8,250,000	5,760,000	206,527	11,355,515	0	0	11,355,515	9,746,215
1981	9,098,965	11,355,515	9,746,215	8,250,000	5,760,000	190,803	6,163,680	0	0	6,163,680	5,290,164
1982	17,565,032	6,163,680	5,290,164	8,250,000	5,760,000	171,625	9,547,087	0	0	9,547,087	8,194,074
1983	24,482,529	9,547,087	8,194,074	8,250,000	5,760,000	315,224	16,704,692	0	0	16,704,692	16,912,145
1984	25,490,421	16,704,692	16,912,145	8,250,000	5,760,000	538,973	30,646,140	0	0	30,646,140	26,302,972
1985	21,002,708	30,646,140	26,302,972	8,250,000	5,760,000	689,721	36,649,127	3,029,217	0	33,919,910	29,112,783
1986	23,218,193	33,919,910	29,112,783	8,250,000	5,760,000	724,439	42,403,864	8,483,754	0	33,919,910	29,112,783
1987	15,634,638	33,919,910	29,112,783	8,250,000	5,760,000	724,439	34,980,109	960,199	0	33,919,910	29,112,783
1988	11,486,233	33,919,910	29,112,783	8,250,000	5,760,000	690,354	30,705,789	0	0	30,705,789	28,354,188
1989	10,057,783	30,705,789	26,354,188	8,250,000	5,760,000	607,910	26,145,642	0	0	26,145,642	22,440,284
1990	9,554,550	26,145,642	22,440,284	8,250,000	5,760,000	537,347	21,222,886	0	0	21,222,886	18,215,180
1991	12,272,735	21,222,886	18,215,180	8,250,000	5,760,000	432,136	19,053,484	0	0	19,053,484	16,353,226
1992	10,926,952	19,053,484	16,353,226	8,250,000	5,760,000	372,455	15,597,951	0	0	15,597,951	13,387,411
1993	18,471,724	15,597,951	13,387,411	8,250,000	5,760,000	379,135	19,680,520	0	0	19,680,520	16,891,358
1994	10,636,984	19,680,520	16,891,358	8,250,000	5,760,000	382,602	15,924,502	0	0	15,924,502	13,666,026
1995	20,471,952	15,924,502	13,666,026	8,250,000	5,760,000	405,986	21,979,868	0	0	21,979,868	18,864,953
1996	14,611,215	21,979,868	18,864,953	8,250,000	5,760,000	472,582	22,108,521	0	0	22,108,521	18,975,333
1997	21,806,412	22,108,521	18,975,333	8,250,000	5,760,000	550,764	29,364,169	0	0	29,364,169	25,164,099
1998	16,846,674	29,364,169	25,164,099	8,250,000	5,760,000	650,783	31,540,060	0	0	31,540,060	27,070,206
1999	15,260,125	31,540,060	27,070,206	8,250,000	5,760,000	590,503	33,099,683	0	0	33,099,883	28,408,795
2000	10,901,926	33,099,883	28,408,795	8,250,000	5,760,000	667,008	29,324,602	0	0	29,324,602	25,168,722
2001	10,816,414	29,324,602	25,168,722	8,250,000	5,760,000	586,884	25,544,132	0	0	25,544,132	21,924,028
2002	6,252,212	25,544,132	21,924,028	8,250,000	5,760,000	459,650	17,326,694	0	0	17,326,694	14,871,157
2003	10,579,977	17,326,694	14,871,157	8,250,000	5,760,000	332,605	13,564,067	0	0	13,564,067	11,641,788
2004	9,956,847	13,564,067	11,641,788	8,250,000	5,760,000	247,100	9,263,814	0	0	9,263,814	7,950,947
2005	16,829,909	9,263,814	7,950,947	8,250,000	5,760,000	230,023	11,953,700	0	0	11,993,700	10,259,523
2006	14,000,000	11,993,700	10,259,523	8,250,000	5,760,000	259,730	11,687,970	0	0	11,687,970	10,031,552
2007	12,000,000	11,687,970	10,031,552	8,250,000	5,760,000	329,166	9,442,804	0	0	9,442,804	8,105,720
Averages:											
1953-1977	13,104,398			8,250,000	5,760,000	214,155		0	124,786	5,363,143	5,036,199
1931-1977	13,613,222			8,250,000	5,760,000	326,372		0	69,376	15,275,509	13,110,751
1906-2005	15,093,368			8,250,000	5,760,000	461,452		872,776	31,197	21,410,545	18,376,240
1906-2007	15,092,322			8,250,000	5,760,000	457,157		855,662	30,585	21,197,948	18,193,777

Variables	
Powell Total Storage	24,322,000 af
CRSP Live Storage	30,731,061 af
CRSP Live+Other Storage	35,353,298 af
Powell Sediment Rate	37,000 af/yr
Bank Storage	4%
Adj. CRSP Live Storage	29,112,783 af
Adj. CRSP Live+Other Stor.	33,919,910 af
Powell Storage Unavailable	1,489,253 af
Navajo Storage Unavailable	659,900 af
CRSP Storage Unavailable	2,146,153 af
UB Demand Level	5,760,000 af/yr
LB Delivery	8,250,000 af/yr

Total Upper Basin depletion, incl. CRSP evap	
1953-1977	5,974,159 af/yr
1931-1977	6,096,072 af/yr
1906-2005	6,221,452 af/yr
1906-2007	6,217,157 af/yr

	Average shortage
1953-1977	2.2%
1931-1977	1.2%
1906-2005	0.5%
1906-2007	0.5%

Draft – May 7, 2005

River Outlet Works at Glen Canyon Dam.

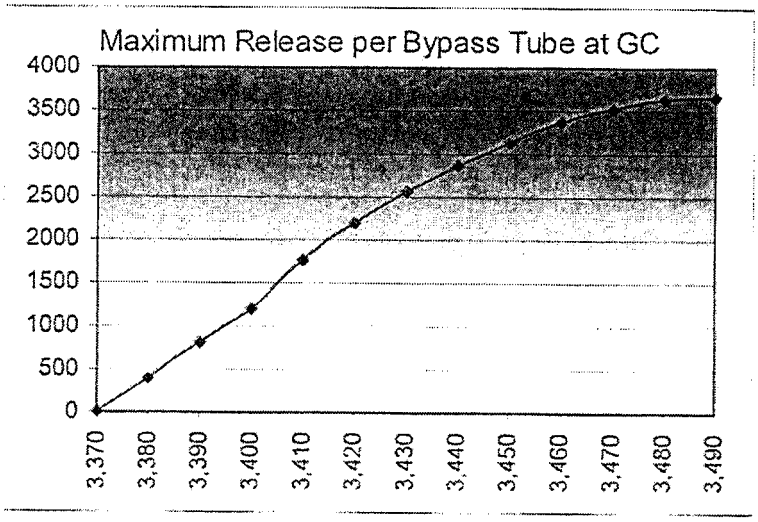
In the majority of the modeling Reclamation performed for the Colorado Basin States the past two years, minimum power pool (elevation 3,490 feet) was not absolutely protected. In very dry hydrologic traces, the model showed the elevation of Lake Powell going below 3,490 feet. In modeling these dry traces for the states, annual releases of 8.23 million acre-feet (maf) continued to be met through use of the river outlet works.

The question has been raised whether the river outlets can deliver 8.23 maf annually when Lake Powell is below 3,490 feet, whether the extended operation of the outlets is safe, and what maintenance issues can be anticipated with extended use of the outlet works.

There are four river outlets at Glen Canyon Dam (96" diameter steel pipes with hollow-jet values for regulation), each with a capacity of 3,750 cfs. The release rate is controlled by the hollow-jet valves from elevation 3,500 feet to 3,700 feet. At elevation 3,700 feet a hollow-jet valve opening of 79% produces the 3,750 cfs. At elevation 3,500 feet, the hollow-jet valve must be fully opened to achieve 3,750 cfs.

At elevations below 3,500 feet with the hollow-jet valve fully opened, the flow is reduced below 3,750 cfs as the head is lowered. At elevation 3,490 feet, for instance, one river outlet with the hollow-jet valve fully opened will release about 3,660 cfs. At elevation 3,460 feet one river outlet will release about 3,380 cfs.[1]

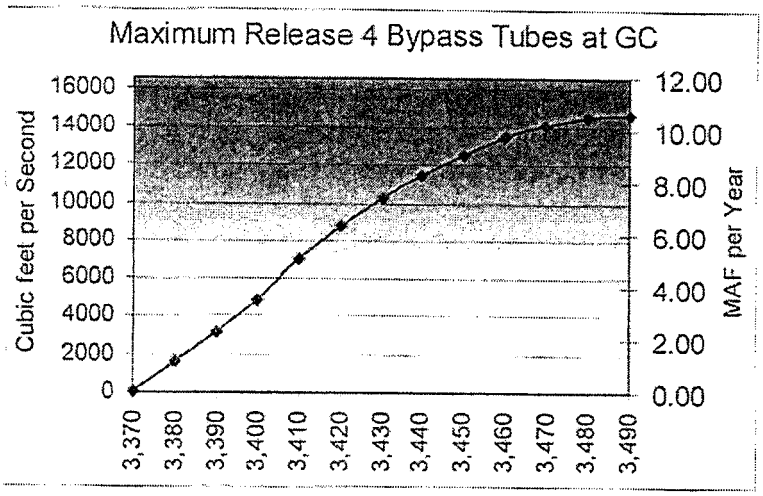
The following plot shows the maximum release in cfs from one hollow jet tube between elevations 3,370 feet (top of dead pool) and 3,490 feet (minimum power pool).



[1] Data taken from "Glen Canyon Dam and Power Plant Technical Record of Design and Construction," Page 164

An annual release of 8.23 maf requires a continuous release of 11,368 cfs. With all four river outlets in service, this release can be achieved down to elevation 3,440 feet. At this elevation the release capacity from the four river outlets is approximately 11,440 cfs (2,860 cfs per unit).

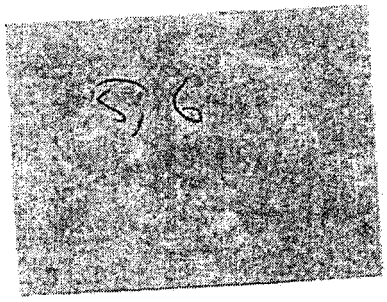
The subsequent plot shows the maximum release from 4 hollow jet tubes between elevations 3,370 feet (top of dead pool) and 3,490 feet (minimum power pool). The dual y axis depicts the maximum flow in cfs and the maximum water year release volume in maf (assuming a constant water surface elevation).



Maintenance of the river outlet works is also an important consideration. The outlet works would need to be periodically de-watered and inspected for cavitation or damage from fatigue.

Reclamation is updating the CRSS model to reflect the physical limitations of the river outlets. Maximum release rules will be added to the model to limit the volume of release below 3,490 feet to be consistent with the graphs displayed above. It will be assumed in the CRSS model that all 4 of the bypass tubes will always be available for delivery of water.

Tom Ryan
May 7, 2006



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uc-6
2006 Hydro. Determ.

MEMORANDUM
June 28, 2006

To: File
From: John Whipple, Interstate Stream Commission Staff

Subject: Revised Upper Colorado River Basin Depletion Schedule for New Mexico

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The New Mexico State Engineer via letter dated May 3, 2005, to the Bureau of Reclamation's Upper Colorado Regional Director requested the Secretary of the Interior to complete the hydrologic determination required by section 11(a) of Public Law 87-483 of whether sufficient water is reasonably likely to be available within the State of New Mexico's Upper Colorado River Basin Compact allocation for serving Navajo-Gallup Water Supply Project uses in New Mexico. In contemplation that the 1988 Hydrologic Determination could be extended to the year 2060 for this purpose, the letter transmitted to Reclamation an updated schedule of depletions in the Upper Colorado River Basin in New Mexico dated April 2005 that reflects the San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement (Settlement Agreement) executed by the State of New Mexico and the Navajo Nation on April 19, 2005.

In furtherance of satisfying New Mexico's request, the Bureau of Reclamation has prepared a Draft Hydrologic Determination dated May 2006 that would determine that it is reasonably likely that sufficient water will be available through at least 2060 from New Mexico's Upper Basin allocation and Navajo Reservoir to service a proposed contract for the Navajo Nation's consumptive uses in New Mexico under the Navajo-Gallup Water Supply Project, and also that it is likely that sufficient water will be available from the reservoir to service the contract after the 2060 planning horizon depending upon future

storage, hydrologic conditions and other factors. The Upper Colorado River Commission on June 5, 2006, approved a resolution that supports the conclusions of the May 2006 Draft Hydrologic Determination.

During the preparation of the May 2006 Draft Hydrologic Determination, Reclamation revised a portion of its Colorado River Simulation System natural flows at Lee Ferry to reflect the consistent application of the Soil Conservation Service (SCS) modified Blaney-Criddle method with SCS effective precipitation for computing historic irrigation depletions in the Upper Basin for the period of hydrologic record used by the determination. The Interstate Stream Commission for use in the determination provided to Reclamation a preliminary revised schedule of anticipated depletions through 2060 from the Upper Basin in New Mexico dated May 2006 that includes irrigation depletions calculated using the same method so that demands and supply would be evaluated using consistent methodologies.

Attached is a copy of the preliminary revised May 2006 New Mexico Upper Basin depletion schedule used for the Draft Hydrologic Determination that is modified to include extended explanatory footnotes. It is anticipated that the preliminary May 2006 depletion schedule will be considered final once the Secretary of the Interior approves the 2006 Hydrologic Determination. The preliminary May 2006 New Mexico Upper Basin depletion schedule differs from the April 2005 New Mexico Upper Basin depletion schedule in the following respects:

(a) Non-Indian Irrigation – The depletions for non-Indian irrigation uses in the May 2006 schedule were recalculated using the modified Blaney-Criddle method with SCS effective precipitation, current average cropping patterns and

irrigation methods for each area determined by Interstate Stream Commission field surveys of irrigation in the San Juan River Basin conducted annually during 2003-2005. and revised incidental depletion factors reflecting changes in crop consumptive use estimates and irrigation methods. No changes were made to the base irrigated acreages assumed for each area. An average annual physical water supply shortage of 50 percent was assumed for the base irrigated acreage in the La Plata River drainage based on the 1965 Comprehensive Framework Study.

(b) Navajo Nation Mainstream Irrigation – The depletions for Navajo Nation irrigation projects supplied from the San Juan River mainstream in the May 2006 schedule were changed to reflect full use of the water right depletion amounts for the projects provided by the Settlement Agreement. Use of the full depletion amount for the Navajo Indian Irrigation Project is consistent with the hydrologic investigation contained in the 1988 Hydrologic Determination. and is a conservative assumption because the total project depletion right is not expected to be fully utilized under normal farm management practices.

(c) Jicarilla Apache Nation Irrigation – The depletions for irrigation above Navajo Dam include irrigation depletions on Jicarilla Apache Nation lands that might be anticipated after consideration of decreed irrigation use limits, normal land fallowing, physical water supply shortages, and salvage of ephemeral tributary losses outside the Navajo River drainage.

(d) Chaco River Drainage Irrigation – Irrigation depletions within the Chaco River drainage were recalculated using the modified Blaney-Criddle method with SCS effective precipitation, and also were revised to reflect salvage of ephemeral

tributary losses and some non-tributary area uses in addition to normal fallowing and physical water supply shortages.

(e) Stockpond Evaporation and Livestock Uses – Stockpond and livestock depletions were rounded down to reflect a general reduction in grazing carrying capacity and some salvage of ephemeral tributary losses.

(f) New Mexico Upper Basin Compact Allocation – The New Mexico Upper Colorado River Basin Compact Article III(a) allocation was revised to reflect New Mexico's compact share of the yield to the Upper Basin determined to be available by the May 2006 Draft Hydrologic Determination. The May 2006 Draft Hydrologic Determination concludes that at least 5.76 million acre-feet of water per year is available for development by the Upper Basin, excluding shared evaporation from Lake Powell. Flaming Gorge Reservoir and the Aspinall Unit. New Mexico's share of the yield is about 642,400 acre-feet. excluding shared Colorado River Storage Project evaporation.

The State of New Mexico estimates that the total amount of salvage of ephemeral tributary losses and non-tributary losses within the boundaries of the San Juan River Basin in New Mexico averages approximately 2,000 acre-feet per year or more. The total amount of incidental losses from return flows to ephemeral tributaries from Four Corners Power Plant discharges at Morgan Lake also averages about 2,000 acre-feet per year. and incidental losses from Navajo Indian Irrigation Project return flows to ephemeral tributaries will increase as the project area receiving water expands and as the ground-water levels rise beneath the project. While Article VI of the Upper Colorado River Basin Compact requires the determination of consumptive uses in terms of man-made

depletions of the virgin flow at Lee Ferry, the Upper Colorado River Commission has not made any determinations of salvage by use or losses on ephemeral tributaries in the San Juan River Basin and does not necessarily endorse the specific depletion estimates provided in the May 2006 preliminary revised New Mexico Upper Basin depletion schedule.

Preliminary

May 2006

STATE OF NEW MEXICO SCHEDULE OF ANTICIPATED UPPER BASIN DEPLETIONS
(Units: 1000 acre-feet per year)

Year	2000	2010	2020	2030	2040	2050	2060
IRRIGATION USES (1)							
Navajo Nation Irrigation:							
Navajo Indian Irrigation Project (2)	150.0	215.0	250.0	270.0	270.0	270.0	270.0
Fruitland-Cambridge Irrigation Project (2)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Hogback-Cudei Irrigation Project (2)	15.5	15.5	21.3	21.3	21.3	21.3	21.3
Chaco River drainage irrigation	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Crystal area irrigation	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Navajo Irrigation Subtotal	176.9	241.9	282.7	302.7	302.7	302.7	302.7
Non-Navajo Irrigation:							
Above Navajo Dam (including Jicarilla)	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Upper San Juan (excluding Hammond)	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Hammond Irrigation Project	12.1	12.1	12.1	12.1	12.1	12.1	12.1
Animas River ditches	40.7	40.7	40.7	40.7	40.7	40.7	40.7
La Plata River ditches	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Farmers Mutual Ditch	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Jewett Valley Ditch	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Chaco River drainage irrigation	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Non-Navajo Irrigation Subtotal	86.5	86.5	86.5	86.5	86.5	86.5	86.5
Irrigation Total	263.4	328.4	369.2	389.2	389.2	389.2	389.2
STOCKPOND EVAPORATION AND STOCK USE	4.0	4.0	4.0	4.0	4.0	4.0	4.0
MUNICIPAL AND DOMESTIC USES (1)							
Current Municipal and Industrial Uses (3)	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Animas-La Plata Project:							
San Juan Water Commission (4)	1.0	5.0	10.4	10.4	10.4	10.4	10.4
Navajo Nation	0.0	1.0	2.0	2.3	2.3	2.3	2.3
La Plata Conservancy District	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Ridges Basin Reservoir Evaporation - NM share	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Animas-La Plata Project Subtotal	1.0	6.0	13.3	13.6	13.6	13.6	13.6
Navajo-Gallup Water Supply Project: (5)							
Navajo Nation	0.0	0.0	7.9	10.2	12.5	12.5	12.5
Jicarilla Apache Nation	0.0	0.0	0.8	1.0	1.2	1.2	1.2
Navajo-Gallup Project Subtotal (within Basin)	0.0	0.0	8.7	11.2	13.7	13.7	13.7
Navajo Nation Municipal Use, Future (exc. NGWSP)	0.0	0.0	1.0	1.0	2.0	2.0	2.0
Jicarilla Apache Nation Municipal Use (exc. NGWSP)	0.0	0.0	0.0	0.4	0.6	0.6	0.6
Scattered Rural Domestic (including Jicarilla)	1.0	1.0	1.0	1.1	1.1	1.2	1.2
Municipal and Domestic Total	11.7	16.7	33.7	37.0	40.7	40.8	40.8
POWER AND INDUSTRIAL USES							
PNM - Navajo Reservoir contract (6)	16.2	16.2	16.2	16.2	16.2	16.2	16.2
BHP Billiton (7)	37.0	37.0	38.0	39.0	39.0	39.0	39.0
Bloomfield Industrial	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Navajo Nation - Shiprock (8)	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Navajo-Gallup Water Supply Project - NAPI (9)	0.0	0.0	0.7	0.7	0.7	0.7	0.7
Small Navajo Reservoir Contracts	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Power and Industrial Total	56.1	56.1	57.8	58.8	58.8	58.8	58.8
EXPORTS							
San Juan-Chama Project (10)	105.2	105.2	105.2	105.2	105.2	105.2	105.2
Navajo-Gallup Water Supply Project: (5)							
Navajo Nation in New Mexico	0.0	0.0	4.0	5.8	7.6	7.6	7.6
City of Gallup	0.0	0.0	4.7	6.1	7.5	7.5	7.5
Navajo-Gallup Project Subtotal (Export)	0.0	0.0	8.7	11.9	15.1	15.1	15.1
Export Total	105.2	105.2	113.9	117.1	120.3	120.3	120.3
RESERVOIR EVAPORATION							
Navajo Reservoir Evaporation (11)	28.3	28.0	27.7	27.7	27.7	27.7	27.7
Small Reservoir Evaporation	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Reservoir Evaporation Total	29.5	29.2	28.9	28.9	28.9	28.9	28.9
TOTAL DEPLETIONS (12)	469.9	539.6	607.5	635.0	641.9	642.0	642.0
State Share of Upper Basin Yield (13)	642.4	642.4	642.4	642.4	642.4	642.4	642.4
Remaining Available (13,14)	172.5	102.8	34.9	7.4	0.5	0.4	0.4
Percent of State Share Remaining	26.9%	16.0%	5.4%	1.2%	0.1%	0.1%	0.1%

NOTES:

(1) Does not reflect post-1965 transfers from irrigation to municipal and industrial uses. About 800 acre-feet of current non-Indian depletions are supplied through short-term leases from the Jicarilla Apache Nation as of 2006.

(2) The depletions for the Navajo Indian Irrigation Project (NIIP) and the Hogback and Fruitland irrigation projects assume full use of the depletion rights for the projects provided by the Settlement Agreement. A portion of the depletions on the Hogback and Fruitland projects in dry years may be accounted against the NIIP depletion right pursuant to the alternate water source provisions of subparagraph 9.2 of the Settlement Agreement. Construction of NIIP is assumed to be completed by 2030, and rehabilitation of the Hogback Project is assumed to be completed by 2020.

(3) Based on 1990 uses and 30% return flow from full diversion of Farmington's municipal water supply rights under the Echo Ditch Decree and License 2995. Does not reflect transfers of irrigation rights to municipal uses, and excludes the Animas-La Plata Project (ALP) and the Navajo-Gallup Water Supply Project (NGWSP).

(4) San Juan Water Commission member entities in 2000 used 1,000 acre-feet from the Animas River under ALP permits.

(5) Proposed NGWSP depletions in New Mexico total 29,500 acre-feet per year, including all project uses in the Upper Basin and the Lower Basin by the Navajo Nation, the Jicarilla Apache Nation and the City of Gallup. The exports by the NGWSP to Gallup are anticipated to be supplied through a subcontract with Jicarilla. To the extent that Gallup's actual demand is less than 7,500 acre-feet, the Jicarilla Apache Nation could use its water for other uses. Exports by the NGWSP for Navajo Nation uses in Arizona are not included.

(6) The Public Service Company of New Mexico (PNM) has subcontracted with the Jicarilla Apache Nation to provide 16,200 acre-feet per year for use at the San Juan Generating Station through 2027, with a commitment to negotiate in 2022 for a subcontract extension. The Generating Station is a no-discharge facility.

(7) Includes uses under New Mexico State Engineer File 2838 at the Four Corners Power Plant, the San Juan Generating Station and related mines.

(8) Industrial uses near Shiprock (diversions of about 300 acre-feet per year assumed fully depleted).

(9) Navajo Agricultural Products Industry's use of NGWSP water for food processing.

(10) Based on the hydrologic record for the period 1929-2000 (US Bureau of Reclamation).

(11) Based on the NGWSP September 2005 Biological Assessment, future Navajo Reservoir evaporation will average 27,900 acre-feet per year with operation of the reservoir to meet the diversion demands of the full NIIP and the NGWSP and to meet habitat needs of endangered fish species in the San Juan River. About 200 acre-feet of this amount could be chargeable to Arizona based on the proportion of use of Navajo Reservoir supply for NGWSP uses in Arizona.

(12) This is a schedule of anticipated depletions for planning purposes only. It is not a tabulation or determination of water rights or actual uses. Total depletions exclude New Mexico's share of reservoir evaporation from the major reservoirs constructed under the Colorado River Storage Project (CRSP) Act that are used principally to regulate compact deliveries at Lee Ferry and generate CRSP hydroelectric power. These include Lake Powell, Flaming Gorge Reservoir and the Aspinall Unit, but exclude Navajo Reservoir which is used principally to store water for consumptive uses.

(13) This depletion schedule does not attempt to interpret the Colorado River Compact, the Upper Colorado River Basin Compact, or any other element of the "Law of the River." This schedule should not be construed as an acceptance of any assumption that limits the Upper Colorado River Basin's depletion or New Mexico's depletion. Of the water available to the Upper Basin at Lee Ferry, the allocation for use by New Mexico is listed in this schedule, for planning purposes, as 642,400 acre-feet. This amount does not include New Mexico's share of CRSP reservoir evaporation other than Navajo Reservoir evaporation.

(14) Reserved.

UC-6
Upper Basin 40

2006 DEC 11 AM 10:06

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

OFFICE OF THE
DEC 2006
STATE ENGINEER

Mr. Herbert R. Guenther
Director
Arizona Department of Water Resources
3550 N. Central Ave.
Phoenix, Arizona 85012

DEC 13 2006

Dear Mr. Guenther:

The Secretary has asked me to respond to your letter dated September 6, 2006, regarding the draft 2006 Hydrologic Determination (draft determination) as to the availability of water for contracting from Navajo Reservoir. There has been a commendable level of cooperation among the Basin States and I wish to continue in that spirit by carefully considering the comments and observations made by all of the Colorado River Basin States as contained in your letter and the Upper Colorado River Commission's resolution.

The Bureau of Reclamation has worked closely with the Upper Basin States through the Upper Colorado River Commission, an entity created by the Upper Colorado River Basin Compact of 1948, to address issues related to the water supply of the Upper Colorado River Basin and its administration. In the interests of cooperation, Reclamation met on July 13, 2006, to brief the Lower Basin States on the draft determination, as some of the water provided from New Mexico's Upper Basin allocation could actually be delivered to a community in the Lower Basin by the proposed Navajo-Gallup Water Supply Project (NGWSP).

From the July 13, 2006, briefing, Reclamation received feedback that the Lower Division States might wish to comment on the range of assumptions used in the draft determination. As such, Reclamation agreed to consider any comments provided by the Lower Basin States so they might be evaluated in the Secretary's Hydrologic Determination.

Technical staff from Reclamation's Upper and Lower Colorado Regional Offices have completed a thorough review of the issues raised in your September 6, 2006 letter. As a result of this review, we do not anticipate a change to the conclusion reached in the May 2006 draft Hydrologic Determination. Prior to providing me with their conclusions, I have asked Reclamation staff from our Regional offices to consult, as appropriate, with the Basin States to review their conclusions regarding the issues raised in your letter. Following those consultations, I anticipate submitting the determination to the Secretary for signature.

Sincerely,

Mark Limbaugh
Assistant Secretary for
Water and Science

OSE-1585

Identical Letter Sent To:

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Chairman
Colorado River Board of California
770 Fairmont Ave., Suite 100
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Mr. Richard Bunker
Chairman
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cc: Mr. Rick L. Gold
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RFP Le

Upper Colo. HD 2007

UC-6
2006 UB Hydrologic Determination

MEMORANDUM
March 27, 2007

To: John D'Antonio, State Engineer
Estevan Lopez, Interstate Stream Engineer

From: John Whipple, Staff, Interstate Stream Commission

Copy: Tanya Trujillo, Counsel, Interstate Stream Commission

Subject: Addendum to November 17, 2006, Memorandum on Responses to Technical Issues Raised in the Lower Division States' September 6, 2006, Letter to the Secretary of the Interior Regarding the May 2006 Draft Hydrologic Determination

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This addendum to the subject memorandum supplements the discussions regarding the use of reservoir storage in the May 2006 Draft Hydrologic Determination and in the 602(a) storage algorithm.

CRSP Storage in Upper Basin Yield Studies

The State of Arizona recently raised concerns with the Bureau of Reclamation that Colorado River Storage Project (CRSP) reservoir operating criteria for reasons of flood control generally target a certain amount of vacant storage space in each reservoir at the end of July, and therefore, that the CRSP reservoirs should not be assumed to be full at the start of the critical period in the Upper Basin yield studies contained in the Hydrologic Determination. The use of these operating criteria does not mean that actual storage does not exceed the target storage on or about July 31, and also does not mean that flood control releases from Lake Powell cannot be credited to the Upper Basin's obligation to maintain flows at Lee Ferry in any period of ten years consistent with Article III(d) of the Colorado River Compact. Use of such flood control targets to limit storage in the Upper Basin yield studies would require also the accounting of ten-year deliveries to the Lower Basin as well as the determination and accounting of annual deficiencies pursuant to Article III(c) of the compact, such that releases from Lake Powell could be reduced in subsequent years during the critical period while still complying with Article III of the compact.

Also, continued water development in the Upper Basin is anticipated to rely, to some extent, on either the development of new reservoir storage or on the diversion or delivery of water for use from existing CRSP reservoir storage. If additional non-CRSP reservoir storage is developed, then the use in the Upper Basin yield studies of only the existing reservoir storage is a conservative assumption. To the extent that storage capacity, or

water in storage, in Flaming Gorge Reservoir, Blue Mesa Reservoir or Lake Powell may be relied upon in the future to supply water for municipal, industrial or other uses, then the Upper Colorado River Commission may determine that portions of the CRSP reservoir evaporation that are currently shared among the Upper Division states should rather be charged to, and accounted within, the appropriate states' Upper Basin uses. Pursuant to Article V(b) of the Upper Colorado River Basin Compact, losses from that portion of the CRSP reservoir storage capacity utilized to supply water for uses within one or more states should be charged to that state or states, and losses from that portion of the reservoir storage capacity allocated to the purpose of meeting the obligation of the Upper Basin to deliver water to Lee Ferry should be shared among all Upper Division states. If any portion of the shared CRSP reservoir evaporation is reallocated to a particular state or states, it would be accounted within the Upper Basin yield available for development by the Upper Basin exclusive of shared CRSP reservoir evaporation, the amount of shared CRSP reservoir evaporation would be reduced, and the total Upper Basin depletion during the critical period also would be reduced accordingly unless the Upper Colorado River Commission makes a finding that additional water over and above an Upper Basin yield of 5.76 maf, excluding shared CRSP reservoir evaporation, is available for development by the Upper Basin states.

CRSP Storage in 602(a) Storage Algorithm

The 602(a) storage algorithm uses the total CRSP active storage capacity available in Lake Powell, Flaming Gorge Reservoir, Blue Mesa Reservoir and Navajo Reservoir. However, the 602(a) storage algorithm should not include the assumption that active storage in Navajo Reservoir is available to make deliveries to the Lower Basin at Lee Ferry. During a critical period of hydrology, Navajo Reservoir storage will be drawn down for meeting water demands on reservoir storage in New Mexico. Consistent with Article V of the Upper Colorado River Basin Compact, the storage of water in Navajo Reservoir necessary to permit New Mexico to make use of its Upper Basin apportionment has preference over the storage of water in the reservoir to assure deliveries at Lee Ferry. At present, the entire storage capacity of Navajo Reservoir is reserved and utilized to supply water for uses in New Mexico.

Water uses in the Upper Basin in New Mexico that are supplied from Navajo Reservoir storage include the Navajo Indian Irrigation Project, the uses supplied through the Jicarilla Apache Nation's Navajo Reservoir water supply contract (including at the San Juan Generating Station), the Hammond Irrigation Project, the proposed Navajo-Gallup Water Supply Project, and the San Juan-Chama Project (by exchange). Including Navajo Reservoir evaporation, about 470,100 acre-feet per year of New Mexico's scheduled future depletions, or about 73 percent of the total future Upper Basin depletions listed in the New Mexico depletion schedule that is attached to the May 2006 Draft Hydrologic Determination, is supplied directly or via exchange by Navajo Reservoir storage. Even if active storage in Navajo Reservoir remained near the end of the critical period, releasing such storage for delivery to Lee Ferry would itself impair almost ¾ of the Upper Basin uses in New Mexico. Thus, Reclamation cannot both rely on the availability of storage in

Navajo Reservoir for delivery to Lee Ferry and also protect Upper Basin consumptive uses in New Mexico.

For the same reasons, the 602(a) storage algorithm also should not use any portions of the active storage capacities of Lake Powell, Flaming Gorge Reservoir and Blue Mesa Reservoir that, pursuant to Article V of the Upper Colorado River Basin Compact, are determined by the Upper Colorado River Commission to be reserved or utilized to supply water for uses within one or more Upper Division states. The 602(a) storage algorithm should include only the portion of CRSP reservoir active storage capacity allocated to the purpose of meeting the obligation of the Upper Basin under Article III of the Colorado River Compact to deliver water to Lee Ferry.

Whipple, John J., OSE

From: Trujillo, Tanya, OSE
Sent: Wed 4/4/2007 3:36 PM
To: rgold@uc.usbr.gov; dtrueman@uc.usbr.gov
Cc: Dantonio, John, OSE; Lopez, Estevan, OSE; Whipple, John J., OSE
Subject: Hydrologic Determination
Attachments: hydrodeter.changes2007a.doc(21KB)

Rick and Dave, Estevan Lopez asked me to send you the attached document which contains proposed edits to the May 2006 Draft Hydrologic Determination that have been agreed to by all seven basin states. Thank you for your assistance in getting this completed. Please contact us if you have any questions.

Tanya

Tanya Trujillo
General Counsel
New Mexico Interstate Stream Commission
P.O. Box 25102, Santa Fe, NM 87504-5102
(505) 476-0558
(505) 827-5776 (fax)
Tanya.Trujillo@state.nm.us

The following changes to the Bureau of Reclamation's May 2006 Draft Hydrologic Determination are proposed:

Page 3, Approach, second paragraph:

~~The~~Neither the Lower Division states nor the Upper Colorado River Commission ~~does not~~ agree with the modeling assumption for the~~of an~~ objective minimum release used in this report ~~of 8.23 maf and the assumed delivery of 0.75 maf each year toward the Mexican Treaty obligation included therein~~. At the request of the Commission, this hydrologic investigation considers for planning purposes both the objective minimum release of 8.23 maf and a minimum release from Lake Powell of 7.48 maf annually. However, this hydrologic determination does not quantify the Colorado River Compact Article III(c) requirement or make or rely on a critical compact interpretation regarding Article III(c). The 1988 Hydrologic Determination also showed the Upper Basin yields under these~~both~~ minimum release scenarios.

Page 7, Conclusions, first paragraph, first sentence:

It is concluded that based on the analysis performed by Reclamation in consultation with the Upper Colorado River Commission, the Upper Basin yield and New Mexico water allocation needed to support New Mexico's revised Upper Basin depletions schedule are reasonably likely to be available.

UC-6
Hydrol. Determination

MEMORANDUM
April 9, 2007

To: File
From: John Whipple, Staff, Interstate Stream Commission

Subject: Changes to May 2006 Draft Hydrologic Determination

The State of Arizona on March 16, 2007, proposed to the Bureau of Reclamation via email the following changes to the May 2006 Draft Hydrologic Determination:

Page 3. Approach, second paragraph:

~~The~~Neither the Lower Division states nor the Upper Colorado River Commission ~~does not~~ agree with the modeling assumption for the~~of an~~ objective minimum release ~~of 8.23 maf and the assumed delivery of 0.75 maf each year toward the Mexican Treaty obligation included therein~~. At the sole request of the Commission, this hydrologic investigation considers for planning purposes both the objective minimum release of 8.23 maf and a minimum release from Lake Powell of 7.48 maf annually. However, this hydrologic determination does not quantify the Colorado River Compact Article III(c) requirement or make or rely on a critical compact interpretation regarding Article III(c). The 1988 Hydrologic Determination also showed the Upper Basin yields under these~~both~~ minimum release scenarios.

Page 7. Conclusions, first paragraph, first sentence:

It is concluded that based on the analysis requested by the Commission, the Upper Basin yield and New Mexico water allocation needed to support New Mexico's revised Upper Basin depletions schedule are reasonably likely to be available.

To facilitate the Bureau of Reclamation submitting the Draft Hydrologic Determination for the Secretary of the Interior's consideration without contention from the Lower Division states, the State of New Mexico, acting through the Interstate Stream Commission, and representatives of the other six Colorado River Basin states verbally agreed to recommend to Reclamation the following changes in response to Arizona's proposal:

Page 3. Approach, second paragraph:

~~The~~Neither the Lower Division states nor the Upper Colorado River Commission ~~does not~~ agree with the modeling assumption for the~~of an~~ objective minimum release used in this report~~of 8.23 maf and the assumed delivery of 0.75 maf each year toward the Mexican Treaty obligation included therein~~. At the request of the Commission, this hydrologic investigation considers for planning purposes both the objective minimum release of 8.23 maf and a minimum release from Lake Powell of 7.48 maf annually. However, this hydrologic determination does not quantify the Colorado River Compact Article III(c) requirement or make or rely on a critical compact interpretation regarding

Article III(c). The 1988 Hydrologic Determination also showed the Upper Basin yields under these~~both~~ minimum release scenarios.

Page 7, Conclusions, first paragraph, first sentence:

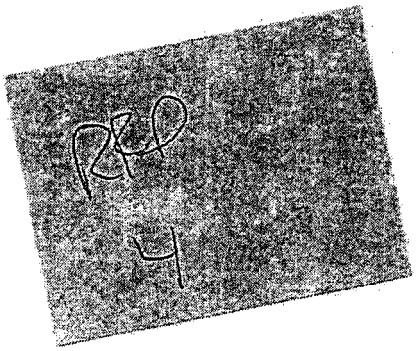
It is concluded that based on the analysis performed by Reclamation in consultation with the Upper Colorado River Commission, the Upper Basin yield and New Mexico water allocation needed to support New Mexico's revised Upper Basin depletions schedule are reasonably likely to be available.

The Interstate Stream Commission emailed these recommended changes to the Bureau of Reclamation's Upper Colorado Regional Director on April 4, 2007.

For the record, the following paragraph more clearly describes the matter discussed in the May 2006 Draft Hydrologic Determination at page 3, Approach, second paragraph:

Neither the Upper Colorado River Commission nor the Lower Division states agree with the modeling assumption of the objective minimum release of 8.23 maf for Lake Powell. Nonetheless, this hydrologic investigation considers for planning purposes the objective minimum release of 8.23 maf consistent with the Secretary of the Interior's Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (P.L. 90-537), amended March 21, 2005. At the request of the Commission and for consistency with the scenarios evaluated in the 1988 Hydrologic Determination, this hydrologic investigation also shows the Upper Basin yield assuming a minimum release from Lake Powell of 7.48 maf annually. Inclusion of the latter scenario in this investigation should not be construed to imply agreement of the Secretary, the Commission or the Lower Division states with a minimum release of 7.48 maf annually. This hydrologic determination does not quantify the Colorado River Compact Article III(c) requirement or make or rely on a critical compact interpretation regarding Article III(c).

RFPs 1.2 4b



Rubin, Dan R., OSE

From: Genualdi, Robert B., OSE
Sent: Monday, December 19, 2005 9:08 AM
To: Sizemore, Jim L., OSE
Subject: RE: 2883 Rights - SJWC
Attachments: App 4818 letter 12-19-05.doc

Jim:

The amount requested in the application has not changed, just the amount they might get because the Navajo settlements states the remaining water would be shared with the Navajos.

As far as returning the application, I thought because the aggrieval paragraph was to be added to the letter we might need more basis for its return.

The previous letter has been edited and is attached. Is this what you had in mind?

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Cc: Romero, John, OSE
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Yes...I sent my earlier email before this one came to me.

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If that is all true, I think we should return the application to the SJWC with a letter stating that the application is not acceptable for the above stated reasons. What do you think?

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Mr. Randy Kirkpatrick
Executive Director
San Juan Water Commission
7450 E. Main Street, Suite B
Farmington, NM 87402

RE: Application No. 4818 to Appropriate the Public Surface Waters of the State of New Mexico, received on January 18, 2001.

Dear Mr. Kirkpatrick:

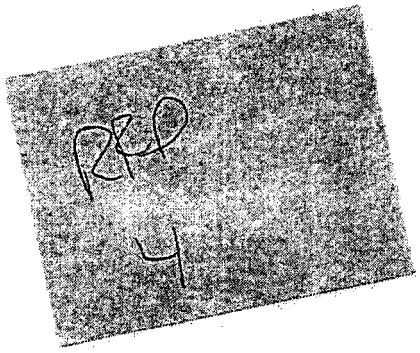
In my letter to you dated October 3, 2005 under "Assignment of Permit No. 2883" several issues are raised which affect our handling of your above referenced application. I state that New Mexico's schedule of anticipated depletions in the Upper Basin prepared for the proposed San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement includes the reduced depletion amounts for project uses, and that the Settlement Agreement, which was signed by the State of New Mexico and the Navajo Nation in April 2005, provides that any additional allocations of project water in New Mexico under Permit No. 2883 would be shared equally between the Navajo Nation and the SJWC's member entities, subject to approval of the Interstate Stream Commission. In light of this, I am hereby returning the original date stamped applications.

If you are aggrieved by this decision, you should so advise this office in writing before the expiration of thirty days after receipt of this letter and request that the previous action of the State Engineer be set aside and that a date for a hearing be set by the State Engineer. Requests for hearing may be filed by facsimile to (505) 334-4575, provided the original request is mailed and postmarked within 24 hours of the facsimile. The applicant must indicate the date and time of transmission of the facsimile on the mailed copy, and also provide a cover letter with the facsimile confirming that the original will be mailed within 24 hours.

Sincerely,

Jim L. Sizemore, P.E.
Director, Water Rights Division

cc: Robert Genualdi, District V
John Whipple, ISC staff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