

## DEPARTMENT OF HEALTH SERVICES

Division of Drinking Water and Environmental Management  
31 East Channel Street Room 270  
Stockton, CA 95202

N60211\_000309  
CROWS LANDING  
SSIC NO. 5090.3.A



October 28, 1993

Shelly B. Navarro  
NASA Ames Research Center  
System No. 50700  
MS NAS-19-01  
Moffett Field, CA 94035-1000

ANNUAL INSPECTION OF DOMESTIC WATER SYSTEM

Humayun Ali, Sanitary Engineer, inspected the NASA Crows Landing Flight Center domestic water system on September 2, 1993. Numerous deficiencies were noted during the inspection of the system and the review of the Department's files for the NASA Crows Landing Flight Center.

The deficiencies are summarized in a memorandum prepared by Mr. Ali at the conclusion of his inspection. I have enclosed a copy of the document for your information. Please review the memorandum and provide the Department with a written response that outlines a plan and schedule for correcting the deficiencies. Your response should be forwarded to the Department by November 15, 1993.

The Department considers water quality monitoring to be a high priority regulatory requirement. Therefore, the NASA Crows Landing Flight Center's monitoring deficiencies are an important concern to this office. A water quality monitoring plan must be developed to outline the future monitoring requirements for the well for the next 5 years. Such a plan should assist your staff in meeting due dates applicable to the regulatory monitoring requirements.

The contamination of the water supply with nitrates is a primary health concern because of the acute nature of the health impact of nitrates on young infants. Until treatment is provided or a better source of water is developed to assure continuous compliance with all applicable potable water Maximum Contaminant Levels (MCLs), notification of the contamination of the water with nitrates must be provided to all persons that may be able to obtain water from the NASA-Crows Landing water system. Enclosed is a sheet that provides specific language regarding the nitrate contamination that must be provided to every person employed or otherwise authorized to be present at the Crows Landing facility. In addition, the nitrate contamination notification must be posted at enough various locations on the facility to reasonably assure that anyone entering the facility will be made aware of the nitrate contamination of the domestic water. Since it is

unlikely that NASA will be able to provide a safe source of domestic water within a short period of time, all taps from which water can be obtained must be posted with signs that state "DANGER. THIS WATER IS CONTAMINATED WITH NITRATES. DO NOT DRINK". To overcome the hazard associated with language barriers that may exist among people that may visit the facility, the Department concurs with your suggestion that the signs also include the international symbol that signifies that the water is unsafe to drink. The symbolic notice that you faxed to me on October 9, 1993 will be satisfactory for this part of the warning signs. Please design the notification signs that you propose to use and forward a copy, in the full scale proposed for use, to the Department for approval before producing and posting the signs. The signs must be provided at each water faucet, drinking fountain, bathroom faucet, hose bibb, and other outlet from which water can be obtained from the water system. Since NASA intends to disconnect much of the piping that delivers water to a number of buildings where domestic water will no longer be needed as a result of NASA's planned use of the buildings that exist at Crows Landing, expedient completion of that task will minimize the number of water delivery points for which warning signs will be necessary.

Mr. Ali's memorandum also notes that abandoned Well No. 1 is not properly sealed and may be a conduit for contamination to reach the underground aquifers penetrated by the well. Since the wells are reasonably close to each other, it is possible that contamination entering Well No. 1 may be responsible for the bacteriological contamination currently being experienced in Well No. 2. This possibility should be investigated as part of the possible significant rise investigation being conducted in conjunction with the recent failure of the total coliform rule. If NASA has some future purpose for Well No. 1, it should be capped with a seal that will assure that no contamination can enter the well. If NASA has no use for Well No. 1, the well should be destroyed in conformance with the Stanislaus County well ordinance to protect the ground water aquifers in the area.

Earlier in October, you requested guidance regarding the applicability of the Federal lead and copper regulations to the NASA-Crows Landing facility. It is my understanding that noncommunity water systems are subject to the Federal lead and copper monitoring requirements. Noncommunity systems are those water systems that serve at least 25 nonresident individuals daily at least 60 days of the year, but not more than 24 yearlong residents. Therefore, NASA must evaluate the number of days when flight operations, baseball games, National Guard training exercises, or other operations at the Crows Landing facility may be expected to result in a total nonresident population of 25 or more at the facility. These projections must be compared to the 60 day criterion in the definition of a noncommunity system to facilitate a determination of the Federal lead and copper rule to the Crows Landing facility.

The Department looks forward to receiving plans for improvements in the water source and for assuring that the water system is operated by trained personnel in a way that will assure the future safety of the domestic water supply at the Crows Landing Flight Center. If you have any questions regarding the inspection findings or other matters concerning the Crows Landing facility, contact me at 209-948-3816.

*Joseph O. Spano*

Joseph O. Spano, P.E.  
District Engineer  
Drinking Water Field Operations Branch

Enclosures

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# Memorandum

To : Joseph O. Spano

Date: October 27, 1993

From : Humayun M. Ali *HMA*

Subject: Annual Inspection of Crows Landing Flight Facility Water System

The water system at Crows Landing Flight facility (Facility), System No. 5010700, operated by the National Aeronautics and Space Administration (NASA), was inspected on September 2, 1993 with the assistance of Shelly Navarro, Environmental Assessor. An Annual inspection report was prepared following the inspection.

Following are the deficiencies, noticed during the inspection and upon subsequent review of system files, and necessary corrective actions required by the Facility.

1. The Facility's only source of water, Well No. 2, is contaminated with nitrates in excess of the MCL. Notification requirements under Section 64464.3(a)(1) of Title 22, Code of Regulations, require the Facility to notify its consumers of the nitrate violation. Per the requirements of Subsections 64464.3(b)(2)(C) and (D) the facility is required to notify its consumers by Method 6 (Expedited Hand Delivery) and Method 7 (Continuous Posting) as mentioned in Section 64464.1(a). The regulations further require repeat notice of water quality failure to be hand delivered every three months. The Facility should hand deliver the notice of nitrate violation at least once every three months, to all personnel and authorized visitors of the Facility, as long as the nitrate violation continues. A copy of each quarterly notice should be submitted to the Department immediately after the consumer notification. To comply with the continuous posting of notice requirement, under Method 7, the Facility should post a Department approved notice at all water delivery points. As a long-term solution to the nitrate problem the Facility should consider either treatment of the Well No. 2 water for the removal of nitrates or a new source of potable water.

8. The facility should provide a fence around Well No. 2 and the ground level storage tank to provide restricted access to these facilities.
9. Since the Facility provides disinfection treatment (hypochlorination) of the water it distributes, the water system should be provided with a State certified water treatment plant operator.
10. The Facility's existing emergency notification plan (copy enclosed) is outdated due to personnel changes in the department. Further, the plan is incomplete since the section on "Notification Plan", provided on the form is not filled out. Enclosed is a new emergency notification form that needs to be submitted to the Department. The Form includes the day and evening telephone numbers for the contact persons at the Department. It is necessary to fill out the form completely in order to be acceptable.
11. Department records indicate that the distribution system bacteriological monitoring was not conducted for the month of December, 1992. If such monitoring was conducted, a Monthly Report of Distribution System Bacteriological Monitoring Summary should be submitted. If the monitoring was not conducted, the failure to monitor must be reported to the Department.

## TRANSMITTAL

Date: 3 August 2001

From: Lynn Marie Hornecker  
CROWS LANDING

To: Diane Silva  
Code 01LS.DS

**Subj: CERCLA Administrative Record Materials**  
Former Naval Auxiliary Landing Field, Crows Landing

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*Document Title (or subject):* Annual Inspection of Domestic Water System

*Author:* Joseph O. Spano California Department of Health Services

*Recipient:* Shelly B. Navarro, NASA Ames Research Center

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