#CCCC557M

CORRES. CONTROL
OUTGOING LTR NO.
DOE ORDER # 5480.23

95-RF-04584

DIST.	ltr	enc
AMARAL, M. E.		
BURLINGAME, A. H.		
BUSBY, W. S.		
BRANCH, D. B.		
CARNIVAL, G. J.		
DAVIS, J. G.		
FERRERA, D. W.		
FRAY, R. E.		
GEIS, J. A.		
GLOVER, W. S.		
GOLAN, P.M.		
HANNI, B. J.		
HARMAN, L. K.		
HEALY, T. J.		
HEDAHL, T. G.		
HILBIG, J. G.		
HUTCHINS, N. M.		
JACKSON, D. T.		
KELL, R. E.	X	
KUESTER, A. W.		
MARX, G. E.		
McDONALD, M. M.		
McKENNA, F. G.		
MONTROSE, J. K.		
MORGAN, R. V.		
POTTER, G. L.		
PIZZUTO, V. M.		
RISING, T. L.		
SANDLIN, N. B.		
SCHWARTZ, J. K.		
SETLOCK, G. H.		
SNYDER, D. P.	X	
STEWART, D. L.		
STIGER, S. G.		
TOBIN, P.M.		
VOORHEIS, G.M.		
WILSON, J. M.		
GRESHO, M. T.	X	
KUNERT, K. K.	X	
REED, A.B. JR.	X	
SATTERWHITE, D. G.	X	
SWANSON, D. R.	X	
UNDERWOOD, L. R.	X	
CORRES CONTROL	X	
ADMIN RECORD/080	X	
TRAFFIC		
PATS/T130G	X	

CLASSIFICATION	
UCNI	
UNCLASSIFIED	X
CONFIDENTIAL	
SECRET	

AUTHORIZED CLASSIFIER SIGNATURE

DATE: 5/26/95

IN REPLY TO RFP CC NO:
01433RF95

ACTION ITEM STATUS
☐ PARTIAL/OPEN
☒ CLOSED
LTR APPROVALS:

Swanson, D. R.
Satterwhite, D. G.
Snyder, D. P. AE for DPS by Gax

ORIG & TYPIST INITIALS
KKK:pis

RF-46469 (Rev. 06/94)

EG&G ROCKY FLATS

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May 26, 1995 95-RF-04584

Patrice M. McEahern, Director
Nuclear Safety/Emergency Preparedness Division
DOE, RFFO

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE NUCLEAR FACILITIES
DGS-104-95

Ref: P. M. McEahern letter (12407) to D. G. Satterwhite, Same Subject, April 27, 1995

PURPOSE

This correspondence addresses the concerns stated in the referenced letter.

DISCUSSION

The referenced letter addresses the concern that not all the Hazard Category 3 nuclear facilities have been identified for the Safety Analysis Review/Basis for Interim Operation (SAR/BIO) scheduling requirements. The following address the three identified concerns.

- Plutonium Inventory in the B-3 Pond

  The 1980 Environmental Impact Statement for the Rocky Flats Plant identifies pond B-1 to have 2.9 Ci plutonium based on sample data obtained in 1973. The sediment volume and density are not reported to evaluate the method of calculation. Comparison of the sample data from 1973 samples with 1994 data from comparably located sample points indicates the level of plutonium concentration in the B-1 pond has decreased; however, a similar comparison of the B-2 pond indicates an increase in activity due to plutonium. Samples for the B-1 pond in 1973 range from 23.8 pCi/g to 4460 pCi/g, compared to samples ranging from 28.2 pCi/g to 253.1 pCi/g in 1994. For the B-2 pond, the sample results ranged from 64.4 to 378 pCi/g in 1973, and from 207 to 1917.7 pCi/g in 1994. Other discrepancies between the 1973 and the 1994 information occur in the volume and depth of the sediment.

	Volume	Depth
Pond B-1		
1973	1,623 m^3 (57,300 ft^3)	1.2 meters (3.9 feet)
1994	27,200 ft^3	2 ft
Pond B-2		
1973	1,229 m^3 (43,400 ft^3)	2.1 meters (6.9 feet)
1994	39,600 ft^3	1.2 ft

ADMIN RECCRD

Current data is available for the remainder of the ponds; however, at this point, Safety Analysis does not have a copy of it. Based on the discrepancies in the data for the B-1 and B-2 ponds, a hazard category cannot be determined without further investigation. Within the next two months, efforts will be made to resolve the inventory of plutonium in the retention ponds in order to make a hazard category determination. This effort is being done in conjunction with the update currently underway for the Site SAR Facilities Hazards Assessment and Classification Report (Phase 1 Summary Report).

- Plutonium Inventory in the Solar Ponds

  The activity related to the solar ponds before closure was in the neighborhood of 2 curies. With the removal of the solutions and sludge from the ponds, the activity has dropped dramatically. Sample information received from Kathy London, ER Program Support, indicates the current total activity level of the ponds as they stand now (empty) is 0.06 Ci, which is a Category 3 activity fraction of 0.017. This activity is from the liners in the ponds. After the capping effort is completed, the total activity (using information from K. London) will be approximately 0.09 Ci (Cat 3 fraction = 0.29). The activity after capping comes from the liners, the sludge which will be replaced in the ponds after minimal processing to dry and remove bacteria, and soils removed from IHSS 101 and IHSS 102. It is our understanding the request to replace pondcrete into the ponds has been denied by the State of Colorado. Addition of the pondcrete would have raised the total activity to greater than 2 curies. The analytical data used in the calculations of activity levels was presented in the "OU4 Solar Evaporation Ponds Interim Measure/Interim Remedial Action Environmental Assessment Decision Document" dated February 1995.

- Holdup of Enriched Uranium in Building 883

  The holdup in Building 883 is considered to be the material in tank B-13. This tank is the subject of a criticality infraction and criticality evaluation (NMSL 950032). The following is a brief history of the situation according to Mike Stanley of Economic Development Operations.

  Building 883 processed enriched uranium until operations were stopped in 1965-66. Since then, the process equipment has been cleaned twice, the B-mill and the process waste system. The tanks associated with the waste system were taken out of service and the process system plugged up. All liquid was emptied from the tanks at the time they were taken out of service. Water was subsequently found in the B-13 tank. Speculation is that the water is mop water which was placed in the tank as a method of disposal. Due to residual contamination in the tank, the water then became contaminated. A radiation scan, a low level gamma scan, and a high- level gamma scan were performed on the tank with the results suggesting the presence of enriched uranium.

The analysis of this tank by the Safeguards Measurements Holdup Measurement Team included several conservative assumptions. The material is assumed to be homogeneous in the tank. If settling has occurred, the result overstates the amount of material present. The results of the measurements is not more than 0.5 gram/liter uranium 235 with 95% confidence. The volume of liquid is approximately 100 gallons, or 380 liters, giving an inventory of 190 grams of uranium in the tank, well below Category 3 threshold limits.

In addition to the solution in the tank, there are two drums of solutions which have not been characterized. Low-level gamma scans of these drums indicate nothing more than depleted uranium. A Safety Evaluation Screen/Unreviewed Safety Question Determination has been performed for sampling these drums. It should be noted that Building 883 is currently categorized as a Category 3 nuclear facility because of depleted uranium inventories.

SUMMARY

The above concerns and our responses underscore the need to continue updating the Site SAR hazard assessment baseline based on new information and changing inventories from existing conditions and new activities. As mentioned above, we are in the process of updating the Site SAR Facilities Hazards Assessment and Classification Report (Phase 1 Summary Report). We are planning to have this completed within the next two months but, in order to ensure consistency with the current effort on BIOs, we may not be able to issue the revised report until the BIOs are completed, i.e. September 29, 1995. The concerns above will be addressed further as part of this effort.

RESPONSE REQUIREMENTS

No response is required. If you have any questions or comments, please contact D. R. Swanson at extension 7009.

D. G. Satterwhite
Program Manager
Nuclear Safety
EG&G Rocky Flats, Inc.

KKK:cf

Orig. and 1 cc – P. M. McEahern

cc:
J. M. Conti