

BAT Operator
Phase Training
Manual

Phase I Training

SL 002703

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of 14th Judicial District Court
No. 91-1145

BAT UNIT OPERATOR PHASE TRAINING MANUAL

Issued to: _____

Date: _____

Foreman: _____

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BAT UNIT OPERATOR PHASE TRAINING

I INTRODUCTION

The BAT Operator Phase Training was made to give you a structured program to prepare you for taking over as a BAT operator. It enables everyone involved to be aware of how you are progressing throughout the process.

This program, however; should not be considered to be all inclusive. At the conclusion of the training you will be tested to insure that you're ready to take over your new position.

The program is completed by initialling and dating each task on the space provided on the left of the page. The tasks may be completed in any order.

 A. Meet with Unit Foreman

 B. Meet with Area Supervisor

 C. Read Morals/Ethics policy for the Plant

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II SAFETY

- _____ A. Locate Safety Showers in the BAT Unit
- _____ B. Complete a BAT Safety Shower Checklist
- _____ C. Locate the SCBA's in the BAT Unit
- _____ D. Locate the Safety Procedures Manual in the Control Room.
- _____ E. Review the following Safety Bulletins:
 - _____ #7 Evacuation Horns & Sirens
 - _____ #10 Opening Vessels to Atmosphere
 - _____ #13 Lense Inserts
 - _____ #16 Notice Tags
 - _____ #17 Hearing Conservation Program
 - _____ #18 Inspection of Portable Ladders
 - _____ #20 Safe Storage of Flammable & Combustible Liquids
 - _____ #22 Oxygen Depletion in Analyzer Buildings
 - _____ #23 Radiation Control & Safety
 - _____ #26 Industrial Hygiene Monitoring
 - _____ #27 Receiving Procedure for Tank Truck Delivery
 - _____ #30 Blocked Roads
 - _____ #32 Fall Protection
 - _____ #33 Utility Systems Caustic Contamination
- _____ F. Have a Safety Bulletin Discussion with the BAT Foreman
- _____ G. Read the Lake Charles Employee Safety Manual

II SAFETY (Continued)

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H. Read the following Safety Procedures:

_____ #1 Welding, Burning or Open Flame Permits

_____ #2 Ignition Source Permits

_____ #6 Lock and Tag Procedure

_____ #8 Tank Entry Procedure

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_____ #9 Vehicle Entry Permit

_____ #12 Respiratory Protection Program

_____ #13 Lake Charles Hazard Communication Program

I. Have a Safety Procedures Discussion with the BAT Foreman

J. Locate the Hazcom Binder and Microfiche Reader for Material Safety Data Sheets (MSDS)

K. Identify the Goggle Protection Areas in the BAT Unit

L. Identify the Hearing Protection Areas in the BAT Unit

M. Complete a Housekeeping Inspection Checklist for the BAT Unit

N. Complete a BAT Critical Alarms Checklist

O. Review all Job Safety Analyses (JSA's) in the BAT SOP Manual with the BAT Operator

P. Find and read the MSDS's in the back of the BAT SOP Manual

Q. Watch "Safety Crackers" Laboratory Safety Video

R. Locate the Unit Siren Switch for the WTU. Learn how it is used

III ENVIRONMENTAL

A. Read the guidelines to Outfall 201 document on the PC in the Control Room. Use it to find the following information:

1. Our monthly average copper limit is _____ lbs/day.
2. Our monthly average nickel limit is _____ lbs/day.
3. Our monthly average chlorine limit is _____ lbs/day.
4. Our monthly average chlorinated hydrocarbons limit is _____ lbs/day.
5. Our monthly average Total Suspended Solids limit is _____ lbs/day.
6. What are the three sources of organics to Outfall 201?

7. What two streams make-up the BAT-201 sample point?

B. Complete an SPCC Checklist

C. Learn the location, size, and pressure rating of the following rupture disks and SRV's in your area:

1. BAT STRIPPER (PRESSURE) RD _____
2. BAT STRIPPER (VACUUM) RD _____
3. BAT STRIPPER ECONOMIZERS RD _____
4. BAT STRIPPER PHASE SEPARATORS (PRESSURE) RD _____
5. BAT STRIPPER PHASE SEPARATORS (VACUUM) RD _____
6. BAT STRIPPER FEED TANKS (PRESSURE) RD _____
7. BAT STRIPPER FEED TANKS (VACUUM) RD _____
8. BAT STRIPPER CONDENSERS COOLING WATER SRV _____
9. BELT PRESS FEED PUMPS SRV _____
10. BELT PRESS HYDRAULIC SRV _____

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III ENVIRONMENTAL (Continued)

- _____ D. Complete a Satellite Accumulation Area Checklist
- _____ E. Locate the Greenbook in the Control Room and Read the SOP's
- _____ F. Locate the Yellow Book in the Control Room and on the PC
- _____ G. Locate the "Big Mouth" spill reports in the Control Room and Read the examples
- _____ H. Locate the monthly NPDES charts on the Control Room Bulletin Board

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IV OPERATIONS OVERVIEW

- _____ A. Read the BAT Operating Manual, ask questions of the BAT operator or foreman as needed
- _____ B. Review the process flow sheets with the BAT Foreman
- _____ C. Review the BAT S.O.P. Manual so you are familiar with it and can use it during the rest of your training period and after you begin on the job
- _____ D. Become familiar with the BAT SPC charting. Review with the BAT operator, and take over the charting after a couple of days
- _____ E. Review the BAT Unit Goals document with the BAT Foreman

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V FOXBORO CONTROL SYSTEM

- _____ A. Review the use of the Foxboro System Monitor software. Learn how to tell when there are problems with the Foxboro itself with the BAT operator and Foreman
- _____ B. Learn how to access trends of important temperatures or pressures
- _____ C. Learn how to open and close valves and make adjustments to set-points
- _____ D. Learn how the alarm system works, and how to acknowledge an alarm (Not just silence the horn!)
- _____ E. Print out each screen of the BAT Unit (8 pages)
- _____ F. Print out Unit graphics for Strippers, Metals & Dechlorination Units

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VI DECHLORINATION OPERATION

- _____ A. Review the process with the BAT Operating Manual and then with the Foreman
- _____ B. Observe the unloading of a Thiosulfate truck
- _____ C. Learn how to and then begin running the excess thiosulfate samples for the BAT operator after a few days
- _____ D. Become familiar with the analyzers in the Dechlorination Unit
- _____ E. After a few days begin making rounds for the BAT operator
- _____ F. Review the Dechlorination Unit S.O.P.'s
- _____ G. Which train at Dechlor will normally be used to treat the Incinerator Secondary Scrubber Water?

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VII METALS REMOVAL OPERATION

- _____ A. Review the Metals Removal process with the Operating Manual and then the Foreman
- _____ B. Review the operation, start-up and shutdown of the Polymer units
- _____ C. Change out a polymer tote when one becomes empty
- _____ D. Learn how and then begin running the copper analyses for the BAT operator
- _____ E. After a few days, begin making rounds for the BAT operator
- _____ F. Review the troubleshooting charts in the BAT S.O.P. Manual
- _____ G. Review the Metals Removal section S.O.P.'s
- _____ H. Discuss the Thickener operation with the BAT operator about common problems; especially what can be done when the Thickener torque indication is high
- _____ I. Learn how the split-range acid/caustic valve at Tank T06 operates
- _____ J. Understand why Maztreat-M is used.

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VIII BELT FILTER PRESS

- _____ A. Observe the belt press in operation
- _____ B. Review the Belt Press operating Manual
- _____ C. Review the S.O.P.'s that concern the belt press
- _____ D. Start-up the belt press with the BAT operator observing
- _____ E. Shut-down the belt press with the BAT operator observing
- _____ F. Discuss common problems with belt press operation with the BAT operator
- _____ G. Learn how to use the belt press emergency stop trip rope and switch
- _____ H. Learn how to use the portable belt washer safely

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IX P/T STEAM STRIPPER OPERATION

- _____ A. Review the process with the BAT Operating Manual and the BAT Foreman
- _____ B. Review the Automatic computer control system on the Foxboro for the BAT strippers with the BAT operator
- _____ C. Learn where the parameters for the Automatic control system are located and how to change them. Also learn what each parameter will do
- _____ D. Learn the two ways that the Automatic control system can be turned off and the strippers controlled manually
- _____ E. Observe a stripper start-up.
- _____ F. Participate/help in a stripper start-up once from the Foxboro and once out at the strippers
- _____ G. Observe a stripper shutdown
- _____ H. Participate/help in a stripper shutdown once from the Foxboro and once out at the strippers
- _____ I. Learn to run a water GC on the stripper bottoms, and after a few days, begin running these for the BAT operator
- _____ J. Learn the location of both the stripper pressure and vacuum rupture disks. Learn to tell them apart and how to tell which direction they should be facing when properly installed
- _____ K. Discuss the need for water seal flush on the BAT stripper bottoms pumps with the Maintenance foreman or one of his machinists.

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X IMPORTANT BAT PIPELINES

- _____ A. Trace the caustic supply lines to BAT Metals from the Incinerator Area and Columbia Southern Road
- _____ B. Trace the feed line from Dechlor to Metals
- _____ C. Trace the acid supply from CPC to Metals
- _____ D. Trace the Stripper Forward line from the Strippers to Metals
- _____ E. Trace the P/T Sump feed line from the swimming pool to the Stripper Feed Tanks. Note the location of the strainers
- _____ F. Trace the P/T Acid supply line to the Stripper Feed Tanks
- _____ G. Trace the Stripper Recycle lines from the Strippers to the Stripper Feed Tanks
- _____ H. Locate the BAT Quarterly Pipeline and Equipment Inspection Book in the Foreman's office
- _____ I. Locate the BAT Pipeline Inspection Zone on the map

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XI LOCATE THESE MAJOR PIECES OF BAT UNIT EQUIPMENT:

- _____ A. North Dechlorination Train Tanks T01 & T02
- _____ B. South Dechlorination Train Tanks T03 & T04
- _____ C. Sodium Formate Destruction Effluent Manifold
- _____ D. Incinerator Secondary Scrubber Manifold
- _____ E. Sodium Thiosulfate Storage Tank
- _____ F. BAT Steam Strippers
- _____ G. BAT Steam Stripper Economizers
- _____ H. BAT Steam Stripper Condensers
- _____ I. Reflux Phase Separators
- _____ J. pH Adjustment Tanks T05 & T06
- _____ K. Equalization Tanks
- _____ L. Rapid Mix Tanks
- _____ M. Flocculator Tanks
- _____ N. Splitter Box
- _____ O. Lamella Gravity Settlers
- _____ P. Sludge Thickener
- _____ Q. Belt Press Feed Tank
- _____ R. Belt Press
- _____ S. Filtrate Tank
- _____ T. Belt Press Wash Water Tank
- _____ U. Maztreat-M Tank
- _____ V. P/T Storm Water Sump and Pumps
- _____ W. VC-II Storm water and Process Water Sumps and Tank
- _____ X. TE-II Storm Water Sump and Tank

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XII QUALITY

- _____ A. Read the Mission Statement of the WTU QLT
- _____ B. Review the SPC Chart for Copper samples
- _____ C. Identify the PONC item for the BAT Unit
- _____ D. Locate and Read the Internal Contracts in the Control Room
- _____ E. Locate and Read the Internal Specifications in the Control Room Internal Spec book
- _____ F. Locate the Blank Improvement Action Forms in the Control Room

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XIII GENERAL

- _____ A. Read the policies of the WTU Control Room
- _____ B. Review the other units in the Control Room by reading the Waste Treatment Services & Capabilities Booklet

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Guidelines for BAT Operator Oral Test

Test II of BAT Operator Training

Walk to Dechlorination Unit. Ask trainee what occurs, how, when and why. What is the importance of the overflow valve to Outfall 201? How does the T04 Level Control Valve work. What are the capacities of the Dechlorination Feed pumps? How do you unload a thiosulfate truck? What is the function of the analyzers in the Dechlorination Unit? Name all analytical equipment in the Unit.

Walk to BAT Stripper Unit. Ask trainee to describe the process flows to the Stripper Feed Tanks. How do the Strippers work? What is the function of the phase separators, condensers, economizers? Where does the flow from the Strippers go?

Walk to the Metals Removal Unit. Ask trainee to describe the entire process from the pH adjustment tanks to the belt press. How does the split range valve at T06 work? What pH do you maintain in the Unit? How long do you have to correct a pH adjustment problem before unsolvable problems start? What is the importance of the Maztreat-M? What does the polymer do? How do the Lamella Gravity Settlers work? What is the importance of the Thickener tank and what indications are of utmost importance? How does the belt press work (dry run)?

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FOR BAT OPERATOR SCHOOL

LOCATE THE FOLLOWING MAJOR PIECES OF EQUIPMENT:

1. North Dechlorination Train
2. South Dechlorination Train
3. Which train will normally be used to treat the Incinerator Secondary scrubber water?
4. SFD Effluent and Incin Sec Scrubber manifold at Dechlor
5. Sodium Thiosulfate Storage Tank
6. BAT steam strippers
7. Stripper feed economizers
8. Stripper condensers
9. Reflux phase seperators
10. pH adjustment tanks
11. Equalization tanks
12. Rapid Mix tanks
13. Flocculator tanks
14. Lamella Gravity Settlers
15. Sludge Thickener
16. Belt Press Feed tank
17. Belt Press
18. Filtrate Tank
19. Belt Press Wash Water tank
20. P/T storm water sump and pumps
21. VC-2 storm and process water sumps and tank
22. TE-2 st rm sump and tank

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