R2/E14

Safety Margin Improvement Program

Program ID: EPIP100
Title: Ammonia Emission Reduction
Program Leader: Del Priore

Program Description:

The purpose of this program is to reduce the total ammonia emissions from the Columbia Plant to below 100 pounds/day to comply with the continuous release requirements as described by the CERCLA regulations. The program will focus on the following issues:

1. ADU conversion service emissions have exceeded 500 pounds/day, and modifications to the newly installed S3 scrubber do not cover all emissions from the chemical area.

2. Emissions from outside the URRS facility are known to exceed 350 pounds/day.

To evaluate the issues, baseline measurements of emissions by sources will be taken, and an engineering study and flow diagrams will be completed. Emission control design criteria will be developed according to the regulatory requirements. A preliminary abatement design and AR will be prepared, and then the detailed design and procurement package will be developed. Construction, installation and start-up of the emission control system will be completed in 1994.

Subtask/Milestone	Date	Status
1. Conduct baseline measurements	12/92	C
2. Complete engineering study	12/92	C
3. Develop control design criteria	1/93	C
4. Complete preliminary abatement design	6/93	
5. Prepared detailed design	9/93	
6. Complete construction/installation/debug/start-up	3/94	

M-5

Safety Margin Improvement Program

Program ID: EPIP200
Title: Mixed Waste Processing/Disposal
Program Leader: Del Priore

Program Description:

The purpose of this program is to identify an appropriate method for the disposal of dried press cake from the SOLX Effluent Process. The hazardous waste Toxicity Characteristic Leaching Procedure (TCLP) limit for chromium is 5 mg/l, and the chromium concentration in the dried press cake from the SOLX Effluent Process is 34 mg/l.

Options for declassifying the dried press cake have been identified and follow in order of increasing complexity:

1. Identify alternate processing methods, requiring no equipment modifications
2. Get SC DHEC exemption to dispose of press cake as-is
3. Identify alternate processing methods, requiring equipment modifications
4. Solidify press cake for disposal

Subtask/Milestone	Date	Status
1. Identify options to declassify press cake	3/93	C
2. Evaluate options and implement solution	6/93	

Safety Margin Improvement Program

Program ID: EPIP300
Title: Liquid Effluent Activity Reduction
Program Leader: McCormac/Parr

Program Description:

A new MPC limit of 3.0×10^{-7} *u*Ci/ml for the discharge of liquid effluent will be in place effective 1/1/94. The current limit is MPC = 3.0×10^{-5} *u*Ci/ml. Note: Results can be averaged over a one year period.

The objectives of this program are to evaluate the most significant liquid effluent streams for activity, using historical and current data, to develop a plan for improvements to regain the "comfort zone" lost as a result of the new MPC, and to maintain compliance with 10 CFR 20.1 ALARA.

The main discharge streams will be evaluated: Waterglass, Sanitary System, IFBA, Process Sump, and Contaminated Sump (Ref. Diagram). The significant contributors, including tributary streams, to total activity will be determined upon completion of a process water characterization survey, and recommendations to promote the reduction of activity levels and to reduce the potential of intermittent high values will be developed.

Subtask/Milestone	Date	Status
1. Collect historical stream activity results.	12/93	
2. Complete process water characterization study.	1293	
3. Develop recommendations and document study results.	3/94	

Safety Margin Improvement Program

Program ID: EPIP400
Title: Stack Effluent Activity Reduction
Program Leader: Parr

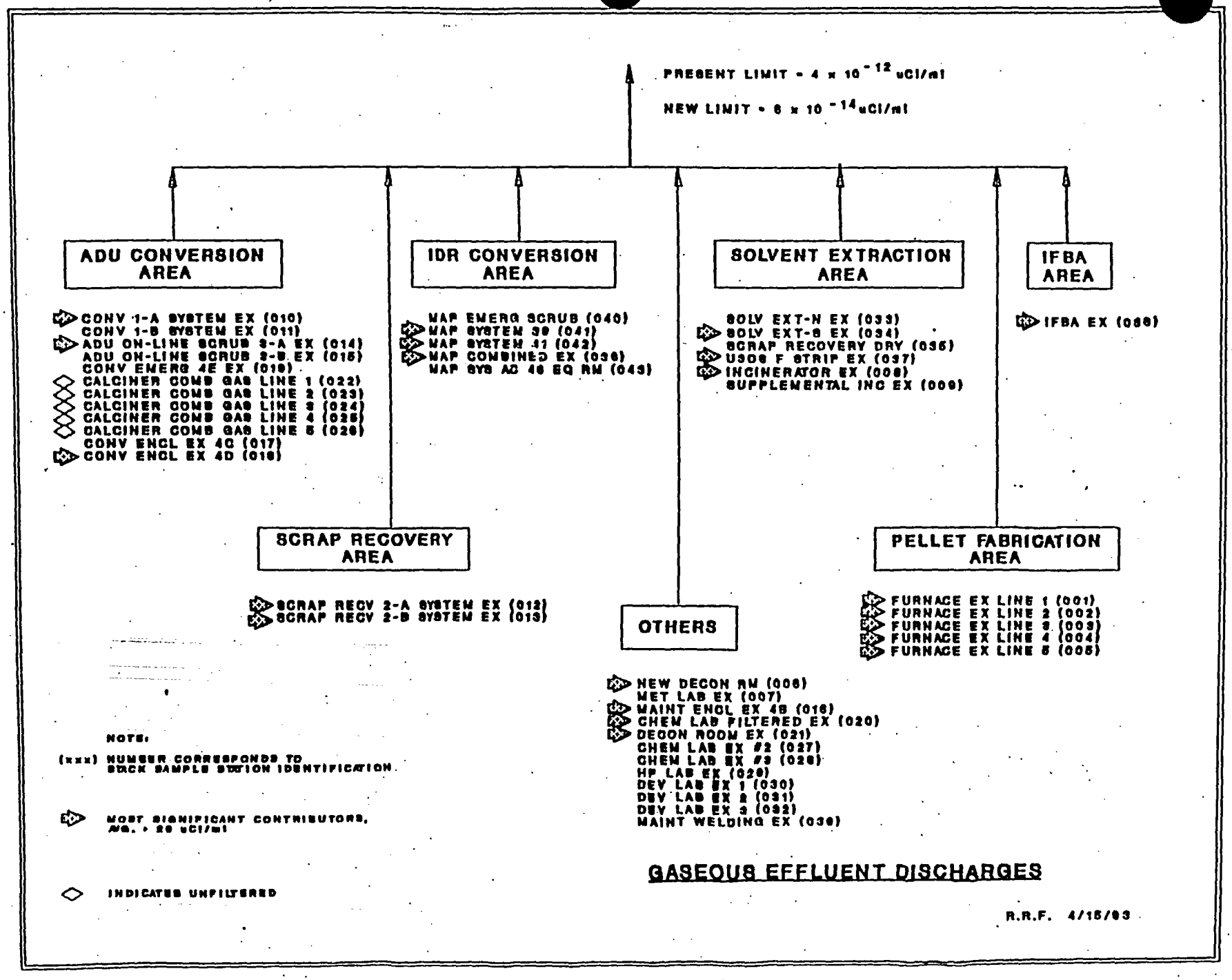
Program Description:

A new MPC limit of 6.0×10^{-14} uCi/ml for plant stack effluents will be in place effective 1/1/94. The current limit is MPC = 4.0×10^{-12} uCi/ml. Note: Results can be averaged over a one year period.

The objectives of this program are to evaluate the most significant stack discharge streams for activity, using historical and current data, to develop a plan for improvements to regain the "comfort zone" lost as a result of the new MPC, and to maintain compliance with 10 CFR 20.1 ALARA.

Implementation of a new Health Physics count technique and the use of a new Regulatory Engineering meteorological diffusion factor will be completed. Evaluation of stack discharges and determination of whether double HEPA filtration or a change at the point of ventilation within the process can reduce the activity of major contributors will be completed (Ref. Diagram). Calciner combustion air discharges will be evaluated, including justification for/against implementation of HEPA filtration.

Subtask/Milestone	Date	Status
1. Implement new HP count technique	6/93	
2. Implement new Reg. Eng. diffusion factor	6/93	
3. Evaluate stack discharges and document results	3/94	
4. Complete calciner combustion air study	3/94	
5. Submit AR to implement improvements	6/94	



GASEOUS EFFLUENT DISCHARGES

R.R.F. 4/15/93

Safety Margin Improvement Program

Program ID: EPIP500
Title: SX Source Term Elimination
Program Leader: Noe

Program Description:

AQ Waste with activity levels greater than 3.0×10^{-5} *u*Ci/ml may be pumped from SOLX Unit II to uncontrolled areas (T-1149 and the Waterglass Building). The activity limit for discharge to uncontrolled areas is 3.0×10^{-5} *u*Ci/ml. The same issues exist for the UNH Bulk Storage Tank Pad and the Waterglass Waste Process.

The NRC has taken actions for similar issues at other plants. Options to resolve these issues will be identified, evaluated, and implemented, if justifiable.

Subtask/Milestone	Date	Status
1. Identify options to resolve the issue		
2. Evaluate and implement option		

Safety Margin Improvement Program

Program ID: EPIP700
Title: Contaminated Soil Removal/Disposal
Program Leader: McCormac

Program Description:

Contaminated soil outside the Solvent Extraction West Wall has been removed, processed and disposed at the Barnwell Facility to the satisfaction of the NRC. A monitoring well outside the southwest corner of the plant should be installed to verify no additional contamination is detected in the groundwater.

Subtask/Milestone	Date	Status
1. Remove and dispose contaminated soil		C
2. Install monitoring well outside SW corner of plant		

Safety Margin Improvement Program

Program ID: EPIP800
Title: Zirc Scrap Processing/Disposal
Program Leader: McCormac

Program Description:

The purpose of this program is to identify a method for decontaminating and free-releasing zirc tubing scrap for recycle. If this action is unsuccessful, a method to decontaminate and dispose of the tubing will be developed. The issues facing this program are:

1. Western Zirc is not willing to recycle previously contaminated zirc
2. A method to survey thousands of tubes for free-release is not available

Subtask/Milestone	Date	Status
1. Identify zirc recycler		
2. Identify method to survey tubes for free release		
3. If no recycler available, identify disposal method		
4. Complete UT Cleaning system test and documentation		
5. Train operators on UT system		
6. Decontaminate tubing and ship to recycle/disposal site		