

G. Water Supply

1. Physical Water Availability

a. Effects of Climate Change on Water Availability Are Adequately Addressed in the License Application.

Several commenters claim that the data and analysis provided by UBWR do not adequately account for the impacts of climate change on availability of Colorado River water for the Project.¹⁵⁰ American Rivers asks UBWR to predict and then address how voluntary or regulatory restrictions on diversions in the future under the 1922 Compact and the Upper Basin and Lower Basin Drought Contingency Plans (“DCP”)¹⁵¹ being developed by the seven Colorado River Basin states might affect Project feasibility over the long term and Project diversions at various lake levels might affect other local and regional water supplies.¹⁵²

The Coalition states that the most recent data sets and modeling in the application are from 2012 and that the models should be updated to include more recent years.¹⁵³ It further states that the climate change studies in the application do not relate climate change to water availability for the Project¹⁵⁴ and should be changed to include a range of drought contingency measures and take a system-wide approach which assumes all Upper Basin water rights will be developed.¹⁵⁵ Living Rivers recommends that the EIS

¹⁵⁰ American Rivers Comments at 20-24; Coalition Comments at 36-39. *See generally* Living Rivers Comments. Living Rivers Comments was also signed by the Colorado Riverkeeper, Center for Biological Diversity, Waterkeeper Alliance, Save the Colorado, Las Vegas Water Defender, Green River Action Network, and Upper Green River Network.

¹⁵¹ *See* Section IV.G.1.b., *infra*.

¹⁵² American Rivers Comments at 23.

¹⁵³ Coalition Comments at 36-38.

¹⁵⁴ *Id.* at 37.

¹⁵⁵ *Id.* at 39.

include an in-depth look at tributary flows on the Green River to determine how they may be impacted by climate change and over-appropriation, with modeling based on current and predicted future conditions.¹⁵⁶

These requests, which call for the examination of “what if” scenarios, depend on many assumptions, including: the impacts of climate variability on the amount and timing of Colorado River flows; the timing and extent of additional future water development within the basin; the impacts of the as yet incomplete DCPs on development; the impact of any other risk mitigation measures adopted by the basin states and individual water users; and the 1922 Compact related decisions of the Upper Colorado River Commission and the upper basin states relative to the apportionment and allocation of any shortage repayment obligations.

Each of these variables will continue to be examined by BOR, the states, and local water providers as they carry out their responsibilities, taking into account the Law of the River and state water allocation and administration principles. Moreover, it is beyond the purview of the permitting agencies to attempt to resolve such issues in the context of a NEPA process for a single basin project, especially where the record shows that the Project will use water allocated to Utah under the 1922 Compact.¹⁵⁷

As discussed above,¹⁵⁸ there have been no significant changes to the current and anticipated future local water supplies in southwest Utah since the submission of Study Report 19 (Climate Change Report and Water Needs Assessment). The Virgin River

¹⁵⁶ Living Rivers Comments at 7.

¹⁵⁷ Using NEPA or the FPA to limit UBWR’s use of its water rights under the 1922 Compact, in the absence of a ruling or other determination under the Law of the River, would be outside the scope of NEPA’s review of environmental impacts.

¹⁵⁸ See Section IV.F., *supra*.

Basin remains the sole source of water supply for southwest Utah’s rapidly growing population. Sole source dependence carries with it significant risk to the population of the area. Climate change impacts are likely to elevate the risks associated with such sole source reliance. These risks are substantially mitigated by the development of a second source of water supply. Accordingly, the development of a portion of Utah’s Colorado River allocation as a second source of supply for southwest Utah remains essential. The benefit of a second source of supply for the population of southwest Utah far outweighs the potential limitation of the Colorado River as a source of supply.

BOR’s benchmark 2012 Colorado River Basin Study (“Basin Study”)¹⁵⁹ and associated climate model projections indicate a potential decrease in mean natural flow of the Colorado River of approximately 9% over the next 50 years. Research¹⁶⁰ published subsequent to the Basin Study suggests that continued warming in the Colorado River Basin could cause Colorado River flows to decrease by 35% or more by century-end. Future decreases in Colorado River flows could reduce Utah’s yield under its 1922 Compact allocation.

However, modeling conducted by BOR¹⁶¹ in August 2018, taking into account future water uses in the Upper Basin including the LPP, indicates a near 0% chance of a declared 1922 Compact shortage for the Upper Basin through the year 2050 presuming hydrology remains similar to what the Basin has experienced over the last 100 years. If, however, the future hydrology of the Basin more closely resembles that of the last 30

¹⁵⁹ BOR, Colorado River Basin Water Supply and Demand Study (Dec. 2012), <https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/index.html>.

¹⁶⁰ Bradley Udall & Jonathan Overpeck. 2017. The twenty-first century Colorado River hot drought and implications for the future. *Water Resources Research*, 53.

¹⁶¹ BOR, Colorado River System 5-Year Projected Future Conditions, <https://www.usbr.gov/lc/region/g4000/riverops/crss-5year-projections.html> (last visited Jan. 17, 2019).

years, including the recent period of historic drought, which is similar to drier, hotter climate change predictions, the risk of a declared 1922 Compact shortage rises to approximately 13% through the year 2050.

All Colorado River water users, including the State of Utah, understand the level of uncertainty associated with the use of Colorado River water. But the greater risk to southwest Utah lies in continuing to rely solely upon the Virgin River Basin, which faces the same or greater level of uncertainty as a source of water supply. To mitigate the risks and uncertainties associated with these water supplies, the State of Utah is actively participating in regional water supply strategies including the development of drought contingency plans. Local project beneficiaries are also pursuing water supply augmentation strategies such as aquifer storage and recovery, enhanced groundwater pumping, and other measures to offset potential, temporary shortages in the LPP supply.

Should there not be enough water in the system to meet all allocated uses, the 1922 Compact and Upper Colorado River Compact of 1948 (“Upper Basin Compact”)¹⁶² together establish a formula for sharing any shortages among the individual Upper Basin states. Commenters apparently fail to either understand or acknowledge that the administration of the 1922 Compact is not based on prior appropriation principles. Regardless of when LPP becomes operational, it is entitled to divert on an equal basis with all prior completed projects within the Upper Colorado River Basin so long as water is available under Utah’s 1922 Compact allocation and Utah state administrative principles.

¹⁶² BOR, Upper Colorado River Basin Compact (1948), *available at* <https://www.usbr.gov/lc/region/g1000/pdfiles/ucbsnact.pdf> (“Upper Basin Compact”).

In addition, the Upper Division States cannot “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.”¹⁶³ In the history of the administration of the system there has never been a time when the 10-year rolling average was not met. The Upper Basin Compact indicates that if such a situation were to occur, the Upper Division States would have to curtail their depletions to correct the problem. It goes on to say that the Upper Colorado River Commission will decide when and how much curtailment each Upper Division State will be required to take.¹⁶⁴ Because the likelihood of a 1922 Compact shortage is low, the timing and amount of any hypothetical shortages are unknowable, and the responses of DOI, the seven basin states, and the courts to any shortage declaration are unknown, American Rivers’ request for an evaluation in the EIS of how they might affect the feasibility of the Project in the near and long term is unwarranted and speculative.

b. Effect of the Upper Basin DCP on Water Availability

In 2007, BOR adopted Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead.¹⁶⁵ Because of extended drought conditions in the basin, the seven Colorado River Basin states are developing Upper Basin and Lower Basin DCPs to reduce the likelihood of Colorado River reservoirs,

¹⁶³ 1922 Compact at Art. III(d). See note 169, *infra*, explaining the difference between Upper Basin and Upper Division.

¹⁶⁴ Upper Basin Compact at Art. IV.

¹⁶⁵ See BOR, Lower Colorado Region, Programs and Activities, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, <https://www.usbr.gov/lc/region/programs/strategies.html> (last visited Jan. 16, 2019).

particularly Lake Powell and Lake Mead, further declining to critical levels. Draft DCPs were issued in October 2018.¹⁶⁶

Several commenters assert that the license application does not adequately address the DCPs.¹⁶⁷ American Rivers states that the Upper Basin DCP may affect operation of the Project during years of water shortage and the license application should be supplemented to describe its effects on the Project.¹⁶⁸ Living Rivers similarly states that the DCPs should be the subject of a programmatic EIS which should be completed before an EIS is prepared for the proposed Project, because a complete understanding of the Upper Basin DCP is needed in order to model likely future scenarios for operation of Flaming Gorge Reservoir and Lake Powell.¹⁶⁹

Such a delay is unwarranted. Although much progress has been made on the DCPs, they have not been executed. BOR has stated that if the Lower Division¹⁷⁰ DCPs are not completed by the end of January 2019, BOR will initiate its own process for the

¹⁶⁶ See BOR, Colorado River Basin Drought Contingency Plans, <https://www.usbr.gov/dcp/> (last visited Jan. 16, 2019); BOR, Agreement Concerning Colorado River Drought Contingency Management and Operations (Oct. 5, 2018), available at https://www.usbr.gov/dcp/docs/DCP_Agreements_Final_Review_Draft.pdf (“Draft Operations Agreement”) (Upper and Lower Basins DCPs).

¹⁶⁷ American Rivers Comments at 28-29; Coalition Comments at 34-36, 44; Living Rivers Comments at 7, 12-13; URC Comments at 12-14.

¹⁶⁸ American Rivers Comments at 28-29.

¹⁶⁹ Living Rivers Comments at 12-13.

¹⁷⁰ The term Upper or Lower Basin refers to those states or parts thereof that naturally drain into the system above (Upper) or below (Lower) Lee Ferry. The Division refers to specific states (states of the Upper Division and states of the Lower Division), i.e., entire states and not any parts thereof. Under the 1922 Compact, the Upper Basin and the Lower Basin are each apportioned 7.5 million AF a year, and the states of the Upper Division have the 75 million AF over 10 year obligation not to deplete the flow at Lee Ferry. 1922 Compact at Art. III(d). Under the 1948 Upper Basin Compact, a portion of the water apportioned in total to the Upper Basin under the 1922 Compact (7.5 million AF per year) is allocated to each Upper Division state (Utah gets 23%). Upper Basin Compact at Art. III(a)(2).

development of Lower Division drought contingency plans.¹⁷¹ There is no certainty surrounding how long BOR would take to establish its own plan, a plan which would then potentially face legal challenges. Further, the current draft of the Upper Basin Demand Management Storage Agreement acknowledges that Congressional approval is necessary to authorize the use of available storage capacity in Colorado River Storage Project reservoirs for such demand management purposes. No such legislation has been introduced, let alone passed.

Also, as discussed above, the existing record is replete with information regarding the availability of water for the Project under a wide range of scenarios. Waiting, possibly several years, merely in order to have a more finely tuned set of drought operation scenarios for Flaming Gorge Reservoir and Lake Powell under a regime as yet uncertain is not necessary for the federal agencies to move forward with the EIS.

The Coalition states that the DCPs are regional plans involving state, tribal, and local laws and that the CEQ's regulations require a NEPA document to examine possible conflicts between the proposed action and the objectives of such plans.¹⁷² There is no conflict between the Project proposal and DCPs. In fact, the draft Drought Response Operations Agreement,¹⁷³ one of the interconnected DCP implementing agreements, expressly provides that drought response operations at Colorado River Storage Project¹⁷⁴ facilities must be consistent with "project-specific criteria for each CSRPA Initial Unit,

¹⁷¹ See, e.g., L. William Staudenmaier, "Colorado River Basin States Inch Closer to Agreements on Drought Contingency Plan as Bureau of Reclamation Sets Deadline" (Dec. 18, 2018), <http://www.swlaw.com/blog/environmental-and-natural-resources/2018/12/18/colorado-river-basin-states-inch-closer-to-agreements-on-drought-contingency-plan-as-bureau-of-reclamation-sets-deadline/>.

¹⁷² Coalition Comments at 35-36 (citing 40 C.F.R. § 1502.16(c)).

¹⁷³ See Draft Operations Agreement, *supra* note 166.

¹⁷⁴ See Bureau of Reclamation, Upper Colorado Region, Colorado River Storage Project, <https://www.usbr.gov/uc/rm/crsp/index.html> (last visited Jan. 15, 2019).

including relevant Records of Decision” and “existing and future contracts related to water and/or hydropower.”¹⁷⁵ Further, all of the related DCP agreements identify as a goal the reduction of risk associated with a 1922 Compact shortage, while allowing each basin state to develop and use its apportionment. These provisions support the completion of the Project. If the DCPs are finalized and implemented, Utah will be a signatory to the Upper Division DCP and the Project will be operated in a manner consistent with that DCP.

c. The Impact of Potential Future Curtailment of Water to the Lower Basin Is Too Speculative to Consider in this Proceeding.

Pinal County, Arizona¹⁷⁶ states that diversion of water from the Colorado River for the Project could contribute to potential future drought related curtailments of Colorado River water to the Central Arizona Project, which would result in curtailment of deliveries to Arizona farmers. URC similarly suggests that the Project withdrawals will exacerbate Lower Basin shortage declarations and threaten hydropower generation at Lake Powell.¹⁷⁷

These assertions conflict with applicable law. UBWR is entitled to develop a portion of Utah’s Colorado River entitlement in a manner consistent with the Law of the River. Utah’s right to develop the LPP water is equal to, not inferior to, the rights of all other 1922 Compact signatories.

Moreover, in the absence of any evidentiary support, these assertions are mere speculation. Further, it is incorrect to suggest that any potential future shortage of water

¹⁷⁵ Draft Operations Agreement at 4 (Section II.A.3.b.).

¹⁷⁶ Motion to Intervene of Pinal County, Project Nos. 12966-004 and -005 (filed Aug. 30, 2018).

¹⁷⁷ URC Comments at 12-13.

in the Lower Basin could be attributed to the Project's withdrawals. Any future shortages in the Lower Basin would be the result of a complex combination of factors, including the amount, timing, and location of precipitation; the cumulative result of all withdrawals from the River under the 1922 Compact and Upper River Compact, related statutes, regulations, and management plans; the amount and location of future population growth; and the success or failure of demand management measures.

2. Legal Water Availability

a. UBWR's Water Rights Are Not the Proper Subject of NEPA.

Living Rivers contends that the EIS should be placed on hold until there is proof Utah has water rights sufficient to effect the Exchange Contract.¹⁷⁸ For purposes of the Commission license, there is no reason to do that. State water rights are outside the Commission's licensing authority and as such must ultimately be resolved by the licensee and the state regulatory agency responsible for issuing a water appropriation permit.¹⁷⁹ Moreover, a license applicant need not demonstrate that it has all the necessary property rights to develop the project at the time of licensing.¹⁸⁰ The Commission license will include Standard Article 5, which requires the licensee, within five years of license issuance, to acquire all property rights necessary to construct, operate and maintain the hydroelectric facilities, including water rights.

Nor is there any reason to delay the EIS in connection with the DOI and USACE permit applications. The purpose of the EIS is to evaluate environmental impacts of the proposed Project and reasonable alternatives, which is driven by the purpose and need,

¹⁷⁸ Living Rivers Comments at 6, 7, 14-15.

¹⁷⁹ *Don W. Gilbert Hydro Power, LLC*, 147 FERC ¶ 62,106 at P 32 (2014).

¹⁸⁰ *See, e.g., Andrew Peklo III*, 149 FERC ¶ 61,037 at P 54 (2014).

not by whether the applicant currently has all the rights necessary to carry out its proposal, once permitted. UBWR will continue to pursue all actions necessary to develop its water rights necessary for the Project.

b. There Is No Reason to Conclude Senior Water Rights Will Materially Affect the Availability of Water for the Project.

Several entities suggest that senior water rights of Indian tribes and Utah Counties could call into question the availability of water for the Project or that the Project will prevent senior water rights holders from exercising their rights.¹⁸¹ Such assertions lack any factual foundation and ignore the basic tenets of the prior appropriation doctrine as followed in Utah.

As a matter of state law, diversions by the Project cannot impair senior water rights.¹⁸² In fact, one of the requirements that must be met before a water rights application is even approved by the State Engineer is a demonstration that the proposed use will not impair existing water rights.¹⁸³ UBWR will abide by all such requirements.

The State does not have a River Commissioner for the Green River, as there has been no need to impose water rights curtailments which would have prompted such regulation; but a commissioner could be appointed if the need arises. According to the Utah Division of Water Rights (State Engineer), a review of the specific water rights¹⁸⁴ identified by commenters, to the extent such rights are currently quantified, are compatible with the Project. This is the case even if these competing rights are perfected

¹⁸¹ American Rivers Comments at 12-14; Conserve Southwest Utah Comments at 4; Coalition Comments at 2, 20-24; Living Rivers Comments at 2, 6-7, 15, 20-21.

¹⁸² See Utah Code Ann. § 73-3-21.

¹⁸³ *Id.* § 73-3-8.

¹⁸⁴ Northern Ute, Navajo, Ouray, Central Utah, Uintah, and Duchesne Counties.

and placed to beneficial use. Thus the Project will be a reliable water supply for WCWCD.

c. Colorado River Compact Interpretations and Applications Are Outside the Purview of NEPA.

Some commenters have raised questions about the interpretation of the 1922 Compact as it applies to this project.¹⁸⁵ While UBWR and WCWCD believe and maintain that the Project is consistent with the terms of the 1922 Compact and the Law of the River, these Compact-related issues need not and should not be addressed in this proceeding. They will be resolved in the context of discussions and other appropriate actions undertaken by and between the State of Utah and the other basin states, along with the Secretary of the Interior insofar as it relates to his authority. These matters lie outside the purview of NEPA and the FERC licensing process.

d. A Permit to Export Water from Arizona Is Not Required.

American Rivers and others request that UBWR be required to address compliance with an Arizona statute which requires a permit to export water from the State. However, the statute is plainly inapplicable by its own terms. It provides, “[a] person shall not transport water from this state unless approved by the director [of the Arizona Department of Water Resources], *but this article does not apply to or prohibit transporting water from this state as required by interstate compact, federal law or international treaty.*”¹⁸⁶ Thus, this argument has no merit.

¹⁸⁵ American Rivers Comments at 19-20; Coalition Comments at 45; Living Rivers Comments at 7; Save the Colorado Comments at 12-13; Notice of Intervention, or, in the Alternative, Motion to Intervene, of the Colorado River Water Conservation District at 3-4, Project Nos. 12966-000 and -004 (filed Nov. 14, 2018).

¹⁸⁶ Ariz. Rev. Stat. Ann. § 45-292(A) (2018) (emphasis added).