Farhad, Mohammad@Waterboards

From: Wyels, Wendy@Waterboards
Sent: Tuesday, September 08, 2015 8:34 AM
To: Remick, David@Waterboards; Sahota, Bhupinder@Waterboards
Cc: Farhad, Mohammad@Waterboards; Holmes, Kari@Waterboards; Kenny, Brendan@Waterboards; Hold, Howard@Waterboards
Subject: RE: DVI compliance

Hi Dave,
Thanks for forwarding the workplan. Can you also forward the report of results when you receive it in November?
Wendy

From: Remick, David@Waterboards
Sent: Friday, September 04, 2015 3:31 PM
To: Wyels, Wendy@Waterboards; Sahota, Bhupinder@Waterboards
Cc: Farhad, Mohammad@Waterboards; Holmes, Kari@Waterboards
Subject: RE: DVI compliance

Wendy,

DVI has been meeting our directives from the citation issued in March 2015. Attached is their scope of work relative to Part I of the Corrective Action Plan (CAP). You can see from the cover page that an extension was requested for submittal of Part 2 of the CAP from September 30, 2015 to November 30, 2015. The Division granted the request.

Dave Remick
SWRCB Division of Drinking Water
31 E. Channel St., Room 270
Stockton, CA 95202
Phone (209) 948-3878
Email: david.remick@waterboards.ca.gov

From: Wyels, Wendy@Waterboards
Sent: Friday, September 04, 2015 2:04 PM
To: Sahota, Bhupinder@Waterboards; Remick, David@Waterboards
Cc: Farhad, Mohammad@Waterboards; Holmes, Kari@Waterboards
Subject: DVI compliance

Hi Dave and Bhupinder,
As you may recall, the Regional Board issued three Cleanup and Abatement Orders to DVI in late March. We're very concerned with DVI's lack of compliance with the Cleanup and Abatement Order for their NPDES wastewater treatment plant, and are looking into taking additional enforcement actions. We're curious as to whether DVI is complying with DDW's March 2015 Citation. Can you let us know your perspective?

Also, can you provide a copy of Part 1 of the Corrective Action Plan that was due by June 1?

Thanks for your help!

Wendy Wyels

Supervisor, Compliance and Enforcement Section
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite A
Rancho Cordova, CA 95670
(916) 464-4835
wwyels@waterboards.ca.gov

STATE OF CALIFORNIA — DEPARTMENT OF CORRECTIONS AND REHABILITATION
EDMUND G. BROWN JR., GOVERNOR

FACILITY PLANNING, CONSTRUCTION AND MANAGEMENT
P.O. Box 942883
Sacramento, CA 94283-0001

May 18, 2015

Mr. Bhupinder Sahota, Senior District Engineer
State Water Resources Control Board
Division of Drinking Water, Stockton District
31 East Channel Street, Room 270
Stockton, CA 95202

Dear Mr. Sahota:

The California Department of Corrections and Rehabilitation, Facility Planning, Construction and Management is providing the response as required per the contents of Citation #01-10-15C-002 for Part I of the Corrective Action Plan (CAP) due on or before June 1, 2015.

Attached, please find the Scope of Work (SOW) for the Deuel Vocational Institute (DVI) for the Operation and Reliability Study for the DVI Reverse Osmosis (RO) Water Plant. The study will include investigating the current brine concentrator system for processing the RO waste stream and any alternatives that might be available to improve reliability. The schedule calls for 180 days to complete the study. Due to the substantial work included in the SOW, we are requesting that the due date for Part II of the CAP to be extended from September 30, 2015, to November 30, 2015.

Should you require additional information, please contact Pedro Reyes, Regional Manager, at (916) 255-0516, or myself at (916) 255-2583.

FRED CORDANO
Associate Director
Facilities Asset Management Branch
Facility Planning, Construction and Management Division

Attachment

cc: Jerome Price, Warden, DVI
Edward Vasconcellos, Associate Warden Business Services, DVI
Pedro Reyes, Regional Manager, Facilities Asset Management Branch
Terry Bettencourt, Correctional Plant Manager II, DVI

WATER PLANT OPERATION RELIABILITY STUDY
DEUEL VOCATIONAL INSTITUTE

AMENDMENT 2

This Scope of Services delineates the services for the Water Plant Operation Study at the Deuel Vocational Institution (DVI) in Tracy, California. The Consultant shall review and recommend options for the optimization of the operation of the Zero Liquid Discharge (ZLD) system to improve reliability and manage operation and maintenance costs. The project will evaluate trends in ZLD process performance, reliability, water recovery efficiency, chemical and electrical power consumption, equipment maintenance requirements, and operational procedures compared to the original equipment specifications and performance. Maintenance records will be reviewed and discussed with DVI operations staff and management to identify probable causes of equipment wear, scale formation, corrosion, and other operational factors which may adversely affect ZLD system reliability. Recommendations will be developed to provide redundant backup equipment for critical components to enhance ZLD system reliability. The consultant shall focus on evaluation and optimization of the ZLD system to provide reliable operation and performance of the drinking water system. Other treatment processes, such as the Reverse Osmosis (RO) system, will be considered to the extent that they affect or are impacted by the performance of the brine concentrator ZLD system.

I. Project Initiation Teleconference

A. Conduct an initial teleconference with DVI management and operations personnel to discuss and refine project goals, objectives, and schedule. Prepare an agenda for review and editing by DVI prior to the teleconference. Discuss key issues and concerns, and identify specific needs and requirements.

1. Project goals, objectives and schedule
2. Plant capacity and reliability
3. Groundwater quality
4. RO brine water quality
5. Brine concentrator performance trends
6. Brine concentrator scaling and cleaning
7. Chemical feed systems
8. Waste/seed tank operation
9. Brine deaerator operation
10. Vapor compressor
11. Equipment corrosion, pitting, and wear
12. Brine evaporation ponds
13. Maintenance schedules
14. Pan Lymisters

II. Review Plans, Reports, and Records

A. Obtain existing plans, reports, and operation and maintenance records of the DVI water treatment plant, storage, conveyance, and wastewater treatment facilities. Review raw water, treated drinking water, and wastewater quality data for a recent 12-month period. If available, review photographs and video of the existing internal mechanical components which show mechanical wear, pitting, scaling, corrosion or other maintenance issues.

III. Site Observation and Meetings

A. Conduct up to 3 trips for on-site physical observation of the RO and ZLD treatment systems, chemical feed systems, evaporation ponds, and related equipment to assess their existing condition. Discuss potential impacts to current operations, and equipment replacement and/or rehabilitation requirements with DVI operations staff. Summarize discussions and key observations in a Technical Report to CDCR management and operations personnel to discuss and refine.

IV. Water Quality Evaluation

A. Evaluate water quality of the groundwater source and RO brine based on a recent 12-month period of historical data. Compare current water quality to design values and to conditions at startup of the Water Treatment Plant (WTP). Identify water quality trends since startup of the WTP. Evaluate the impact of drought conditions on water quality and the effects of changing water quality on WTP performance. Evaluate the quantity of groundwater which could potentially be blended with the RO treated water while maintaining the drinking water Total Dissolved Solids (TDS) concentration and the concentrations of inorganic minerals within secondary drinking water limits. Evaluate the quantity of groundwater which could potentially be blended with the RO treated water while maintaining wastewater effluent discharge limits for TDS and inorganic minerals such as iron and chlorides.

V. Optimization of Operations and Maintenance

A. Develop and evaluate alternative treatment strategies and operational modifications to improve operations and maintenance. Evaluate causes of and mitigation equipment corrosion, pitting, and wear and mitigation measures. Recommend bench-scale testing if required, to assist in evaluating alternative treatment strategies. Identify upgrades to the treatment processes and chemical feed systems to enhance reliability and maximize capacity of the existing WTP. Review design of the pan lysimeters and recommend changes if needed.

VI. Develop Operations Manual And Provide Training

A. Develop an Operations Manual (OM) for the RO Plant, Brine Concentrator and Waste Ponds. The OM will have detailed operational instructions for the complete system.

Two days on-site training will be provided based on the new operations and maintenance manual.

VII. Evaluation of Treatment Optimization and Upgrade Alternatives

A. Develop and evaluate alternatives to optimize treatment performance to achieve the water quality goals and enhance reliability for the drinking water treatment systems. Identify waste by-products of treatment alternatives and possible disposal methods. Treatment alternatives to be evaluated include upgrade or replacement of components of the ZLD process equipment and potential addition of backup equipment for critical components. Evaluate optimal sizing of treatment equipment to accommodate changing water quality due to drought and other environmental factors such as long term climate change. Identify specific requirements to integrate recommended equipment upgrades or new equipment into the DVI site and exiting treatment processes. Evaluate treatment alternatives based on non-monetary criteria such as reliability, operability, and adaptability to future regulations and environmental conditions. Recommend the best treatment upgrade alternative to meet water quality goals. If appropriate, identify additional variations or upgrades that could achieve better water quality or reliability for relatively small incremental upgrade costs. Evaluation of the RO system will be limited to impacts that the RO system and the ZLD might have on one another.

VIII. Economic Evaluation of Treatment Optimization Alternatives

A. Develop capital costs, O&M costs, and present value or life cycle costs for feasible treatment optimization and upgrade alternatives.

IX. Dairy Water Supply Alternative

A. Review the Prison Industry Authority dairy water use operations and the existing piping/water supply system for using alternative well water supply. Provide technical report with recommendations, piping requirements and filtering requirements for the system.

X. Project Summary Technical Report

A. Develop a Final Technical Report to document the results of the evaluations. Provide quality assurance review of work products. Review comments from CDCR on the draft document and incorporate responses into the Final Technical Report. Provide the Final Technical Report to CDCR in both printed paper and in electronic pdf format.

END OF APPENDIX A.2