

Electronic Permitting

2023 Prometheus User's Conference

Richard Bass

Richard Bass

- Kuraray EVAL HSES Manager
- Chairperson of the Houston Business Roundtable
- Chairperson of the Texas Chemical Council EHS Seminar Committee
- Vice Chair of the Texas Chemical Council Occupational Safety Committee
- Vice Chair of the LaPorte, Morgan's Point, Shoreacres LEPC
- Consultant to the La Porte Plant Managers Network
- Texas Safety Foundation board member
- San Jacinto College CPET EHS advisory board
- Kuraray EVAL ePAS project manager
 - Permitting
 - LOTO

Kuraray at a glance

Kuraray America, Inc. is a global leader in specialty chemical, fiber and resin production. With top-of-the-line research and production facilities located in Houston, Texas, and a vast network of supply from around the world, Kuraray leads the industry in specialty dental, fiber, resin, and elastomer products.

Kuraray's Main Product Categories



Kuraray's Roots

What's the origin of Kuraray?

Est.
1926

Kura...

is the Japanese word for warehouse,
and Kuraray was established in Kurashiki

...ray

the viscose fiber rayon
was the first Kuraray product



Kuraray



Kuraray's Mission

We are committed to developing new fields of business using pioneering technology that improves the environment and enhances the quality of life throughout the world.

For people and the planet.

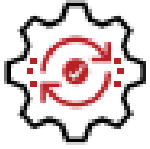
kuraray



Project Background

- Prior to ePAS Permitting
 - All permits were done on carbon copy paper
 - 3 types of permits
 - Cold Work (PTW)
 - Hot Work
 - Same permit but separated into 2 types
 - Type A – High Energy
 - Type B – Low Energy
 - Confined Space
 - Not a stand-alone permit, must be accompanied by PTW or Hot Work permit.
 - LOTOs were paper based
 - Isolation plans were on a protected drive
 - Active isolation plans kept in LOTO room in file cabinets
 - Access to filing cabinets required restricted access to LOTO room
 - No historian of LOTOs
 - Lack of communication between contractors and operations when job is complete and ready to return to service

Goals with Electronic Permitting



Standardize permit practices according to your company workflows.



Gain consistency and efficiency and reduce human error with HIRA (Hazard Identification and Risk Assessment).



Create consistency and efficiency with intelligent templating.

- Standardized
- Consistency
- Efficiency

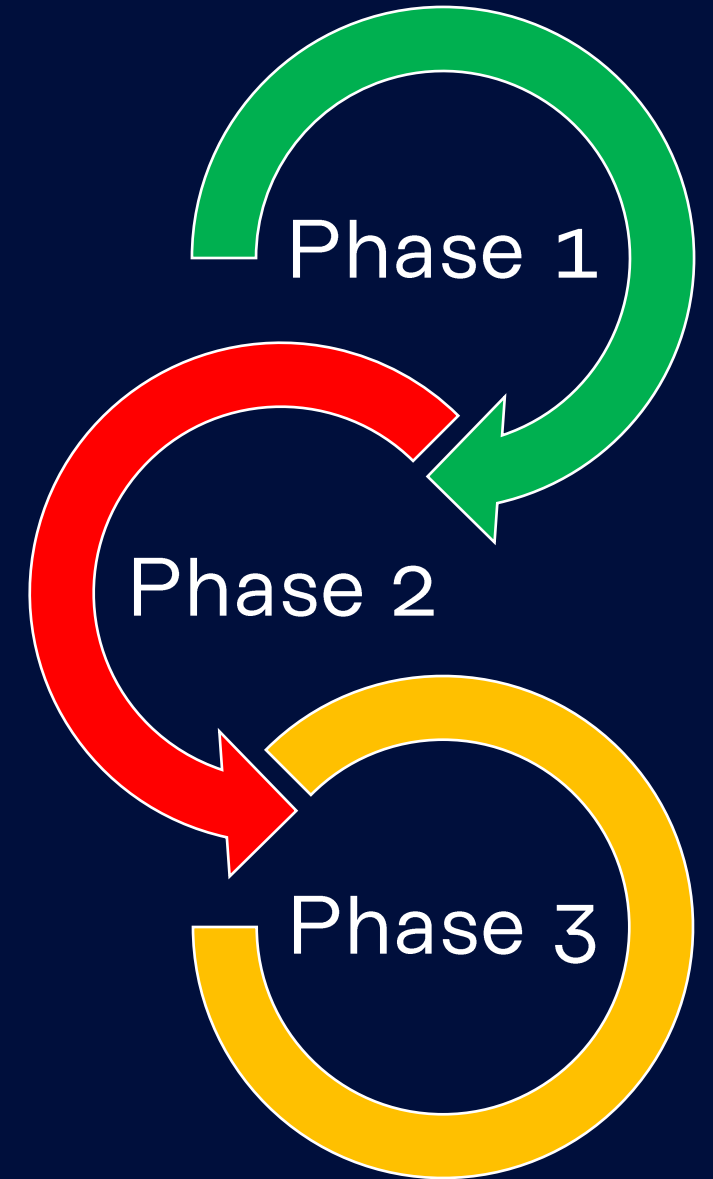
Equals a Safer Permitting Process

Permitting and Safety

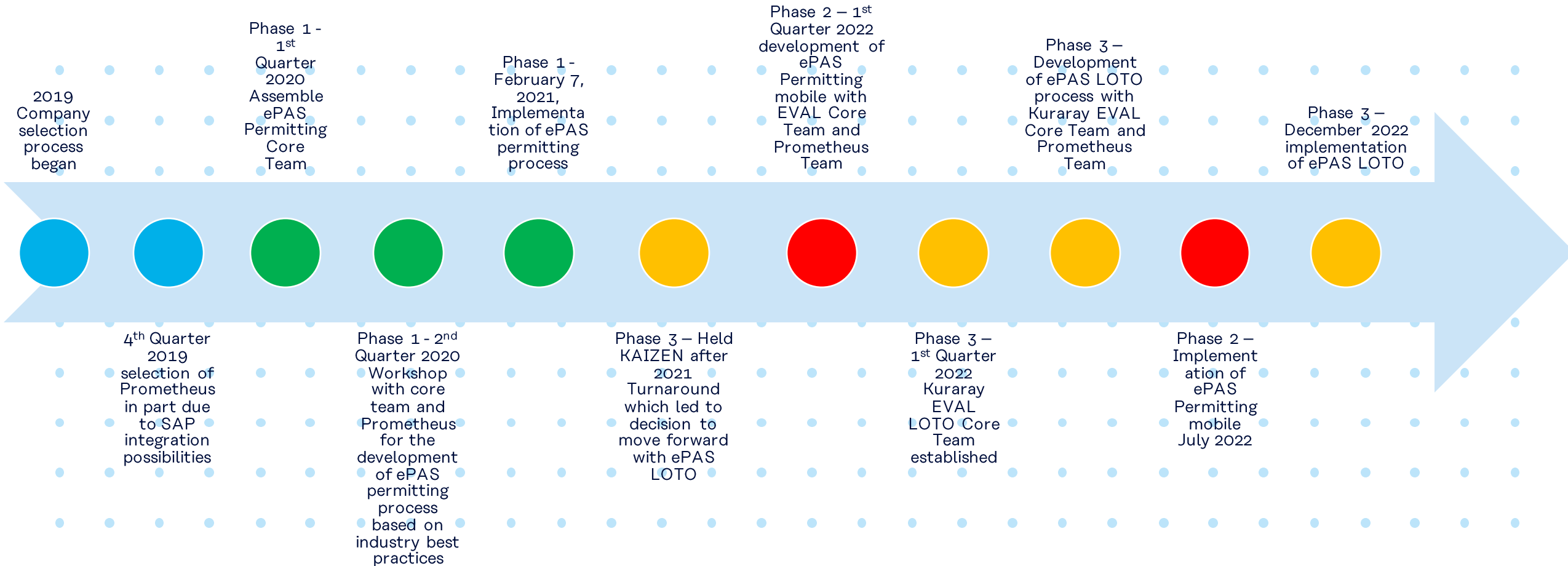
- ePAS (Electronic Permit Administration System) is a web-based solution that is an integrated safe system of work.
- It is more than just work permitting. ePAS also manages isolations/LOTO (lock-out tag-out), handles risk assessment, and integrates with SAP.
- The ePAS Mobile application works online or offline, allowing users to continue with their safe work processes no matter what their connectivity is.
- More than compliance, designed to be “Industry Best Practice”

3 Phase Approach for Project

- Phase 1 - Implementation of ePAS permitting
 - Printed PDF permits written in ePAS
- Phase 2 – Implementation of ePAS permitting mobile
 - Hybrid – nested contractors vs third party
- Phase 3 – Implementation of ePAS LOTO




Timeline of Kuraray EVAL ePAS Project





ePAS Permitting Process



Emergency Search

Search

Sam Snead

Shortcuts

Create Permit | Permit Search | Create Isolation Plan

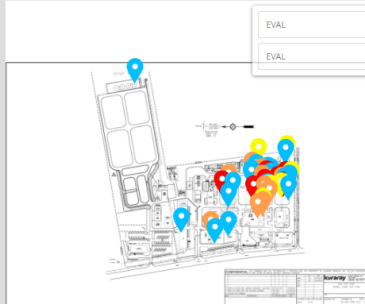
Lockboxes in Service

Permit T...	Lock Box #	Title	Work Description	Workflow State	Permit Number
LOTO	K123	K-9002	Troubleshooting fans and replacing wires and motor inside oil storage building.	Walkdown and Verify	FAC-LOTO-23-675
LOTO	212	Clean M-1382 Shaker Screen	Remove and clean M-1382 Shaker Screen	Isolate	1300-LOTO-23-674
LOTO	323	C-1204 for Entry	Isolate C-1204 for entry	Active	1200-LOTO-23-672
LOTO	Block 2 Saponification	Block 2 Saponification	Zone Isolation for block 2 Saponification. This will be for all chemicals coming into and going out of this area.	Active	1100-LOTO-23-670
LOTO	25	P-8501	Change pump seal	Isolate	8500-LOTO-23-656
LOTO	A	C-1304	C-1304 isolate for entry	Active	1300-LOTO-23-650
LOTO	224	K-9001 Chemical Additive Storage Bld	Troubleshoot fans and replace wires and motor.	Isolate	FAC-LOTO-23-655
LOTO	196	K-9002	Troubleshooting fans and replacing wires and motor inside oil storage building.	Isolate	FAC-LOTO-23-654

Verified and Active

Permit T...	Lock Box #	Title	Work Description	Workflow State	Permit Number
PTW			Installing access control devices in the old maintenance shop access doors.	Verified & Active	FAC-PTW-23-667
PTW	A		C-1304 isolate for entry	Verified & Active	1300-PTW-23-662
PTW	53		Change pump seal	Verified & Active	8500-PTW-23-670

Permits Verified and Active



EVAL
EVAL

Permit Creation

Electronic permitting allows for permit creation in multiple ways

- SAP Integration
- Templates
- Ad hoc

Follows a process flow

- Initial State
- Review
- Field Walkdown
- Verified and Active
- Work Complete
- Permit Complete

PTW FAC-PTW-22-287

INITIAL STATE

REVIEW

FIELD WALKDOWN

VERIFIED & ACTIVE

WORK COMPLETE

PERMIT COMPLETE

Site

UNIT

AREA

General Details

Plant Items

HIRA

Relationships

Documents

Details

Lock Box #

76

Issued To (Company)*

Turner

Issued To (Person)*

John Smith

Permit Initiated By*

Richard Bass (richard.bass@kuraray.com)

Work Description*

Job scope goes in this location. Should be part of job package. For SAP integrated jobs it is auto populated.

Date*

March 22, 2022 07:15

Date Finish*

March 22, 2022 17:30

Work Order #

90099893

Work Group*

Boilermaker

Is this Project Work?

Is this Third Party?

Will atmospheric monitoring be required?

Is an MOC required?

Outage

Plot Location

Hazard Identification Risk Assessment

Emergency Search

Search

Richard Bass

PTW FAC-PTW-22-287

INITIAL STATE

REVIEW

FIELD WALKDOWN

VERIFIED & ACTIVE

WORK COMPLETE

PERMIT COMPLETE

Site

EVAL

UNIT

Facility-General

AREA

General

General Details

Plant Items

HIRA

Relationships

Documents

Hazard Identification Risk Assessment

Work Categories

General work

Hazards

Fire Risk Mitigation

General Hazards

Sharp Abrasive Objects

Controls

A copy of the permit to be available at the work site

Barriers and signs to be erected

Chemicals - Have all relevant SDS been referenced and made available at the worksite?

Consider the ergonomics involving in completing the work. Eg. manual handling

Good housekeeping practice to be maintained (eg. tools to be kept tidy, trash and debris to be removed on completion of work)

Identify closest safety shower

If knives are to be used, all alternative means of performing the operation are to have been considered. Open-bladed and locked retractable knives are only to be used if there is no other option. Suitable hand protection must be adopted.

Look for combustible debris


Look for exposed wiring

Look for ignition points

Look for oily rags

Sharp edges to be removed where practicable or use protection or padding

Wear cut resistant gloves when sharp objects are involved

 kuraray

Permit Verifications

Permit Approvals and Verifications

Permit Verified By Owning Department *

Permit Verified By Owning Department Signature *

Permit Verified By Affected *

Permit Verified By Affected Signature *

Additional Verifications if Applicable

Kuraray I&E Signature

DCS Approval

DCS Approval Signature

Bottle Watch

Bottle Watch Signature

HRP Questions

What is the job? *

What Energy is Involved? *

☐ Motion

☐ Chemical

☐ Radiation

☐ Electrical

☐ Gravity

☐ Heat and Cold

☐ Biological

☐ Pressure

Where is the Energy going? *

How will we manage the energy for a safe job outcome? *

What are the specific STOP THE JOB triggers? *

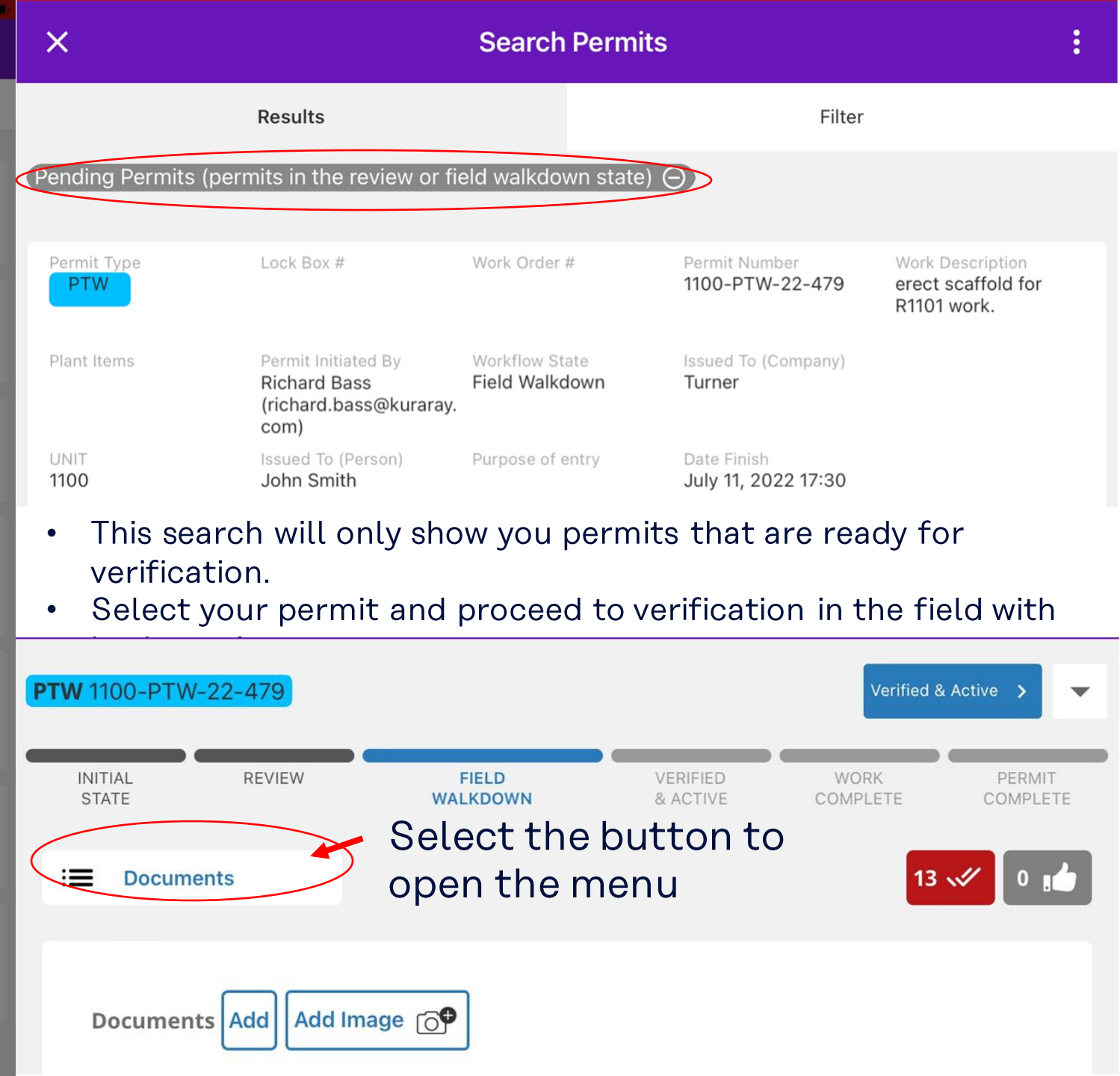
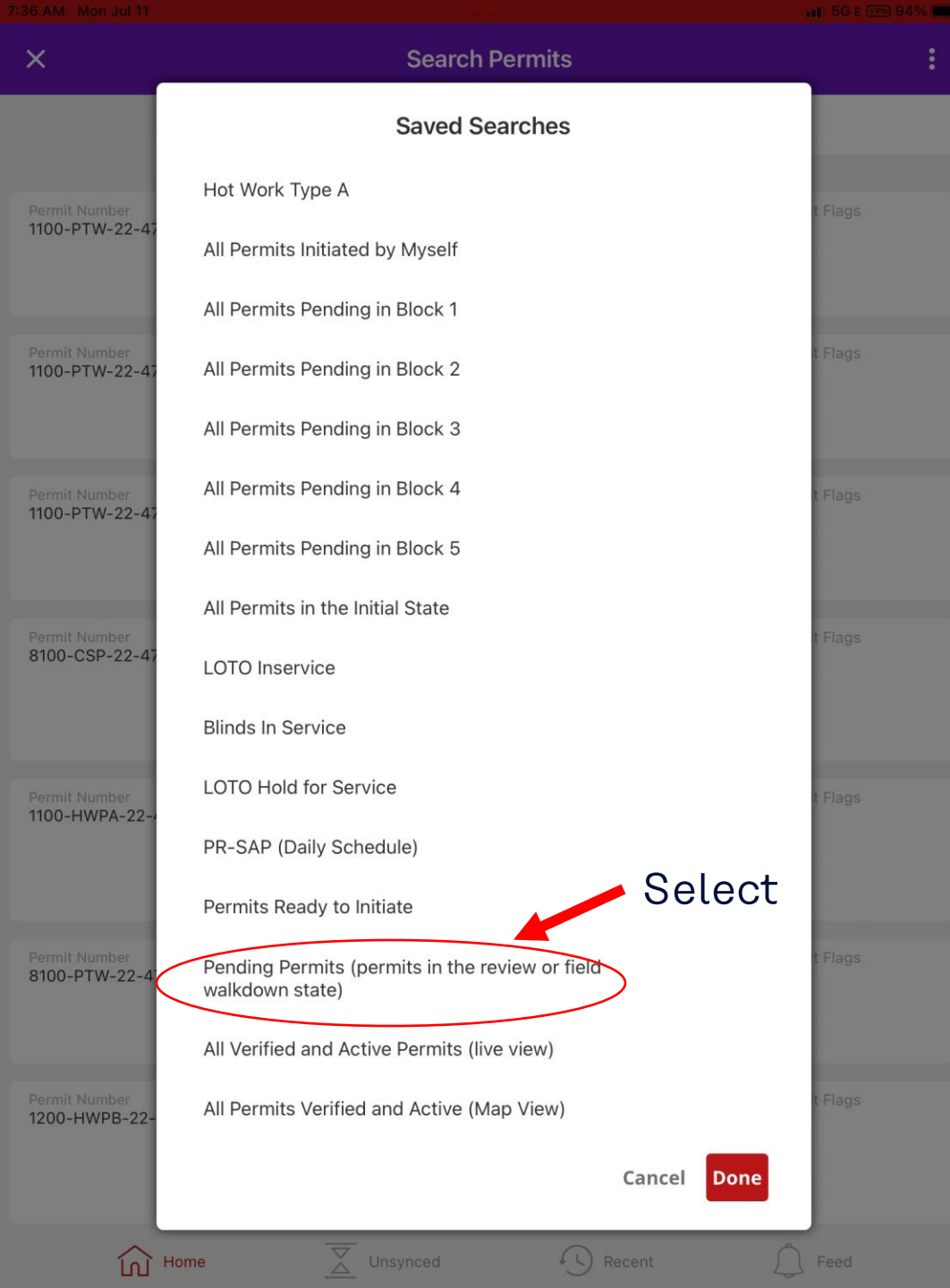
HRP Reviewed

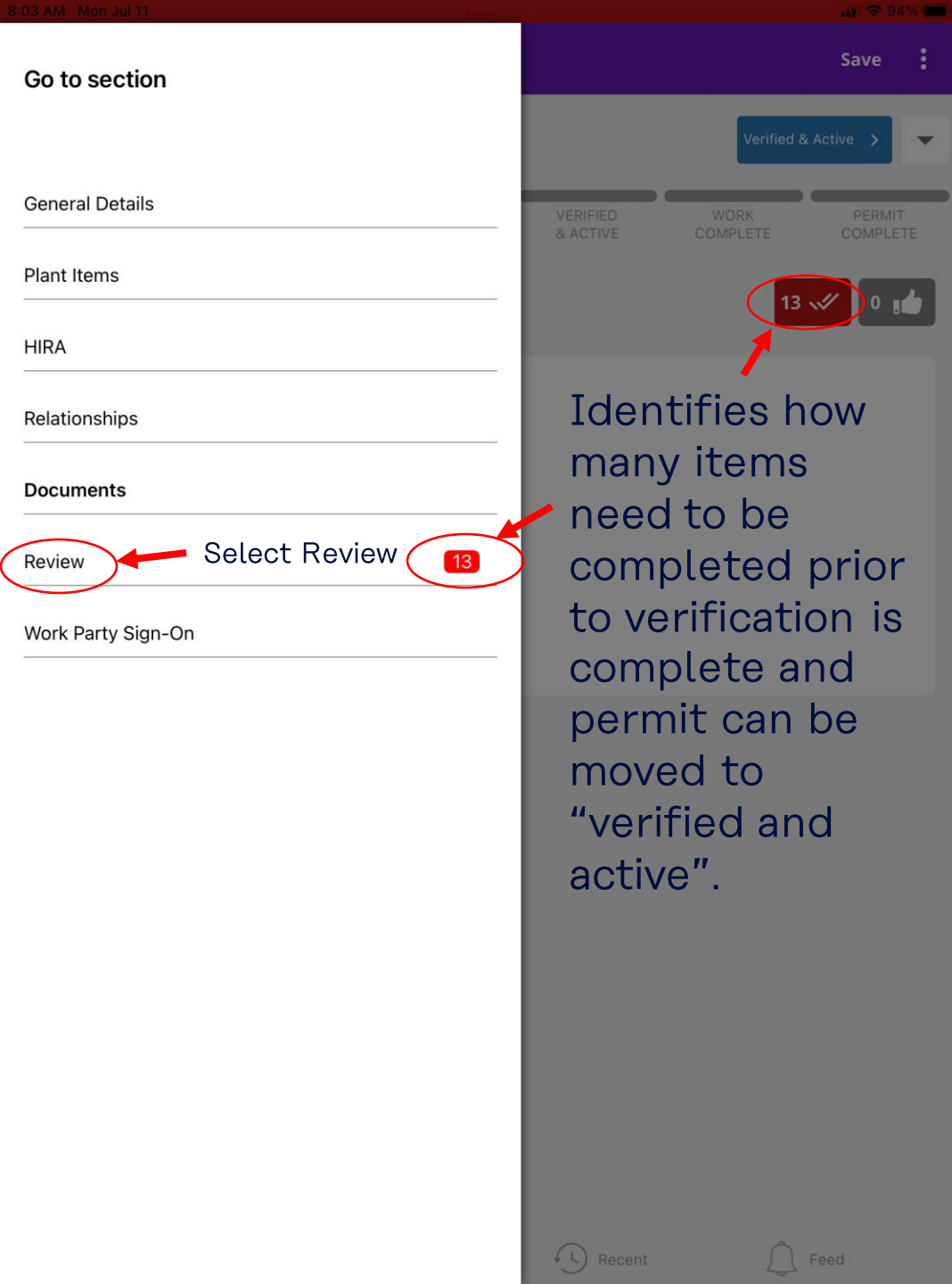
Owning Dept *

Owning Department Signature *

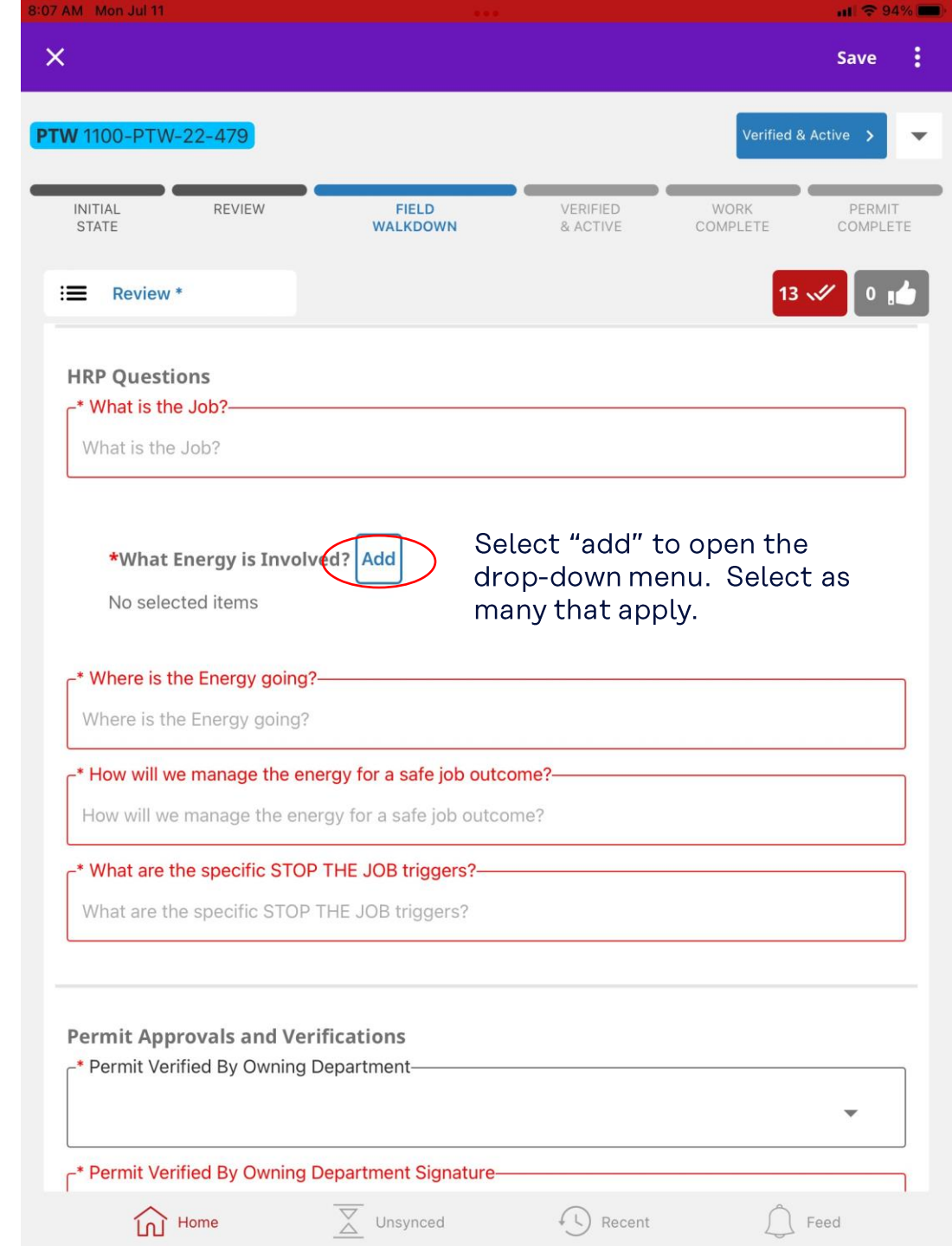
Affected Dept *

Affected Department Signature *





- The contractor is responsible for filling out the HRP Questions and discuss with the Owner prior to sign offs.
- Everything in red or with a red asterisk is a required field.



HRP Example

HRP QUESTIONS	
Question	Answer
What is the Job?	Replace control valve on hcv1101
What Energy is Involved?	Motion, Heat and Cold, Electrical, Pressure, Chemical, Gravity
Where is the Energy going?	To control valve
How will we manage the energy for a safe job outcome?	360 awareness of your surroundings



PTW Issued To (Company):
Turner

Permit #: 1100-PTW--22-24077

Permit To Work



What are the specific STOP THE JOB triggers?		Loto not executed properly
HRP REVIEWED		
Owning Dept	Rafael Trevino (rafael.trevino@kuraray.com)	
Affected Dept	Jesus Olivas (jesus.olivas@kuraray.com)	

PTW 1100-PTW-22-479

Verified & Active >

INITIAL STATE

REVIEW

FIELD WALKDOWN

VERIFIED & ACTIVE

WORK COMPLETE

PERMIT COMPLETE

Review *

13 ✓

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HRP Questions

Select the Task Pad button to see what remaining tasks are required prior to moving to "Verified and Active".

Approvals

Field Walkdown Approval

Declaration

Reviewed permit face-to-face at Field Walkdown

Reason

Reason

Reject Approve

Once you have completed all the tasks you will be prompted to give a final approval that the permit has been reviewed face-to-face during Field Walkdown.

Task Pad

What Energy is Involved?

What Energy is Involved? is required

What is the Job?

What is the Job? is required

Where is the Energy going?

Where is the Energy going? is required

How will we manage the energy for a safe job outcome?

How will we manage the energy for a safe job outcome? is required

What are the specific STOP THE JOB triggers?

What are the specific STOP THE JOB triggers? is required

Owning Dept

Owning Dept is required

Owning Department Signature

Owning Department Signature is required

Affected Dept

Affected Dept is required

Affected Department Signature

Affected Department Signature is required

Permit Verified By Affected

Permit Verified By Affected is required

Permit Verified By Affected Signature

Permit Verified By Affected Signature is required

Home

Unsynced

Recent

Feed

kuraray

8:31 AM Mon Jul 11

Save

PTW 1100-PTW-22-479

Verified & Active

INITIAL STATE REVIEW **FIELD WALKDOWN** VERIFIED & ACTIVE WORK COMPLETE PERMIT COMPLETE

Work Party Sign-On

Drop-down menu

Work Party Sign-On

Name

Options

Sign On Group Sign On

Name

Jimmy Jones

Sign On 07/11/2022 08:31 AM Sign Off

Sign Off

Home Unsynced Recent Feed

Work Party Sign On and Off

1. Select the drop-down menu and click on the "Work Party Sign-On" page.
2. Enter the name(s) of all people working on the permit and then select "Sign On".
3. If someone needs to leave the permit, select the red "sign off" button under neath their name.
4. If someone needs to be added to the permit, enter the name and select "Sign On".

Moving Permit to Verified and Active

9:40 AM Mon Jul 11

Save

PTW 1100-PTW-22-479

Verified & Active

INITIAL STATE REVIEW FIELD WALKDOWN VERIFIED & ACTIVE WORK COMPLETE PERMIT COMPLETE

Work Party Sign-On

Work Party Sign-On

Name

Options

Sign On Group Sign On

Name

Jimmy Jones

Sign On 07/11/2022 08:31 AM Sign Off

Name

Sam Snead



Sign On 07/11/2022 09:40 AM Sign Off



Home Unsynchronized Recent Feed


- Once all verifications and work party sign-ons have occurred, select the Verified & Active button.
- Make sure that you are connected and the system updates.
- If the device says disconnected, move to an area where you are connected to make sure the system is updated.


Dashboard-Home Screen

Electronic Permitting provides a real time dashboard/home screen for all permits





 Search

 Richard Bass

Home Screen

PR SAP

Permit T...	Permit Number	Workflow State	Date Finish	Work Description	Issued To (Comp
PR-SAP	EVAL-PR-SAP-22-279	Review	February 15, 2022 12:56	test	
PR-SAP	EVAL-PR-SAP-22-282	Review	March 16, 2022 11:28	please work	
PR-SAP	EVAL-PR-SAP-22-281	Review	March 16, 2022 11:28	help ,me please	
PR-SAP	EVAL-PR-SAP-22-280	Review	March 16, 2022 11:28	help	
PR-SAP	EVAL-PR-SAP-22-278	Review	February 15, 2022 11:56	Test epas	
PR-SAP	EVAL-PR-SAP-21-262	Review	October 12, 2021 9:07	FCT-8310, Crane support for scaffold	
PR-SAP	EVAL-PR-SAP-21-261	Review	October 12, 2021 10:00	FCT-8310, Demo barricade	
PR-SAP	EVAL-PR-SAP-21-260	Review	October 12, 2021 7:00	FCT-8310, Replace wooden deck	
PR-SAP	EVAL-PR-SAP-21-240	Review	June 16, 2021 9:07	PM M-6119 WEDNESDAY CHK	
PR-SAP	EVAL-PR-SAP-21-238	Review	June 15, 2021 11:15	PM M-6109 THURSDAY DAILY CHK	

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All Permits in the Initial State

Permit T...	Permit Number	Workflow State	Date Finish	Work Description	Issued To (Comp
PTW	FAC-PTW-22-287	Initial State	March 22, 2022 17:30	Job scope goes in this location. Sho	Turner
PTW	1100-PTW-22-286	Initial State			
PTW	1100-PTW-22-285	Initial State			
PTW	1300-PTW-22-284	Initial State	March 17, 2022 17:30	Clean and inspect equipment	Turner
HWWA	EVAL-HWWA-22-276	Initial State			
PTW	1300-PTW-22-272	Initial State		Install Temporary Air Dryer	
PTW	1100-PTW-21-265	Initial State			
PTW	EVAL-PTW-21-241	Initial State	June 17, 2021 15:30	PM M-6499 THURSDAY DAILY CHK	
PTW	1100-PTW-21-259	Initial State			
PTW	EVAL-PTW-21-239	Initial State	June 16, 2021 13:22	PM M-6499 WEDNESDAY DAILY CH	Turner
PTW	1100-PTW-21-253	Initial State			
PTW	EVAL-PTW-21-243	Initial State	June 18, 2021 9:07	PM M-6119 FRIDAY CHK	Turner
PTW	EVAL-PTW-21-250	Initial State			
PTW	1400-PTW-21-247	Initial State			
PTW	EVAL-PTW-21-233	Initial State	June 11, 2021 9:07	PM M-6119 FRIDAY CHK	

Shortcuts

Create Permit Permit Search

All Permits Verified and Active

Permit T...	Permit Number	Workflow State	Date Finish	Work Description	Issued To (Comp
PTW	1100-PTW-22-283	Verified & Active	March 15, 2022 17:30	complete Mechanical Integrity anal	Mistras
PTW	EVAL-PTW-22-226	Verified & Active	January 31, 2022 14:46	PM M-6499 WEDNESDAY DAILY CH	Turner
HWWA	EVAL-HWWA-22-270	Verified & Active	January 12, 2022 17:30	cut grind weld	Force
PTW	1100-PTW-21-195	Verified & Active	April 05, 2021 17:30	Clean and inspect V-1119	Turner
CSP	EVAL-CSP-21-193	Verified & Active	April 05, 2021 17:30		Turner
CSP	EVAL-CSP-21-191	Verified & Active	April 05, 2021 17:30		Turner
PTW	FAC-PTW-21-164	Verified & Active	March 17, 2021 8:22	Hang drywall in Maintenance shop	Clark Industrial
PTW	3100-PTW-21-140	Verified & Active	March 03, 2021 15:53	test	Clark Industrial
PTW	8100-PTW-21-87	Verified & Active	February 13, 2021 5:30	Stage air portable air dryer	Turner
PTW	FAC-PTW-21-72	Verified & Active	February 10, 2021 15:14	pull belt on M6317C to clean	
PTW	FAC-PTW-21-77	Verified & Active	February 11, 2021 7:41	DAILY PM 6499	

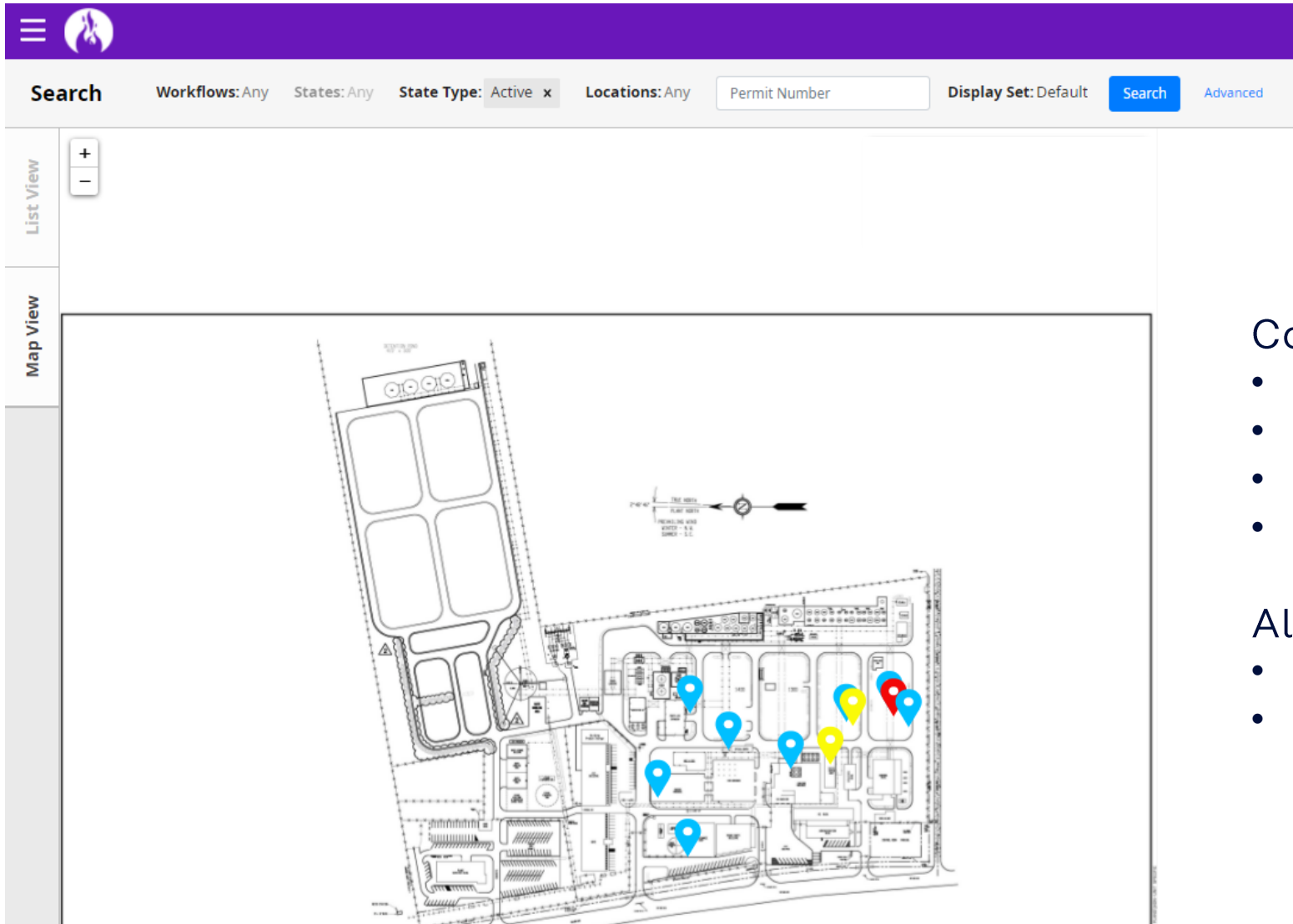
1 to 11 of 11 < > Page 1 of 1 > >

Pending Permits

Permit T...	Permit Number	Workflow State	Date Finish	Work Description	Issued To (Comp
PTW	1100-PTW-21-266	Field Walkdown	December 07, 2021 17:30	Clean and inspect cutter	Turner
PTW	KRTC-PTW-21-251	Field Walkdown	August 17, 2021 15:00	remove scaffolding	Turner
PR	EVAL-PR-21-230	Review		pull pump	
PR	EVAL-PR-21-216	Review	May 21, 2021 17:00	replace actuator	Turner

1 to 34 of 34 < > Page 1 of 1 > >

Map View of All Active Permits



Color Coded by permit type

- Blue – PTW
- Orange – HWPB
- Red – HWPA
- Yellow – CSP

Allows Quick Overview

- Emergency Response
- Focused Audits

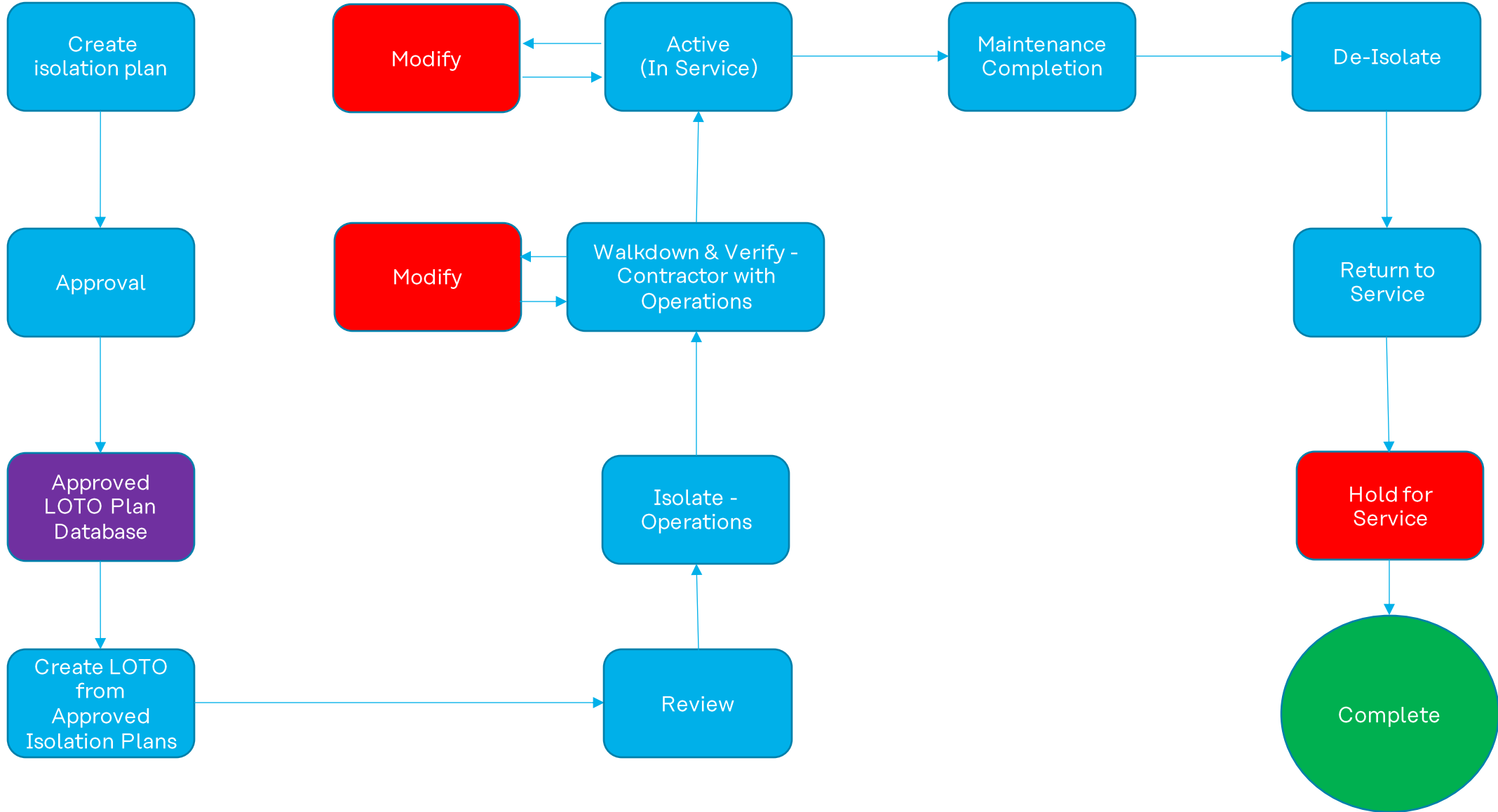
Additional Benefits of E Permits



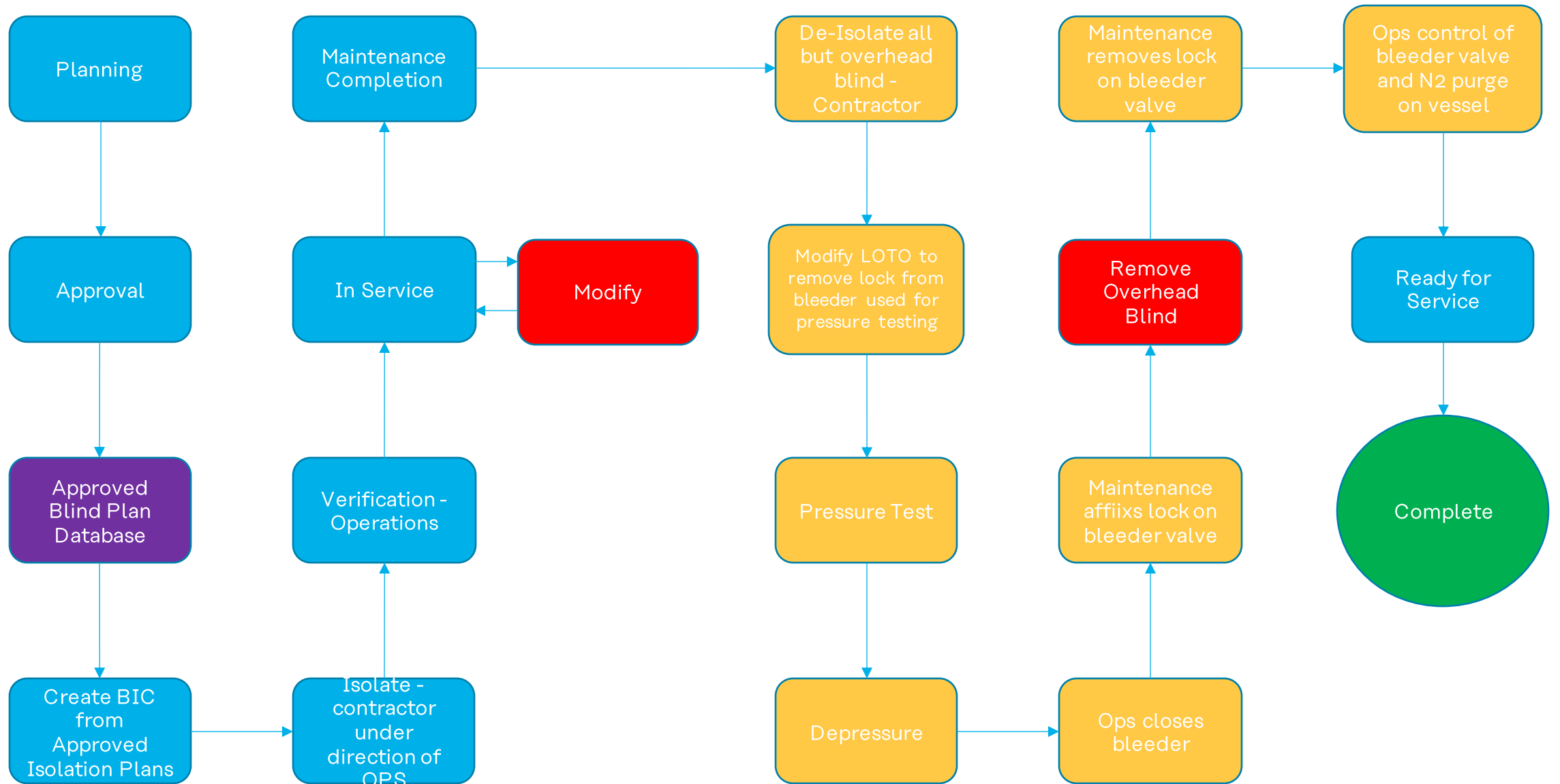
- **Every action is time stamped**
 - Time on tools
- **Monthly reporting**
 - Total permits
 - Permits by Type
 - Permits by Area
 - Permits by Day
 - Permits by Company
- **Compliance**
 - Keeps all permits in one location
 - Allows for easy audits
 - Track completion
 - Incident Investigations

ePAS LOTO

LOTO Process Flow



Blind Process Flow



Approved – Verified Isolation Plans

LOTO Isolation Plans					
Permit T...	Permit Number	Workflow State	Work Description	Lock Box #	Title
LOTOT	1100-LOTOT-22-431	Template Approved	Test		Test 1
LOTOT	EVAL-LOTOT-22-295	Template Approved	V-1115 sight glass replacement		V-1115
LOTOT	EVAL-LOTOT-22-293	Template Approved	Change seal		P-1104
LOTOT	EVAL-LOTOT-22-362	Template Approved	troubleshoot and repair		P-1112 seal repair
LOTOT	EVAL-LOTOT-22-353	Template Approved	Replacing Seal		P-1103 Seal Replacement
LOTOT	EVAL-LOTOT-22-354	Template Approved	troubleshoot and repair		P-1112 repair
LOTOT					

1 to 17 of 17 < < Page 1 of 1 > >

Create LOTO from Approved – Verified Isolation Plan

LOTOT EVAL-LOTOT-22-295

Saponification

Folders

General Details

Plant Items

Isolations

Documents

INITIAL STATE

REVIEW

TEMPLATE APPROVED

INITIAL STATE

REVIEW

TEMPLATE APPROVED

Emergency Search

Search

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Create LOTO

Template Approved

Isolations (4)

Isolation Point Description	Equipment Isolated	Normal Energy Source	Is this Lock or Blind?	Test	Normal/Lock Position	Blind Information	Notes
Isolation Point Description 4" inlet from O2 filter	Equipment Isolated 4" inlet from O2 filter	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open	Blind Type None Overhead Blind None	Notes EVAC/MeOH
Isolation Point Description 6" outlet to paste pumps	Equipment Isolated 6" outlet to paste pumps	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open	Blind Type None Overhead Blind None	Notes EVAC/MeOH
Isolation Point Description 1.5" inlet from die plate wash adapters	Equipment Isolated 1.5" inlet from die plate wash adapters	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Close	Blind Type None Overhead Blind None	Notes MeOH
Isolation Point Description 1/2" nitrogen tie in to sight glass	Equipment Isolated 1/2" nitrogen tie in to sight glass	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open	Blind Type None Overhead Blind None	Notes Nitrogen

- After “Review” proceed to “Isolate” by printing tags and isolating equipment.
- 1. Each isolation point will have a QR coded tag that will be used for verification
 - 2. Once isolation and verification with QR code is complete it will turn that isolation point from orange to green

Menu icon

Emergency Search

Search

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LOTO 1100-LOTO-22-489

REVIEWISOLATEWALKDOWN AND VERIFYACTIVEMAINTENANCE COMPLETEDE-ISOLATERETURN TO SERVICEHOLD FOR SERVICECOMPLETE

Walkdown and Verify

Saponification

General Details

Plant Items

Isolations

Relationships

Documents

Lock Box #

22

Plant Items

PPI	Exclusive	Name	Description	Location/Area	Building	Floor	Room
	<input type="checkbox"/>	10000810	V-1115 COAGULATOR FEED VESSEL	US27-11-SAPN			

Isolations (4) *

Isolated	Plant Item	Details	Isolation Point Description	Equipment Isolated	Normal Energy Source	Is this Lock or Blind?	Test
	<div>Plant Item None Description None Exclusive None Isolation Type None</div>	<div>Isolated Condition None Restore to Condition None Method of Proving None</div>	Isolation Point Description 4" inlet from O2 filter	Equipment Isolated 4" inlet from O2 filter	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None
	<div>Plant Item None Description None Exclusive None Isolation Type None</div>	<div>Isolated Condition None Restore to Condition None Method of Proving None</div>	Isolation Point Description 6" outlet to paste pumps	Equipment Isolated 6" outlet to paste pumps	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None
	<div>Plant Item None Description None Exclusive None Isolation Type None</div>	<div>Isolated Condition None Restore to Condition None Method of Proving None</div>	Isolation Point Description 1.5" inlet from die plate wash adapters	Equipment Isolated 1.5" inlet from die plate wash adapters	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None
	<div>Plant Item None Description None Exclusive None Isolation Type None</div>	<div>Isolated Condition None Restore to Condition None Method of Proving None</div>	Isolation Point Description 1/2" nitrogen tie in to sight glass	Equipment Isolated 1/2" nitrogen tie in to sight glass	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None

TASKS

Isolations

All isolation points must be isolated before proceeding.

1 ✓

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APPROVALS

8:04 AM Tue Aug 16

68%

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Save

⋮

LOTO 1100-LOTO-22-489

Walkdown and Verify >

▼

ISOLATE

WALKDOWN AND VERIFY

ACTIVE

MAINTENANCE COMPLETE

DE-ISOLATE

RETURN TO SERVICE

HOLD FOR SERVICE

COI

☰ Isolations *

1 ✓

0 👍

Lock Box #

22

Plant Items

☆ 10000810-V-1115 COAGULATOR FEED VESSEL

*Isolations +

Table

Tag number

Tag number

Isolate

Tag number

Tag number

Isolation Point Descrip 4" inlet from O2 filter	Equipment Isolated 4" inlet from O2 filter	Isolation Point Descrip 6" outlet to paste pumps	Equipment 6" outlet to pumps
Normal Energy Source Chemical	Lock? None	Normal Energy Source Chemical	Lock? None
Blind? None	Chemical Type None	Blind? None	Chemical T None
Lock Open/Close Close	Normally Open/Close Open	Lock Open/Close Close	Normally C Open

Home

Unsynced

Recent

Feed

8:05 AM Tue Aug 16

68%

×

Save

⋮

LOTO 1100-LOTO-22-489

Walkdown and Verify >

▼

ISOLATE

WALKDOWN AND VERIFY

ACTIVE

MAINTENANCE COMPLETE

DE-ISOLATE

RETURN TO SERVICE

HOLD FOR SERVICE

COI

☰ Isolations *

1 ✓

0 👍

Lock Box #

22

Plant Items

☆ 10000810-V-1115 COAGULATOR FEED VESSEL

*Isolations +

Table

Tag number

Tag number

Isolated

Tag number

Tag number

Isolation Point Descrip 4" inlet from O2 filter	Equipment Isolated 4" inlet from O2 filter	Isolation Point Descrip 6" outlet to paste pumps	Equipment 6" outlet to pumps
Normal Energy Source Chemical	Lock? None	Normal Energy Source Chemical	Lock? None
Blind? None	Chemical Type None	Blind? None	Chemical T None
Lock Open/Close Close	Normally Open/Close Open	Lock Open/Close Close	Normally C Open

Home

Unsynced

Recent

Feed

DANGER

1100-LOTO-22-488

Isolation Point Description: 1/2" nitrogen tie in to sight glass

Area: EVAL

Unit: 1100

Plant Item: 10000810

Notes: Nitrogen

Energy Source: Chemical

Lockbox #: 77

Normal Pos: Open

Isolated Pos: Close



Tag #: 383757

7:33 AM Tue Aug 16
Save

LOTO 1100-LOTO-22-488
In Service

LATE
WALKDOWN AND VERIFY
ACTIVE
MAINTENANCE COMPLETE
DE-ISOLATE
RETURN TO SERVICE
HOLD FOR SERVICE
COMPLETE

Isolations
2
0

☆ 10000810-V-1115 COAGULATOR FEED VESSEL

Isolations +

Tag number

Tag number

Isolated

Tag number

Tag number

Tag number

Tag number

Verified

Tag number

Tag number

Isolation Point Descrip	Equipment Isolated
4" inlet from O2 filter	4" inlet from O2 filter
Normal Energy Source	Lock?
Chemical	None
Blind?	Chemical Type
None	None
Lock Open/Close	Normally Open/Close
Close	Open
Blind Type	Overhead Blind
None	None
Notes	
EVAC/MeOH	

Isolation Point Descrip	Equipment
6" outlet to paste pumps	6" outlet to pumps
Normal Energy Source	Lock?
Chemical	None
Blind?	Chemical T
None	None
Lock Open/Close	Normally C
Close	Open
Blind Type	Overhead I
None	None
Notes	
EVAC/MeOH	

Home
 Unsynced
 Recent
 Feed

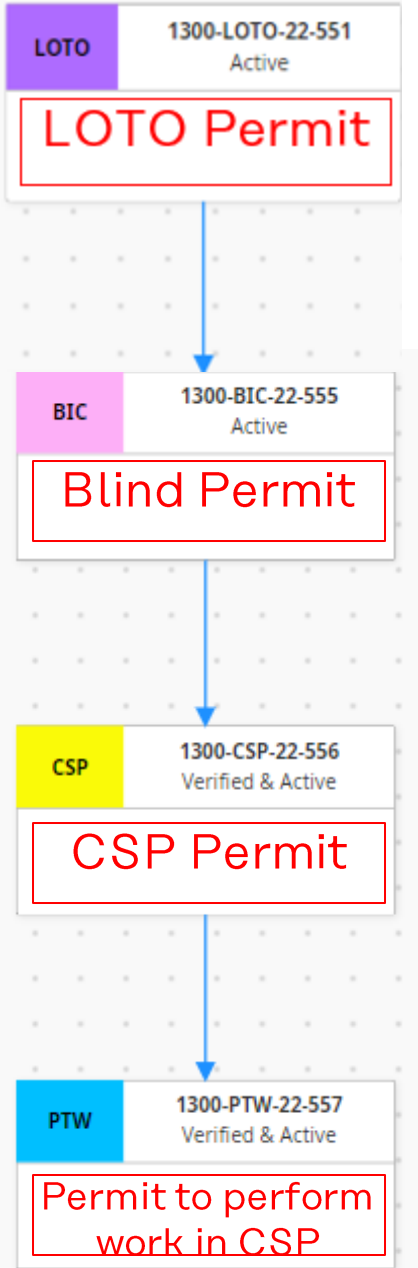
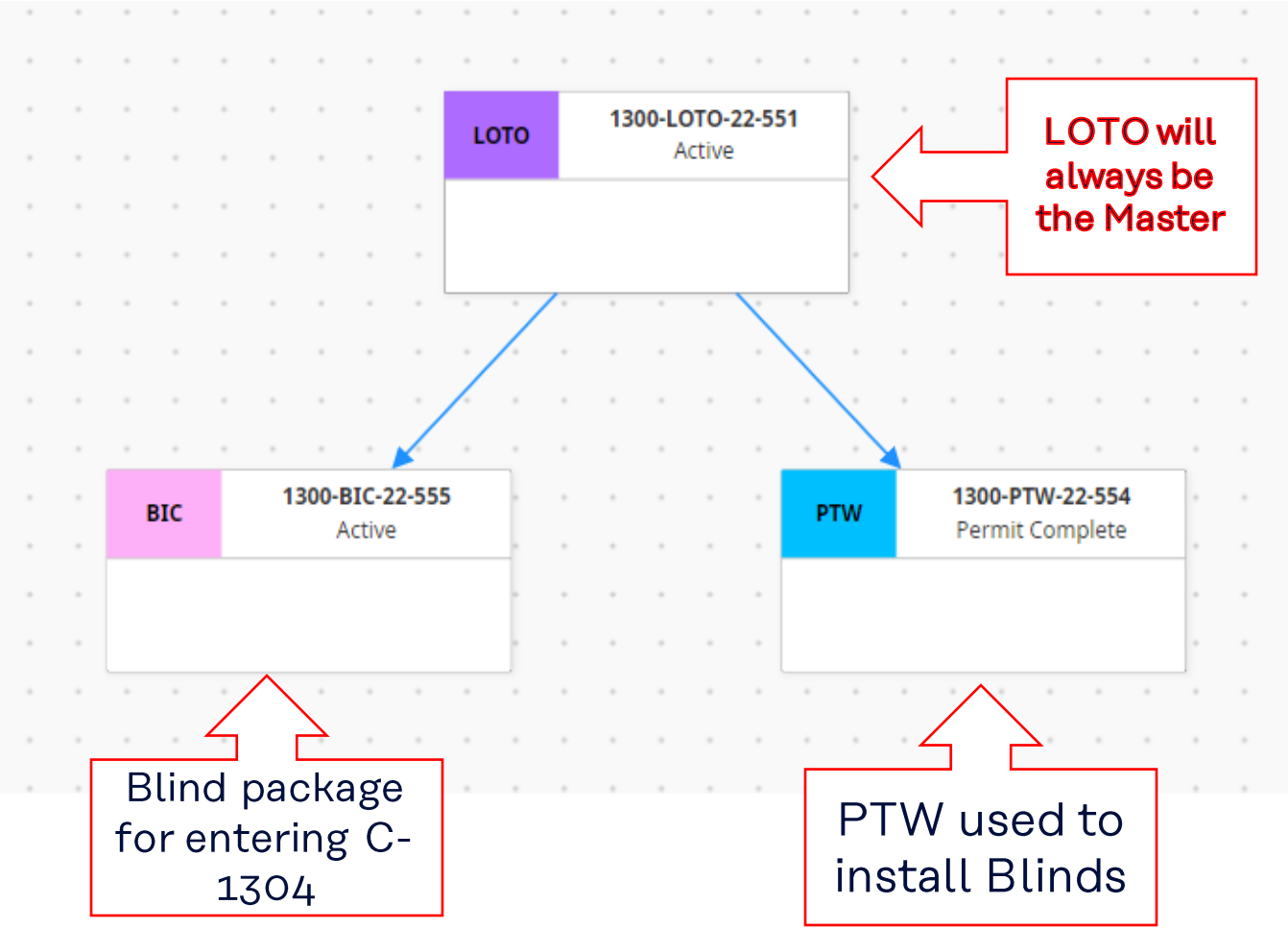
Isolations (4) *

Add Point									
Isolated	Plant Item	Details	Isolation Point Description	Equipment Isolated	Normal Energy Source	Is this Lock or Blind?	Test	Normal/Lock Position	Blind Information
<div><div></div><div>Isolated by Richard Bass</div><div></div></div>	<div>Plant Item</div> <div>None</div> <div>Description</div> <div>None</div> <div>Exclusive</div> <div>No</div> <div>Isolation Type</div> <div>None</div>	<div>Isolated Condition</div> <div>None</div> <div>Restore to Condition</div> <div>None</div> <div>Method of Proving</div> <div>None</div>	Isolation Point Description 4" inlet from O2 filter	Equipment Isolated 4" inlet from O2 filter	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open	Blind Type None Overhead Blind None
<div><div></div><div></div><div></div></div>	<div>Plant Item</div> <div>None</div> <div>Description</div> <div>None</div> <div>Exclusive</div> <div>No</div> <div>Isolation Type</div> <div>None</div>	<div>Isolated Condition</div> <div>None</div> <div>Restore to Condition</div> <div>None</div> <div>Method of Proving</div> <div>None</div>	Isolation Point Description 6" outlet to paste pumps	Equipment Isolated 6" outlet to paste pumps	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open	Blind Type None Overhead Blind None
<div><div></div><div></div><div></div></div>	<div>Plant Item</div> <div>None</div> <div>Description</div> <div>None</div> <div>Exclusive</div> <div>No</div> <div>Isolation Type</div> <div>None</div>	<div>Isolated Condition</div> <div>None</div> <div>Restore to Condition</div> <div>None</div> <div>Method of Proving</div> <div>None</div>	Isolation Point Description 1.5" inlet from die plate wash adapters	Equipment Isolated 1.5" inlet from die plate wash adapters	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Close	Blind Type None Overhead Blind None
<div><div></div><div></div><div></div></div>	<div>Plant Item</div> <div>None</div> <div>Description</div> <div>None</div> <div>Exclusive</div> <div>No</div> <div>Isolation Type</div> <div>None</div>	<div>Isolated Condition</div> <div>None</div> <div>Restore to Condition</div> <div>None</div> <div>Method of Proving</div> <div>None</div>	Isolation Point Description 1/2" nitrogen tie in to sight glass	Equipment Isolated 1/2" nitrogen tie in to sight glass	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open	Blind Type None Overhead Blind None

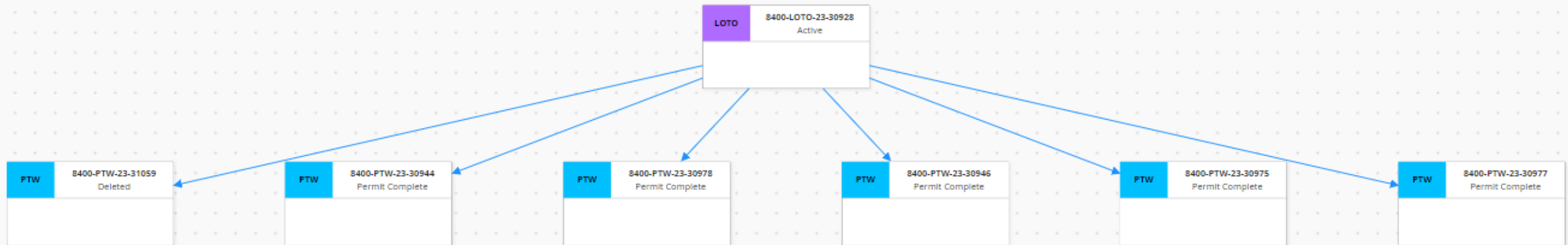
Isolations (4)

Isolated	Verified	Plant Item	Details	Isolation Point Description	Equipment Isolated	Normal Energy Source	Is this Lock or Blind?	Test	Normal/Lock Position
<div><div></div><div>Isolated by Richard Bass</div><div></div></div>	<div><div></div><div>Verified by Richard Bass</div><div></div></div>	<div>Plant Item</div> <div>None</div> <div>Description</div> <div>None</div> <div>Exclusive</div> <div>No</div> <div>Isolation Type</div> <div>None</div>	<div>Isolated Condition</div> <div>None</div> <div>Restore to Condition</div> <div>None</div> <div>Method of Proving</div> <div>None</div>	Isolation Point Description 4" inlet from O2 filter	Equipment Isolated 4" inlet from O2 filter	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open
<div><div></div><div>Isolated by Richard Bass</div><div></div></div>	<div><div></div><div>Verified by Richard Bass</div><div></div></div>	<div>Plant Item</div> <div>None</div> <div>Description</div> <div>None</div> <div>Exclusive</div> <div>No</div> <div>Isolation Type</div> <div>None</div>	<div>Isolated Condition</div> <div>None</div> <div>Restore to Condition</div> <div>None</div> <div>Method of Proving</div> <div>None</div>	Isolation Point Description 6" outlet to paste pumps	Equipment Isolated 6" outlet to paste pumps	Normal Energy Source Chemical	Lock? No Blind? No	Chemical Type None	Lock Open/Close Close Normally Open/Close Open
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Hierarchy - Relationships



Example of LOTO Relationship to Permits



Lockboxes in Service Dashboard



Lockboxes in Service						
Permit T...	Lock Box #	Title	Work Description	Workflow State	Permit Number	
LOTO	K123	K-9002	Troubleshooting fans and replacing wires and motor inside oil storage building.	Walkdown and Verify	FAC-LOTO-23-675	
LOTO	212	Clean M-1382 Shaker Screen	Remove and clean M-1382 Shaker Screen	Isolate	1300-LOTO-23-674	
LOTO	323	C-1204 for Entry	Isolate C-1204 for entry	Active	1200-LOTO-23-672	
LOTO	Block 2 Saponification	Block 2 Saponification	Zone isolation for block 2 Saponification. This will be for all chemicals coming into and going out of this area.	Active	1100-LOTO-23-670	
LOTO	25	P-8501	Change pump seal	Isolate	8500-LOTO-23-656	
LOTO	A	C-1304	C-1304 isolate for entry	Active	1300-LOTO-23-650	
LOTO	224	K-9001 Chemical Additive Storage Bld	Troubleshoot fans and replace wires and motor.	Isolate	FAC-LOTO-23-655	
LOTO	196	K-9002	Troubleshooting fans and replacing wires and motor inside oil storage building.	Isolate	FAC-LOTO-23-654	

Lessons Learned/What's Next

- **Development of core team**
 - Most important part of the process
 - Need input/buy in from all stakeholders
- **On prem server vs hosted server**
 - On prem is dependent on company IT to manage
 - Hosted server is monitored 24/7
- **Apple licensing issues**
 - Apple only issued 100 licenses for iPads
- **Connectivity issues**
 - 5G works great but still connection issues in different locations within process units
- **Microsoft Surface Pro App development**
 - Decided to switch from iPads to Surface Pros
 - IT has better control of Microsoft products
- **Switch to hosted server**
- **SAP Integration**
- **Wi-Fi project**
 - Site implementing a Wi-Fi system to support ePAS and condition monitoring of critical equipment.



Thank you!

kuraray

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CONFERENCE