

IMPACT Database User Guide
(Integrated, Management, Planning and Control Tool)

HOW TO USE THE ELECTRICAL HA WORK PERMIT

Login to IMPACT, click this link:

<https://www-esh.fnal.gov/pls/apex/f?p=129>

You need permission to add and edit work packages in the DB.

If you have issues logging into the database, please contact kathy@fnal.gov to get access.

Revision History

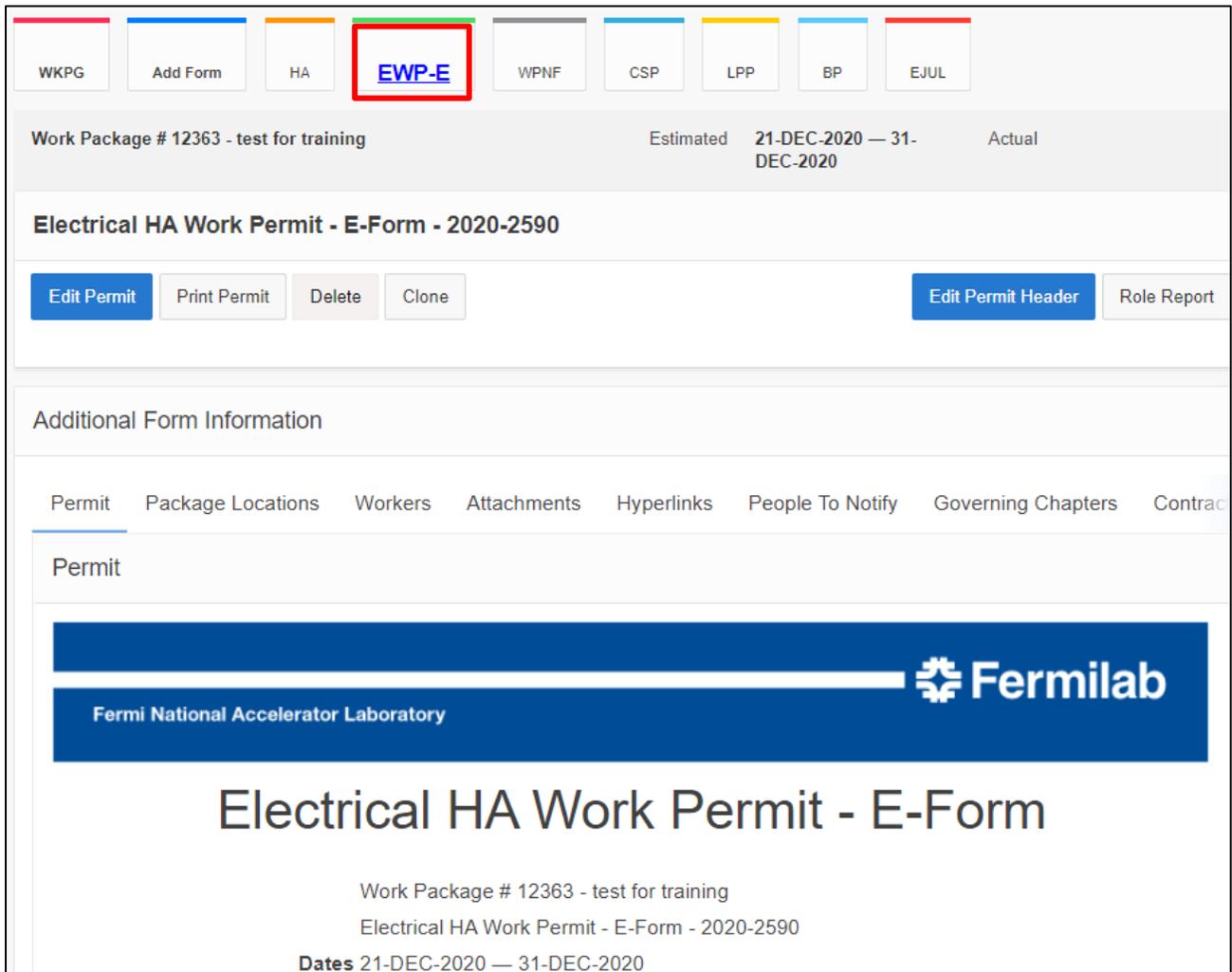
Name	Description	Date
Kathy Vuletich	Initial Release	January 2021

CLICK ON A TOPIC

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HOW TO CREATE AN ELECTRICAL HA WORK PERMIT

1. Create a work package according to the instructions in the IMPACT User Guide for creating new work packages.
2. Complete the HA and depending on the hazards you checked the EWP-E tab should have been added to the top of the screen.
 - a. If the EWP-E tab did not appear, click on the “[Add Form](#)” tab and select “[Electrical HA Work Permit - E-Form](#)” from the list.
 - b. Click “[Continue](#)”.
3. Click on the EWP-E tab.



WKPG Add Form HA **EWP-E** WPNF CSP LPP BP EJUL

Work Package # 12363 - test for training Estimated 21-DEC-2020 — 31-DEC-2020 Actual

Electrical HA Work Permit - E-Form - 2020-2590

Edit Permit Print Permit Delete Clone Edit Permit Header Role Report

Additional Form Information

Permit Package Locations Workers Attachments Hyperlinks People To Notify Governing Chapters Contract

Permit

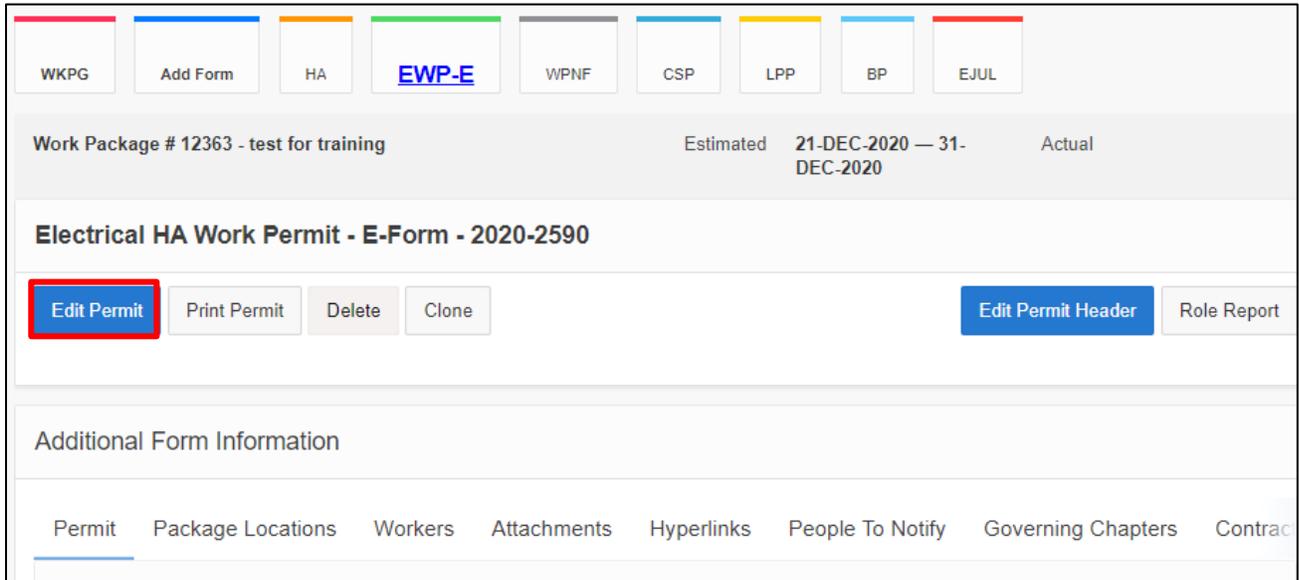
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Electrical HA Work Permit - E-Form

Work Package # 12363 - test for training
Electrical HA Work Permit - E-Form - 2020-2590
Dates 21-DEC-2020 — 31-DEC-2020

- Click on “[Edit Permit](#)”



The screenshot shows a web interface for managing work permits. At the top, there are several tabs: WKPG, Add Form, HA, **EWP-E** (highlighted), WPNF, CSP, LPP, BP, and EJUL. Below the tabs, the work package is identified as 'Work Package # 12363 - test for training' with an estimated date range of '21-DEC-2020 — 31-DEC-2020'. The main title of the permit is 'Electrical HA Work Permit - E-Form - 2020-2590'. A row of buttons is visible: 'Edit Permit' (highlighted with a red border), 'Print Permit', 'Delete', 'Clone', 'Edit Permit Header', and 'Role Report'. Below this is a section for 'Additional Form Information' with a list of tabs: Permit, Package Locations, Workers, Attachments, Hyperlinks, People To Notify, Governing Chapters, and Contract.

- Complete all the information required on the permit.

Field Name	Required or Optional?	Field Type	Description
Check this box if FESS personnel are performing the work	Optional	Checkbox	Only required to be checked if FESS personnel are performing the work (not a subcontractor).
Specific Equipment to be Serviced	Required	Manual text field	Enter information on the equipment that is being serviced.
Work to be Performed By (Name and Phone #)	Required	Manual text field	Enter in the information for the person (internal person, or subcontractor) performing the work, include their name and contact information.
Qualified Internal Person in Charge (Name and Extension #)	Required	Select Field	Click the pencil icon and select the Fermilab employee identified as the “Qualified Internal Person in Charge”. The person’s name and extension will automatically populate.
Internal Person Performing	Optional	Select Field	Click the pencil icon and select the Fermilab employee identified as the “Internal Person

Switching (Name and Extension #)			Performing Switching”. The person’s name and extension will automatically populate.
Qualified External Person in Charge (Name and Phone #)	Optional	Manual text field	If applicable, enter the name of the subcontractor identified as “Qualified External Person in Charge”. Include the person’s name and contact info.
External Person Performing Switching (Name and Contact #)	Optional	Manual text field	If applicable, enter the name of the person identified as “External Person Performing Switching”. Include the person’s name and contact info.
ASSOCIATED HAZARDS	Optional	Manual text field	This field is required only for hazards that were not identified on the main Hazard Analysis form. Enter detailed hazards.
HAZARD MITIGATION	Optional	Manual text field	Document the detailed mitigations associated with each hazard (if applicable).
Manipulative Energized Work	Optional	Checkboxes and Manual text field	If doing manipulative energized work, check the box. Attach a risk assessment to the permit by clicking on “Upload Files” or “Add Hyperlinks”. Complete the text field to state the justification for performing manipulative energized work. Checking this box ensures the right personnel are included on the approval of this permit. You MUST complete all elements of this section if conducting manipulative energized work.
Electrical Distribution System	Optional	Series of Checkboxes	If doing work on electrical distribution system, check the first box. A second box will appear. Check the second box if the nominal voltage exceeds 1000V. Checking this box will ensure the right personnel are included in the approval of the permit. You MUST complete this section if conducting high voltage work.

Qualified Person doing the inspection	Optional	Select Field	Click the pencil icon and select the qualified Fermilab employee doing the inspection. You MUST complete this field if conducting work on the electrical distribution system.
SHOCK PROTECTION BOUNDARIES FOR ENERGIZED WORK			
Limited Approach / Restricted Approach	Optional	Checkboxes and Text Fields	Choose the limited approach / restricted approach. The first two check boxes have pre-determined protection, limits and approach set for them. If you choose the third checkbox you must complete the next 3 text fields entering in custom protection and approach limits.
Minimum Rubber insulating Glove Class	Optional	Checkboxes	Choose the minimum rubber glove insulating class. For more information see NFPA 70E Table 130.2 for Fixed Circuit Parts and Article 130.3(A).
ARC FLASH PROTECTION BOUNDARY and REQUIRED PPE for ENERGIZED WORK	Optional	Checkboxes and Text Fields	2 options for Arc Flash Protection Boundary. 1 st option - complete the next two text fields indicating Calculated Arc Flash and Incident Energy Level. 2 nd option - look up the information from a table and complete the next text field with the Arc Flash Protection Boundary.
Select PPE category below	Optional	Checkboxes	Choose the category of PPE.
Process Steps	Optional	Text Fields	Document process steps, hazard details, and mitigations for the job.

GENERAL INFORMATION

Check this box if FESS personnel are performing the work.

Specific Equipment to be Serviced *

Work to be Performed By (Name and Phone #) *

Qualified Internal Person in Charge (Name and Extension #) *



Internal Person Performing Switching (Name and Extension #)



Qualified External Person in Charge (Name and Phone #)

External Person Performing Switching (Name and Contact #)

ASSOCIATED HAZARDS: (Required only for hazards not identified on the main Hazard Analysis form)

HAZARD MITIGATION: (Electric shock and arc-flash PPE are specified in the next section)

The **General Information** section is first. See table above for information on each field.

Fields with the red asterisk “*” are required.



Pencil icons open employee lists to choose from.

Manipulative Energized Work

- Check this box if the work activity involves manipulative energized work, state your justification in the field below and attach risk assessment. [Upload Files](#) [Add Hyperlinks](#)
- Check this box if FESS is performing the manipulative energized work.

Electrical Distribution System

- Check here if you are performing work on the electrical distribution system. If you check this box, you must contact the D/S/P Electrical Coordinator for inspection and approval before energizing.
 - Check this box if nominal voltage exceeds 1000V

Identify the Qualified Person performing the inspection



The sections help the work planner narrow down what type of work is being planned.

Choose the type of work that is being planned, or if not applicable skip this section.

Manipulative Energized Work:

If performing manipulative energized work, a risk assessment is required to be attached to the permit.

1. Click “[Upload Files](#)” to attach a document directly to the permit.
2. A new screen will appear. Click “[Upload File to Form](#)”.

Select a Work Package to view/edit/upload a file to the package. Select a Form to view/edit/upload a file to the form.

Package **#12121 - Update for User Guide**

Form

Upload File to Form

Actions ▾

3. Choose a file, enter a “[Description](#)” and then click “[Create](#)”.

Form Attachments

Content No file chosen

Description

Create

- The table will populate with the file. Close the screen and the file has been attached.

Select a Work Package to view/edit/upload a file to the package. Select a Form to view/edit/upload a file to the form.

Package #12121 - Update for User Guide

Form Electrical HA Work Permit - E-Form #2322

[Upload File to Form](#)

Actions

Edit	Package Title	Form Title ↑	Package Download	Form Download	Document/Image	Uploaded By	Uploaded	Delete	Description
	Update for User Guide	Electrical HA Work Permit - E-Form	-		HA Issue.docx	kathy	26-OCT-2020 13:00:20		test

1 - 1

- To add a hyperlink, click “[Add Hyperlinks](#)”.

Hyperlinks

[URL Description Hyperlink](#)

No data found.

[Delete](#) [Save](#) [Add Row](#) [Close](#)

- A new window will appear. Click “[Add Row](#)”.
- Enter the “[URL](#)” and a “[Description](#)”. Click “[Apply Changes](#)”.

Hyperlinks

[URL](#) [Description](#) [Hyperlink](#)

<https://www-esh.fnal.gov/pls/cert/wpc.xforms.edit?fid=2923&sid=>

[Delete](#) [Close](#)

[Apply Changes](#) [Add Row](#)

- The window will disappear, and the URL has been attached to the permit.
- The document or hyperlink added to the permit can be accessed from the “[Attachments](#)” or “[Hyperlinks](#)” tab in the “[Additional Form Information](#)” table after saving the permit.

SHOCK PROTECTION BOUNDARIES FOR ENERGIZED WORK***Limited Approach / Restricted Approach**

- For 120/280 VAC: Shock Protection: Limited Approach: 3'6" Restricted Approach: Avoid Contact
- For 480/277 VAC: Shock Protection: Limited Approach: 3'6" Restricted Approach: 1"
- Other: Check this box AND fill in the blanks below

Shock Protection (Voltage AC or DC)

Limited Approach (ft/in)

Restricted Approach (ft/in)

Minimum Rubber insulating Glove Class

Choose Maximum Nominal System Voltage between inductors or conductors and ground:

- 50-500 volts: Class 00
- 501-1000 volts: Class 0
- 1,001-7,500 volts: Class 1
- 7,501-17,000 volts: Class 2
- 17,001-26,500 volts: Class 3
- 26,501-36,000 volts: Class 4
- 36,001 volts and above: NO hand contact permitted

*From NFPA 70E Table 130.2 for Fixed Circuit Parts and Article 130.3(A).

The **Shock Protection Boundaries for Energized Work** has information on the appropriate limited/restricted approach and the minimum rubber insulating glove class that will be needed.

Choose the appropriate checkboxes for “**Limited Approach / Restricted Approach**” and “**Minimum Rubber Insulating Glove Class**”.

If the “**Other: Check this box AND fill in the blanks below**” is checked the three fields below are **REQUIRED** to be completed:

- “**Shock protection (Voltage AC or DC)**”: enter the shock protection value in the blank text field
- “**Limited Approach (ft/in)**”: enter the limited approach value in the blank text field
- “**Restricted Approach (ft/in)**”: enter the restricted approach value in the blank text field

ARC FLASH PROTECTION BOUNDARY and REQUIRED PPE for ENERGIZED WORK

PPE Requirements for Shock & Arc Flash Protection are fully described in NFPA 70E, Article 130.7. Indicate if otherwise.

Clothing must be Non-Melting or Untreated Natural Fiber, unless specified as Arc Rated (AR).

The Fermilab Default Arc Flash Protection Boundary is 4' (per ESS Determination 2019-1).

- OPTION 1 - Know the incident energy from electrical system model and analysis. Enter Arc Flash boundary and required PPE Arc Flash rating.

Calculated Arc Flash Protection Boundary (ft/in)

Calculated Incident Energy Level for Arc Flash Protection (cal/cm²)

- OPTION 2 - Common Work Task List. Look up from table, enter in A.F.B. and PPE requirements. [Link to table](#)

Enter Arc Flash Protection Boundary from Table (ft/in)

Select PPE category below

- PPE Cat. 0 - Long-Sleeve Cotton Shirt, Long Cotton Pants, Safety Glasses, Hearing Protection, Leather Protectors or Gloves (0 to 1.2 cal/cm²)
- PPE Cat. 1 - AR Coverall, Safety Glasses, Hard Hat, Arc-rated Face Shield, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (1.2 to 4 cal/cm²)
- PPE Cat. 2 - Cotton Clothing under AR Coveralls, Safety Glasses, Hard Hat, Double-Layer Switching Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>4 to 8 cal/cm²)
- PPE Cat. 3 - Cotton Clothing under AR Coveralls (25 cal/cm²), Safety Glasses, Hard Hat, Hard Hat Liner, Flash Suit Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>8 to 25 cal/cm²)
- PPE Cat. 4 - Cotton Clothing under Multi-layer AR Flash Suite Jacket and Pants (40 cal/cm²), Safety Glasses, Hard Hat, Hard Hat Liner, Flash Suit Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>25 to 40 cal/cm²)

The **ARC FLASH PROTECTION BOUNDARY and REQUIRED PPE for ENERGIZED WORK** has information on the arc flash protection boundaries and the PPE required based on the type of work being completed.

Choosing “Option 1” or “Option 2” **REQUIRES** completion of the text fields below.

If “**Option 1**” is selected:

- “**Calculated Arc Flash Protection Boundary (ft/in)**”: Enter the calculated number in this field
- “**Calculated Incident Energy Level for Arc Flash protection (cal/cm²)**”: Enter the calculated number in this field

If “**Option 2**” is selected:

- “**Enter Arc Flash Protection Boundary from Table (ft/in)**”: Enter the protection boundary obtained from the table linked to the section. [Link to Table](#).

Process Steps

Optional – complete the process steps table with the process step, hazard details, and hazard mitigation details.

- When done, click “[Save Form Data](#)”.
- Failure to save will result in loss of work.

Complete the table below by identifying the work tasks and their associated hazards and mitigation that will reduce risk of the hazards.

Step #	Critical Step	Process Step	Hazard Details	Mitigation Details
<input type="checkbox"/>	No ▾			
<input type="checkbox"/>	No ▾			
<input type="checkbox"/>	No ▾			

Add More Rows

Cancel * Fields are required only when submitting for approval. You may leave required entries empty and finish them later.

[Save Form Data](#)

- Completed information from the data entry form will show on the EWP-E screen as a read-only report.
- To edit or revise the data, click on “[Edit Permit](#)”. The permit may be edited an unlimited amount of times.

Electrical HA Work Permit - E-Form - 2020-2590

[Edit Permit](#)
[Print Permit](#)
[Delete](#)
[Submit For Approval](#)
[Clone](#)
[Edit Permit Header](#)
[Role Report](#)

Additional Form Information

[Permit](#)
[Permit Locations](#)
[Workers](#)
[Attachments](#)
[Hyperlinks](#)
[People To Notify](#)
[Governing Chapters](#)
[Contractors](#)

Permit

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Electrical HA Work Permit - E-Form

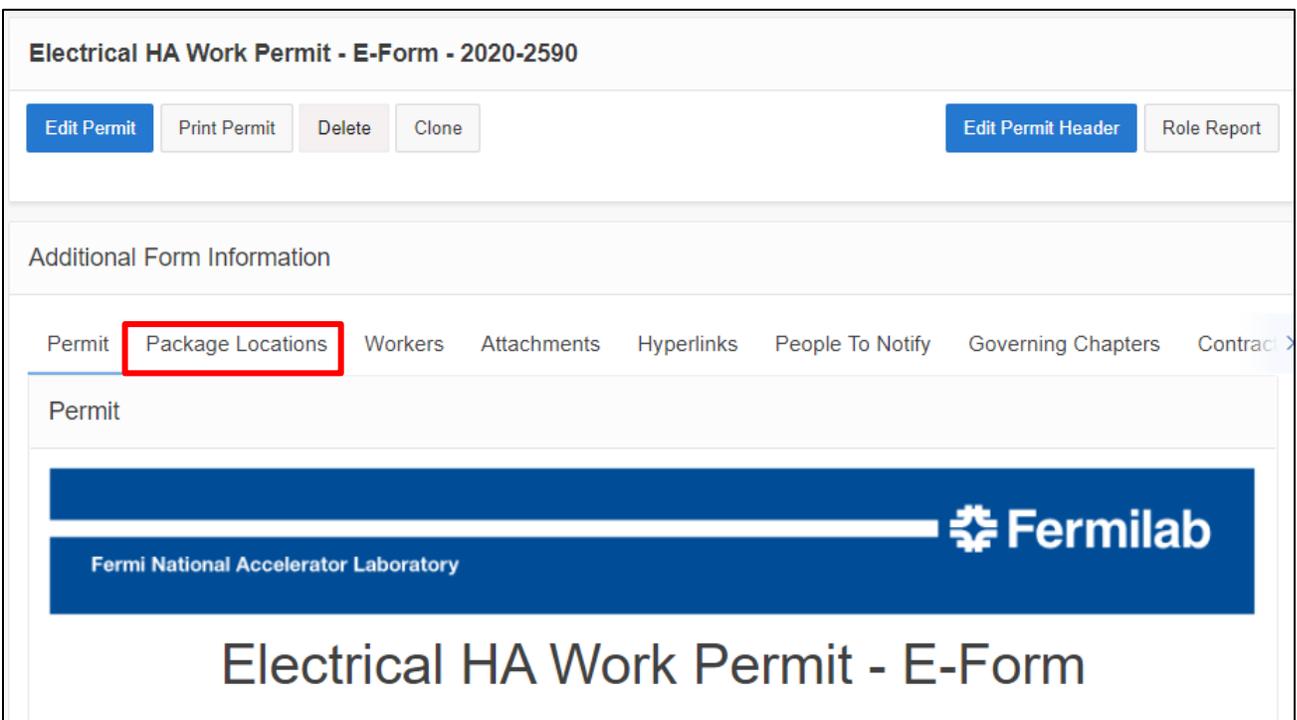
Work Package # 12363 - test for training
 Electrical HA Work Permit - E-Form - 2020-2590
Dates 21-DEC-2020 — 31-DEC-2020
Performed On Accelerator Division
Prepared By Vuletich, Kathy (16253N) 630.840.5182
Job Description test
 TM/CC/SC/Work Planner Schlatter, Eric (38098N) 630.840.5264
Workflow Status Ready for Approval

UPDATING LOCATION ON PERMIT

Only one location is allowed to be attached to the Electrical HA Work Permit.

If there are multiple locations attached to the work package, create an Electrical HA Work Permit for each location.

1. Create the Electrical HA Work Permit as indicated in the above section.
2. Update the “[Package Locations](#)” tab on the “[Additional Form Information](#)” table. Click on “[Package Locations](#)”.



Electrical HA Work Permit - E-Form - 2020-2590

Edit Permit Print Permit Delete Clone Edit Permit Header Role Report

Additional Form Information

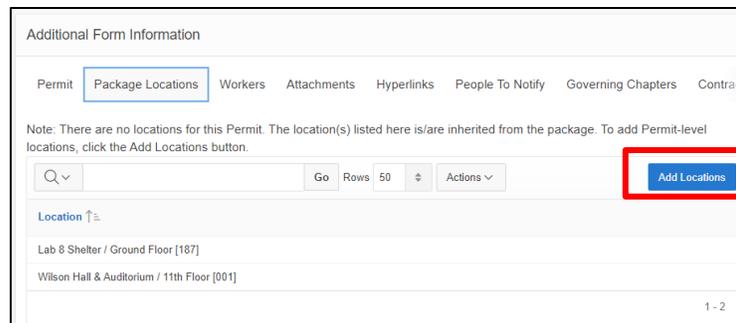
Permit **Package Locations** Workers Attachments Hyperlinks People To Notify Governing Chapters Contract

Permit

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Electrical HA Work Permit - E-Form

3. The locations from your work package are inherited to the Electrical HA Work Permit. Select only one location for the permit by clicking “[Add Locations](#)”.



Additional Form Information

Permit **Package Locations** Workers Attachments Hyperlinks People To Notify Governing Chapters Contract

Note: There are no locations for this Permit. The location(s) listed here is/are inherited from the package. To add Permit-level locations, click the Add Locations button.

Q Go Rows 50 Actions

Add Locations

Location ↑

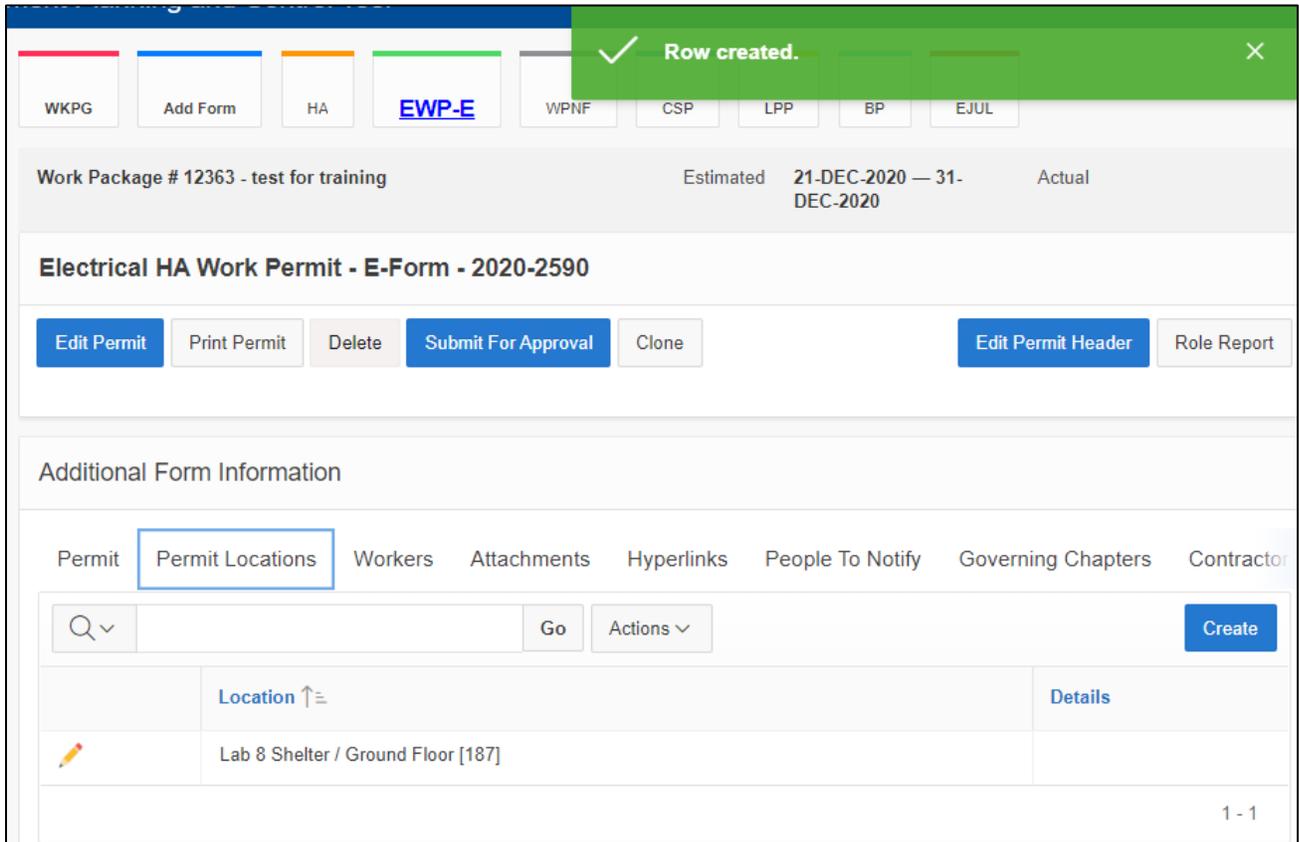
Lab 8 Shelter / Ground Floor [187]
Wilson Hall & Auditorium / 11th Floor [001]

1 - 2

- Click the “[Locations](#)” dropdown and choose the location for this permit. Enter any details on the location in the textbox, and then click “[Create](#)”.



- The location has updated and there is only one attached to the permit, and the “[Submit for Approval](#)” button has appeared. The permit is ready to be submitted for approval.



Work Package # 12363 - test for training Estimated 21-DEC-2020 — 31-DEC-2020 Actual

Electrical HA Work Permit - E-Form - 2020-2590

[Edit Permit](#) [Print Permit](#) [Delete](#) [Submit For Approval](#) [Clone](#) [Edit Permit Header](#) [Role Report](#)

Additional Form Information

[Permit](#) [Permit Locations](#) [Workers](#) [Attachments](#) [Hyperlinks](#) [People To Notify](#) [Governing Chapters](#) [Contractors](#)

 [Go](#) [Actions](#) [Create](#)

	Location ↑	Details
	Lab 8 Shelter / Ground Floor [187]	

1 - 1

OTHER FEATURES OF THE ELECTRICAL HA WORK PERMIT

1. Other features are available in the Electrical HA Work Permit. The table below explains the purpose of each item and brief instructions on how to use the feature. More information on the other features is available in the IMPACT User Guide – [How to Search & Other Features](#).
2. **The other features should be completed before you submit your permit to workflow** for approval so that all the information for the permit is present upon submittal.

Electrical HA Work Permit - E-Form - 2020-2590

Edit Permit
Print Permit
Delete
Submit For Approval
Clone

Edit Permit Header
Role Report

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People To Notify
Governing Chapters
Contractors

Go
Actions ▾
Create

	Location ↑≡	Details
	Lab 8 Shelter / Ground Floor [187]	

1 - 1

Option Name	Required or Optional?	Purpose	Instructions
Edit Permit Header	Optional	Edit high-level information specific to permit	Click on “ Edit Permit Header ” and a box will open. You may change the title, start and end dates of the permit, and who prepared the permit. When done, click “ Apply changes ”.
Role Report	Optional	View personnel involved in the workflow process	Click “ Role Report ” and a screen will appear. This list shows the personnel involved in the approval of the permit. This is not a status of the workflow.
Permit Locations	Optional (Required if more than 1 Location is attached to the Work Package)	Narrow down scope of Permit	Only one location is allowed to be on the permit, click on “ Add Locations ”. A dialog box will open and choose the location. Then click “ Create ” (see previous section).

Workers	Optional	Add list of Fermilab workers performing the job	Click on “ Workers ” and a box will open. Choose the worker. (Future capability – verification of training of the workers in the list). When complete, close the dialog box.
Contractors	Optional	Document contractor information	If a sub-contractor is performing the work, click on “ Add Contractors ”. A box appears, select the contractor from the list or enter the name. Provide the contact information, and when complete click “ Create ”.
Attachments	Optional	Attach a document, pictures, etc. to the permit.	Click “ Upload ”. Upload files to the permit. (Instructions available in the IMPACT User Guide).
Hyperlinks	Optional	Add a hyperlink to the permit.	Click “ Add Hyperlink ”. Add hyperlinks to the permit. (Instructions available in the IMPACT User Guide).
People to Notify	Optional	Add people to notify by automatic email when permit is approved	Click “ Add Person ”. A box appears. Add people to get notification when the permit is approved.
Governing Chapters	Optional	Resource list of FESHM Chapters	Clicking on “ Governing Chapters ” provides a link to the FESHM chapters governing this permit.

HOW TO SUBMIT ELECTRICAL HA WORK PERMIT TO WORKFLOW

1. To submit the Electrical HA Work Permit to workflow for review and approval, click “[Submit For Approval](#)”.
2. All approvals go through the electronic workflow and all approvers are automatically notified by email they have a permit to review.

Approvers are automatically chosen by the system after the permit is filled out and cannot be changed. To view approvers of the permit, click the “Role Report” button.

General Electrical Work

The Electrical Coordinator for the **location/building** where the work is happening is the approver of the permit. For example, if the building is owned by FESS, the FESS Electrical Coordinator will be emailed and needs to approve the permit.

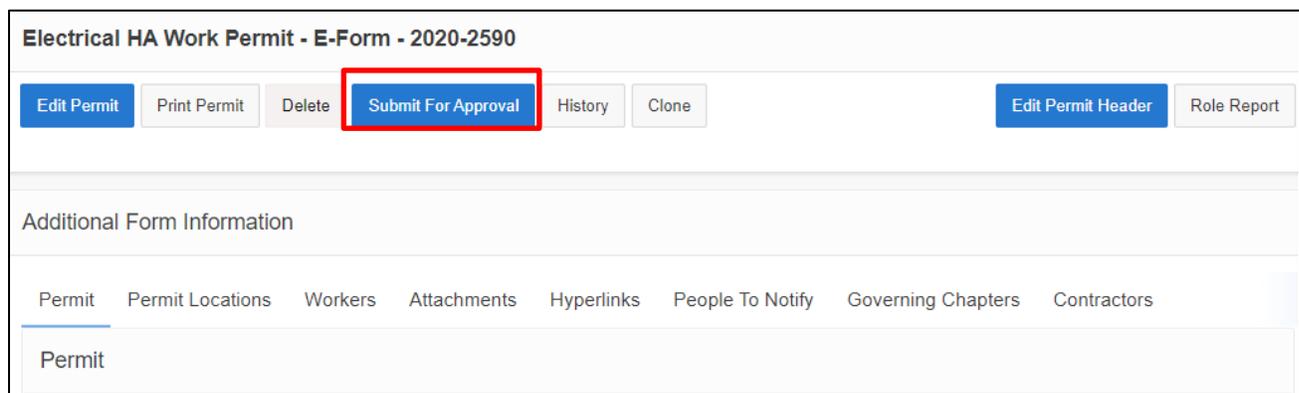
Manipulative Energized Work

If conducting Manipulative Energized Work, the Directorate and the Division/Section Head of the location/building where the work is happening are required to approve the permit. The system will automatically email the Directorate representative and the Division/Section Head to approve the permit.

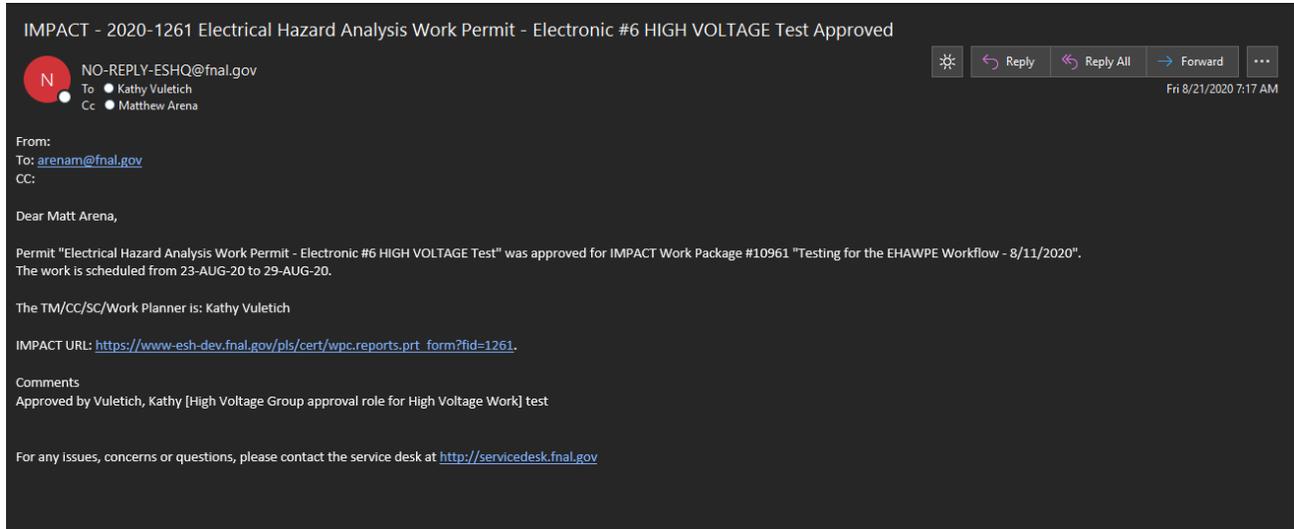
If FESS is conducting the work, the FESS Section Head is required to approve the permit. The system will automatically email the Section Head to approve the permit.

High Voltage Work

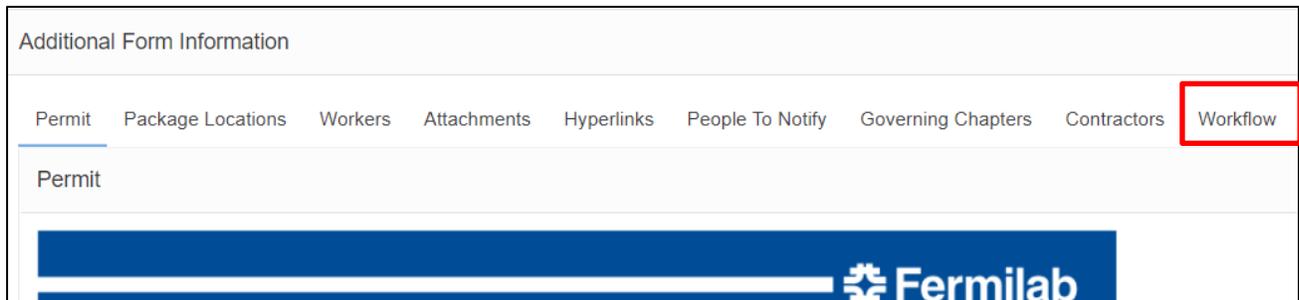
If conducting **High Voltage Work**, the High Voltage team is required to approve the permit. The system will automatically email the High Voltage team to approve the permit.



- As the submitter you will receive an email when the permit has been approved or rejected like the email below.



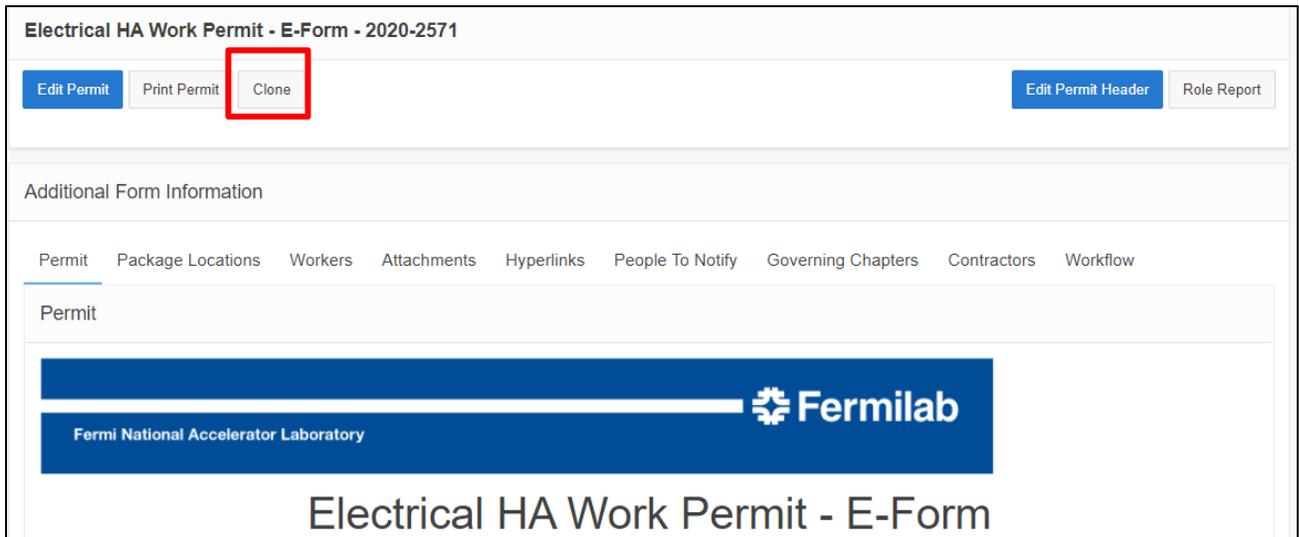
- A "Workflow" tab is added to the "Additional Form Information" table, and a workflow status table is added to the bottom of the permit screen.



Workflow							
Div/Sect	Role	Role Type	Status	Submitted	Responder	Comments	Responded
	WPC_Directorate	APPROVE	Approved	21-Apr-2020 13:44	Vuletich, Kathy	Your comments should go in here. Everything looks good. Please proceed.	21-Apr-2020 15:35
	WPC_Electrical_Coordinator	APPROVE	Approved	21-Apr-2020 13:44	Vuletich, Kathy	Enter your comments here in this text box. These comments will then show up in the system and in an email to the TM/CC/SC/Work Planner.	21-Apr-2020 15:00
	WPC_HighVoltage	APPROVE	Approved	21-Apr-2020 13:44	Vuletich, Kathy	Everything looks good. If you have questions please contact XYZ. Thanks.	21-Apr-2020 15:36

HOW TO RE-SUBMIT REJECTED ELECTRICAL HA WORK PERMITS

1. IMPACT will not automatically re-open the Electrical Work Permit for resubmittal when it has been rejected. To resubmit, click the “[Clone](#)” button from the Electrical HA Work Permit that has been rejected.



Electrical HA Work Permit - E-Form - 2020-2571

Edit Permit Print Permit **Clone** Edit Permit Header Role Report

Additional Form Information

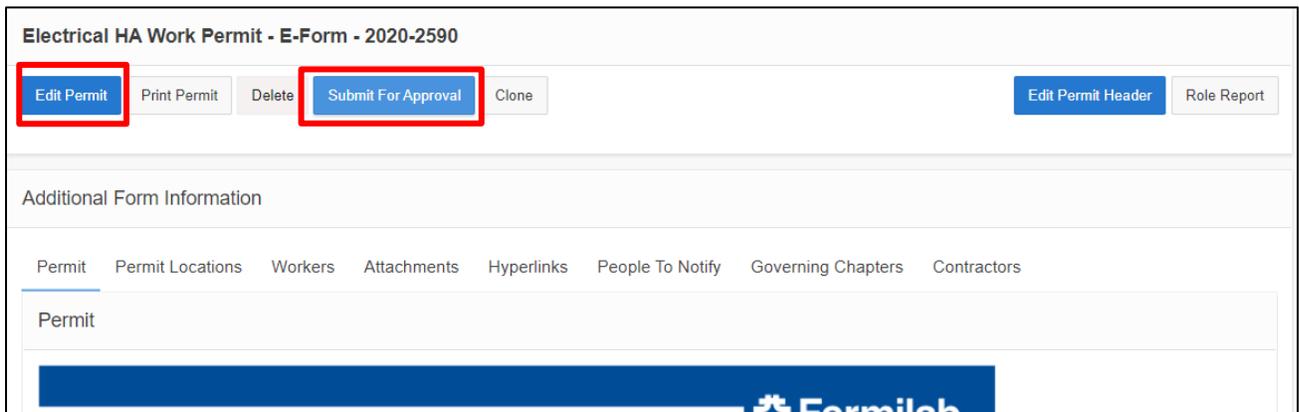
Permit Package Locations Workers Attachments Hyperlinks People To Notify Governing Chapters Contractors Workflow

Permit

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Electrical HA Work Permit - E-Form

2. A copy of the original Electrical HA Work Permit is created. Click “[Edit Permit](#)” to make the needed revisions.



Electrical HA Work Permit - E-Form - 2020-2590

Edit Permit Print Permit Delete **Submit For Approval** Clone Edit Permit Header Role Report

Additional Form Information

Permit Permit Locations Workers Attachments Hyperlinks People To Notify Governing Chapters Contractors

Permit

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3. To resubmit the revised Electrical HA Work Permit click “[Submit For Approval](#)”, and the permit is submitted for approval.