

Amber L.P. Electrical & Instrumentation

Best Practices





OVERVIEW

- As a specialty contractor in the refining, petrochemical and general industry, most of our work activities are not of the same nature as those of the customer.
- We believe all accidents are preventable, provided cause or conditions are anticipated, recognized, evaluated, and controlled.
- To be effective, a safety/health policy should be comprehensive and focus on anticipation, recognition, evaluation, and control.



OVERVIEW

Amber, L.P. currently utilizes many programs to educate and audit our employee's safety performance.

We introduce people, equipment, and tools in the process plant environment that require additional and different safety rules and practices.

We face two fronts in terms of health and safety; the plant equipment processes, products and chemicals, as one front and our tools, equipment methods and activities as the other.



AMBER L.P. BEST PRACTICES

- **Demo Safety Execution Plan**
- **Behavior Based Safety Observation Program**
- **Lock-out/Tag-out Procedure**



DEMO SAFETY EXECUTION PLAN

- **Amber L.P.'s Demo Execution Plan is a tool utilized to demo any conduit, wire, tubing, or electrical devices. By following the Demo Execution Plan we can:**
 - **Plan the demolition**
 - **Identify unexpected events or hazards that may occur**
 - **Take necessary steps to avoid or minimize risk**
- **The plan requires the Foreman and/or Superintendent's signature.**
- **This Demo Plan has procedures in place to trace and identify equipment that will be removed, from start to finish.**
- **We utilize a red/green tagging system at direction/elevation changes to clearly identify where the Demo work starts and ends.**



DEMOLITION OF ELECTRICAL CONDUIT, WIRES, CABLES & INSTRUMENTATION

■ Scope:

- This policy is to be used as general guidelines for the demolishing of conduits that contain wires and for cables in trays and on poles.
- It is imperative that the job-site superintendent or highest supervision for Amber, to take the responsibility to ensure the safety of employees and the integrity of the clients process and equipment.
- All efforts are to be made to ensure the proper circuits are being demolished.





DEMO PROCEDURES & PLANNING

Procedures

- Amber L.P. issues a procedures checklist for each demolition of conduit/wiring circuits & instrument tubing.
- The checklist requires the supervisor and craftsperson's name and badge number.

Execution Plan Form

- Planning the job
- Un-expected Events That Can Happen
- Demo Procedure
- Explain Isolation of Equipment
- What Hazards Have Been Identified?
- Steps to Minimize Hazards
- How Will Personnel Be Protected?
- Who Will Be Assigned What Duties?

When these steps have been completed, work may begin.



BEHAVIOR BASED SAFETY OBSERVATION PROGRAM

Amber L.P. believes that every employee is essential in developing a “NOBODY GETS HURT” environment. This program is designed to involve every employee at all levels.





BEHAVIOR BASED SAFETY OBSERVATION PROGRAM

- **Behavior Based Safety Observation Program focuses on the safe or unsafe behaviors of the employees.**
- **Behaviors of employees provides Amber L.P. an in depth view of areas that require attention and/or improvement.**
- **Our employees are directly involved in the development of the safety culture at Amber L.P. which has shown to greatly reduce the number of incidents over the last 8 years.**



BEHAVIOR BASED SAFETY OBSERVATION PROGRAM

- **The program is divided into 3 portions:**
 - **Craft persons**
 - **Supervision/Safety**
 - **Offsite Management**
- **First two consist of using a scantron that is provided to all employees.**
- **The information collected from the cards and the offsite management audits are used as a guideline to determine trends.**
- **If a trend is found, onsite management is notified and the data is covered in the next safety meeting with employees.**



BEHAVIOR BASED SAFETY OBSERVATION PROGRAM

■ Score Cards/Program documents

AMBER L.P.
BEHAVIORAL BASED SAFETY OBSERVATION

START HERE →

START HERE →

STOP HERE ←

STOP HERE ←

Observer Badge No. _____ Foreman Badge No. _____

DATE: MONTH _____ DAY _____ YEAR _____

TIME: HOURS _____ MIN _____

LOC: _____

TASK:

- ☐ Wire Pull
- ☐ Electrical Installation
- ☐ Instrumentation Installation
- ☐ Demo Procedure
- ☐ Conduit Installation
- ☐ Underground Duct Bank Installation
- ☐ Setting Poles
- ☐ Equipment Operation
- ☐ Pole Line Activities
- ☐ Temporary Power
- ☐ Trouble Shooting

SAFE AT RISK SAFE AT RISK

HOUSEKEEPING

- ☐ Access
- ☐ Material Storage
- ☐ Trash/Debris

FALL PROTECTION

- ☐ 6' or greater exposure
- ☐ Anchorage
- ☐ PPE

SCAFFOLD/STAIRS

- ☐ Construct/Positioning
- ☐ Inspection
- ☐ Use

PPE

- ☐ Head
- ☐ Eye & Face
- ☐ Hearing
- ☐ Hands
- ☐ Feet
- ☐ Clothing

EXCAVATIONS

- ☐ Protective System
- ☐ Access & Egress
- ☐ Inspection
- ☐ Environment

ENVIRONMENTAL

- ☐ Leaks
- ☐ Spills
- ☐ Equipment
- ☐ Exposure

INDIRECT CAUSES

- ☐ Lack of Belief
- ☐ Lack of Resources
- ☐ Lack of Training

CORRECTIVE ACTIONS/RECOMMENDATIONS

HOIST/LIFTING EQUIP

- ☐ Rigging
- ☐ Use
- ☐ Inspection

VEHICLE EQUIP

- ☐ Inspection
- ☐ Operation

TOOLS & EQUIPMENT

- ☐ Selection
- ☐ Use
- ☐ Maintenance

FIRE PREVENTION

- ☐ Flame/Spark Control
- ☐ Protection Equipment
- ☐ Permitting

HAZARD COMM

- ☐ Barricades/Barriers/Signs
- ☐ Chemical Use
- ☐ Chemical Selection
- ☐ Chemical Storage

PLANNING

- ☐ JHA
- ☐ Permitting
- ☐ Resources

ELECTRICAL

- ☐ Color Code
- ☐ Use
- ☐ GFCI

2/11/2013



BEHAVIOR BASED SAFETY OBSERVATION PROGRAM

SHE
Safety Evaluation Reports

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Effective: 06 Mar 07

SHE
Safety Evaluation Reports

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Field Safety Evaluation Report			
SHEP 2.2 f1a			
Project No.:	474	Superintendent:	Mike Liggett
Project Mgr.:	Raymond Shrum	Customer:	Amber LP
Location:	Baytown	Project Description:	EXXONMOBIL
Lead Evaluator:	Yvonne White	Title:	Safety Director
Current Workforce:	90	Exposure Modification Factor (EMF):	1.25
1. Housekeeping/Sanitation General appearance, orderliness, scrap and trash not allowed to accumulate. Are walkways clear; materials/equipment properly stored; rebar capped? Cords and hoses strung overhead or properly covered? Are there enough sanitary facilities for number of workers? Are these facilities properly maintained? Eating allowed only in designated, clean areas? Are drinking water containers properly labeled, sealed, and kept free from contaminants?			
Describe Deficiencies (Minor, 2; Moderate, 5; Serious 10)			Points
Several microwave needs clean. Trash can needed empty. Fence (tool boxes) area trash on ground. Truck#281 water cooler tape bad			10
Total Points Deducted For This Category			10
Comments:			
2. Fall Protection and Prevention Are safety harnesses equipped with shock absorbing double-lanyards? Are vertical and horizontal lifelines, perimeter guarding, and handrails installed properly? Are floor/wall openings protected? Are hole covers secured in place and labeled? Is the 100% Fall Protection/Prevention Policy communicated and enforced? Have affected workers been trained in the proper use and inspection of fall protection equipment? Do qualified persons supervise the installation of fall arrest systems?			
Describe Deficiencies (Minor, 2; Moderate, 5; Serious 10)			Points
			0
Total Points Deducted For This Category			0
Comments: None found at time of audit			
3. Scaffolds, Ladders, and Stairways Scaffolds: Are they erected and maintained by trained and qualified scaffold erectors? Are they inspected and tagged by a competent person? Are they used by workers who have completed scaffold user training? Are they equipped with appropriate toe boards, diagonal bracing, and proper footing? Are wheels locked or blocked? Are planks made of proper materials, secured, flush, and overlapped, as required? Ladders & Stairways: Are all portable ladders tied-off or held? Are ladders set at proper angles? Are stairs guarded with handrails and midrails and in good condition? Are stairways well lighted? Are ladders regularly inspected and removed from service if defective? Do straight ladders extend at least three rungs beyond top support/access level?			
Describe Deficiencies (Minor, 2; Moderate, 5; Serious 10)			Points
			0
Total Points Deducted For This Category			0
Comments: none found during this audit			

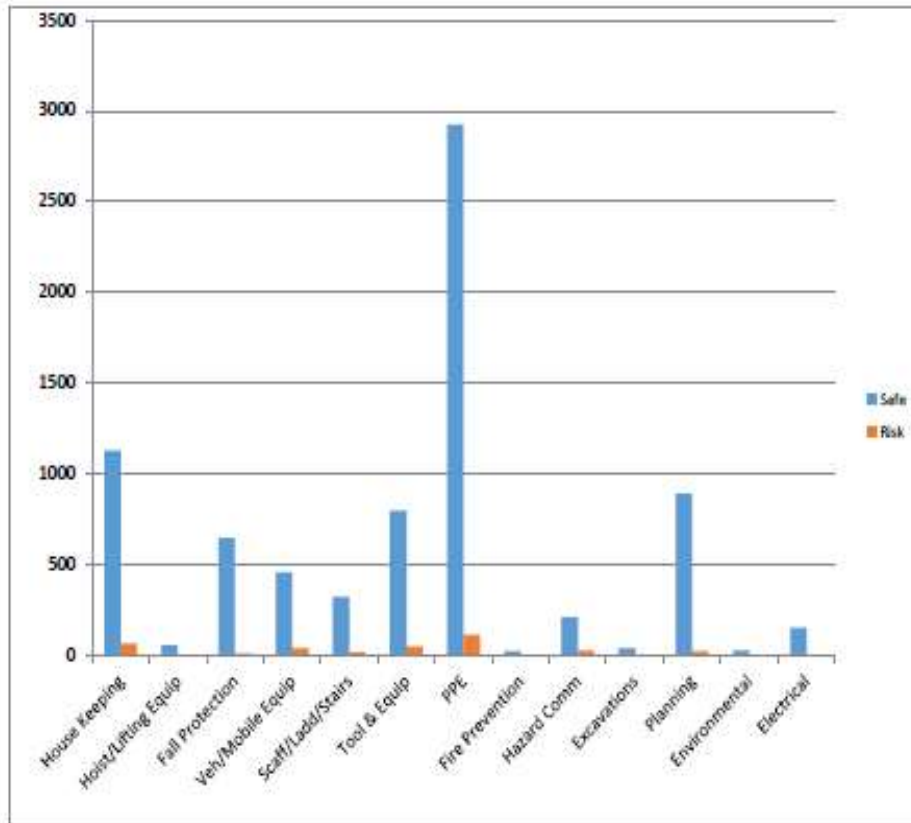
Scoring		Total points possible in each category are obtained by multiplying the baseline points by the exposure modification factor (EMF). This table provides the EMF based on the project's workforce.				
		Workforce	EMF			
		0 to 50	1.00	When the size of the workforce is entered near the top of the form, an EMF is automatically calculated and appears near the top of the form. This EMF is also used in the SER scoresheet below. This EMF pattern based on workforce size is followed up to a workforce size of 2,500. Contact Corporate SHE if your workforce exceeds 2,500.		
		51 to 100	1.25			
		101 to 150	1.50			
		151 to 200	1.75			
		201 to 250	2.00			
Important Directions		If the category was evaluated/scored, place a check in the box in the first column, <u>no matter whether or not points were deducted</u> . If the category was not evaluated/scored, remove the check from the category box. Removing the check from the box automatically generates zero points possible and zero score for that category.				

SER Scoresheet						
Scored	Category	Points Possible			Category Deductions	Category Score
		Base	EMF	Possible		
<input checked="" type="checkbox"/>	Housekeeping & Sanitation	10	1.25	12.5	10	2.5
<input checked="" type="checkbox"/>	Fall Protection and Prevention	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Scaffolds, Ladders & Stairways	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Personal Protective Equipment	10	1.25	12.5	10	2.5
<input checked="" type="checkbox"/>	Control Procedures and Permits	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Excavations and Trenching	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Hoisting/Rigging Equipment	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Motor Vehicle & Mobile Equipment	10	1.25	12.5	5	7.5
<input checked="" type="checkbox"/>	Tools and Equipment	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Fire Prevention	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Manual Material Handling & Ergo.	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Electrical	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Hazard Communication	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Health Hazard Evaluation	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Worker Monitoring	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Environmental	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Management Commitment	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Planning	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Training	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Program Monitoring	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Measurement & Metrics	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Documentation, Posting, and Signs	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Subcontractor Management	10	1.25	12.5	0	12.5
<input checked="" type="checkbox"/>	Other	10	1.25	12.5	0	12.5
		Total Points Possible			300	
		Total Received in this Report				275
Adjustments						
<input type="checkbox"/>	Check if TRL, LTI, and MVA rates are <u>all</u> equal to or less than <u>half</u> of Company average (adds 2%)					
<input type="checkbox"/>	Check box if TRL rate is greater than the Company average (this deducts 1%)					
<input type="checkbox"/>	Check box if LTI rate is greater than the Company average (this deducts 1%)					
<input type="checkbox"/>	Check box if MVA rate is greater than the Company average (this deducts 1%)					
		Final SER Score =			92%	

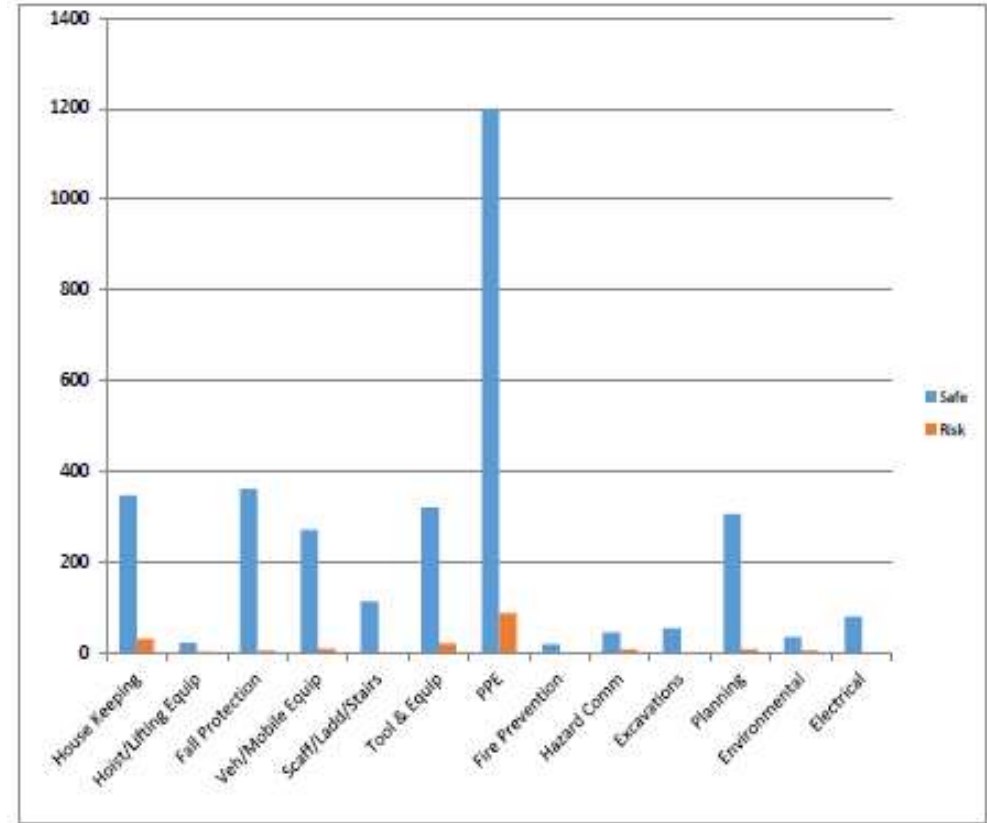


BEHAVIOR BASED SAFETY OBSERVATION PROGRAM

ExxonMobil Baytown 2015



ExxonMobil Baytown 2016





ELECTRICAL LOCK-OUT/TAG-OUT PROCEDURE

- Types of hazardous energy we are exposed to include electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other sources in machinery or equipment.
- Amber L.P.'s Electrical Lock-out/Tag-out Procedure is designed to assure everyone in its work crew is safe from electrical shock.
- In our procedure everyone from the supervisor to the helper must hang a lock.





ELECTRICAL LOCK-OUT/TAG-OUT PROCEDURE

■ Amber L.P.'s Practices & Procedures

- Supervisor in charge of assigned work must have six months experience in their position to be the lead in the Lock-out/Tag-out.**
 - If the supervisor has less than six months experience in their position, another supervisor must take the lead in the Lock-out/Tag-out.**
- Only after the supervisor has hung his lock will the rest of the crew hang theirs.**
- Once all locks are hung a qualified craft person must check for the absence of voltage with a voltmeter before work can begin.**



ELECTRICAL LOCK-OUT/TAG-OUT PROCEDURE

■ Amber L.P.'s Practices & Procedures

- Only after the work is complete, or the shift time has expired will the craft person's lock be removed.**
- If the work is not complete by the end of the shift an un-normal condition tag will be hung to let operation be aware of the condition of the circuit.**
- In Amber L.P.'s Lock-out/Tag-out Procedure, the supervisor is the last person to remove their lock to assure that all of his crew has removed locks. Any un-normal conditions could be stated and information transferred to the end user.**



SUMMARY

Amber L.P. is committed to their employee's safety and will provide every opportunity to assure their well-being.

