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EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
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December 13, 1991

91-RF-8517

Robert M. Nelson, Jr.
Manager
DOE, RFO

Attn: David P. Simonson

INTEGRATION OF SEWAGE TREATMENT PLANT UPGRADES WITH SOLAR POND FRENCH DRAIN ACTIVITIES - JMK-0909-91

In response to your request WMED:JR:7747, dated October 24, 1991, EG&G Rocky Flats has conducted a preliminary review of the proposal to coordinate, if possible, the engineering work for the Sewage Treatment Plant (STP) upgrades with the work now underway to install holding tanks as part of the Operable Unit 4 (OU4) project. In many respects, there are no clear distinctions between the engineering and regulatory aspects of each project. In some cases, engineering decisions have been influenced more by regulations and compliance agreements than strictly technical factors. As a result, the engineering discussion requested by your memorandum focused almost equally on regulatory issues and technical issues.

From a strictly technical view point, it would be possible to convey STP effluent to the proposed N. Walnut Creek location of the French drain holding tank installation. Note: the French drain referenced is the one north of the Solar Evaporation Ponds, not the one under construction at the 881 Hillside. The necessary pipeline, pumps and accessories would have to meet RCRA standards in the event that the redirected effluent was a hazardous substance, and the pipeline would have to be constructed across at least one Individual Hazardous Substance Site (IHSS). The three 500,000 gallons holding tanks would be adequate to temporarily contain the waste until it is treated, based on estimated storage requirements that the Environmental Protection Agency has identified under the National Pollutant Discharge Elimination System (NPDES) Federal Facilities Compliance Agreement (FFCA). It was assumed that alternative treatment/disposal of the contaminated STP effluent would be available, and that use of Building 910 evaporators for STP effluent treatment was not intended. The design of the solar pond treatment system is not compatible with normal domestic wastewater, so provisions must be made to prevent cross contamination of the French drain runoff by STP effluent. Such operational considerations were not within the scope of the engineering discussion.

The cost of materials and construction was estimated for both the effluent pipeline to N. Walnut Creek, and the installation of a separate 500,000 gallon French drain-type "temporary" storage tank, based on existing plans and specifications, on a paved area near the East inner gate, complete with separate pumping and double-walled piping. The estimated cost for the pipeline is \$170,000 compared to \$325,000 for a separate tank near the STP.

Based on the technical discussion and the lower cost, the pipeline appears to be feasible. However, a number of additional factors must be taken into consideration in evaluating the proposed combination of projects. These include:

ADMIN RECCRD

SW-A-002970

DIST.	LTR	ENC
BENJAMIN, A.		
BERMAN, H.S.		
BRETZKE, J.C.		
BURLINGAME, A.H.		
COPP, R.D.		
DOUCHER, D.W.		
HAVIS, J.G.		
IVERED, J.E.	X	
ERRERA, D.W.		
FRANCIS, G.E.	X	X
GOODWIN, R.		
HANNI, B.J.		
HARMAN, L.K.		
HEALY, T.J.		
DEKER, E.H.		
JENS, J.P.		
KERSH, J.M.		
KIRBY, W.A.		
KUESTER, A.W.		
KRIEG, D.		
LEE, E.M.	X	X
MAJESTIC, J.R.		
MARX, G.E.		
MEURRENS, B.E.		
MORGAN, R.V.	X	X
POTTER, G.L.	X	X
PIZZITO, V.M.		
SAFFELL, B.F.		
SANDLIN, N.B.		
SHEPLER, L.B.		
SWANSON, E.R.		
WIERE, J.S.		
WILKINSON, R.B.		
WILSON, J.M.		
YOUNG, E.R.		
ZANE, J.O.		
Blind, F.H.	X	X
Rhodes, J.L.	X	X
Hubb, P.O.	X	X
Leung, M.F.	X	X
Richwig, R.E.	X	X
Ogg, R.T.	X	X
CORRES CONTROL	X	X
TRAFFIC		

CLASSIFICATION:

UCNI		
UNCLASSIFIED	X	X
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER
SIGNATURE
[Signature]
DATE
11/21/91

IN REPLY TO LTR NO
4029-11/21/91

PC#
LTR APPROVALS: *[Signature]*
CROSS TYPIST INITIALS
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The current design of the OU4 project was developed in cooperation with the State of Colorado; any modifications to the system, or alternative usage may require concurrence by the State.

Construction of the pipeline from Building 995 to the storage tanks will cross a rather large IHSS. Construction in an IHSS requires a great deal of review and additional administrative effort.

The French Drain Holding tanks, as currently proposed, are temporary in nature, and are scheduled to be replaced in FY94. If the holding tanks are accepted for effluent storage, some accommodation must be made to allow for the continued presence of the temporary tanks, or integrate the storage requirements for both projects in the permanent tank configuration. Project modifications may affect the schedule for OU4 solar pond dewatering and sludge removal.

Work performed in designing the OU4 storage system has resulted in plans and specifications for the 500,000 gallon temporary storage tanks. These plans and specs can be used to construct additional tanks at a lower cost, as described in the cost estimates above. Design criteria written for the STP Upgrades Project estimated the cost of influent/effluent storage at over \$3 million.

The combination of the STP effluent storage requirement with the installation of holding ponds for OU4 French drain runoff does not present an insurmountable engineering challenge. Regulatory aspects of combining these projects, however, may present additional engineering and/or operational requirements which would make the project less than feasible when compared to other alternatives. Based on the preliminary engineering discussion, EG&G Rocky Flats cannot recommend the integration of the two projects until the more complex regulatory issues are addressed. We welcome the opportunity to assist DOE in discussions with the relevant regulatory agencies which may lead to the best technical solution to the effluent storage project.



J. M. Kersh, Associate General Manager
Environmental and Waste Management
EG&G Rocky Flats, Inc.

REF:fm

Orig. and 1 cc - R. M. Nelson, Jr.