

Comment #	Original BLM Comment	Original UDWR Response	UDWR March 31, 2017 Response	Additional BLM Comment	BLM Reviewer	UDWR Updated Response
BLM General 6	This paragraph cites studies/data that are now quite old. – for example, TDS from the Paria River collected from 1976 to 2002. I'm sure there is data that is much more recent – that should be included in this analysis to make it more accurate.	Comment was not included in the table of responses, so it was not addressed.	<p>Section 5.1.7, Chapter 5, Exhibit E of the License Application submitted on May 2, 2016 and which replaces the PLP, is revised to read: Lake Powell water quality at depths of 100 to 150 feet near the water intake site has pH ranging from 6.9 to 8.4 units, dissolved oxygen concentrations ranging from 1.7 to 11.0 mg/L, and total dissolved solids (TDS) concentrations ranging from 371 to 653 mg/L (USBR 2016).</p> <p>The second sentence in Section 5.1.7, Chapter 5, Exhibit E of the License Application is revised to read: The Paria River at the Highway 89 crossing has a mean TDS concentration of 1,218 mg/L (238 samples collected from 1976 to 2016) and maximum recorded TDS concentration of 3,876 mg/L during the same time period.</p> <p>The fifth sentence in Section 5.1.7, Chapter 5, Exhibit E of the License Application is revised to read: The Virgin River at the Highway 9 crossing near Hurricane, Utah has a mean TDS concentration of 1,542 mg/L and extremes ranging from 362 to 2,964 mg/L based on data collected from 1982 through 2002 (UDEQ 2016).</p>	Third paragraph - isn't there something more current than 2002?	Lorraine Christian	<p>Section 5.1.7, Chapter 5, Exhibit E of the License Application submitted on May 2, 2016 and which replaces the PLP, is revised to read: Lake Powell water quality at depths of 100 to 150 feet near the water intake site has pH ranging from 6.9 to 8.4 units, dissolved oxygen concentrations ranging from 1.7 to 11.0 mg/L, and total dissolved solids (TDS) concentrations ranging from 371 to 653 mg/L (USBR 2016).</p> <p>The second sentence in Section 5.1.7, Chapter 5, Exhibit E of the License Application is revised to read: The Paria River at the Highway 89 crossing has a mean TDS concentration of 1,218 mg/L (238 samples collected from 1976 to 2016) and maximum recorded TDS concentration of 3,876 mg/L during the same time period.</p> <p>The fifth sentence in Section 5.1.7, Chapter 5, Exhibit E of the License Application is revised to read: The Virgin River at the Highway 9 crossing near Hurricane, Utah has a mean TDS concentration of 1,517 mg/L and extremes ranging from 362 to 2,964 mg/L based on data collected from 1982 through 2013 (UDEQ 2016). TDS data were last collected, analyzed and reported by UDEQ at this site on September 16, 2013.</p>
BLM 658	2nd line references operation and maintenance of powerlines, but more impacts could occur from construction of these transmission lines – please add that to the analysis. 6th/7th lines: Need to identify the location(s) of these water discharges in order to have an accurate impacts analysis.	Refer to the responses to BLM Comments 467 and 468.	<p>Additional analysis is included about the minimal to no-effects of the construction of powerlines on water quality. The following sentences are added as a new last paragraph to section 5.3.4.2.2.3, Chapter 5, Exhibit E of the License Application: All construction of transmission lines would occur well away from streams or washes and BMPs would be used to contain any runoff should a rain event occur during construction. BMPs such as filter berms, silt fence or straw wattles would be implemented to eliminate any effects of the runoff on water quality.</p> <p>A general description of the location of discharges is provided. The third sentence of the first paragraph of Section 5.3.4.2.2.3, Chapter 5, Exhibit E of the License Application is revised to read: However, operation and maintenance of the proposed pipelines would include occasional water discharges at low points in the pipeline and/or penstock profile that would be determined during the design phase of the LPP that would have the potential to affect natural surface water features in the LPP area.</p>	Thanks for adding this additional analysis. I would suggest defining/quantifying what is meant by "well away from streams or washes" ... just how far are you talking about? Would this be 1/4 mile from perennial streams and 100 feet from dry washes, as we have added elsewhere?	Lorraine Christian	<p>Transmission line towers must be spaced within design lengths determined by the line voltage and sag requirements to meet safety standards. A 1/4-mile minimum distance from a perennial stream would not be feasible because the span between transmission towers on either side of a perennial stream would be 1/2-mile, which exceeds safety standards for transmission line sag design. The new paragraph added to Section 5.3.4.2.2.3, Chapter 5, Exhibit E of the License Application is moved to the last paragraph of Section 5.3.4.2.2.1, Chapter 5, Exhibit E and is revised to read: Transmission Line Construction (new heading) Transmission line tower construction would occur at least 100 feet from perennial streams and dry drainages, and span lengths would meet or exceed safety standards for transmission line sag design. BMPs such as filter berms, silt fence or straw wattles would be used to manage runoff from tower sites should a rain event occur during construction.</p>

Comment #	Original BLM Comment	Original UDWR Response	UDWR March 31, 2017 Response	Additional BLM Comment	BLM Reviewer	UDWR Updated Response
BLM 668	3rd/4th lines on page: The analysis of impacts should include an analysis with mitigations built in. Then impacts would be substantially less than stated here. (Or are none proposed?) Please explain how a facility would be proposed without mitigations to prevent violating surface water quality standards. Sounds like this is just trying to over-estimate impacts of this alternative. 5th/6th lines on page: Delete "and the organisms inhabiting the river" – remember that this is not the aquatic resources section).	The text has been revised to include additional mitigation for construction. Other effects, such as generation of RO brines, would result in approximately 2,000 acres of land that would be permanently repurposed for evaporation ponds; reduction in recharge to groundwater would reduce recharge to the Virgin River; no mitigation measures have been identified that could be applied to these effects. The suggested edit from the second paragraph from the above comment has been incorporated.	The effects of the No Lake Powell Water Alternative were discussed during the meeting between BLM and UDWR on March 17, 2017. Based on these discussions we understand that BLM's primary concern is that USGS documents cited in the analysis of changes to urban groundwater recharge appear to contradict the conclusions of the groundwater impact analysis in the environmental report. The impact analysis for the alternative is based on localized recharge of the shallow subsurface soils in the vicinity of the urban irrigation and describes the potential effects of changes to this groundwater resource from the alternative. UDWR agrees with BLM that these site-specific changes in groundwater conditions are not in total agreement with conditions described in the two USGS reports. We recognize these differences do exist and suggest the cited USGS documents describe groundwater conditions at a different scale than is described in the impact analysis for the alternative as the reason for the differences. In addition to the response below, please refer to the attached Narrative Response document for the response to this comment and BLM comment No. 694. The following sentence is added as the first sentence of section 5.3.4.2.5 No Lake Powell Water Alternative, Chapter 5, Exhibit E of the License Application: The effects of the No Lake Powell Water Alternative presented below are localized, anthropomorphic changes imposed in addition to other natural and man-made conditions described in other reports.	Thank you for the clarification. While I do understand that your analysis is "based on localized recharge" of groundwater, the analysis in Section 5.3.4.2.5 discusses the Virgin River stream (even in the St. George area) as a whole. I still question whether residential watering would "result in violation of applicable water quality standards for temperature and cause substantial degradation of surface water quality. This would be a significant effect on water quality in the Virgin River." The majority of recharge to the river is from upstream of St. George, so this analysis still seems inaccurate. Or we might possibly need to see the data/monitoring on which this conclusion is based. Maybe at this point we should just agree to disagree, and work with FERC on the water analysis for the EIS.	Lorraine Christian	Please see the response to BLM Comment No. 668 in the Updated Extended Narrative Response to BLM Comments.
BLM 678	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) - please add.	A new subsection with header "NO ACTION ALTERNATIVE" has been added (See Section 5.4.4.4.5). There will be no impact under the No Action Alternative.	An explanation is added regarding no cumulative effects. Section 5.3.4.4.5 - No Action Alternative, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no cumulative effects on surface water quality in Lake Powell and the Colorado River downstream from Glen Canyon Dam, in streams and ephemeral drainages crossed by the LPP action alternatives, and in Sand Hollow Reservoir. No federal action authorizing diversion of water from the Colorado River would occur with this alternative and thus existing conditions would continue to evolve subject to natural or other anthropogenic influences and factors. Please see the response to BLM Comment No. 667 for an explanation of the difference between the No Action and No Lake Powell Water alternatives.	Okay, except delete "to evolve" from this new text.	Lorraine Christian	Section 5.3.4.2.5, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no cumulative effects on surface water quality in Lake Powell and the Colorado River downstream from Glen Canyon Dam, in streams and ephemeral drainages crossed by the LPP action alternatives, and in Sand Hollow Reservoir. Federal action authorizing diversion of water from the Colorado River would not occur and existing conditions would continue subject to natural or other anthropogenic influences and factors.
BLM 680	NEW SUB-SECTION: There needs to be a sub-section on analysis of impacts from the No Action Alternative (which is currently missing) – please add.	The text has been revised to address the comment.	An explanation of why there would be no cumulative effects is added. Section 5.3.4.5.5 - No Action Alternative, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no short-term or long-term unavoidable adverse effects on surface water quality in Lake Powell and the Colorado River downstream from Glen Canyon Dam, in streams and ephemeral drainages crossed by the LPP action alternatives, and in Sand Hollow Reservoir. No federal action would occur with this alternative and thus existing conditions would continue to evolve subject to natural or other anthropogenic influences and factors.	Okay, except delete "to evolve" from this new text.	Lorraine Christian	Section 5.3.4.5.5, Chapter 5, Exhibit E of the License Application is revised to read: The No Action Alternative would have no short-term or long-term unavoidable adverse effects on surface water quality in Lake Powell and the Colorado River downstream from Glen Canyon Dam, in streams and ephemeral drainages crossed by the LPP action alternatives, and in Sand Hollow Reservoir. Federal action authorizing diversion of water from the Colorado River would not occur and existing conditions would continue subject to natural or other anthropogenic influences and factors.