

Fermilab**Radiological Work Permit No. AD-22-005**

Area Name

MI 415 & 309

Permit Type Job-Specific

Issue Date Jan 10, 2022

Issue Time 9:28 AM

Expiration Date Feb 28, 2022

Description of Work

MI Q415 and Q309 Bus Cuts and Magnet Verification.

Both jobs include cutting the bus for the magnet, with Q309 within posted High Radiation Area & Contamination Areas. See Special Requirements.

See attached ALARA plan and IMPACT #19583.

Access Type

- ☐ Controlled Access
☒ Supervised Access
☐ Open Access
☐ Other - Secured Area
☐ N/A

Basic Work Area Conditions

Contamination Area includes Be-7 which is hard to detect with Frisker

Additional Work Area Conditions

None

Area Posting

Radiation Area - entire enclosure

High Radiation Area - 30 region

Contamination Area - 30 region

Time Limits

None

Dose Limits50 mrem per person
see job plan**Work Documents**

See attached job plan

Dosimetry Requirements

- ☐ None Required
☒ Dosimetry Badge
☒ Pocket Dosimeter
☐ Ring Badge
☐ Digidose
☐ See Special Requirements

Basic Training RequirementsRadiological Worker - Classroom
Radiological Worker - Practical
Factors**Other Training Requirements**

None

Portable Survey Instruments

- ☒ None Required
☐ LSM
☐ Ludlum 14C
☐ E140N/Portable Frisker
☐ Minimeter
☐ Teletector
☐ Bicron Analyst
☐ See Special Requirements

Minimum Personal Protective Equipment

- ☐ None Required
☐ Gloves
☐ Shoecovers
☐ Labcoats
☐ Coveralls
☐ Hood
☐ Eye Protection
☐ Respiratory Protection
☐ See attached instructions
☒ See special requirements

Additional Instructions

- ☒ Notify ESH&Q Prior to Work
☒ Rad Tech Coverage Required
☐ Review Survey Map
☒ Pre-Job Briefing
☒ Personal Frisk on Exit
☒ Survey & Label Materials on Exit
☐ Post-Job De-Briefing
☒ No Eating, Drinking, Smoking
☐ See Special Requirements

SPECIAL REQUIREMENTS**Q415 Work***Q415 is not within a High Radiation Area, RCT coverage only required for steps involving cutting for contamination control.***Q309 Work***Q309 is within High Radiation Area and Contamination Area - continuous RCT coverage required for entire job for contamination control and dose rate monitoring. Pre-job and post-job briefing required for this work. PPE Requirements: double shoecoverse, coveralls, nitrile gloves covered by appropriate work gloves.**SRSO approval received.*

Prepared By Maddie Schoell

RSO Authorization

Maddie Schoell

Post-Job Critique and Analysis

Written by: *Paul Sedory*

Reviewed by: *Maddie Schoell*

Should include comments on such factors as:

Doses actually received versus anticipated doses,
whether ALARA goals were met,
whether work procedures and controls were adequate, and
suggestions for improvements

All contamination protocols followed during cutting of bus lines. Job was standard cut of lines to prep for magnet removal. Dose received was actually lower than expected.

Dose received in person mrem:

Deleon.....12

Rios.....6

Sedory.....6

Hazelwood.....0

Murphy.....0

Wren.....0

Permit No. AD-22-005

JOB TITLE/NAME

AD Worklist Number

IMPACT Number

RWP Number (if needed)

MI Q415 & Q309 Bus Cuts and Magnet Verification

21225

19583

AD-22-005

filled out by job leader

may be filled out by job leader, RCT/RSO may update

only filled out by RSO

only filled out by RCT

Job Limits		Coverage Requirements
Job Estimate	146.1 mrem	ALARA RWP -- Require pre-job briefing to reviewn final job plan
Job Stop Limit (+25%)	182.6 mrem	
Individual Checkpoint	50 mrem (NOTE: not to exceed 350 mrem per quarter)	

*RCT/RSO may update to be the average dose rate if personnel involved in the step are in very different dose rate fields

Job Plan		Number of Exposed Workers	Estimated Time (min)	Dose Rate (mR/hr)*	Estimated Dose (all personnel)	Actual Dose Received	Comments
Step	Action Item/Task						
1	Stage equipment at Q415	2	6	0.75	0.2	0	
2	Isolate LCW (closing valves) Q415	2	30	0.75	0.8	0	
3	Drain section	2	6	0.75	0.2	0	
4	Cutting Bus for Quad 415	2	30	0.75	0.8	1	RCT coverage required for contamination control
5	Verify Magnet is bad Q415	2	6	0.75	0.2	0	
6	Stage equipmnet Q309	2	6	0.75	0.2	0	continuous RCT coverage required for contamination control and work in HRA
7	Isolate LCW (closing valves) Q309	2	30	50	50.0	5	
8	Drain section	2	6	70	14.0	10	
9	Cutting bus for quad 309	2	30	70	70.0	10	
10	verify magnet is bad 309	2	6	50	10.0	0	
	Total				146.1	26	