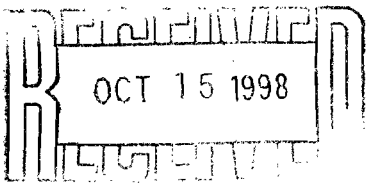
Woodward-Clyde

Engineering & sciences applied to the earth & its environment



October 14, 1998

VIA HAND DELIVERY

Mr. Art Riddle
NPDES Enforcement Supervisor
Water Division
Arkansas Department of Pollution Control and Ecology
8001 National Drive
Little Rock, Arkansas 72219-8913

Re: Quarterly Report - Third Quarter, 1998, CAO LIS 98-119

Dear Mr. Riddle:

Pursuant to paragraph 2(1) of the Order and Agreement of CAO LIS 98-119, Woodward-Clyde, on behalf of El Dorado Chemical Company, submits the enclosed quarterly report outlining the progress to-date on its wastewater evaluation, minimization and pollutant source control program.

Should you have any questions, please feel free to call Byron Smith at (870) 863-1498.

Very truly yours,

G. Richard Speer, P.E.

Emily M. Taylor, P.E.

cc: David Brown, Enforcement Coordinator, Hazardous Waste Division
Gerald Delavan, Senior Geologist, Water Division

bcc: Ralph Freeman
Byron Smith
John Carver
Chuck Nestrud
Sam Ledbetter

Enclosure

EMT:tlc

W:\ELDORADO\98B189\QR-3Q98-CVL.DOC

Woodward-Clyde International-Americas • (formerly Woodward Clyde Consultants)
2822 O'Neal Lane • Baton Rouge, Louisiana 70816
(225) 751-1873 • Fax (225) 753-3616

1.1 OBJECTIVES

The objective of this document is to provide the Arkansas Department of Pollution Control and Ecology (ADPC&E) a quarterly report on the progress of the projects associated with Consent Administrative Order (CAO) LIS 98-119, dated August 14, 1998.

Woodward-Clyde International-Americas (Woodward-Clyde) has prepared this quarterly report on behalf of El Dorado Chemical Company (EDCC). Woodward-Clyde is currently providing consulting engineering services associated with the upgrade and improvements for the wastewater collection and treatment systems at the El Dorado plant.

The engineering improvements were initiated by EDCC in anticipation of new NPDES permit limits. The existing NPDES permit is currently due for renewal and this work will be used to help establish new permit limits.

Various tasks, which will provide the groundwork for the development and implementation of subsequent activities, have already been performed. With the concurrence of ADPC&E, a Wastewater Minimization/Stream Segregation (WM/SS) program has been developed and is being implemented at the present time.

This progress report presents brief outlines of the above efforts performed to date and describes the status of the activities currently in progress. A Gantt chart, which presents the overall schedule of activities projected through August of 1999, is also attached.

2.1 EARLY WORK

Initial studies on EDCC's wastewater collection and treatment system were performed by Woodward-Clyde in the Spring of 1997. This work indicated that the plant collection system needed improvements with regard to re-routing uncontaminated stormwater away from the treatment system and segregating process and contact stormwater and routing them to treatment. In the existing system, process wastewater, cooling tower blowdown, demineralizer backwash, contact stormwater (i.e. rainwater falling within the process areas), and a significant portion of the non-contact stormwater (rainwater falling outside of the process areas) are all combined and routed to the treatment system. By segregating these streams according to their characteristics, a more effective and efficient treatment system can be designed.

Cost estimates developed on the basis of this early evaluation work indicated that a new treatment system sized to handle the volumes of wastewater involved would be prohibitively expensive. It was concluded that a necessary initial step would be the development and implementation of a plant-wide stream segregation program to route each wastewater stream to its proper destination, according to its characteristics and composition, coupled with a wastewater minimization program to reduce the volume and contaminant loading of the process wastewaters generated.

The main purpose of such a Wastewater Minimization/Stream Segregation (WM/SS) Program would be to reduce flows and loadings of the wastewater which would need to be processed through the future treatment facility. With these reductions, the design flow for the new facility should be significantly less than existing flows and therefore should result in a smaller and more efficient wastewater treatment system.

Per the schedule established by the CAO, the WM/SS program must be completed with sufficient time remaining to perform a wastewater flow and loading characterization study by August 1, 1999. The new flows and loadings will be incorporated into the NPDES permit renewal application, which is also due to the ADPC&E by August 1, 1999. The new flows and loadings will also become a part of the Basis of Design (BOD) document for the new treatment facility.

2.2 IDENTIFICATION OF WASTEWATER AND STORMWATER STREAMS

Following the initial studies by Woodward-Clyde, implementation of the preliminary phases of the WM/SS program commenced in late spring of 1997. EDCC appointed Mr. Kyle Wimsett, a member of the plant's operations staff, to work full time in coordination with the plant's Environmental Department, on the first phase of the WM/SS program. This phase consisted of a plant-wide, area-by-area characterization of the existing wastewater collection system, including the identification of each of the wastewater streams in the plant and the identification of each stream's point of origin and the specific route to the treatment system.

Dye studies were conducted in each operating area of the plant to develop the information on routing and to delineate the existing system. This phase of the WM/SS program continued through the Spring and early Summer of 1998. The information developed through these early efforts provided the foundation for defining the next phases of the WM/SS program.

2.3 DEVELOPMENT OF AN OVERALL ACTION PLAN

The early work performed by plant personnel allowed the formulation and development of a detailed action plan for the remainder of the WM/SS project. This action plan is presented in graphical form on the attached Gantt chart which shows an overall project schedule and the duration of each specific task.

The duration shown on the second column of the Gantt chart is given in working days (as opposed to calendar days), with the completion of the construction phase scheduled for early May, 1999. This should allow sufficient time remaining to perform a wastewater flow and loading characterization study by August 1, 1999.

The new wastewater flows and loadings will be incorporated into the NPDES permit renewal application, which is also due to the ADPC&E by August 1, 1999. The new flows and loadings will also become a part of the Basis of Design (BOD) document for the new treatment facility.

Implementation of the WM/SS program action plan was initiated in June of 1998 and it continues at present, as the attached Gantt chart indicates.

3.1 DEVELOPMENT OF A PRELIMINARY DESIGN FOR WM/SS

The preparation of a preliminary design package required several tasks, as follows:

1. **Topographic Survey.** As a necessary initial step for the definition of the overall approach to develop a WM/SS design package, the services of a surveying contractor were obtained to perform a plant-wide topographic survey in sufficient detail to provide the information that will be necessary later in the detail design and layout of the containment and curbed areas, rerouting of existing drain lines or the installation of new ones, and the location and design of collection basins and sumps, pump stations and other such installations. The survey work was initiated in early July and was completed in mid-August, 1998.

2. **Existing Drawing File Search.** At the same time that the topographic survey was in progress, an effort was made to locate all of the existing drawings, documents and records which might be useful during the detail design phase of the project.

3. **Basis of Design (BOD).** A Basis of Design (BOD) document for the WM/SS project was developed between July and August, 1998, establishing the scope of the project, outlining the overall project approach and listing the specific modifications and improvements which could be developed and implemented as part of this effort.

4. **Preliminary Design.** On the basis of the BOD document, a preliminary design package was developed, including a set of simplified process flow diagrams (PFD's), general topographic survey maps and a set of general layout drawings showing the outlines of the areas which could be improved and/or modified. This preliminary design package was submitted by Woodward-Clyde to EDCC for their in-house review and comments in late September.

3.2 CURRENT STATUS.

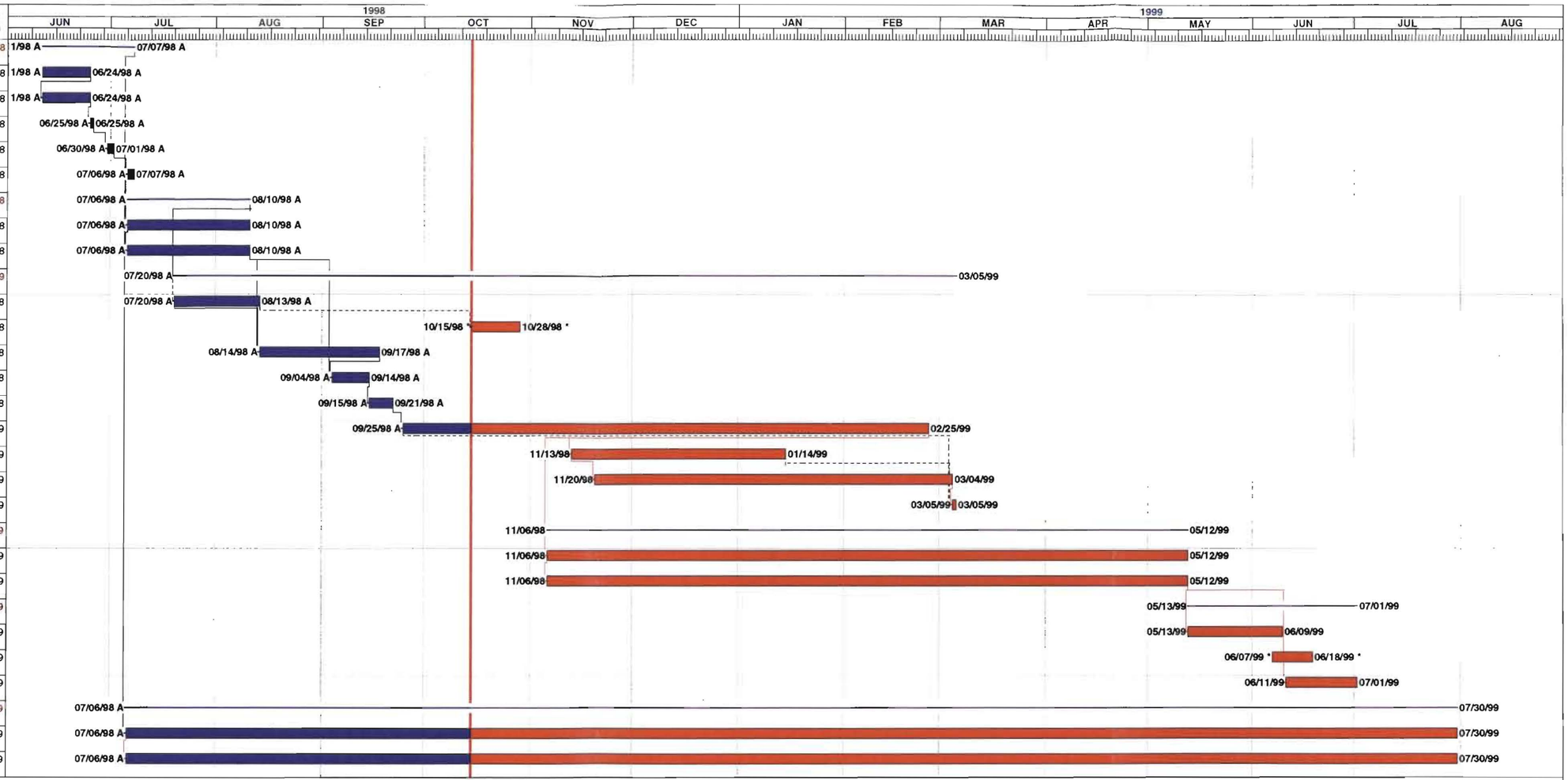
As of the beginning of October 1998, the preliminary design is complete and some phases of the detail design are already in progress.

Preliminary Design. The preliminary design documents are at the present time being revised to incorporate EDCC's comments and to include some refinements and engineering details which resulted from the in-house review.

Detail Design. The detail design for the north side of the plant, which was assigned the highest priority, is being developed and is approximately 70% complete as of the beginning of October. This phase, which involves the consolidation of the stormwater outfalls on the north side, will be completed and submitted to EDCC for review in mid-October. It is expected that construction on this phase of the project will begin in November, 1998.

Work has also been initiated on the detail design of the next package, which includes the sulfuric acid area and the High-Density Prill Bulk Storage Building. This package, which was assigned the next priority after the north side outfalls, is scheduled to be submitted to EDCC for review in mid-November.

Description	Rem Dur	Early Start	Early Finish
Begin Project	0 *	06/11/98	07/07/98
Review Source ID Study	0 *	06/11/98	06/24/98
Develop Detail Scope of Work	0	06/11/98	06/24/98
Scoping Meeting	0	06/25/98	06/25/98
Determine Survey Location Site Visit	0	06/30/98	07/01/98
Determine Sample Locations (Waste Charact.)	0	07/06/98	07/07/98
Topographic Survey	0 *	07/06/98	08/10/98
Plant Survey and Drawing File Search	0	07/06/98	08/10/98
MMLH Plant Topographic Survey	0	07/06/98	08/10/98
Waste Minimization Design	102 *	07/20/98	03/05/99
Basis of Design Technical Memorandum	0	07/20/98	08/13/98
Geotechnical Review and Design Memorandum	10	10/15/98	10/28/98
Preliminary Design	0	08/14/98	09/17/98
EDCC Review	0 *	09/04/98	09/14/98
Incorporate EDCC Comments	0 *	09/15/98	09/21/98
Detail Design	96	09/25/98	02/25/99
EDCC Review	45	11/13/98	01/14/99
Incorporate EDCC Comments	75	11/20/98	03/04/99
Issue Construction Drawings	1	03/05/99	03/05/99
Contruction Administration	134 *	11/06/98	05/12/99
Engineerng Administration	161	11/06/98	05/12/99
CQA and Construction Administration	161	11/06/98	05/12/99
Wastewater Characterization	36 *	05/13/99	07/01/99
Wastewater Characterization	20	05/13/99	06/09/99
Wastewater Characterization Report	10	06/07/99	06/18/99
NPDES Permit Application	15	06/11/99	07/01/99
Project Management	207 *	07/06/98	07/30/99
AR Project Management	207	07/06/98	07/30/99
Engineering Project Management	207	07/06/98	07/30/99



Start date	07/14/98
Finish date	07/30/99
Data date	10/15/98
Run date	10/14/98
Page number	1A

El Dorado Chemical Co.
Waste Minimization Improvements
El Dorado, AR

Date	Revision	Checked	Approved

Early bar
Progress bar
Critical bar
Summary bar
Progress point
Critical point
Summary point
Start milestone point
Finish milestone point