



DEPARTMENT OF THE NAVY  
NAVAL WEAPONS CENTER  
CHINA LAKE, CALIFORNIA 93555

IN REPLY REFER TO:  
26/JRI:klr  
Reg 26-112  
18 Sep 1980

From: Commander, Naval Weapons Center  
To: Dr. Carl F. Austin, Code 266  
Mr. William C. Bonner, Code 2636  
Dr. Pierre St.-Amand, Code 382

Subj: Water supply for the Naval Weapons Center

1. Water supply in the Indian Wells Valley is a topic which is being debated with increasing frequency in the media and in meetings of various community groups. It would be very useful for me and other Center officials to have a short statement of the Naval Weapons Center (NWC) position on water supply as the basis for response to future questions. Accordingly, I am appointing the addressees as an ad hoc committee for this purpose.
2. In their deliberations, the committee is requested to include the following.
  - a. Definition of NWC known ground water assets.
  - b. Current and projected NWC demand for water.
  - c. Proposed strategy to best manage NWC ground water assets for the long term.
  - d. Definition of the circumstances under which NWC would consider basin-wide management of ground water assets to be advisable, including identification of trigger points, if feasible.
  - e. Identification of gaps in present knowledge and recommendations for the types of basin studies and research which would be most beneficial.

Other aspects of ground water usage may be considered at the discretion of the committee. The final product desired is a short statement, say two pages, which contains the key points of a proposed official NWC position on ground water. It is requested that this action be completed within 30 days of the date of this letter.

*W.B. Haff*  
W. B. HAFF

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DEPARTMENT OF THE NAVY  
NAVAL WEAPONS CENTER  
CHINA LAKE, CALIFORNIA 93505

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Rer 26-147  
16 Dec 1980

From: Commander, Naval Weapons Center  
To: Dr. Carl F. Austin (Code 266)  
Mr. William C. Bonner (Code 2636) ✓  
Dr. Pierre St. Amand (Code 382)

Subj: Water supply for the Naval Weapons Center

Encl: (1) Policy paper "Indian Wells Valley Groundwater", dtd 8 December 1980

1. Your groundwater policy paper, attached as enclosure (1), is hereby approved. Your efforts in developing a paper to guide our management and long-term planning for this critically important resource are sincerely appreciated. The paper will also be useful in relations between Center management and the public on this sensitive matter. Well done.

*W. B. Haff*  
W. B. HAFF

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# INDIAN WELLS VALLEY GROUNDWATER

## BACKGROUND

When the Navy started to operate in the Indian Wells Valley, there was no community water system available of sufficient capacity to satisfy needs, so a complete Navy production and distribution system was built. As the Navy's programs expanded, the water system grew and production wells were added and now the Navy pumps water from wells near Inyokern and from wells in the Intermediate well field, about half way between Inyokern and the main gate of the Weapons Center. As the civilian/commercial population of the valley increased, private water systems were developed that satisfied those needs. The Indian Wells Valley Water District was formed by merger of several of these small producers and today is now one of the major water producers in the valley. Other major producers are Kerr-McGee Corporation and a conglomerate of agricultural operations - the latter primarily in the northwest quadrant of the valley. The Naval Weapons Center occupies the land surface of a significant portion of the valley and, due to its control of this area, water production by private and municipal interests has become concentrated along the south and west perimeters of the Center. The concentration of pumpage in the mid-valley area by the Indian Wells Valley Water District, Kerr-McGee and the Navy has created a relatively large and rapidly deepening groundwater depression. In the Inyokern Airport area, the Navy's pumpage is in competition with that of a small but growing water company serving the Village of Inyokern and the airport area, where a much less severe but slowly deepening pumping depression is now developing.

## MAJOR PROBLEM AREAS

1. Continued over-pumpage in the mid-valley area will most probably trigger undesirable forced basin-wide groundwater management due to legal actions instituted by owner(s) of private, shallow and poorly designed wells which will fail due to the depression of the local water level. The water level is falling in the Ridgecrest and intermediate areas, and some domestic wells have gone dry.
2. As the depth to water increases in the area of the midfield pumping depression, the energy cost for pumping will rise and eventually become excessive. Large water production efforts must ultimately be moved from the mid-valley area if energy costs are to remain reasonable.
3. Water from wells on the east and south of Ridgecrest is being contaminated by brackish water because of reduced hydrostatic head caused by overpumping. The possibility that poorer quality deep waters will mix with and degrade the remaining high quality waters within the pumping depression creates a need for better management, and for better three-dimensional data in order to not ruin the quality of the remaining water in the zone of depression.
4. In the Inyokern/Harvey Field area, competition for groundwater is less intense. However, population growth and shifts of production from the mid-valley area could, in the future, create a situation where continued pumping of large quantities of water in this area by the Navy will be uneconomical and undesirable.
5. The total groundwater picture in the Indian Wells Valley is not a simple situation, and is plagued by a lack of information. Existing groundwater contour maps are largely based upon limited data and assumptions in areas away from the

major pumping depressions. Data pertaining to water quality at various depths is limited. The inflow from Rose Valley, the Coso Mountains, and Argus Mountains is not known. To permit proper future planning and management of water production in the valley, additional, extensive data collection efforts must be initiated to verify groundwater recharge and discharge quantities and locations, and to establish three dimensional water quality information.

### NAVAL WEAPONS CENTER POLICY

The Naval Weapons Center (NWC) will continue to carefully manage its pumping in the mid-valley area and will neither construct new wells in that immediate area, nor modify existing pumping plants to pump additional quantities. The NWC policy is to systematically phase down the large-scale mid-valley pumping of groundwater in a time frame consistent with energy costs and constraints, efficient usage of existing pumping facilities, and the availability of new wells and pumps in other areas of NWC better suited for future pumping.

NWC water production in the Harvey Field area will continue in the near future with longer-range reductions dependent on the efficient operation of existing facilities and the availability of new wells and equipment at other more desirable locations.

Subject to availability of appropriate funding, future water production facilities for the Naval Weapons Center will be constructed generally in a zone parallel to, and approximately one-half mile easterly of the west boundary to capture groundwater now lost by evaporative discharge around China Lake Playa. New wells will be spaced at intervals not closer than one-half mile, be of limited depth, modest size, and connected to the existing system by new transmission pipelines. In the future, as needs dictate, the inflow from the Argus and Coso Mountains is to be captured and used where feasible.

In an effort to systematically and efficiently spread the production facilities of the major water pumpers over the more desirable areas of the valley, the Naval Weapons Center will favorably entertain proposals from existing major municipal and industrial pumpers to expand their pumping facilities along the proposed new line.

The Naval Weapons Center supports an extensive program directed toward collection of additional three-dimensional data pertaining to the groundwater recharge, discharge, storage, flow and quality as it pertains to the Indian Wells Valley. Funding responsibility for this program is to be shared with other major water producers on an equitable basis.

The Naval Weapons Center supports establishment of, and will be an active participant of, an Ad-Hoc Water Management Committee whose purpose will be to establish policies, both near- and long-term, which will foster proper management of the groundwater basin for all affected parties. Such a committee should include representation from:

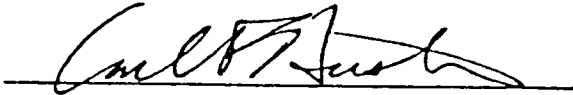
- Naval Weapons Center
- Indian Wells Valley Water District
- Kerr-McGee Corporation

Other commercial/industrial users

Agricultural users

Small Water Companies and Cooperative Well Owners

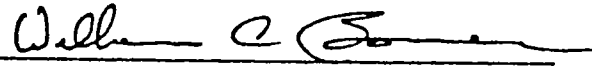
As a matter of policy, owners/operators of pumping plants of 7-1/2 HP and less would be exempted from future basin management restrictions, since small wells of this type have a negligible impact on area water levels and by their inherent scattered locations, assist in the desirable dispersion of water production.



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