

**Lake Powell Pipeline Project
Initial Study Report Meeting Summary**

**March 22, 2011
Lexington Hotel & Conference Center
Sabra Room
850 South Bluff Street
St. George, Utah**

The following persons were recorded on the Initial Study Report Meeting sign-in sheet:

Andrew Kramer	Dave Demas	Charlie Jackson	Terry Wenstrand	Ray Heard
Wm. Clark Hodges	Dean Terry	Jeff Allen	Duke Breitenbach	Develon Isom
Jack Tillinghast	Mike Small	Judy Zumwalt	Jim Craig	Mark Foley
Joan D' Aovst	Joyce Spinelli	Glen Zumwalt	Steve Shupp	Barbara Hjelle
Robert Lame	Ed Baumgarten	Paul Schlafly	Tom Peters	Paul Van Dam
Dorothy Engelman	Paula Morris	Jeff Edwards	Scott Hirschi	Lisa Rutherford
Douglas Alder	Robert Jackson	Anita Lowe	Matt Betenson	David Knudsen
Elaine Alder	Creed Evans	Joe David	Vivienne Jake	Dave Kiel
David DeMille	Kim Mitchell	Brittani Wero	Glendora Homer	John Herron
Scott Duffin	Bob Amoroso	Lorraine Christian	John Donnell	Ben Everitt
LeAnn Skrzynski	Mike Mickelson	Bob Nickerson	Rick Gold	Jim Lemmon
Bob Douglas	Jim Morley	Sarah Burger	Daniel Bullets	Sidney Creer
Patricia Weslowski	Richard Spotts	Paul DeStefano	Joe Incardine	Corey Cram
Terry Hickman	Myron Lee	Mike Empey	Dale Larkin	Grey Larkin
Steve Lamson	Brent Price	Melanie Florence	Pamela Hilton	Craig Harmon
Julie Breckenridge	Mark Rebholz	Garth Blanch	Ellen Schunk	Harry Hill
Donald Rawlings	Roger Pearson	Eric Millis	Harold Sersland	Ron Thompson

Opening Remarks

The St. George Initial Study Report meeting started at 8:30 a.m. Jim Fargo (FERC) and Brian Liming (MWH) provided an overview of the Initial Study Report Meeting, including the following points:

- Meeting is a briefing on the approved Study Plans and Draft Study Reports
- Summary of any changes in the Study Plan methodology and why
- Important data collected and analyzed for each study
- Summary of key results
- Update on remaining tasks and schedule
- 15 minute presentations on 22 draft study reports throughout the day; 5 minutes for questions on clarification of information presented for each draft study report
- Draft Ethnographic Resources Study Report in preparation, supporting reports being prepared by Indian tribes; draft study report expected in July 2011
- Cumulative effects analyses will be completed following identification of inter-related projects that could cause cumulative effects

- Utah Division of Water Resources will file a meeting summary 15 days following the Initial Study Report Meeting in St. George and Salt Lake City on March 23.
- Utah Division of Water Resources will file proposed modifications to four study plans with the Initial Study Report Meeting Summary
- Participants may file comments or disagreements on the study plans, proposed modifications, and draft study reports with FERC within 30 days of the Initial Study Report Meeting Summary filing (file comments or disagreements with FERC by May 6, 2011)
- Responses prepared by the applicant may be filed with FERC on the comments or disagreements on the study plans, proposed modifications and draft study reports within 30 days of the date for filing comments or disagreements (file responses with FERC by June 6, 2011)
- FERC Office of Energy Programs Director will issue a letter resolving any disagreements on study plans, proposed modifications and draft study reports within 30 days of the date for filing responses (FERC OEP Director will issue letter by July 6, 2011)

The Initial Study Report Meeting is an opportunity to provide comments on:

1. How does the Draft Study Report compare to the Study Plan?
2. Are any new studies or modified studies needed?

The schedule for the draft study report presentations follows:

1	Air Quality	8:40 to 9:00 a.m.
2	Aquatic Resources	9:00 to 9:20 a.m.
3	Archaeological and Historic-Era Resources	9:20 to 9:40 a.m.
4	Geology and Soil Resources	9:40 to 10:00 a.m.
5	Groundwater Resources	10:00 to 10:20 a.m.
6	Land Use Plans and Conflicts	10:20 to 10:40 a.m.
7	Noise	10:40 to 11:00 a.m.
8	Paleontological Resources	11:00 to 11:20 a.m.
9	Recreation Resources	11:20 to 11:40 a.m.
10	Socioeconomics and Water Resource Economics	11:40 to 12:00 noon
	Lunch Break	12:00 noon to 1:00 p.m.
11	Special Status Aquatic Resources and Habitats	1:00 to 1:20 p.m.
12	Special Status Plant Species and Noxious Weeds	1:20 to 1:40 p.m.
13	Special Status Wildlife Species	1:40 to 2:00 p.m.
14	Transportation	2:00 to 2:20 p.m.
15	Vegetation Communities	2:20 to 2:40 p.m.
16	Visual Resources	2:40 to 3:00 p.m.
17	Surface Water Quality	3:00 to 3:20 p.m.
18	Surface Water Resources	3:20 to 3:40 p.m.
19	Water Supply and Climate Change	3:40 to 4:00 p.m.
20	Wetlands and Riparian Resources	4:00 to 4:20 p.m.
21	Wildlife Resources	4:20 to 4:40 p.m.
22	Alternatives Development	4:40 to 5:00 p.m.

Following are the recorded questions and responses for clarification provided at the meeting:

Air Quality

1. Is the gas pipeline the preferred action or just an alternative? **Response:** The natural gas pipeline is an alternative. The draft air quality study report will be revised and updated.
2. How are green house gas emissions being addressed? **Response:** The gas pipeline alternative will include an evaluation of green house gases and how much CO₂ would be emitted.
3. Does the State of Utah have any non-attainment areas? Are these designations of the State? **Response:** There are no non-attainment areas within the Lake Powell Pipeline (LPP) study area. Non-attainment areas are designated by the State of Utah.
4. Need context of No Lake Powell Water Alternative. **Response:** The No Lake Powell Water Alternative will be presented later during the Initial Study Report Meeting.
5. Explain significant impacts of No Lake Powell Water Alternative? Won't Washington County inevitably run out of water even with LPP? **Response:** Converting traditional landscaped areas to desert xeriscapes would lead to more fugitive dust. The draft study report compares the LPP and alternatives, and they must meet the same need and within the same time horizon.
6. Is there an explanation of No Lake Powell Water Alternative? **Response:** The explanation will be provided in a study presentation scheduled for later today.
7. This study shouldn't be evaluating fugitive dust concerns, seems like another area of expertise is warranted. **Response:** All alternatives are being evaluated on a common basis and from the same baseline conditions.

Aquatic Resources

1. The No Lake Powell Water Alternative has a worse impact on Virgin River? LPP would have more impact according to National Park Service, from growth inducing impact of LPP and increased runoff. **Response:** Hydrologic modeling results demonstrate there is no measureable change from Base Case in terms of return flows to the Virgin River from the LPP alternatives.
2. What are the cost estimates if quagga mussels have to be removed? **Response:** There are no cost estimates now, quagga mussel control is identified only as a design contingency at this time. Quagga mussels will need to be continually monitored.
3. What population projections were used? **Response:** State of Utah Governor's Office of Planning and Budget (GOPB) population projections were used.

Archaeological and Historical-Era Resources

1. FERC will be cleaning up and resubmitting their original comments. **Response:** FERC comments received to date have been incorporated into the draft Class III report.
2. What is the plan for the private lands that are not accessible? **Response:** This is a typical situation on these types of projects. On linear projects, it is assumed that the missing data on private lands is similar to adjacent land. Eminent domain could be used to acquire access or the land once the pipeline alignment is finalized. Monitoring and evaluation for archaeological and historic-era resources along the entire alignment would be required during construction.

3. What is the status of the Section 106 consultation? **Response:** BLM is responsible for leading the Section 106 consultation for the Department of the Interior agencies. The full draft Class III report is in preparation now. Agencies are commenting on the preliminary draft Class III report and addendum right now. Tribes also are commenting on it. The Historic Properties Management Plan (HPMP) is now being drafted. It will be used in the NEPA process and finalized in the EIS prepared by FERC. Craig Harmon (BLM archaeologist) is in the process of performing Section 106 consultation for the LPP Project. BLM, Reclamation and National Park Service have agreed on area of project effect (APE), although this could change based on further consultation with stakeholders (+30 tribes). Unofficial notice has been sent to SHPO notifying them of the preliminary APE.

Geology and Soil Resources

1. Pipeline crossing through the Cockscomb is a concern. Explain the technical aspects of the crossing, will the pipeline be tunneled? How will impacts be mitigated? **Response:** The LPP would be constructed within the existing right-of-way through the Cockscomb geological feature. The construction may involve 10 to 15 feet cut back on the existing cut slope at the west end of the Cockscomb cut. The pipeline would be diagonally bored under U.S. Highway 89 to go from north side of highway to south side of highway through the Cockscomb area.
2. What is the latest thinking on the pump station in the Cockscomb? **Response:** Two alternatives have been analyzed: BPS-3 and BPS-3 ALT (at east side of Cockscomb). BPS-3 ALT would eliminate the possibility of a hydropower station near this location. Currently, the preferred location would be BPS-3 ALT to avoid impacts at the Cockscomb.
3. Would both alternatives be on BLM-administered land? **Response:** Both alternatives would be on BLM-administered land, but BPS-3 ALT would be outside the Grand Staircase-Escalante National Monument (GSENM) on public land administered by the BLM Kanab Field Office.
4. Was there any subsurface exploration performed? **Response:** No, it was not needed at this time, except at the water intake site and the Hurricane Cliffs forebay and afterbay. Subsurface investigations would be performed as part of design to prepare for construction.
5. Have any quantity estimates been performed of pipeline excavations and tunneling. **Response:** Yes, this was performed as part of technical studies.
6. Is there a fault in Hurricane Cliffs? Is this significant? **Response:** Yes, there is a fault along the Hurricane Cliffs. No, it has a very low probability of movement, could be designed to avoid an impact on the pipeline, and would not be significant.
7. Best management practices must be implemented and not just a safe fallback for discussion. **Response:** Best management practices (BMPs) and standard construction procedures (SCPs) would be incorporated into the design for safety and to avoid or minimize impacts.

Groundwater Resources

1. FERC staff is concerned with water crossings of the natural gas pipeline. There are differences between hydro and gas pipeline crossings. BLM staff also will be looking into

this. **Response:** Groundwater encountered during natural gas pipeline crossings of streams will be analyzed and evaluated. Shallow groundwater could be encountered at the Paria River, which goes dry at certain times of the year. Shallow groundwater may be encountered at the Kanab Creek crossing, which is dry much of the year.

2. Was Kane County recharge evaluated? **Response:** The only area that had high groundwater in Kane County was at Kanab Creek. Kane County only has access to 4,000 acre-feet of depletion from the Colorado River Basin, wouldn't be full 10,000 acre-feet. A small amount of groundwater recharge could occur in Kane County, depending on where the water is used.
3. Best Management Practices have been mentioned in this study and previous study. Who ensures that BMPs are implemented? Who enforces them? **Response:** BMPs are expected to be conditions on licenses, right-of-way permits, water contracts, etc. granted by the government agencies. They would include monitoring and reporting requirements to the granting agencies.

Land Use Plans and Conflicts

1. Visual resources should be considered. **Response:** This is covered in the Visual Resources Draft Study Report.
2. Farmland is pasture land, grazing land is desert landscape. You covered land managed by BLM and state agencies, how about private land for grazing? How do you mitigate construction disturbance, since fire impacts take 10 years to return to original conditions? **Response:** Aerial photographs and soils maps were evaluated to determine potential impacts on private land. Construction impacts would be temporary based on the project life cycle, but landowners would likely have to be compensated for lost grazing opportunities.
3. How does the growth impact analysis take into consideration the slowdown of growth in the area? **Response:** The analysis is focused on worst case scenarios based on State projections. Slower growth rates are accounted for in the projections the same as faster growth rates. The growth analysis scenarios identify the carrying capacity of the land for housing units to house the projected population.
4. The population estimates are amusing, why did we not use others? **Response:** This is a State of Utah project. Other population estimates were evaluated; however, State of Utah projects must be based on GOPB population projections.
5. The study shows greater impacts from the No Lake Powell Water Alternative as opposed to the LPP. Explain this. **Response:** The No Lake Powell Water Alternative includes indirect impacts from xeriscaping, which has the potential to affect large areas of existing and future developed land.
6. Have we compared the costs of the No Lake Powell Water Alternative to the cost of the LPP Project (\$1.6 billion) born by taxpayers? **Response:** This is covered in the Socioeconomics and Water Resource Economics Study.

Noise

1. FERC staff requested that specific BMPs be defined in each report. **Response:** Specific BMPs will be defined in each study report.
2. Highlight difference in noise of pumps station powered by electricity and natural gas generators. Gas-powered pump stations tend to be higher. **Response:** Gas generators

would be enclosed in buildings with acoustic baffling, but noise attenuation would be evaluated.

3. BLM would look at noise mitigation measures, if BMPs are not adequate.
4. Will there be mitigation monitoring and additional mitigation as needed? **Response:** Monitoring would be conducted during project operations to determine if additional mitigation is required.
5. Explain the finding of no unavoidable significant impact from the No Lake Powell Water Alternative. **Response:** There would be no unavoidable significant impacts from noise. There may be minor unavoidable impacts, such as temporary construction noise.

Paleontological Resources

1. It was noted that objects found during construction would be given to museums, etc. Who would be on site to make sure this happens and that paleontological features are not destroyed? **Response:** The locations with the highest potential to hold paleontological resources are known based on rock type, age and formation. Paleontologists would be monitoring construction at these sites to monitor and stop construction if necessary. Training would be provided to construction crews so that they can notify paleontologists if something of interest is found. This is a typical practice.

Recreation Resources

1. Have we looked at Moab tailings and their affect on Sand Hollow Reservoir via the LPP Project? **Response:** The potential radioactive impacts of Moab tailings on Lake Powell at the water intake site have not been specifically analyzed. Radioactive material in Lake Powell seems to be concentrated about 1 mile from the point of zero velocity in the reservoir. The potential effects of radioactive material in Lake Powell from the Moab tailings will be evaluated.
2. Some material may be water soluble, such as Radon. You may want to look into that.
3. No Lake Powell Water Alternative incorporates reverse osmosis with brine ponds, can you elaborate on that? **Response:** The No Lake Powell Water Alternative includes reverse osmosis treatment of Virgin River water and residential outdoor watering demand reduction, resulting in converting traditional residential landscapes to desert xeriscaping.
4. It appears the Washington County Water Conservancy District included desalinization and restricting residential outdoor watering to make the No Lake Powell Water Alternative look bad.

Socioeconomics and Water Resource Economics

1. Was there any cost of financing included in the LPP costs? **Response:** Financing costs are not included in this draft study report; the financing is a separate analysis from the socioeconomics impact analyses.
2. Escalation factor – Have there been any adjustments to the escalation factor based on the crisis in Japan and China’s demand? Both will have a dramatic impact on cost of materials. **Response:** The analysis considers long term (since the 1930’s) escalation rates. This analysis used a 2.5 percent escalation rate; however, the short term real time rate may be significantly higher. The benefit/cost ratio would likely increase because costs are incurred immediately, while benefits accrue over time and would be affected by the higher escalation rates.

3. The world has peaked in fuel production; fuel prices will increase considerably and should be factored into the analysis.
4. Could the LPP Project be constructed by private enterprise at a profit? **Response:** This is happening on other similar projects; however, the LPP Project is dependent on the State of Utah's water rights in the Upper Colorado River Basin.
5. Need to coordinate project alternative names and terms throughout all of the reports for consistency. Cost estimates and backup analysis should be made available to FERC.
6. Have any reviews been performed on the State of Utah's population estimates? **Response:** Yes, the state's population forecast was reviewed and compared with U.S. Census Bureau, Vision Dixie, and other population forecasts. The socioeconomic analyses were coordinated with the Utah GOPB and considered in-migration rates, growth of existing population and other factors.
7. Have there been any comparisons between what you have projected in the past and what has actually happened? **Response:** USBR projects were reviewed to compare cost estimates with actual costs. Private engineering estimates tend to be lower than USBR project estimates. USBR projects often are engineered with higher safety factors. The MWH cost opinion included a contingency factor (15 percent).
8. Photovoltaic power would reduce overall cost of water pumping, compared to diesel and natural gas.

Special Status Aquatic Resources and Habitats

No questions or comments.

Special Status Plant Species and Noxious Weeds

No questions or comments.

Special Status Wildlife Species

1. Is the Mexican Spotted Owl a migratory species? Can impacts during construction be mitigated? **Response:** Yes, they are migratory. It is recommended to not construct in their potential habitat during the breeding season. They are a nocturnal animal, so they likely wouldn't be impacted by day time activities, but this is a precaution.
2. Does the report conclude that impacts on the Mexican Spotted Owl can be easily mitigated? **Response:** Yes.

Transportation

1. How can the South and Southeast Alternatives be considered environmentally preferred? It would seem that using the Existing Highway Alternative would be environmentally preferred because it would utilize a previously disturbed area and there would be no additional disturbance. **Response:** The reference to an environmentally preferred alternative will be modified for clarification.
2. Insignificant impacts were eliminated in this study and others. Shouldn't the EIS look at all the impacts? Will they be included in the EIS? **Response:** Yes, all potential impacts will be included in the EIS. No further detailed analysis was performed on those components that were determined to have no significant impacts.
3. The LPP is too expensive and is not necessary. The Virgin and Sevier Rivers have enough water that can be used with dams and pipelines.

4. How will you cross I-15 in Cedar Valley if the Federal Government won't allow you to bore under highways and how will you keep traffic closures to a minimum of 15 minutes if it is open-cut? **Response:** Crossings of I-15 will only be allowed by boring under the freeway, which would not directly impact traffic.
5. How many times does the alignment cross I-15? **Response:** The pipeline crossing of I-15 is described and included in the draft study report.

Vegetation Communities

1. Can you replace cryptogamic soil? **Response:** No, but impacts from construction activities can be minimized. Mitigation efforts would need to reuse non-compacted gypsum soils from on-site in the restoration efforts. The key is to not compact it, but rather place it in loose form.
2. Have you determined which areas would be most impacted and how they will be restored? **Response:** This effort only identified the location of the sensitive resources. The impact analyses are now being documented.
3. Would the surface horizon soils be saved on site as a BMP? **Response:** Yes, this BMP would be implemented. This soil contains the appropriate seed bank.
4. Can you avoid rare plants and soils during trenching? **Response:** Sensitive areas are being identified to enable the engineers to determine whether those areas can be avoided.
5. Once you disturb the soil, invasive species will arrive.

Visual Resources

1. Why are the visual design simulations not done in the Hurricane Cliff area? **Response:** The preliminary engineering designs were not ready to include in the draft study report at this point.
2. What is the length and voltage of the Hurricane line? **Response:** One transmission line would be a 69 kV line about 5 miles long. The second larger transmission line would be a 345 kV line about 11 miles long.
3. Will landowners be compensated for visual impacts from the Hurricane line? **Response:** Compensation may be provided for a particular impact if it cannot be avoided or mitigated through the NEPA process.
4. There aren't many landowners in that area; one owner will bear half the burden and they will want to be compensated. The transmission lines will significantly reduce the value of the land, which is highly developable.
5. What mitigation measures would be used for pumping stations? **Response:** Under a Class 2 visual resource management designation, buildings would be designed to blend into the environment. Also, alternative facility locations can be considered.
6. What is the difference in pumping plant size and required facilities between natural gas powered and electric pump stations? **Response:** Electric pump stations would require overhead electrical transmission lines and a power substation would be needed at each pumping station. Gas powered pump stations would need a gas pipeline and gas generators. The gas generators would be included in a building of similar size as required for the electrical pump station.
7. What is the approximate length of the LPP? **Response:** About 140 miles.

Surface Water Quality

No questions or comments.

Surface Water Resources

1. The Wildlife study said the tortoise would be impacted even under the No Lake Powell Water Alternative. I haven't heard this anywhere else. Why? **Response:** Under the No Lake Powell Water Alternative, the Washington County Water Conservancy District (WCWCD) proposed Warner Valley Reservoir would be needed to store water. This would cause potential effects on the Mohave desert tortoise.
2. How does the USBR model take into account the 86,249 acre-feet withdrawal from Lake Powell? **Response:** The State of Utah's water would stay in Lake Powell under the No-Action Alternative and the No Lake Powell Water Alternative. The State of Utah's water would be withdrawn from Lake Powell under the LPP alignment alternatives.
3. Is it isolating Lake Powell by doing this? **Response:** There are two parallel studies that address different issues. The Reclamation Final Planning Study model results address the geographic differences between withdrawing the LPP water from the Green River compared to withdrawing it from the proposed intake site in Lake Powell immediately upstream of Glen Canyon Dam. The Reclamation No Additional Depletions model results address the differences between withdrawing the LPP water from Lake Powell under the Proposed Action and not withdrawing the State of Utah's water from Lake Powell under the No Action Alternative (and No Lake Powell Water Alternative). The No Additional Depletions model results isolate the effects on Lake Powell and Glen Canyon Dam releases.
4. Wouldn't actions that residents must take under the No Lake Powell Water Alternative be needed in the future when all LPP water is being utilized? Why are they not being analyzed as part of the LPP Project right now? **Response:** The draft study reports evaluate the LPP proposed action against equivalent alternatives that provide similar water supplies over the same LPP Project time horizon.
5. What do you mean by Kane County in your figures? **Response:** Kane County has four drainage basins where the LPP water could be used. Water returning to Kanab Creek would be used near Kanab. Water returning to Johnson Canyon would be used near Johnson Canyon. Water returning to Wahweap Creek water would be used east of the GSENM boundary at U.S. Highway 89. Water returning to East Fork Virgin River would be used in that drainage basin.
6. Why wouldn't flow rates change between alternatives? Earlier it was said that there would be less return flows to the Virgin River under the No Lake Powell Water Alternative. **Response:** The draft study reports evaluate different alternatives and are not comparable. Return flows to the Virgin River would be lower under the No Lake Powell Water Alternative because groundwater recharge would be reduced from restrictions on residential outdoor watering.
7. Will we run out of water before the LPP is in place? WCWCD says the Colorado River has 12 million acre-feet per year and Scripps Institute, in 2000, said it is down to 8 million acre-feet and declining. **Response:** The four Upper Colorado River basin states release 8.23 million acre-feet annually to the Lower Colorado River basin, this might be the confusion. The Upper Basin States consider the available Colorado River water for use by the Upper Basin States to be approximately 6.2 million acre-feet per year. There is

more than 8 million acre-feet of water released to the Colorado River annually (totaling approximately 15 million acre-feet per year), and the Reclamation model demonstrates there would be enough water for the LPP Project, even with the other Colorado River states developing their allocations.

8. Can WCWCD meet half its water needs by xeriscaping? If so, why don't we just do this?
Response: Restricting outdoor residential water use resulting in converting traditional residential landscapes to xeriscaping in existing and future residential areas could provide approximately half the amount of water needed to meet the equivalent needs projected for the LPP Project.

Water Supply and Climate Change

1. You estimated how much each county would conserve. What was the total water usage after conservation for WCWCD? **Response:** The WCWCD total water consumption in 2060 including projected conservation would be approximately 241.6 gallons per capita per day (gpcd).
2. Will each district be required to purchase an amount of water whether they need it or not to make the project cost effective? **Response:** The State of Utah LPP Development Act requires the State to pay for the project with reimbursement by the three water conservancy districts. They would contract for a certain amount of water.
3. Are these graphs available on the website? **Response:** Yes.
4. Who is Eric Millis' employer? **Response:** Utah Division of Water Resources. Mr. Millis is the Deputy Director of Utah Division of Water Resources.
5. Did you use 0.89 acre-feet per housing unit for the water needs analysis as recommended by the County Planning Department? **Response:** Yes.
6. What is the elevation of dead pool at Lake Powell? **Response:** 3,370 feet mean sea level (MSL) at dead pool, 3,400 feet MSL at power pool, 3,375 feet MSL at the lowest intake tunnel elevation.
7. If Lake Powell ever hits dead pool, will we still be able to get LPP water? **Response:** Yes.
8. If there is a temperature increase in our region, will it affect the evaporation rates? How did you factor in increased evaporation rates? **Response:** Projected temperature increases and associated evaporation are factored into the runoff projections. The specific effect of projected temperature increases and potentially increased evaporation on reservoirs was not calculated.
9. Did you compare losses from reservoirs and groundwater recharge? **Response:** Losses from reservoirs and groundwater recharge are not included in Water Needs Assessment. Losses from reservoirs and groundwater recharge was considered as part of the Sand Hollow Reservoir assessment in the Groundwater Resources Draft Study Report.
10. Clarification: Did you use historical usage for the various districts, as opposed to using a set number such as 0.89 acre-feet per unit and were the conservation estimates applied to these historical usage numbers? **Response:** Yes, historical usage for each water conservancy district was used in the analysis and conservation estimates were applied to the historical usage numbers.
11. What was the population growth rate used for WCWCD? **Response:** The WCWCD population growth rate is included in the Water Needs Assessment report.

Wetlands and Riparian Resources

No questions or comments.

Wildlife Resources

1. Would the natural gas pipeline impact wildlife resources any differently? **Response:** No, the impacts on wildlife would be similar to the LPP Project as analyzed and documented in the draft study report.

Alternatives Development

1. Was there any consideration given to how water is being used by WCWCD, whether it is being effectively used or not? How about commercial/institutional/industrial (CII) uses? **Response:** Culinary water is currently being used for residential outdoor landscape watering. That component of the water is considered available to be used for indoor culinary purposes with potential future outdoor watering restrictions. The data are not available from the State of Utah's Municipal and Industrial Water Use Reports to analyze the outdoor watering portion of CII.
2. Did you look at a No Action Alternative? **Response:** Yes, the No Action Alternative is analyzed and is a specific part of the NEPA process that will be documented in the Draft EIS prepared by FERC.
3. Is the No Lake Powell Water Alternative implementable? Could the lead agencies decide to implement that alternative? **Response:** None of the lead agencies have the authority to implement the actions considered under the No Lake Powell Water Alternative. It is a feasible action alternative that was used as a comparison to the LPP Project Alternative.
4. What population would be subject to the severe water restrictions in the No Lake Powell Water Alternative? **Response:** The projected WCWCD population in 2037 subject to residential outdoor watering restrictions would be approximately 516,000.
5. Other desert communities of similar population get by with 100,000 acre-feet. **Response:** Other communities track their culinary and secondary water differently. It is difficult to compare different types of water use records.

The St. George Initial Study Report Meeting was completed at 5:00 p.m.

March 23, 2011
Utah State Capitol Complex
State Office Building Auditorium
350 North State Street
Salt Lake City, Utah

The following persons were recorded on the Initial Study Report Meeting sign-in sheet:

Paul Wetzel	Patricia Weslowski	Ray Roessel	Thomas Ryan
Kelly Beck	Beverley Heffernan	Paul Abate	Corey Cram
Alan Jensen	Joe Incardine	Kevin McAbee	John Weisheit
Terry Marasco	Angela Mogel	Sam Loftin	Jim Olson
Harold Sersland	Norm Henderson	Lisa McDonald	Eric Millis
Amelia Nuding	Daniela Roth	Mike DeKeyrel	Dennis Strong
Roger Pearson	Paul DeStefano	James Fargo	

The Salt Lake City Initial Study Report meeting started at 8:35 a.m. Jim Fargo (FERC) and Brian Liming (MWH) provided an overview of the Initial Study Report Meeting, including the following points:

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18	Surface Water Resources	3:40 to 4:00 p.m.
19	Water Supply and Climate Change	4:00 to 4:20 p.m.
20	Wetlands and Riparian Resources	4:20 to 4:40 p.m.
21	Wildlife Resources	4:40 to 5:00 p.m.

Following are the recorded questions and responses for clarification provided at the meeting:

Alternatives Development

No questions or comments.

Air Quality

1. Did you collect data at Glen Canyon Dam? **Response:** Yes, data were collected from the water intake site.

Aquatic Resources

No questions or comments.

Archaeological and Historic-Era Resources

1. Will this study eventually incorporate traditional cultural properties (TCPs) that might be found? **Response:** Yes, the Historic Properties Management Plan (HPMP) will include mitigation measures and procedures for both the archaeological and historic-era resources

identified in the Class III report as well as TCPs identified in the ethnographic resources study report. FERC requested that the ethnographic resources be separated from the archaeological and historic-era resources based on comments received on the draft study plans; therefore, the ethnographic resources study report will incorporate the TCPs to meet the FERC requirements.

2. Will this study be modified based on that information? **Response:** It may have to be modified; however, the study plan will not change and the TCPs will be documented in the ethnographic resources study report to the extent the information is provided in the Indian tribes' ethnographic resources reports.

Geology and Soil Resources

No questions or comments.

Groundwater Resources

1. Did you analyze impacts on groundwater from the No Lake Powell Water Alternative? **Response:** Yes, additional groundwater extraction to meet growing demands, coupled with restrictions on outdoor landscape watering that would decrease groundwater recharge, would increase subsidence in the Cedar Valley.
2. Would increased water from the LPP Project improve the groundwater situation in the Cedar Valley? **Response:** It is difficult to say if it would improve groundwater conditions, although it would allow the residents of the Cedar Valley to continue using water at their current rate, while allowing for additional population growth.

Land Use Plans and Conflicts

1. What is meant by permanent impacts on farmland? **Response:** Removal of farmland or prime farmland for the construction of project facilities (hydroelectric stations) was considered a permanent impact. The land does not currently have to be farmed to be included; it must only be designated as farmland or prime farmland.
2. What causes the impacts from the No Lake Powell Water Alternative? **Response:** The construction of the reverse osmosis facilities and reservoir would cause impacts on prime farmland soils, as well as the required restrictions on outdoor landscape watering.

Noise

1. Would operational impacts be insignificant? Was an analysis performed to determine the change in existing ambient noise levels due to operations? **Response:** Sound pressure levels less than 60 dBA (normal human conversation) were determined to not be significant. Yes, similar existing pump stations with sound baffling were visited and noise levels were recorded. Analysis of these noise levels and attenuation modeling of these noise levels demonstrated impacts below the significance threshold. In some cases, ambient noise levels increased with increasing distance from the pump stations visited because of noise from nearby roads and highways.

Paleontological Resources

No questions or comments.

Recreation Resources

1. Would there be public access to the forebay reservoir? **Response:** No, rapidly fluctuating water levels in the forebay and afterbay reservoirs would result in unsafe conditions for public use and access.

Socioeconomics and Water Resource Economics

1. The benefit of pumped storage is the ability to produce power on demand. Isn't there a difference in price between purchasing off-peak power versus peak power? **Response:** The Bonneville Power Administration buys power in blocks, doesn't worry about whether it is green, if it is for used for load shaping, etc.
2. Doesn't this ignore the timing benefit of pumped storage? It seems that using a uniform rate of \$85/MWh is too low. **Response:** \$85/MWh is the best price that can be analyzed until a power purchase agreement is received.
3. What is meant by Foregone Power? **Response:** "Foregone power" is a Reclamation term that describes the power that would be lost over time by sending water from Lake Powell into the LPP rather than through the turbines at Glen Canyon Dam. This terminology needs to be clarified in the draft study report.
4. Was an economic analysis of the alternatives performed, such as reverse osmosis, xeriscaping, etc.? **Response:** Yes, a separate analysis was performed for reverse osmosis facility costs, water conversions, xeriscaping, etc.
5. Have the fiscal impacts of the project been considered? What if the demand for the water is less? **Response:** A fiscal analysis has not yet been performed. The water conservancy districts will perform financial analyses during the next phase that will evaluate risks and needs as they contemplate potential contracts.
6. Foregone power costs. Does that insinuate USBR operations will change at Glen Canyon Dam? **Response:** No, USBR operations would not change. The differences in storage within Lake Powell from the project action alternatives were compared and the differences were found to be very minor and beyond the ability to physically measure.

Special Status Aquatic Resources and Habitats

1. It was stated that there are no effects on releases from Glen Canyon Dam, yet there is a \$50million impact on hydropower generation. How can this be? **Response:** The same volume of water will be released each year downstream of Glen Canyon Dam by the USBR (8.23 million acre-feet). The timing of these releases may be made under slightly different head than without the LPP Project and this is what Reclamation modeled and reported over the 50 year analysis period (2010 through 2060). Reclamation does not require hydropower impact calculations for USBR projects. Reclamation requires that outside projects perform these calculations. Reclamation stated that the water would have gone through the turbines at some point, and the calculations are sometimes used to help determine the potential cost of the water.
2. Reduced return flows to the Virgin River caused impacts under the No Lake Powell Water Alternative. Was an analysis performed on the potential impacts of increased return flows from the LPP Project? **Response:** Yes, this was performed in another study and will be presented later today.
3. Will the cumulative impacts analysis account for potential land use changes? Will development be prohibited in sensitive areas or flood plains? **Response:** Yes, land use

changes will be considered in the cumulative impacts analysis. Sensitive areas were eliminated from potential growth areas in the growth analysis; however, the Participating and Cooperating Agencies cannot enforce this. This is likely under the jurisdiction of county planning departments and FEMA.

4. What was the carrying capacity determined in the Land Use Study? **Response:** The highest density would be 3.97 houses per acre using growth on developable land with no land use conflicts and incorporating smart growth principles. The density range under three growth scenarios would be 3.44 to 3.97 houses per acre as described in the draft Land Use Study Report.

Special Status Plant Species and Noxious Weeds

No questions or comments.

Special Status Wildlife Species

No questions or comments.

Transportation

No questions or comments.

Vegetation Communities

1. Is it assumed that the disturbed areas of the project will allow invasive and non-native species to take over, and if so, are there any mitigation measures? **Response:** Yes, it is possible that invasive and non-native species can become established in disturbed project areas. Mitigation measures include saving recoverable topsoil to place over disturbed areas after construction and burying topsoil that was previously growing invasive and non-native species to control the seed bank.

Visual Resources

No questions or comments.

Surface Water Quality

1. Clarify how the CRSS results were incorporated. **Response:** The No Additional Depletions model was used with direct natural flow hydrology to identify water quality changes. The analysis looked at the time period between 2043 and 2060 because that is when the full amount (86,249 acre-feet) would be withdrawn from Lake Powell. Historical water quality data were used to simulate future conditions during that time period.
2. What was the source of information for the return flow data to the Virgin River? **Response:** USGS gages along the Virgin River.
3. Didn't you model the return flows? How were they estimated? **Response:** Yes, the LPP return flows were modeled using the Virgin River daily simulation model. This model uses historical USGS gage information and an estimate of return flows based on the per capita water use.

Surface Water Resources

1. Did you look at the impacts on the Virgin River flows from the No Lake Powell Water Alternative? **Response:** Yes, approximately 40,000 acre-feet would be diverted to the WCWCD proposed Warner Valley Reservoir annually for storage and future reverse osmosis treatment. This amount is part of the Base Case scenario that water users currently have rights to divert from the Virgin River.
2. What would that do to Virgin River flows? **Response:** It would reduce high spring runoff flows in the Virgin River, although secondary supplies also would be used to fill the reservoir.

Water Supply and Climate Change

1. Where does the 34,000 acre-feet of outdoor water use reduction come from in the No Lake Powell Water Alternative? **Response:** Based on the water needs analysis, the alternatives study evaluated how to develop equivalent water supplies without the LPP project. The 32,721 acre-feet in the No Lake Powell Water Alternative is based on existing per capita outdoor water use of culinary supplies.
2. What is the impact of the Million Pipeline on this project? **Response:** The impact of Colorado taking their share of the Colorado River through this project is factored into Reclamation's modeling of the LPP Project (Final Planning Study model results). The No Additional Depletions model does not include future Colorado depletions such as the proposed Million Project.
3. Would this be included in the cumulative impacts analysis? **Response:** If the proposed Million Project is determined to be reasonably foreseeable, then it would be included in the cumulative impact analysis. If the proposed Million Project is determined to not be reasonably foreseeable, then it would not be included in the cumulative impact analysis.
4. Are you doing a cost benefit analysis of this process? **Response:** Yes, the benefit/cost analysis is part of the socioeconomics and water resource economics draft study report and was presented earlier.
5. Would you be interested in reviewing an evaluation of the cost estimates of the Las Vegas Pipeline? **Response:** Yes, it may be helpful.
6. How is the cost of different water supplies factored into the water supply analysis? **Response:** The costs were evaluated in accordance with their affordability to each water conservancy district.
7. Has reduction in demand due to rising water prices been included in the analysis? **Response:** Reduction in demand from rising water prices has not been included in the analysis.
8. Why aren't you looking at the Reclamation basin studies for additional climate change information? **Response from Reclamation:** The Reclamation Colorado River Basin Study effort is just starting, and the results likely won't be available for inclusion in the LPP Project documents. Climate change is a study topic that is constantly evolving.

Wetlands and Riparian Resources

No questions or comments.

Wildlife Resources

No questions or comments.

The Salt Lake City Initial Study Report Meeting was completed at 5:00 p.m.