

STATUS OF 10 CFR 20 UPGRADE EFFLUENT DISCHARGE COMPLIANCE  
MEETING NEW NRC REGULATIONS EFFECTIVE 1/1/94  
4/17/94

GASEOUS EFFLUENTS

1. Effectively implemented a revised effluent air counting procedure in September 1993. Results of this modification which included counting the samples on a dedicated gas proportional counter; assuring appropriate radon decay time is implemented; decreasing background by a factor of approximately 2 to 3 to improve minimum detectable activity analysis. Minimum detectable activity has been decreased to 8.0 E-14 at the stack discharge point. Procedure RA 401 modified to communicate NRC policy changes. Procedure 06-002 has been modified to implement the changes. All CAHPO 60 and 70 series computer programs have been revised by January 1994 to effectively calculate the new control concentrations and the new unrestricted release limits. Typical results for January 1994 indicate that the cumulative microcurie discharges will be less than 10 uCi/week.

2. The Ground level diffusion equation will reduce the stack number by approximately 1000. Results indicate a decrease of activity on roof samples of approximately 29 % for 1993. Elevated samples are easier to control. Currently estimated that stack discharge results will decrease by approximately 50 % for first 6 months 1994.

3. Using 1992 data, estimated dose to an individual at the site boundary would be less than 0.9 Mrem/year or .075mRem/month at the site boundary using the EPA NESHAPS COMPLY code model. Assuring that this dose remains less than 1 mRem/yr will exempt us from compliance with the EPA NESHAPS reporting which is important since this reporting could lead to requesting construction permits for new stacks. 1993 data will be lower than 1992 data due to the 9/93 procedural revision in stack counting.

4. Conclusion: Current operational status will meet the 10CFR 20 requirements of 1/1/94. Double HEPA filtration may provide an additional margin of safety on certain stacks.

LIQUID EFFLUENTS

1. Discharges for 1993 averaged 0.77 % (gross alpha) MPC for the entire year. The first half averaged 0.51% MPC while the second half averaged approximately 1.01 % MPC.

2. Numerous procedural changes were implemented in December 1993 to assure compliance with the revised 10 CFR 20 regulations. These include RA 401, COP 830509(

Waterglass effluent reduction from 0.3 to 0.2 ppm U, COP 831201 (Contaminated Wastewater) reduction of discharge limit from 3 E-05 to 3E-06, and an ad-hoc revision of the health physics liquid water sample analysis procedure to revise the sample size to 5ml and a 10 minute count time and assure lower MDA could be calculated. The contaminated sump recirculation system was activated in January.

3. Signs were made for chem lab and HP lab drains and procedures were reinforced which assured that uranium should not be discharged down sinks in those areas. Lack of diligence in these areas could cause problems.

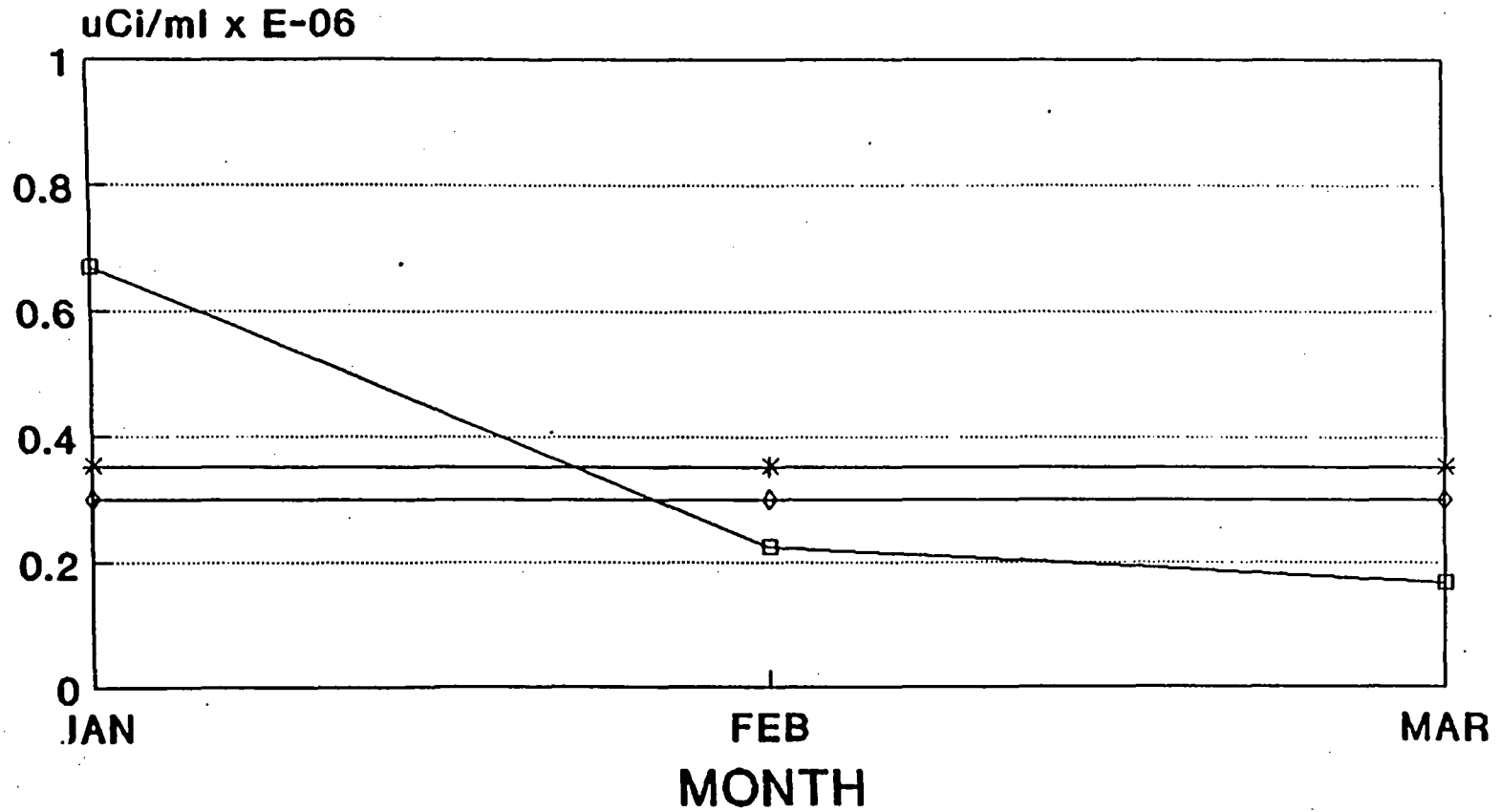
4. Chem lab Davies and Gray titration waste was contained and discharged in the scrap cage waste treatment system in February 1994 and procedure COCL U-01 was revised. This should eliminate an identified bypass of treatment at the source.

5. The January 1994 effluent composite analysis averaged 223 % MPC. An immediate investigation was initiated on the problem and commitments were made to review all discharge paths to assure reductions in discharges were immediately implemented.

6. Changes in 10CFR 20 requirements effective 1/1/94 implemented rather ambiguous limits due to the new sections 1301 & 1302 and interpretations. Our original contacts with NRC indicated that the Appendix B limit had to be used for unrestricted liquid effluent release since our actual discharge did not occur at the site boundary, but rather at the Congaree River. After reviewing the legislation again NRC headquarters environmental licensing personnel were contacted to review the interpretation. After thoroughly reviewing the situation with management, it was concluded that there is no reason why the TEDE concept cannot be used at the Congaree River, our point of discharge. This will provide substantial relief from the Appendix "B" limit of 3.0 E-07 uCi/ml and assure continuous compliance with the revised regulations. Dose commitment from the liquid effluent using the TEDE concept will be negligible, i.e. substantially less than 1 mRem, since the dilution effect of Congaree River can be utilized. Appendix B limits will not be directly applicable but will be used to determine ALARA. All telephone conversations were documented.

7. Conclusion: Current operational status will meet the revised 10CFR 20 requirements of 1/1/94. Due to recent upward trending with effluent discharges a strong commitment to liquid effluent reduction will have to be made to assure ALARA requirements are complied with.

# 1994 LIQUID EFFLUENT RADIOLOGICAL DISCHARGE, GROSS ALPHA



—□— Comp Sample Result    —\*— Monthly Average    —◇— Unr. Release Limit

CAHPO080

WESTINGHOUSE - NFD - COLUMBIA  
GASEOUS EFFLUENT MONTHLY AVERAGE % CC  
YEAR 1994

DESCRIPTION	YTD % CC	MONTH		
		JAN	FEB	MAR
ADU ON-LINE SCRUB 3-A EX	9.5	18.8	2.9	6.9
ADU ON-LINE SCRUB 3-B EX	8.3	9.7	7.0	7.9
AMMONIA FUME SCRUBBER 100B-A	2.6	3.4	2.4	2.0
AMMONIA FUME SCRUBBER 100B-B	2.1	2.1	2.0	2.2
CALCINER COMBUST GAS LINE 1	2.3	2.5	2.0	2.0
CALCINER COMBUST GAS LINE 2	9.7	15.9	4.7	8.5
CALCINER COMBUST GAS LINE 3	36.2	84.7	15.4	9.4
CALCINER COMBUST GAS LINE 4	3.2	5.2	2.3	2.1
CALCINER COMBUST GAS LINE 5	2.8	2.8	3.1	2.2
CHEM LAB EX #2	2.1	2.1	2.1	2.0
CHEM LAB EX #3	2.4	2.5	2.0	2.6
CHEM LAB FILTERED EX	2.1	2.0	2.0	2.3
CONV EMERG EX 4E	2.5	2.5	2.3	2.5
CONVERSION ENCL EX 4C	2.7	3.0	2.5	2.6
CONVERSION ENCL EX 4D	3.8	3.6	4.2	3.6
CONVERSION 1-A SYSTEM EX	3.1	4.3	2.8	2.3
CONVERSION 1-B SYSTEM EX	6.6	6.5	6.8	6.3
DECON ROOM EX	5.4	2.0	3.6	9.8
DEV LAB EX 1	7.4	8.5	7.9	5.8
DEV LAB EX 2	7.6	7.9	6.6	7.9
DEV LAB EX 3	2.0	2.0	2.0	2.0
FURNACE EX LINE 1	2.1	2.0	2.3	2.0
FURNACE EX LINE 2	2.0	2.1	2.0	2.0
FURNACE EX LINE 3	2.1	2.1	2.1	2.1
FURNACE EX LINE 4	2.3	2.1	2.1	2.6
FURNACE EX LINE 5	7.5	4.0	9.1	8.9
H.P. LAB EX	2.4	2.8	2.2	2.2
IFBA EXHAUST	2.1	2.0	2.0	2.2
INCINERATOR EX	14.4	3.8	40.4	2.7
MAINTENANCE ENCLOSURE EX 4B	2.2	2.2	2.4	2.1
MAINTENANCE WELDING EX	7.4	7.6	9.0	5.9
MAP COMBINED EX	5.4	3.5	3.1	9.8
MAP EMERGENCY SCRUBBER	4.9	3.5	2.3	8.1
MAP SYSTEM AC 46 EQUIPMENT R	5.7	5.1	4.8	6.7
MAP SYSTEM 39	2.0	2.0	2.0	2.1
MAP SYSTEM 41	12.8	14.8	13.7	9.6
MET LAB EXHAUST	8.7	9.0	7.0	9.4
NEW DECON ROOM	5.8	7.7	2.2	7.0
SCRAP RECOVERY DRY EX	2.4	2.5	2.4	2.2
SCRAP RECOVR 2-A SYSTEM EX	2.4	2.3	2.0	2.3
SCRAP RECOVR 2-B SYSTEM EX	7.4	8.0	7.0	7.4
SOLVENT EXTRACT-N EX	2.5	2.0	2.3	2.1
SOLVENT EXTRACT-S EX	4.5	5.5	4.0	4.0
SUPPLEMENTAL INC EX	2.8	3.0	3.6	2.1
U308 HF STRIP EX	13.6	27.8	6.6	5.2

Control Concentration (CC) =  $4.0 \text{ E-12 uCi/ml}$