

WHERE DID THIS COME FROM?



- Roots in the BP Control of Work Process
 - Very Structured
 - Very Inflexible

- Tesoro purchased the Carson Refinery in 2013
 - New Los Angeles Refinery
 - Unified Permitting Process
 - Merged Elements from Carson and Wilmington
 - Aligned with Tesoro Maintenance Planning Process

- Goal of the Process
 - Hazard Identification and Risk Assessment in the Planning Phase
 - Safe, Efficient Field Execution
 - Consistency across the plant, across all shifts

Permit to Work Proposed Work Flow



TESORO

Planning & Risk Assessments

Planner

OMC

Planner

MTI

(1.1 – 3.1)
Work Request and Notification

(3.2) Job Walk and develop proposed job plan. (3.4) Plan job by listing all operations and note risk level in StText field using Work Classification Table (WCT). Note applicable Risk Assessment in Operation ST as required.
OMC, Others

(3.5) Review WO Plan, validate Risk Assessments. (3.6) Conduct TRA, as required. Collect approvals and approve WO Package.

(3.6) Assemble Work Order Package including Job Plan Overview, MRA, TRA, other supporting documents listed in MRM.

(3.7) Receives & reviews WO package.

(4.1 – 5.3) Scheduling and Task Prep

Permit / Task Assessment Requirements

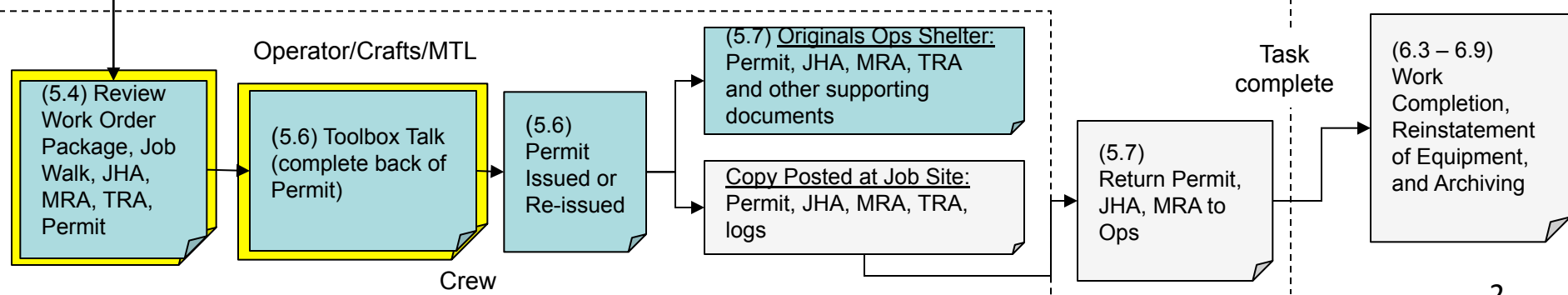
Low Risk Tasks:
Permit (Day Of Only)

Medium Risk Tasks:
Permit and MRA, plans, procedures

High Risk Tasks:
Permit and TRA, plans, procedures

OMC, Craft, SME

Permit Issuance and Work Execution



WORK CLASSIFICATION TABLE



Work Classification Table (8/20/2014)

ID#	TASK	TASK RISK LEVEL	TASK TYPE	SUPPLEMENTAL DOCUMENTS (PTW Package)	ADDITIONAL RISK ASSESSMENT REQUIRED (Permit+JHA always required for L/M/H)	MINIMUM TRA PARTICIPANTS (OMC, Ops Rep, Craft Rep always required)	TRA APPROVERS [OMC approves all]	CO-SIGNATURE REQUIRED (Execution)
H10	High Energy Hot Work in designated Fab Areas - This includes Carson Poly Contractor Laydown and Trailer City yards. - This includes Wilmington Coke Barn Laydown area. - All designated fab areas are identified on site maps displayed at the end of this document.	Low	High Energy Hot					NO
H12	High Energy Hot Work on all systems that are in service -OR- require deviation approvals for not meeting primary isolation standard (EXCEPT for steam and utility systems identified above).	High	High Energy Hot	Specific Procedure Operations Contingency Plan	TRA	Safety [Audit and Investigation Coordinator to collect related incident investigations]	Senior Ops Manager EH&S Manager Senior Maint Manager PEI Manager	YES
H20	High Energy Hot Work NOT in a classified hazardous area. (including temporary fab and laydown areas). - This also applies to work performed inside a pressurized building. - High Energy Hot Work in the Tesoro Maintenance Shops are EXEMPT.	Medium	High Energy Hot		MRAH08			YES

Utilized By Planning to Classify Tasks

Risk Levels and Additional Risk Assessments are predetermined

Can Be Used in the Field

Emergency jobs on nights and weekends
Verification of risk levels by Operations

JOB PLAN OVERVIEW



- Table of Contents
 - Embedded in SAP
 - Job Steps
 - Risk Levels
 - More Risk, More Responsibility

- Approved by Planning and Operations

- Paper Version
 - After Hours
 - Projects and TAR

This information has always been available, but not in the field

TESORO		JOB PLAN OVERVIEW		VO #
SECTION A- MAINTENANCE				
CONTACT INFO	NAME	COMPANY	PHONE #:	RADIO CH
	FUNCTIONAL LOCATION	UNIT AREA	WO PRIORITY:	
JOB INFO	SHORT TEXT (DESCRIPTION)			
PLANNER			OMC	
	Operation (Task)	Work Center (Craft)	Risk Level	Risk Assessment
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
SECTION B- VALIDATION [Required if completed outside of SAP]				
Job Plan Validation #				
Position (circle)	NAME	SIGNATURE	DATE	
Planner / MTL				
OMC / STL				
Other Documentation required:				
SECTION C- APPROVALS [Required if completed outside of SAP]				
Job Plan Approvals				
Position (circle)	NAME	SIGNATURE	DATE	
Planner / MTL				
OMC / STL				
Comments:				

TEAM RISK ASSESSMENT



TESORO MARTINEZ REFINERY TEAM RISK ASSESSMENT		
Team Risk Assessment # (TRA, WCT#, WO#)	Work Order Number:	Date:
Unit/Area:	Electronic file name (year, month, functional location, equipment # e.g. 201406MTZ-FCCU-P-1234):	
Equipment Number:	Location:	
Has ENTIRE Risk Assessment Team walked the Job?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Detailed Task Description:		
Supporting Documentation Required (per WCT):		General Comments:
Isolation has been included in the Risk Assessment: _____ (OMC Initial and date)		
Residual Risk Level and Required Approval Level (to be completed by Risk Assessment Team Leader upon completion of TRA):		
Note: The required approval level is the higher of the approval level noted in the WCT for this task and the approval level determined from this Risk Assessment.		
Highest Residual Risk from this Assessment:		
Approvers from Work Classification Table: Senior Operations Manager, Senior Maintenance Manager, Senior HSE Manager		
Task Hazard Category: Low: <input type="checkbox"/> Med: <input type="checkbox"/> High: <input type="checkbox"/>		

- Required for High Risk Tasks
- Performed in Planning
 - Step out Task
 - ID Hazards
 - ID Controls
 - Shared Safety Responsibility
- Senior Management Approval

MEDIUM RISK ASSESSMENT



	Martinez Refinery Medium Risk Assessment EVERYONE HAS THE AUTHORITY & OBLIGATION TO STOP UNSAFE WORK
	MRA No. MRAA02
CLASS: Low Energy Hot	WO/JPO No.
Abrasive Blasting	

CO-SIGNATURE REQUIRED
BASE REQUIREMENTS
BEFORE WORK: <ol style="list-style-type: none">1. Determine Lead content of material being removed & make necessary notifications.2. Contractor to use CARB certified abrasive blast media.3. Ensure proper containment is being used to contain media & dust.4. Verify materials (media & containment) are rated for process vessel skin temperature.5. Operations to review emergency contingency plan on day of execution & communicate to work group at tool box talk.6. Initial gas testing required.7. Ensure proper testing & operation of dead man trigger before commencing work.8. Develop a communication plan with operations and safety watch.9. Barricade work area & below if working at elevations and install signs and/or tags (reference R&SI 12-08 D-3)
DURING WORK: <ol style="list-style-type: none">10. Minimum Full Face respirator with HEPA cartridges.11. FRC disposable suit with hood and shoe covers and gloves (Tyvek, Dupont, etc.) required.12. Continuous gas monitoring required.13. Safety Watch must have a radio or be able to promptly contact refinery emergency services. Job site must be within line of site at all times.14. Ensure dust emissions are controlled by wet method, mechanical method, or containment (enclosure).15. Waste must be properly labeled & disposed.

- Required for Medium Risk Tasks
- Align with Site Rules
 - Helpful for Contractors
 - Helpful for Ops
- Senior Management Approval

Because not every elevated risk task needs a new risk assessment 6

LOW RISK TASKS



Tesoro Los Angeles Refinery Work Permit

Type of Work to be Permitted: LOW RISK MEDIUM RISK HIGH RISK

Company Name and Craft: _____

To (Specify Task): _____

On (Department Location): _____

Other Documents to be attached: _____

Equipment Conditions:

Prohibited Combustibles: _____

Personal Protective Equipment: _____

Gas Tests:

Gas Test	Location	Method	Result	Notes
LEL				
H ₂ S				
CO				
CO ₂				
O ₂				

Permit to Work: _____

Operator Signature: _____

Craft Signature: _____

Permit
Completed and
Reviewed by
Operator and Craft

Job Hazard Analysis

Company Name and Craft: _____

To (Specify Task): _____

On (Department Location): _____

What are your job steps? List in a sequence:

Job Step	What could go wrong? What hazardous energy are you dealing with?	What are you doing to protect yourself, others, equipment, and environment?

What is the worst thing that can happen from executing the task?

Vehicle Access Plan:

TOOLBOX TALK (PRE-TASK BRIEFING):

Item	Reviewed	Signature	Date
Operator			
Craft			

LESSONS LEARNED - POST TASK REVIEW:

Anything going on as planned? Yes No

Were the job needs clearly defined? Yes No

Job Safety Analysis
Completed and
Reviewed by Operator
and Craft

JOB SAFETY ANALYSIS




- Linked to Permit Form

- Not “check-the-box”
 - Different from other designs
 - Helpful for Ops

- Completed by Craft

- Human Performance Elements
 - Critical Step
 - Worst case scenario

 Job Hazard Analysis		Permit No:
		MRA/TRA No:
COMPLETE PRIOR TO PERMIT ISSUANCE		
UPDATE AS CONDITIONS CHANGE. A NEW JHA IS REQUIRED WHEN THE JOB SCOPE CHANGES		
Company/Tesorero Craft:	Phone #:	Radio Ch:
Unit/Area (Including Equipment Name/#):		
Metal/Type for Welding:	Tools/Equipment to Perform Task:	
Primary Evacuation Area:		
Secondary Evacuation Area:	Safety Shower/Eyewash Location:	
What are your task steps? List in sequence.	What could go wrong? What hazardous energy are you dealing with?	What are you doing to protect yourself, others, the environment, and equipment?
A CRITICAL STEP is a step or action that is unrecoverable, and if performed incorrectly could cause significant harm to: personnel, equipment, quality, or the environment. Which of your task steps above is a CRITICAL STEP?		
What is the worst thing that can happen from executing this task?		
Have we identified robust controls to prevent this situation? <input type="checkbox"/> YES <input type="checkbox"/> NO		

MEDIUM RISK TASKS



Tesoro Los Angeles Refinery Work Permit

Form No. WPT-001
Issue Date: 1/1/2019

Risk Level: LOW RISK | **MEDIUM RISK** | HIGH RISK

Job to be Done: [Blank]
To (Specify Job): [Blank]
On (Specify Installation): [Blank]

Other Documents to be Reviewed: [Blank]

Process: [Blank]

Equipment Condition: [Blank]

Probability Classification: [Blank]

Other Conditions and Controls: [Blank]

Permit to Proceed: [Blank]

Task Table:

Task	Duration	LD	MS	Other	Notes
UNIT	08:00-12:00	None	None	None	Revalidation

Work Order Information: [Blank]

Approval: [Blank]

Signature: [Blank]

Permit
Completed and
Reviewed by
Operator and Craft

Job Hazard Analysis

Form No. JHA-001
Issue Date: 1/1/2019

Job Title: [Blank]

Equipment Name: [Blank]

Location: [Blank]

Primary Hazards: [Blank]

Secondary Hazards: [Blank]

What are your fall steps? List in sequence. [Blank]

What could go wrong? What hazard energy are you dealing with? [Blank]

What are you doing to protect yourself, others, equipment, and environment? [Blank]

A CRITICAL STEP is a step or action that if not completed, or if performed incorrectly, could cause significant harm to personnel, equipment, quality, or the environment. Which of your task steps above is a CRITICAL STEP? [Blank]

What is the overall rating that is achieved from the rating of the task? [Blank]

TOOL BOX TALK (PRE-TASK BRIEFING): [Blank]

WORK CRISIS DECLARATION - Use Declaration Extension if needed: [Blank]

Work Crisis Declaration must be signed daily:

NAME	SIGNATURE	DATE
[Blank]	[Blank]	[Blank]

LESSONS LEARNED - POST TASK REVIEW: [Blank]

Job Safety Analysis
Completed and
Reviewed by Operator
and Craft

Martinez Refinery Medium Risk Assessment

EVERYONE HAS THE AUTHORITY & OBLIGATION TO STOP UNSAFE WORK

CLASS: Low Energy Hot

MRA No. MRAA02
WOJPO No. [Blank]

Abrasive Blasting

CO-SIGNATURE REQUIRED

BASE REQUIREMENTS

BEFORE WORK:

- Determine Lead content of material being removed & make necessary notifications.
- Contractor to use CARB certified abrasive blast media.
- Ensure proper containment is being used to contain media & dust.
- Verify materials (media & containment) are rated for process vessel skin temperature.
- Operations to review emergency contingency plan on day of execution & communicate to work group at tool box talk.
- Initial gas testing required.
- Ensure proper testing & operation of dead man trigger before commencing work.
- Develop a communication plan with operations and safety watch.
- Barricade work area & below if working at elevations and install signs and/or tags (reference R&SI 12-08-D-3)

DURING WORK:

- Minimum Full Face respirator with HEPA cartridges.
- FRC disposable suit with hood and shoe covers and gloves (Tyvek, Dupont, etc.) required.
- Continuous gas monitoring required.
- Safety Watch must have a radio or be able to promptly contact refinery emergency services. Job site must be within line of site at all times.
- Ensure dust emissions are controlled by wet method, mechanical method, or containment (enclosure).
- Waste must be properly labeled & disposed.

Medium Risk Assessment
Included in job package
Reviewed by Operator
and Craft

HIGH RISK TASKS



Tesoro Los Angeles Refinery Work Permit

Form # 001
Issue: 06/2018

Risk Level: LOW RISK | **MED/LM RISK** | HIGH RISK

Task to be performed: _____
To (Specify task): _____
On (Specify location): _____

Other Documents to attach: _____

Equipment Condition:

Equipment ID	Equipment Condition	Equipment ID	Equipment Condition
1. Motor	<input type="checkbox"/> Good	2. Valve	<input type="checkbox"/> Good
3. Tank	<input type="checkbox"/> Good	4. Pipe	<input type="checkbox"/> Good
5. Piping	<input type="checkbox"/> Good	6. Other	<input type="checkbox"/> Good

Probability Classification:

Low Risk
 Medium Risk
 High Risk

Task Table:

Task ID	Task Name	Start	End	Status	Remarks
001	Task 1	08:00	12:00	Open	
002	Task 2	13:00	17:00	Open	

Job Hazard Analysis

Form # 001
Issue: 06/2018

Company/Team/Craft: _____
Equipment Name: _____
Job Location: _____
Job Description: _____

What are your task steps? List in sequence.

Step	What could go wrong? What hazard energy are you dealing with?	What are you doing to protect yourself, others, equipment, and environment?
1. _____		
2. _____		

A CRITICAL STEP is a step or action that if not completed, not performed correctly, or if done at all, could cause a significant harm to personnel, equipment, quality, or the environment. Which of your task steps above is a CRITICAL STEP?

What is the overall rating that is given from reviewing the task?

TOOLBOX TALK (PRE-TASK BRIEFING)

WORK CREW DECLARATION - Use Declaration Extension if needed

Work Crew Declaration results signed daily

NAME	SIGNATURE	DATE
_____	_____	_____

LESSONS LEARNED - POST TASK REVIEW

Discussing job needs, or planning? Yes No
 Was the job needs clearly communicated? Yes No

TESORO MARTINEZ REFINERY TEAM RISK ASSESSMENT

Team Risk Assessment # (TRA-WCT-R-001)

Work Order Number: _____ **Date:** _____

Unit/Area: _____ **Electronic file name (year,month, functional location,equipment # e.g. 201406MTZ-FCCU-P-1234):** _____

Equipment Number: _____ **Location:** _____

Has ENTIRE Risk Assessment Team walked the Job? Yes No

Detailed Task Description:

Supporting Documentation Required (see WCI): _____ **General Comments:**

Isolation has been included in the Risk Assessment: _____ (OMC Initial and date)

Residual Risk Level and Required Approval Level (to be completed by Risk Assessment Team Leader upon completion of TRA)

Note: The required approval level is the higher of the approval level noted in the WCT for this task and the approval level determined from this Risk Assessment.

Highest Residual Risk from this Assessment:

Approvers from Work-Classification Table: Senior Operations Manager, Senior Maintenance Manager, Senior HSE Manager

Task Hazard Category: Low: Med: High:

Permit Completed and Reviewed by Operator and Craft

Job Safety Analysis Completed and Reviewed by Operator and Craft

Team Risk Assessment Completed and approved by multi-disciplinary group Reviewed by Operator and Craft

LOW RISK PERMITS



Tesoro Los Angeles Refinery Work Permit

Permit No. _____

DATE: _____

Risk Rating: LOW RISK MEDIUM RISK HIGH RISK

Required Section: Type of Work to be Permitted: Maintenance Construction Installation Repair/Alteration Other (Specify Task)

To (Specify Task): _____

On (Department Location): _____

Work to be performed by: _____

Other Documents to be added: _____

Process: _____

Equipment Conditions:

LOTO (Energy Isolation): Isolation Lockout Tagout Other

Other Conditions and Controls: _____

Personal Protective Equipment:

Head Protection: Hard Hat Safety Helmet

Eye Protection: Safety Goggles Safety Glasses

Hand Protection: Work Gloves

Foot Protection: Safety Shoes

Respiratory Protection: Respirator

Other: _____

Gas Tests:

Gas Test	Location	Result	Notes
Oxygen			
LFL			
HFL			
Other			

Permit Validity Information:

Permit Validity: _____

Permit to Work (PTW) is valid if work is not started within 8 hours of gas test.

Operator/Supervisor Signature: _____

Operator/Craft Signature: _____

Permit
Completed and
Reviewed by
Operator and Craft

Job Hazard Analysis

Permit No. _____

DATE: _____

Job Hazard Analysis (JHA) Form

Company/Process/Craft: _____

Location: _____

Equipment/Job Location: _____

Task to be performed: _____

Primary Evaluation Area: _____

Secondary Evaluation Area: _____

What are your job steps? List in a sequence:

Job Step	What could go wrong? What hazardous energy are you dealing with?	What are you doing to protect yourself, others, equipment, and environment?

What is the worst thing that can happen from executing the task?

What are the Access Points?

TOOLBOX TALK (PRE-TASK BRIEFING)

WORK CREW DECLARATION - Use Declaration Extension if needed:

Work Crew Declaration must be signed daily:

NAME	SIGNATURE	DATE

LESSONS LEARNED - POST TASK REVIEW

Job Hazard Analysis
Completed and
Reviewed by Operator
and Craft

MEDIUM RISK PERMITS



Tesoro Los Angeles Refinery Work Permit

Form No. T-1000 (Rev. 12/10)

Permit Type: LOW RISK MEDIUM RISK HIGH RISK

Work Requirements: Hot Work Excavation Confined Space Electrical Work Other

Work Location: _____

Job Description: _____

Authorized By: _____

Other Documents Needed: _____

Process: _____

Equipment Condition: _____

Priority: _____

Other Conditions and Controls: _____

Personal Protective Equipment: _____

Work Plan: _____

Other Notes: _____

Job Hazard Analysis

Form No. JHA-1000 (Rev. 12/10)

Job Title: _____

Location: _____

What are your job steps? List in a sequence: _____

What could go wrong? What hazardous energy are you dealing with? _____

What are you doing to protect yourself, others, equipment, and environment? _____

ADDITIONAL: If it is a step or action that is unrepeatable, and if performed incorrectly could cause significant harm to personnel, equipment, quality, or the environment, which of your task steps above is a CRITICAL STEP?

What is the worst thing that can happen from not doing the task? _____

Work Crew Declaration: _____

Work Crew Declaration must be signed daily.

LESSONS LEARNED - POST TASK REVIEW: _____

Los Angeles Refinery Task Hazard Assessment

Form No. T-1000 (Rev. 12/10)

CLASS: HOT WORK SPARK POTENTIAL | RISK: MEDIUM | WOJTCP No: _____

Task Description: Hydroblasting

BEFORE WORK: _____

DURING WORK: _____

AFTER WORK: _____

PROTECTIVE EQUIPMENT REQUIRED FOR TASK: _____

LIMITATIONS AND EXCLUSIONS: _____

Developed By: _____ | Sig: _____ | Date: _____ | Valid thru: _____

TASK SPECIFIC REQUIREMENTS - Based on Pre-Work Job Walk: _____

What Respiratory Protection is needed for blasting? _____

Goggles Required if pH <2 or >10: _____

Controls for Snmops in work area: _____

Developed By: _____ | Planner: _____ | OMC: _____ | Sig: _____ | Date: _____

Permit
Completed and
Reviewed by
Operator and Craft

Job Hazard Analysis
Completed and
Reviewed by Operator
and Craft

Medium Risk
Assessment
Included in job package
by Planner and OMC
Reviewed by Operator
and Craft

HIGH RISK PERMITS



Tesoro Los Angeles Refinery Work Permit

Permit No. _____

LOW RISK **MEDIUM RISK** **HIGH RISK**

By Request of: _____

Type of Work Requested: _____

To (Specify Job): _____

Quality of: _____

Other Documents to be submitted: _____

Process: _____

Equipment Condition: _____

Personal Protective Equipment: _____

Job Site: _____

Permit Validity: _____

Approval: _____

Permit Completed and Reviewed by Operator and Craft

Job Hazard Analysis

Form No. _____

Job Name: _____

Job Location: _____

What is your task step 7? List in sequence:

What could go wrong? What hazard/energy are you dealing with?

What are you doing to protect yourself, others, equipment, and environment?

A CRITICAL STEP is a step or action that is uncontrolled, and if performed incorrectly could cause a grave harm to: personnel, equipment, quality, or the environment. Which of your task steps above is a CRITICAL STEP?

What is the worst thing that can happen from not doing this task?

TOOLBOX TALK (PRE-TASK BRIEFING)

WORK CREW DECLARATION - Use Declaration Extension if needed

Work Crew Declaration (to be signed daily)

LESSONS LEARNED - POST TASK REVIEW

Job Hazard Analysis Completed and Reviewed by Operator and Craft

TESORO LOS ANGELES REFINERY TEAM RISK ASSESSMENT

Sheet: 1 of 5

Team Risk Assessment Number: _____

Work Order Number: _____

Unit/Area: _____

Equipment Number: _____ **Location:** _____ **Permit numbers associated with tasks:** _____

Before a Team Risk Assessment commences, the following shall be done:

Job Site visit by the Risk Assessment Team? Yes No

Permits Sections A - C completed for each task? Yes No

Detailed Task Description: _____

Supporting Documentation/Certificates required: _____ **General Comments:** _____

Isolation has been included in the Risk Assessment: _____ (OMC Initial and date)

Residual Risk Level and Required Approval Level (to be completed by Risk Assessment Team Leader upon completion of TRA):

Note: The required approver level and approver signature shall be recorded on the JPO. The required approval level is the higher of the approval level noted in the WCT for the task and the approval level determined from the Risk Assessment.

Highest Residual Risk Level from this Assessment: _____ **Approval Level from Approval Matrix:** _____

Highest Approval Level from Work Classification Table: _____ **Required Approval Level:** _____

Task Hazard Category: Low Med High

Team Risk Assessment Completed and approved by multi-disciplinary group Reviewed by Operator and Craft

WHERE ARE WE GOING?

- Los Angeles Rolled Out in 2014
- Tesoro Corporate Framing Corporate Standard
- Martinez Training Begins Next Month
- Go Live 3Q16
 - Routine
 - Turnaround
 - Capital Projects
- Planning Transition to Electronic Process
 - Led by Mandan Refinery
- BP visited Tesoro in 2015
 - Looking to transition their process
- Consider revising your process
 - Mark.S.Bennett@tsocorp.com

