United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Nevada State Office
1340 Financial Boulevard
Reno, Nevada 89502-7147
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SEP 17 2012

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In Reply Refer To:
2800 (NV910)
N-78803

Ted Koch
U.S. Fish and Wildlife Service
1340 Financial Blvd. Suite 234
Reno, NV 89502

Dear Mr. Koch:

The Bureau of Land Management (BLM) Groundwater Projects Office provided your office with our Revised Biological Assessment for the Clark, Lincoln, and White Pine Counties Groundwater Development Project on May 11, 2012. Since that time, our office has coordinated with you in meetings, phone calls, and via e-mail regarding new information and updates to the Final EIS. This letter is to document our request for you to consider the new information presented in the Final EIS, and to provide you with a new Applicant Committed Measure (ACM) recently submitted by the Southern Nevada Water Authority (SNWA) that we would like your office to consider in development of the Biological Opinion (BO). We would also like to use this opportunity to document our intention to carry our mitigation measures through to the Record of Decision.

In June, 2012 the BLM had completed our analysis of the comments received on the Draft Environmental Impact Statement (EIS) and began finalizing the Final EIS. During this time we were also working through the FWS conservation recommendations provided through the Technical Assistance Process; many of these conservation recommendations were also relative to listed species. On June 14, 2012 we met with your staff in Ft. Collins, CO to discuss how the conservation recommendations were being treated in the Final EIS. We also had several phone conversations with your staff during the months of June and July, 2012 to provide frequent updates regarding changes to the Final EIS that may inform the BO analysis.

On July 27, 2012 our office met with your staff and provided an early copy of specific sections of the Final EIS:

- Chapter 3.5 (Vegetation);
- Chapter 3.6 (Terrestrial Wildlife);
- Chapter 3.7 (Aquatic Biological Resources); and
- Chapter 3.20 (Monitoring and Mitigation Summary, which included Table 3.20-1, a summary of all mitigation measures presented in the Final EIS).

During this meeting, we reviewed the material provided from the Final EIS. Our office requested that FWS consider this new information in the continued development of the BO. We noted some measures that we felt were of particular interest, such as the COM Plan process described in Chapter 3.20, the data gaps and associated process for dealing with them described in Chapter 3.20, and mitigation measures GW-WR-3a, GW-WR-3b, GW-WR-7, GW-VEG-2, as well as several other new vegetation and wildlife measures. Table 3.20-1 lists all mitigation, and identifies if each measure is within or outside of BLM's jurisdiction. Please note that it is our intention to include in the Record of Decision (ROD) for this project all those measures within our jurisdiction. We also intend to include in the ROD a revised version of the COM Plan, which will include the process BLM will use for future actions as well as those conservation recommendations from the BO that BLM determines fit the process.

On September 13, 2012, the Southern Nevada Water Authority (SNWA) provided the enclosed letter to the BLM describing new Applicant Committed Measures (ACMs) for the Clark, Lincoln, and White Pine Counties Groundwater Development Project. The new ACMs are specific to Cave Valley, and are focused on potential impacts to the endangered White River spinedace. Among the ACMs are commitments from SNWA to: 1) stage groundwater development in Cave Valley, 2) install additional monitoring wells, and 3) establish trigger levels prior to initiation of groundwater pumping in Cave Valley.

We request that the FWS considers the mitigation measures presented in the Final EIS, the COM Plan process and related information presented in Chapter 3.20 of the Final EIS, and the new SNWA ACMs as part of the agency action for the section 7 consultation under the Endangered Species Act. The BLM intends to include in the ROD all of the above mentioned items.

If you have any questions or concerns, please contact me at (775) 861-6466 or pwoods@blm.gov.

Sincerely,

Penelope Dunn Woods

Penelope Dunn Woods
Project Manager
Nevada Groundwater Projects Office

cc: Lisa Luptowitz, SNWA
Alicia Styles, BLM
Laurie Averill-Murray, FWS

Enclosure: September 13, 2012 Letter from SNWA regarding the Clark, Lincoln, and White Pine Counties Groundwater Development Project Additional Applicant-Committed Measures for Cave Valley

SOUTHERN NEVADA WATER AUTHORITY
1001 South Valley View Boulevard • Las Vegas, NV 89153
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September 13, 2012

Penny Woods, Project Manager
Bureau of Land Management
Nevada Groundwater Projects Office
P.O. Box 12000
Reno, NV 89520-0006

Dear Ms. Woods:

SUBJECT: CLARK, LINCOLN, AND WHITE PINE COUNTIES GROUNDWATER DEVELOPMENT PROJECT, ADDITIONAL APPLICANT-COMMITTED MEASURES FOR CAVE VALLEY

As part of the ongoing Endangered Species Act Section 7 consultation for the Clark, Lincoln, and White Pine Counties Groundwater Development Project (GWD Project), the U.S. Fish and Wildlife Service (Service) is evaluating the potential effects of the GWD Project on the endangered White River spinedace. The Service's present ongoing evaluation regarding potential impacts to the White River spinedace is based in part on certain uncertainties inherent in the groundwater model used to simulate potential drawdown impacts.[1] To provide additional relevant information and address these uncertainties, the Southern Nevada Water Authority (SNWA) proposes to add additional applicant-committed measures pertaining to our future groundwater development in Cave Valley.

As the Bureau of Land Management (BLM) identified in the Final Environmental Impact Statement (FEIS) for the GWD Project, the Nevada State Engineer granted SNWA water rights totaling 5,235 afy in Cave Valley. *See* FEIS at 2-106. The FEIS also explains that the Delamar, Dry Lake, and Cave Valley Stipulated Agreement describes actions that the various parties to the agreement would take prior to the commencement of groundwater development in those basins, including: (1) the installation of monitoring wells within the Cave, Dry Lake, and Delamar hydrologic basins and in adjacent hydrologic basins, such as White River; (2) constant-rate aquifer tests, groundwater chemistry sampling, and spring and stream discharge measurements; (3) preparation of annual monitoring reports; and (4) preparation of a written Hydrologic Management and Mitigation Operation Plan (the Plan) that identifies and defines early warning indicators for adverse impacts. FEIS at 2-15. SNWA does not object to adding additional applicant-committed measures at this time which refine the framework for implementing and

[1] As noted in the Final Environmental Impact Statement for the GWD Project, the groundwater model is a reasonable tool for estimating probable regional-scale drawdown patterns and trends over time but is not designed to predict drawdown impacts on a more localized scale. FEIS at 3.3-90, 3.3-91.

monitoring groundwater development in Cave Valley even though the Plan likely will not be prepared for a number of years.

Accordingly, SNWA proposes adding the following applicant committed measures as part of the GWD Project:

1) **Staged groundwater development in Cave Valley**

SNWA would develop its 5,235 acre-feet per year (afy) of permitted water rights in Cave Valley in staged development. A staged-development approach of the Cave Valley permits would allow for the collection of data while ensuring that pumping effects are confined to Cave Valley and do not propagate across the hydrographic basin boundary to springs supporting habitat for the White River spinedace. Specific details regarding the staged development, such as production well locations, would be developed in consultation with, and approved by, the BLM and the Service prior to and as part of future tiered Section 7 consultations and National Environmental Policy Act (NEPA) processes. Development phases would be implemented essentially as follows:

a. Stage 1 Development: Pumping pursuant to the water right permits shall be limited to 2,600 afy, which is approximately one-half of the permitted rights. This would provide for a pumping stress that will allow for the collection of reliable transient-state data and effective calibration of a groundwater flow model. Before the increase in pumping associated with Stage 2 development can occur, SNWA would pump at least 85% but not more than 100% of the Stage 1 development amount (2,210 – 2,600 afy) for a period of five years. Data from those five years of pumping would be submitted to the BLM and the Service as part of the annual hydrologic-monitoring report prepared by SNWA. The data would be reviewed by the BLM and the Service, and SNWA may increase pumping to the Stage 2 development at the end of the fifth year of pumping if the BLM and the Service determine the risk to the White River spinedace remains at an acceptable level and/or can be mitigated.

b. Stage 2 Development: Pumping pursuant to the water right permits shall be limited to a total of 3,900 afy, which is the Stage 1 development level plus 1,300 afy. The 1,300 afy is approximately one half of the permitted amount of 2,635 afy remaining after Stage 1 development. This pumping would provide additional pumping stresses that would allow for collection of more reliable transient-state data and continued calibration of the groundwater flow model. SNWA would be required to pump at least 85% but not more than 100% of the combined Stage 1 and Stage 2 development amounts (3,315– 3,900 afy) for a period of five years. Data from those five years of pumping would be submitted to the BLM and the Service as part of the annual hydrologic-monitoring report prepared by SNWA. The data would be reviewed by the BLM and the Service, and SNWA may increase pumping to the Stage 3 development at the end of the fifth year of pumping if the BLM and the Service determine the risk to the White River spinedace remains at an acceptable level and/or can be mitigated.

c. Stage 3 Development: Pumping pursuant to the water right permits shall be limited to the full permitted amount of 5,235 afy. SNWA would continue to conduct monitoring and

provide information as required under the Stipulated Agreement, Section 7 consultations, and NEPA processes.

The above three staged approach for developing SNWA's Cave Valley water rights is similar to the staged development approach required by the Nevada State Engineer in Ruling 6164 for the development of SNWA's water rights in Spring Valley. Additionally, it considers minimum flow criteria for pipeline operations. The Stage 1 development quantity is based on American Water Works Association criteria C651 for flushing of water mains to prevent sedimentation in the pipeline. This criteria is a flow of 2.5 to 3 feet per second, which equates to approximately 1,550 gallons per minute or 2,500 afy, and was considered in the selection of the Stage 1 development quantity.

A Theis analysis (Theis, 1935) was conducted by SNWA to evaluate this proposed staged development. Theis has many underlying assumptions, which are documented in detail in Burns et al. (2007), and is imprecise the further away it is used from the pumping well. However, this approach provides a general estimate of potential drawdowns that can support the selection of the initial phased development approach. The Theis analysis considered pumping from a single location near the current location of SNWA well CAV6002X at a volume of 1,622 gallons per minute (approximately 2,600 afy) for a period of 5 years to determine the extent of simulated drawdowns. The aquifer properties selected for this analysis were those determined during an aquifer test between Cave Valley wells CAV6002X and CAV6002M. The results of the Theis analysis, with all of its documented uncertainties, indicate that a simulated 1 foot drawdown contour would spread approximately 8 miles from the CAV6002X site. Flag Springs is located 11.4 miles in a direct line from CAV6002X. Thus, using the best available information, the initial stage of development could be conducted without posing a risk to White River spinedace at Flag Springs.

SNWA believes staged development of its water rights in Cave Valley, coupled with comprehensive hydrologic and biological monitoring and adaptive management, will allow for sustainable development of the Cave Valley water rights in a manner that protects the White River spinedace. The detailed hydrologic and biological monitoring will be developed in consultation with, and approved by, the BLM and the Service as part of future tiered Section 7 consultations and NEPA processes prior to initiation of groundwater pumping in Cave Valley.

2) **Additional monitoring wells**

SNWA would install two (2) additional groundwater monitoring wells to monitor for the potential of groundwater drawdown propagating from southern Cave Valley towards Flag Springs and other springs supporting habitat for the White River spinedace in White River Valley. The specific location of, and details for these wells, would be determined following input by the Delamar Dry Lake and Cave Valley Stipulated Agreement Technical Review Panel (TRP), and would be approved by the BLM and Service.

These two additional monitoring wells would be in addition to the monitoring well required under the Stipulated Agreement, which has been sited by the TRP near Shingle Pass, but has not yet been installed.

The above three monitoring wells would be installed such that baseline data could be collected for a minimum of five years prior to the initiation of groundwater pumping in Cave Valley.

3) **Establishment of trigger levels**

SNWA would agree to develop and commit to triggers (early warning indicators) for management action associated with GWD Project pumping in Cave Valley, to ensure the long-term protection of the White River spinedace. These triggers would be developed in consultation with, and approved by, the BLM and FWS, and would be included in future Section 7 consultations and NEPA analyses prior to initiation of groundwater pumping in Cave Valley.

Summary

SNWA believes that this phased pumping approach for Cave Valley, accompanied by extensive monitoring, will provide additional information about the hydrogeology of the Cave Valley. This refined approach provides a mechanism to address some of the uncertainty in and facilitate the refinement of the groundwater model in future project-specific consultations to be tiered to the programmatic biological opinion being prepared for the GWD Project.

SNWA appreciates the Service's approach on development of conservation recommendations for the GWD Project Section 7 consultation. However, SNWA suggests that the potential baseline and data gap information needed to inform future Section 7 consultations would be best presented in a brief summary list, with the details to be developed during future discussions between BLM, the Service, and SNWA. SNWA would collect the baseline data necessary for future tiered Section 7 consultations and NEPA analyses prior to groundwater development.

SNWA will incorporate the above additional applicant-committed measure in the final Conceptual Plan of Development, and requests that BLM include it in the Record of Decision and notify the Service that such an approach will be incorporated into the agency action for purposes of Section 7 consultation.

If you have any questions about these measures or need additional information, please contact me at 702-875-7080 or Lisa Luptowitz at 702-862-3789.

Sincerely,

John J. Entsminger

John J. Entsminger
Senior Deputy General Manager

JJE:LML:df

c: Ted Koch, U.S. Fish and Wildlife Service
Amy Leuders, Bureau of Land Management
Zane Marshall, SNWA

References:

Burns, A.G., Watrus, J.M., and Dixon, G.L., 2007, Water-related effects analysis related to Southern Nevada Water Authority groundwater applications in Cave, Dry Lake, and Delamar valleys: Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada.

Theis, C.V., 1935, The Relation between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Groundwater Storage, American Geophysical Union Trans., vol. 16, pp. 519-524.