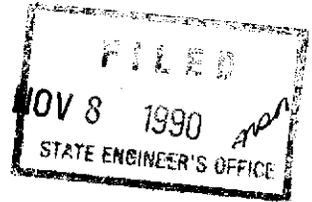


IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA



IN THE MATTER OF APPLICATION NUMBER 54634
FILED BY NEVADA POWER COMPANY
ON APRIL 6, 1990 TO APPROPRIATE
THE WATERS OF UNDERGROUND

PROTEST

Comes now Owen R. Williams, on behalf of the United States Department of the Interior, National Park Service, whose post office address is 301 S. Howes Street, Room 353, Fort Collins, Colorado, 80521, whose occupation is Chief, Water Rights Branch, Water Resources Division, National Park Service, and protests the granting of Application Number 54634, filed on April 6, 1990, by Nevada Power Company to appropriate the water of Underground Basin 218 (California Wash), situated in Clark County, State of Nevada, for the following reasons and on the following grounds, to wit:

See Exhibit A.

THEREFORE the protestant requests that the application be denied.

Signed

Agent or protestant

Owen R. Williams

Printed or typed name, if agent

Address 301 South Howes St., Room 353
Street No. or P.O. Box No.

Fort Collins, CO 80521
City, State and Zip Code No.

Subscribed and sworn to before me this 2 day of November, 1990.

Notary Public

State of Colorado

County of Larimer

My Commission expires My Commission Expires October 9, 1994

OK
CB

IN THE MATTER OF APPLICATION 54634

EXHIBIT A

Protest by Owen R. Williams, on behalf of
the United States Department of the Interior,
National Park Service

- I. The mission of the National Park Service (NPS) may be paraphrased from 16 U.S.C. 1, as conserving scenery, natural and historic objects, and wildlife, and providing for enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations. The public interest will not be served if water and water-related resources in the nationally important Lake Mead National Recreation Area (Lake Mead NRA) are diminished or impaired as a result of the appropriation proposed by this application.
- II. Lake Mead NRA was established in 1964 to be administered for "...general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop, and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area...". Springs and water-related resource attributes are important features of the National Recreation Area. The NPS is entitled to Federal reserved water rights for reserved lands within Lake Mead NRA. The priority dates for these reserved rights are the dates when the lands were reserved and are senior to the appropriation sought by the Nevada Power Company. These rights have not been judicially quantified.
 - A. Numerous springs provide water for vegetation and wildlife habitat and create an environment that many visitors use and enjoy. Most springs are not fed by water from Lake Mead, and will be affected by up-gradient diversions.

Springs include Blue Point, Rogers, Corral, and Kelsey's Springs, and other smaller, unnamed springs. Visitation to Blue Point and Rogers Springs has been estimated at 5,000 visitors/year for each spring.

Desert bighorn sheep are also dependent upon the springs in Lake Mead NRA. A herd of approximately 150 use springs in the northern part of the National Recreation Area.
 - B. The Muddy River, which originates from large discharge springs located northeast of Moapa, Nevada, flows into Lake Mead NRA at the north end of the lake's Overton Arm. The State of Nevada, Department of Wildlife, is leasing a portion of Lake Mead NRA adjoining the Muddy River for the purposes of the Overton Wildlife Management Area. This area supports a variety of waterfowl and vegetation.

IN THE MATTER OF APPLICATION 54634

EXHIBIT A (continued)

Protest by Owen R. Williams, on behalf of
the United States Department of the Interior,
National Park Service

If approved, the appropriation and diversion proposed by this application will eventually reduce or eliminate the flows of the Muddy River and springs within Lake Mead NRA which are discharge areas for regional ground-water flow systems. The NPS's senior water rights, water resources, and water-related resource attributes would thus be impaired. Such impacts are not in the public interest.

- III. Lake Mead NRA has Nevada State appropriative water rights for the following, which will be impaired by the appropriation and diversion proposed by this application.

<u>Name</u>	<u>Point of Diversion</u>	<u>Certificate Number</u>
Kelsey's Springs	SW1/4 NW1/4, Sec 20, T16S, R68E MDBM	296
Rogers Spring	SE1/4 SE1/4, Sec 12, T18S, R67E MDBM	4476
Muddy Creek (River)	NW1/4 SE1/4, Sec 19, T16S, R68E MDBM	5126

- IV. The appropriation and diversion proposed by this application is located in the carbonate-rock province of Nevada. The carbonate-rock province is typified by complex interbasin regional flow systems that include both basin-fill and carbonate-rock aquifers (Harrill, et al., 1988, Sheet 1). Ground water flows along complex pathways through basin-fill aquifers, carbonate-rock aquifers, or both, from one basin to another. Ground-water flow system boundaries, and thus interbasin ground-water flows, are poorly defined for most of the carbonate-rock province (Harrill, et al., 1988, Sheet 1). The proposed appropriation is expected to reduce interbasin flows and modify the direction of ground-water movement in adjoining hydraulically connected basins, thereby reducing spring and stream flows in Lake Mead NRA.

A central corridor of the carbonate-rock aquifers in southern Nevada (Dettinger, 1989) occurs within the carbonate-rock province. The corridor consists of a north-south "block" of thick, laterally continuous carbonate rocks and probably contains the principal conduits for regional ground-water flow from east-central Nevada into southern Nevada, with flow ultimately discharging through springs at Lake Mead (Dettinger, 1989, p. 13). Parts of east-central Nevada are a recharge area for the central corridor of the carbonate-rock and basin-fill aquifers in southern Nevada (Dettinger, 1989; Mifflin, 1988).

The appropriation and diversion proposed by this application are located

IN THE MATTER OF APPLICATION 54634

EXHIBIT A (continued)

Protest by Owen R. Williams, on behalf of
the United States Department of the Interior,
National Park Service

within a basin which may be part of or hydraulically connected to the central corridor which discharges in the Lake Mead area (Harrill, et al., 1988, Sheet 1, Figure 5; and Sheet 2). Thus, the appropriation is expected to reduce the flow from springs Lake Mead NRA.

Some zones within the central corridor are highly transmissive, and act as large-scale drains which ultimately transmit much of the flow that discharges from large springs such as those at Lake Mead NRA. It has been hypothesized (Dettinger, 1989, p. 16) that the highly transmissive zones may stay highly transmissive only if large volumes of water continue to flow through them. Otherwise, openings in the rocks gradually fill with minerals and the rocks resolidify. The appropriation and diversion proposed by this application is expected to reduce the volume and velocity of ground water flowing through the drains which could begin the process of closing connected fractures and solution cavities, substantially impairing the capacity of the aquifer to transmit water.

- V. It should be noted also, that the Las Vegas Valley Water District (LVVWD) has submitted a total of 102 applications which propose the appropriation of 824 cubic feet per second (596690 acre-feet per year) of ground water from the central corridor of the carbonate-rock aquifer or a basin hydraulically connected to the central corridor. A substantial overdraft of ground-water resources is expected to occur. The overdraft will cause ground-water levels to decline, alter the directions of ground-water flow and reduce or eliminate spring flows. The cumulative effects of these appropriations are expected to cause impacts at Lake Mead NRA more quickly and/or to a greater degree than the appropriation under this application alone and thereby impair the senior NPS water rights. The impacts described above are not in the public interest. The appropriations proposed by LVVWD in these basins exceed the water available for appropriation. These conclusions are supported by the following.
- A. Harrill, et al. (1988, sheet 2) have estimated an annual ground-water recharge of 221400 acre-feet for basins with proposed diversions.
- B. The cumulative diversion proposed by these applications, when developed, will be approximately 596960 acre-feet per year. This diversion rate exceeds the estimated cumulative recharge rate in the basins by 375560 acre-feet per year. A substantial overdraft of ground-water resources will occur as a result.

IN THE MATTER OF APPLICATION 54634

EXHIBIT A (continued)

Protest by Owen R. Williams, on behalf of
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- C. As of December 1988, the latest available estimate of committed diversions and perennial yield were 203884 and 343750 acre-feet per year, respectively, for these basins (Nevada Department of Conservation and Natural Resources, 1988).
 - D. The sum of the committed diversions and the diversion rate proposed by these applications exceeds the estimated perennial yield by 457094 acre-feet per year and the estimated recharge rate in the basins by 579444 acre-feet per year.
- VI. In sum, the NPS protests the granting of Application Number 54634, submitted by the Nevada Power Company to appropriate and divert ground water, on the following grounds.
- A. The public interest will not be served if water and water-related resources in the nationally important Lake Mead NRA, are diminished or impaired as a result of the appropriation proposed by this application.
 - B. If approved, the appropriation and diversion proposed by this application will eventually reduce or eliminate the flows of the Muddy River and springs within Lake Mead NRA which are discharge areas for regional ground-water flow systems. The NPS's senior water rights, water resources, and water-related resource attributes would thus be impaired. Such impacts are not in the public interest.
 - C. Lake Mead NRA has Nevada State appropriative water rights for Kelsey's Springs, Roger's Spring, and Muddy Creek (River) which will be impaired by the appropriation and diversion proposed by this application.
 - D. The cumulative effects of the appropriation proposed by this application and other applications within the regional ground-water flow systems will impair the senior water rights of Lake Mead NRA more quickly and/or to a greater degree than the diversion under this application alone. The diversions proposed by LVVWD in these basins exceed the water available for appropriation.
- VII. The NPS reserves the right to amend this exhibit as more information becomes available.

IN THE MATTER OF APPLICATION 54634

REFERENCES CITED

Protest by Owen R. Williams, on behalf of
the United States Department of the Interior,
National Park Service

Dettinger, M.D., 1989. Distribution of carbonate-rock aquifers in southern Nevada and the potential for their development, Summary of Findings, 1985-88: Program for the Study and Testing of Carbonate-Rock Aquifers in Eastern and Southern Nevada Summary Report No. 1, 37 p.

Harrill, J.R., Gates, J.S., and J.M. Thomas, 1988. Major ground-water flow systems in the Great Basin region of Nevada, Utah, and adjacent states: U.S. Geological Survey Hydrologic Investigations Atlas HA-694-C, 2 sheets.

Mifflin, M.D., 1988. Region 5, Great Basin, in Back, W., Rosenhein, J.S., and P.R. Seaber, eds. Hydrogeology. The Geology of North America, v. O-2. Geological Society of America, Boulder, CO.

Nevada Department of Conservation and Natural Resources, 1988. Hydrographic Basin Statistical Summary, Ground Water Basins 001-232: unpublished report, Division of Water Resources and Water Planning, Carson City, Nevada.



United States Department of the Interior

NATIONAL PARK SERVICE

WATER RESOURCES DIVISION
301 SOUTH HOWES ST., ROOM 335
FT. COLLINS, COLORADO 80521



IN REPLY REFER TO:

September 5, 1990

L54(479)

DEVA/Water Rights

GRBA/Water Rights

LAME/Water Rights

Mr. Tracy Taylor
Department of Conservation and
Natural Resources
Division of Water Resources
123 W. Nye Lane
Carson City, NV 89710

Re: Status of various Nevada water right applications

Dear Mr. Taylor:

Please complete the information (as it is available) requested below on the status of the following Nevada water right applications, and return it to me at your earliest convenience. An envelope has been provided for your use.

<u>Application Number</u>	<u>Date Returned for Correction</u>	<u>Date Published</u>	<u>Ready for Action Date</u>
54597	06/12/90	Not available	Not available
54606	06/08/90	09/06/90	10/06/90
54634	06/08/90	Not available	Not available
54681	06/13/90	08/25/90	09/24/90
54697	06/14/90	Not available	Not available
54698	06/13/90	09/26/90	10/26/90
54898	Not applicable	09/07/90	10/07/90
54950	WITHDRAWN 08/14/90		
54951	WITHDRAWN 08/14/90		
54984	Not applicable	09/20/90	10/20/90
54985	Not available	Not available	Not available

<u>Application Number</u>	<u>Date Returned for Correction</u>	<u>Date Published</u>	<u>Ready for Action Date</u>
54990	08/14/90	Not available	Not available
54991	Not available	Not available	Not available
54992	" "	" "	" "
55016	08/14/90	Not available	Not available
55017	Not applicable	09/18/90	10/18/90
55044	08/16/90	Not available	Not available
55045	08/16/90	Not available	Not available
55046	08/16/90	Not available	Not available
55099	08/20/90	Not available	Not available
55113	Not available	Not available	Not available

If you have any questions, please call me at (303) 221-8329.

Sincerely,

Alvin E. Jones

Jeffrey C. Hughes
Hydrologist

Enclosure

21717

23 10 1990