

PROJECT MANAGEMENT PLAN
WASTE GENERATION TREATMENT STUDY

Task 27
of the
Zero-Offsite Water Discharge

Prepared For:

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EG&G Job No. 401009
BOA Contract BA 72429 PB
Letter Contract No. BA79844GS

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January 8, 1991

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PROJECT MANAGEMENT PLAN

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1.0 INTRODUCTION

This study is one of several studies being conducted for, and in the development of, a Zero-Offsite Water-Discharge Plan. Specifically, this study would investigate the quantity of solid waste generation and disposal/control as a result of extensive treatment processes related to water reclamation and reuse. Historically, the Rocky Flats Plant (RFP) has discharged about 73 million gallons of wastewater per year from the Sanitary Treatment Plant (STP) (ASI, 1988). If the dissolved solids concentration of this STP effluent was 500 mg/L and the water was treated so it could be reused to extinction, then over 150 tons of salts would be generated each year. The quantification and disposal/control of these types of solid wastes are the purpose of this study. This Project Management Plan (PMP) has been prepared in response to a request for the planning and implementation of a subordinate study in EG&G Rocky Flats Inc.'s Statement of Work for Zero-Offsite Water Discharge dated May 30, 1990 (Revision 5). The PMP and associated identified work components are being completed under Letter Contract No. BA 79844GS dated August 13, 1990, EG&G Job No. 401009 as part of the Basic Ordering Agreement (BOA) Contract BA-72429PB (ASI Project No. 208-0127). This PMP outlines the several work elements for an effort required to evaluate several aspects of waste generation treatment at RFP.

The following sections provide a subtask-level description of the activities which are proposed in response to EG&G's Statement of Work. A list and schedule of deliverables, the anticipated levels of effort and associated costs to provide these services are included.

2.0 SUBTASK-LEVEL WORK ITEMS

2.1 SUBTASK 012710 - PROJECT MANAGEMENT PLAN DEVELOPMENT

ASI, in conjunction with EG&G staff, has developed with this document a detailed Project Management Plan (PMP). This plan delineates various subtask assignments, schedules, evaluation milestones, budgets, and specific study team participants to be used for the various identified work components of the study. The PMP expands upon the original ASI (1990) proposal, which was submitted previously to EG&G for review and comment.

Several ASI key personnel as well as supporting staff members have been identified as follows (labor-rate categories are indicated in parentheses):

Key Staff: Michael G. Waltermire, P.E., Project Manager (26)
 James R. Kunkel, Ph.D., P.H., P.E., Principal Scientist (28)

Supporting Staff: Nick Hart, Engineer (23)
 Mike Rengel, Project Director (31)
 Timothy D. Steele, Ph.D., P.H., Group Director (31)

The estimated ASI hours are given in Appendix A.

2.2 SUBTASK 012720 - DATA AND LITERATURE REVIEW

Relevant data and information on ongoing studies and proposed waste-minimization activities related to process and sanitary wastewater would be sought from cognizant EG&G representatives. The data and information sources will include available reports, drawings, maps and applicable documents on the process waste system. The relevant literature will be compiled into an annotated bibliography. Potential data and literature sources within EG&G include personnel in the Waste Process/Design Engineering, Waste Planning, and Liquid Waste divisions.

Ongoing tasks related to the Zero Discharge Study will be used as input to this task. These tasks may include, but not necessarily be limited to, Task 10, Sanitary Treatment Plant Evaluation Study (ASI, 1990b), Task 11, Process Water Reuse Potential Study (ASI, 1990c), Task 12, Reverse Osmosis and Mechanical Evaporation Study (ASI, 1990d), and Task 13, Treated Sewage/Process Wastewater Recycle Study (ASI, 1990e).

2.3 SUBTASK 012730 - SOLID WASTE QUANTITIES

Investigations of specific treatment techniques such as flocculation, ion exchange, activated carbon adsorption, air stripping, reverse osmosis, micro-filtration and disinfection are part of the ongoing studies under Tasks 10 through 13 indicated above. These investigations would include the expected volumes of waste residue for each treatment system for a given quantity and quality of water. The particular treatment technique would define the quantity and quality of solid waste generated. The source of the water treated (process, sanitary, and storm runoff) also will impact the expected quantities of solid waste. Additions of chemicals to aid in the removal of organics, solvents and metals may substantially increase the amount of solid waste generated during water treatment for recycle.

Results of our analyses will include the general characteristics of solid wastes and the expected quantities of solid wastes for the proposed treatment/recycle scenarios being evaluated in Tasks 10 - 13. Removal of organics, solvents and metals may require bench-scale testing. We have not included the cost of such testing in our cost estimates for this task.

2.4 SUBTASK 012740 - REPORT PREPARATION

Based upon the results of the work completed in Subtasks 012720 and 012730 above, twenty copies of the draft report would be prepared by ASI for submittal to EG&G for comment and review. After review and incorporation of the comments, 20 copies of the final report would be

prepared and submitted to EG&G. An executive presentation report consisting of 50 paper copies of the viewgraphs, one reproducible of the viewgraphs, and one set of overhead slides of the executive- summary presentation will be submitted by ASI.

Typed hard copies of the text documentation will be delivered to the RFP as two sets of adequately and correctly labeled 3-1/2", 720K, not compressed, diskettes (original plus backup). The diskettes will be IBM PC-DOS compatible and in "WordPerfect" 5.1.

2.5 SUBTASK 012750 - PROJECT MANAGEMENT

In order to monitor the progress of this study, an ASI representative would report on work accomplished, near-term plans, requests, and problems encountered during the performance of the study. These brief oral reports will be provided as requested at weekly group meetings at the RFP to discuss options and follow-up participation with cognizant RFP personnel. Minutes of these weekly meetings will be prepared by the ASI project manager or his assigned representative, and submitted to EG&G.

In addition to the weekly progress review meetings, three additional meetings have been budgeted in this plan. The first meeting would be an in-progress review meeting at ASI's offices to be attended by RFP representatives at approximately 30 percent completion of the study. This meeting would be to assess the initial progress and direction of the study. The second meeting would be a report evaluation review meeting after submittal of the draft report for the study, but prior to the final report submittal. The third meeting would be the executive presentation of the final report summary, conclusions and recommendations. We envision that the second and third meetings would be held at the RFP.

3.0 DELIVERABLES AND SCHEDULE

The following is a list of deliverables and the associated estimated schedule for their completion:

- Final Project Management Plan - this document.

- Draft report from Subtasks 012720 and 012730 presenting quantities and characteristics of solid waste generation resulting from water reuse treatment at the RFP. The draft report is to be submitted on or before April 12, 1991.

- Final report incorporating EG&G technical review comments, scheduled for submittal on or before April 26, 1991.

- Executive summary viewgraphs scheduled for submittal on or before April 26, 1991.

4.0 PROPOSED LEVEL-OF-EFFORT AND ASSOCIATED COSTS

The level-of-effort showing proposed labor hours by labor category for this study is summarized in Appendix A. The project budget for the study is given on the spreadsheet in Appendix B.

5.0 REFERENCES

Advanced Sciences, Inc., 1988, Water Management Alternatives for the Rocky Flats Plant.

Advanced Sciences, Inc., 1990a, EG&G Rocky Flats, Inc., Request for Proposal, BA76637GS, Waste Generation Treatment Study, EG&G Number 401009: June 22, 4p. plus Appendices A and B.

Advanced Sciences, Inc., 1990b, Project Management Plan, Sanitary Treatment Plant Evaluation Study.

Advanced Sciences, Inc., 1990c, Project Management Plan, Process Water Reuse Potential Study.

Advanced Sciences, Inc., 1990d, Project Management Plan, Reverse Osmosis and Mechanical Evaporation Study.

Advanced Sciences, Inc., 1990e, Project Management Plan, Treated Sewage/Process Wastewater Recycle Study.