

Colorado River Compact Operations, Administration, and Compliance

SEO Forum

October 31, 2007

James Eklund, Assistant Attorney General¹

- I. **Colorado River Compact**. Negotiated in 1922 by representatives of the seven Colorado River Basin states and the federal government; effective in 1929 after congressional approval in the **Boulder Canyon Project Act** (43 U.S.C. § 617-*l*).

Apportionment provisions:

Article III(a): "There is hereby apportioned from the Colorado River System in perpetuity to the Upper Basin and to the Lower Basin respectively the exclusive beneficial consumptive use of 7,500,000 acre feet of water per annum, which shall include all water necessary for the supply of any rights which may now exist."

Article III(b): "In addition to the apportionment in paragraph (a) the Lower Basin is hereby given the right to increase its beneficial consumptive use of such waters by one million acre per annum."

Article III(c): "If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then, the burden *of such deficiency* shall be equally borne by the Upper Basin and the Lower Basin, and whenever necessary the States of the Upper Division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d)." (emphasis added)

Article III(d): "The states of the Upper Division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre feet for any period of ten consecutive years reckoned in continuing progressive series beginning with the first day of October next succeeding the ratification of this compact."

Article III(e): "The States of the Upper Division shall not withhold water, and the States of the Lower Division shall not require the delivery of water, which cannot reasonably be applied to domestic and agricultural uses."

¹ The views expressed in this presentation are solely those of the author, not the official position of the Colorado Department of Law or the State of Colorado.

- II. Upper Colorado River Basin Compact.** Negotiated in 1948 by representatives of Arizona, Colorado, New Mexico, Utah, Wyoming and the federal government, approved in 1949. Article I(b) recognizes that "the Colorado River Compact is in full force and effect and all of the provisions hereof are subject thereto."

Apportionment provisions:

Article III(a): "Subject to the provisions and limitations contained in the Colorado River Compact," Article III(a) apportions "in perpetuity" the Upper Basin's share of the consumptive use of water under the Colorado River Compact to individual states. Arizona gets a flat 50,000 AF off the top. The rest is apportioned by percentages:

State	%	% of 7.5 MAF (full supply)	% of 6 MAF (more likely supply)
Colorado	51.75	3,855,375	3,079,125
New Mexico	11.25	838,125	669,375
Utah	23	1,713,500	1,368,500
Wyoming	14	1,043,000	833,000

Article III(b) specifies that the III(a) apportionments "shall be applied in conformity with the following principles:"

"(1) The apportionment is of any and all man-made depletions;

"(2) Beneficial use is the basis, the measure and the limit of the right to use;

"(3) No state shall exceed the apportioned use in any water year when the effect of such excess use, as determined by the commission, is to deprive another signatory state of its apportioned use during the water year; provided, that this subparagraph (b)(3) shall not be construed as:

"(i) Altering the apportionment of use, or obligations to make deliveries as provided in article XI, XII, XIII or XIV of this compact;

"(ii) Purporting to apportion among the signatory states of such uses of water as the upper basin may be entitled to under paragraphs (f) and (g) of article III of the Colorado River Compact; or

"(iii) Countenancing average uses by any signatory state in excess of its apportionment.

"(4) The apportionment to each state includes all water necessary for the supply of any rights which now exist."

Curtailment provisions:

Article VIII creates the Upper Colorado River Commission. **Article IV** specifies that, in the event curtailment of Upper Basin water use becomes necessary, the extent of curtailment by each state "shall be in such quantities and at such times as shall be determined by the commission upon the application of the following principles:"

Article IV(b): "If any state or states of the upper division, in the ten years immediately

preceding the water year in which curtailment is necessary, shall have consumptively used more water than it was or they were, as the case may be, entitled to use under the apportionment made by article III of this compact, such state or states shall be required to supply at Lee ferry a quantity of water equal to its, or the aggregate of their, overdraft or the proportionate part of such overdraft, as may be necessary to assure compliance with article III of the Colorado River Compact, before demand is made on any other state of the upper division."

Article IV(c): "Except as provided in subparagraph (b) of this article, the extent of curtailment by each state of the upper division of the consumptive use of water apportioned to it by article III of this compact shall be such as to result in the delivery at Lee ferry of a quantity of water which bears the same relation to the total required curtailment of use by the states of the upper division as the consumptive use of the upper Colorado river system water which was made by each such state during the water year immediately preceding the year in which the curtailment becomes necessary bears to the total consumptive use of such water in the states of the upper division during the same water year; provided, that in determining such relation the uses of water under rights perfected prior to November 24, 1922, shall be excluded."

Other Important Provisions:

Article V contains provisions on apportioning reservoir losses.

Article VI: "The commission shall determine the quantity of the consumptive use of water, which use is apportioned by article III hereof, for the upper basin and for each state of the upper basin by the inflow-outflow method in terms of man-made depletions of the virgin flow at Lee ferry, unless the commission, by unanimous action, shall adopt a different method of determination.

Article VII provides that, "The consumptive use of water by the United States of America or any of its agencies, instrumentalities or wards shall be charged as a use by the state in which the use is made. . . ."

Articles X through XIV specifically address the La Plata, the Little Snake, the Henry's Fork, the Yampa, and the San Juan, all interstate tributaries.

Article XVI provides that "The failure of any state to use the water, or any part thereof, the use of which is apportioned to it under the terms of this compact, shall not constitute a relinquishment of the right to such use to the lower basin or to any other state, nor shall it constitute a forfeiture or abandonment of the right to such use."

III. Lower Basin Apportionment

- Resolved in *Arizona v. California*, 373 U.S. 546 (1963); decree entered in *Arizona v. California*, 376 U.S. 340 (1964).
- Divides "all the water in the mainstream below Lee Ferry."
- Apportionments of 4.4 MAF to California, 2.8 MAF to Arizona, and .3 MAF to Nevada.
- Surpluses and shortages to be decided by Secretary of the Interior. Surplus divided 50% to California, 46% to Arizona, and 4% to Nevada. Division of shortages up to Secretary.
- Defines "consumptive use" as "means diversions from the stream less such return flow thereto as is available for consumptive use in the United States or in satisfaction of the Mexican Treaty obligation."
- Defines "present perfected rights" as a water right, existing as of June 25, 1929, "acquired in accordance with state law, which right has been exercised by the actual diversion of a specific quantity of water that has been applied to a defined area of land or to definite municipal or industrial works, and in addition shall include water rights created by the reservation of mainstream water for the use of federal establishments under federal law whether or not the water has been applied to beneficial use."
- Leaves each state the use of its own tributaries, with the exception of apportionment of upper Gila between New Mexico and Arizona.
- The Supreme Court based its decision on sections 4 and 5 of the **Boulder Canyon Project Act**. The **BCPA** also makes clear that it is subject to, consistent with, or subsidiary to the Colorado River Compact. The *Arizona v. California* court decree also provides that it does not "affect any issue of interpretation of the Colorado River Compact."

IV. **1945 Treaty with Mexico on Water Utilization**. Allots Mexico a "guaranteed annual quantity" of 1.5 MAF. In a surplus, may be increased to 1.7 MAF; in an extraordinary drought, may be reduced in the same proportion as uses within the U.S. are reduced. Does not address how treaty burden is borne within U.S.

V. **1968 Colorado River Basin Project Act** and **Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs**. Primarily, the CRBPA authorized the Central Arizona Project. The Upper Basin extracted protection for Lake Powell in section 602(a). Congress directed the Secretary of the Interior to promulgate operating criteria for Colorado River reservoirs, and directed that "the criteria shall make provision for the storage of water in storage units of the Colorado River storage project and releases of water from Lake Powell in the following listed order of priority:

"(1) releases to supply one-half the deficiency described in article III(c) of the Colorado River Compact, if any such deficiency exists and is chargeable to the States of the Upper Division . . . ;

(2) releases to comply with article III(d) of the Colorado River Compact, less such quantities of water delivered into the Colorado River below Lee Ferry to the credit of the States of the Upper Division from other sources; and

(3) storage of water not required for the releases specified in clauses (1) and (2) of this

subsection to the extent that the Secretary, after consultation with the Upper Colorado River Commission and representatives of the three Lower Division States and taking into consideration all relevant factors (including, but not limited to, historic stream-flows, the most critical period of record, and probabilities of water supply), shall find this to be reasonably necessary to assure deliveries under clauses (1) and (2) without impairment of annual consumptive uses in the upper basin pursuant to the Colorado River Compact: *Provided*, That water not so required to be stored shall be released from Lake Powell: (i) to the extent it can be reasonably applied in the States of the Lower Division to the uses specified in article III(e) of the Colorado River Compact, but no such releases shall be made when the active storage in Lake Powell is less than the active storage in Lake Mead, (ii) to maintain, as nearly as practicable, active storage in Lake Mead equal to the active storage in Lake Powell, and (iii) to avoid anticipated spills from Lake Powell."

The Secretary promulgated the required operating criteria in 1970, which set a "minimum objective release" of 8.23 MAF per year from Lake Powell.

VI. Hydrology

- A. Supply.** The Colorado River Compact was negotiated after several decades of abnormally high flows on the River such that it likely overestimated the long-term supply of the Colorado River Basin. This wasn't immediately apparent until the low flow years of the 1930s and 1950s. [See chart] Current average virgin flow at Lee Ferry is around 14.8 MAF. The past five years have been ones of extraordinary drought. The 2000 inflow to Lake Powell was 61% of average; 2001 was 59%. The 2002 inflow was 25% of average, the lowest ever recorded since Lake Powell began filling in 1963. 2003 and 2004 inflow were both at 51% of average. Snowpack in the basin above Lake Powell is currently very slightly above average. High precipitation in the Lower Basin has resulted Lake Mead rising to 16.22 MAF (62.7 percent of capacity), while storage in Lake Powell has dropped to 8.06 MAF (33.2 percent of capacity). These figures are as of March 28, 2005.
- B. Deliveries.** Nevertheless, because of the high flow years of the mid-1990's, and the Operating Criteria, for the nine-year period from 1996-2004, deliveries past Lee Ferry total over 93 MAF.
- C. Consumptive Uses.** Total uses by the Upper Basin have topped out at around 4.2 MAF, and decreased during the drought. Colorado's total uses are around 2.8 MAF. Total uses in the Lower Basin, including reservoir evaporation and tributary uses, are 10-11 MAF.

VII. REFERENCES

A. Components of the Law of the River

Colorado River Compact (§ 37-61-101, C.R.S.)
Boulder Canyon Project Act, 43 U.S.C. § 617 et seq., 45 Stat. 1057
Arizona v. California, 283 U.S. 423, 51 S.Ct. 522, 75 L.Ed. 1154 (1931)[Constitutionality of BCPA]
Arizona v. California, 292 U.S. 341, 54 S.Ct. 735, 78 L.Ed. 1298 (1934)[seeking to perpetuate testimony re Compact and the meaning of Article III(b)]
United States v. Arizona, 295 U.S. 174 (1935)[Parker Dam construction]
Arizona v. California, 298 U.S. 558, 56 S.Ct. 848, 80 L.Ed. 1331 (1936)[seeking apportionment of Lower Colorado]
1945 Treaty with Mexico on Water Utilization, 59 Stat. 1219
Upper Colorado River Basin Compact (§ 37-62-101, C.R.S.)
Colorado River Storage Project Act, 43 U.S.C. § 620, 70 Stat. 105
Colorado River Basin Project Act, P.L. 90-537, 43 U.S.C. § 1501 et seq., 82 Stat. 886
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), 35 Fed. Reg. 8951 (June 10, 1970)
Minute No. 242, Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River, (Aug. 30, 1973); 88 Stat. 266 (1974).
Colorado River Basin Salinity Control Act, P.L. 93-320, 43 U.S.C. § 1517 et seq., 88 Stat. 266
Arizona v. California, 439 U.S. 419 (1979) [supplemental decree]
Arizona v. California, 460 U.S. 605 (1983) [attempt to amend decree]
Arizona v. California, 466 U.S. 144 (1984) [supplemental decree]
Colorado River Basin Salinity Control Act Amendment, P.L. 98-569 (Oct. 30, 1984)
1992 Grand Canyon Protection Act, 106 Stat. 4669

B. Interpretive Materials

Bannister, The Question of Federal Disposition of State Waters in the Priority States, 28 Harv. L. Rev. 270 (1914).
Carlson & Boles, Contrary Views of the Law of the Colorado River: An Examination of Rivalries Between the Upper and Lower Basins, 32 Rocky Mtn. Min. L. Inst. § 21 (1987).
Carpenter, Application of Reserve Treaty Powers of the States to Interstate Water Controversies, Colo. B. A. Rep. 45 (1921).
Frankfurter and Landis, The Compact Clause of the Constitution -- A Study in Interstate Adjustments, 34 Yale L.J. 685 (1925).
Norris Hundley, Jr., Water and the West: The Colorado River Compact and the Politics of Water in the American West (Berkeley, 1975).
Norris Hundley, Jr., Dividing the Waters: A Century of Controversy Between the United States and Mexico, 61 (Berkeley, 1966).
Hundley, Clio Nods: Arizona v. California and the Boulder Canyon Project Act -- A Reassessment, 3 West. Hist. Q. 17 (1972).

Charles J. Meyers, The Colorado River, 19 Stanford Law Review 1, 48 (1966).
Nathanson, Updating the Hoover Dam Documents, Government Printing Office (1978).
Wilbur and Ely, The Hoover Dam Documents, House Doc. No. 717, 80th Cong., 2d. Sess., 1948.

Colorado River Flow at Lee Ferry, Arizona

