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STATE OF NEW MEXICO
COUNTY OF SAN JUAN
ELEVENTH JUDICIAL DISTRICT COURT

STATE OF NEW MEXICO, *ex rel.*
THE STATE ENGINEER,

Plaintiff,

vs.

THE UNITED STATES OF AMERICA, *et al.*,

Defendants.

AB-07-1

Claims of Navajo Nation

No. CV 75-184

Honorable James J. Wechsler
Presiding Judge

DESCRIPTIVE SUMMARY: Revisions to calculations about the water deficits on the San Juan River which were filed on February 5, 2013. The main revisions are: revised depletion and diversion amounts under the proposed "settlement"; addition of the San Juan - Chama Project; and additional notes. The revised projected deficit at 13.7 maf is: negative 654,474 acre-feet per year. Further revisions will be filed as better information becomes available from discovery and other sources.

NUMBER OF PAGES: 2 +3 pages attachment

DATE OF FILING: February 15, 2013

**REVISED CALCULATIONS ABOUT
ALLOCATION OF WATER UNDER COLORADO RIVER COMPACTS**

Submitted herewith are revised calculations.

Respectfully submitted,

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By /s/ Victor R. Marshall

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CERTIFICATE OF SERVICE

I hereby certify that on this 15th day of February, 2013, a true and correct copy of the foregoing was served on the parties and claimants by attaching a copy of said document to an email sent to the following list server: wrnavajointerse@nmcourts.gov and to the filing list referred to in paragraph 8 of the court's November 19, 2012 Corrected Order.

/s/ Victor R. Marshall

Victor R. Marshall, Esq.

ALLOCATION OF WATER UNDER COLORADO RIVER COMPACTS

CC - Colorado River Compact of 1922, NMSA § 72-15-5.

UB - Upper Basin Compact of 1948, NMSA § 72-15-16.

ANNUAL "NATURAL" OR "VIRGIN" FLOW in acre-feet¹

	10,000,000	12,500,000	13,700,000	15,000,000
<i>less</i>				
Priority for Lower Basin ² CC Art. III (d)	7,500,000	7,500,000	7,500,000	7,500,000
½ of obligation to Mexico 1944 Treaty; CC Art. III (c)	750,000	750,000	750,000	750,000
Arizona's share of Upper Basin UB Art. III (a) (1)	50,000	50,000	50,000	50,000
Owed to Lower Basin	8,300,000	8,300,000	8,300,000	8,300,000
UPPER BASIN REMAINDER	<u>1,700,000</u>	<u>4,200,000</u>	<u>5,400,000</u>	<u>6,700,000</u>
New Mexico's 11.25% share ³ UB Art. III (a) (2)	191,250	472,500	607,500	753,750
<i>less</i>				
Navajo settlement claim (depletion) ⁴	335,681	335,681	335,681	335,681
Required water for endangered species at Bluff UT ⁵	759,293	759,293	759,293	759,293
Jicarilla settlement claim	32,000	32,000	32,000	32,000
San Juan - Chama Project ⁶	135,000	135,000	135,000	135,000
Ute Mountain Ute claim	?	?	?	?
Other U.S. claims for nat. parks, forests, etc	?	?	?	?
Evaporation, etc.	?	?	?	?
New Mexico Deficit	(1,070,724)	(789,474)	(654,474)	(508,224)
AVAILABLE FOR CONSUMPTION IN NEW MEXICO by non-Indians ⁷	none	none	none	none

Projected figures, annualized.

REVISED 2/15/13

NOTES 2/15/13

1. "Natural" or "virgin" flow is the hypothetical flow that would occur in nature if there were no human diversions, depletions, dams, or impoundments. UB Art. II(n). Natural flow no longer exists. The actual flow measured by a stream gauge at a given point, such as Lee Ferry, is less than the hypothetical natural flow.

The 1922 Colorado River Compact Commission estimated a natural flow of approximately 16,400,000 acre-feet at Lee Ferry, without having a stream gauge there. This estimated flow is now known to be too high. The latest modeling in the BOR 2012 Study projects a long term average of 13,700,000 acre-feet, with periods of drought extending for many years, punctuated by an occasional wet year. TR-B, page B.

2. The Colorado River Compact requires the states of the Upper Basin collectively to deliver 75,000,000 acre-feet at Lee Ferry, just below Lake Powell, during each 10 year period, rolling forward. The 1922 Compact divided the estimated total flow roughly equally (with a buffer), giving 7,500,000 acre-feet to the Lower Basin and 7,500,000 acre-feet to the Upper Basin. But the Lower Basin received priority for its water.

3. New Mexico is entitled to an 11.25% share of the water available for the entire Upper Basin, rather than a percentage share of the San Juan River, or a fixed amount from the San Juan.

4. The amounts in the proposed settlement are 646,640 acre-feet of diversion and 335,681 acre-feet of depletion. Since the water for NIIP is diverted at Navajo Reservoir and pumped up the hill to NIIP, the diverted water is not available in the San Juan River for many miles, even assuming that there is return flow. Therefore the 335,681 depletion figure drastically understates the drying effects on the river below Navajo Dam.

5. On the San Juan River, there are 4 endangered fishes and 1 endangered bird: the razorback sucker (*Xyrauchen texanus*); Colorado pikeminnow, formerly known as Colorado squawfish (*Ptychocheilus lucius*); humpback chub (*Gila cypha*); bonytail chub or bonytail (*Gila elegans*); and southwestern willow flycatcher (*Empidonax traillii extimus*).

To protect these federally endangered species, the Colorado River Basin Water Supply and Demand Study of December 12, 2012 calls for a required minimum in-stream base flow of at least 500 cfs to at least 1,000 cfs, at Bluff, Utah. Therefore a midpoint of 750 cfs is used for this calculation. In addition, larger pulses of water are required in the springtime. (Due to ambiguity in the report descriptions of the springtime pulses, a small downward adjustment in this calculation might be appropriate.) TR_D Appendix 3, pages D3-9, D3-10.

Bluff, Utah is used as a proxy for 3 measuring stations in Utah. Bluff is downstream from New Mexico, so any required water for endangered species cannot be consumed in New Mexico. This is unlike the silvery minnow in the Rio Grande, where the instream flow can be used farther downstream within New Mexico.

The U.S. claims that it has the right to adjust the amounts for endangered species up or down, in its sole discretion. The U.S. also asserts that the state court has no jurisdiction or authority to review any of its decisions, no matter how they affect water rights in the San Juan River.

REVISED 2/15/13

6. The San Juan - Chama Project transports water from the upper San Juan to the Rio Grande Basin through a system of siphons and tunnels. The project claims a 1955 priority. The proposed settlement calls for 135,00 acre-feet of normal diversion annually. Diversions to the San Juan - Chama are equivalent to depletion because the water leaves the Colorado River Basin.

7. Under all projected long-term natural flow scenarios, satisfying the demands for compact compliance and Indian tribes and endangered species would leave no San Juan River water available for consumption in New Mexico by non-Indians. Every scenario shows large unresolved deficits, in excess of 500,000 acre-feet, even without factoring in the Ute Mtn Ute claims or the claims of the U.S. for national parks, national forests, etc. Evaporative losses are also not included. Reservoir storage and shortage sharing agreements do not solve these deficits. The alleged protections in the proposed settlement cannot cure the fundamental deficits that would be caused by the settlement itself, i.e. 646,640 acre-feet of diversion and 335,681 of depletion, and the water required for endangered species.

In order for water to be available for depletion by persons in New Mexico, the water must be physically available and legally available. There must be enough wet water in the river at a given location, and that water must also be legally available for depletion under the law of the river. There might, or might not, be wet water flowing in the San Juan River within New Mexico at a particular point. However, if that water must be delivered to Lee Ferry for the Lower Basin, or to Bluff Utah for endangered species, then this water is not available for use within New Mexico.

In a given year, there would be no water available from the San Juan River for any non-Indian use (irrigation, domestic, municipal or San Juan - Chama) unless the natural flow in the Upper Basin exceeds 18,300,000 acre-feet. However, a flow this large would be a rare occurrence, and the accumulated rolling deficit to the Lower Basin would have to be satisfied first.

8. The Colorado River Compacts do not apply to water awarded to Indian tribes.

9. The priorities of the demands on the San Juan River are uncertain, for the most part. All figures are subject to change and revision, depending upon the results of discovery.

10. These calculations are intended primarily to show the order of magnitude of the problems on the San Juan-Colorado River system. The calculations indicate the approximate scale of the water deficits that would occur in the future, if the Court were to approve the proposed Richardson-Navajo settlement.

11. All parties are invited to offer suggestions and comments for improving this analysis.

Community Ditch Defendants

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