

Fermilab
Radiological Work Permit No. AD-20-161

Area Name

Recycler

Permit Type Job-Specific
Issue Date Dec 9, 2020
Issue Time 2:44 PM
Expiration Date Dec 31, 2020

Description of Work

As Found Alignment and movement of a quad trim magnet in Recycler at 309. This RWP will also cover inspection of the vertical BPM at 307. See attached ALARA Plans

Access Type

- Controlled Access*
- Supervised Access*
- Open Access*
- Other - Secured Area*
- N/A*

Basic Work Area Conditions

Refer to area general RWP

Additional Work Area Conditions

None

Area Posting

Radiation Area

High Radiation Area - Local Posting

Contamination Area - Local Posting

Time Limits

None

Dose Limits

See attached ALARA plans

Work Documents

Job Specific HAs as applicable.
See Supervisor or DSO.

Dosimetry Requirements

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

Basic Training Requirements

Radiological Worker
Controlled Access

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

Work stops at collective dose as per ALARA plans. RSO or designee approval required before proceeding if work is stopped. Take precautions to prevent the spread of contamination, wear PPE as required. All activated components are assumed to be contaminated. *Double shoe covers required in MI-30 roped off area.*

Prepared By

Susan McGimpsey

RSO Authorization



Post-Job Critique and Analysis

Should include comments on such factors as:

Written by: Dale White

Reviewed by: Sue McGimpsey

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

309 Trim Person-mRem

Name	Dose (mRem)
ESH	
Dale White	1
PPD Alignment	
Craig Bradford	10
Mike Smego	5
Total	16.0

Summary

12/10/20 Person-mrem for this job was 16 with an estimate of 33

The main scope of this job was to align two Trim Magnets for RR above Q309 for MI. Time allotted for job was to low but overall dose received was still low.

309 VBPM-mrem

Name	Dose (mRem)
ESH	
Dale White	0
AD-Instrumentation	
Carl Lundberg	1
Total	1.0

Summary

12/10/20 Person-mrem for this job was 1 with an estimate of 8

The main scope of this job was to inspect the VBPM that is not operating correctly and repair if possible. Inspection proved nothing external obviously wrong. In order to fix this, it would have to be cut out and a new one welded in. They are not willing to do this at this time.

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RR-300 Region ALARA

RWP AD-20-153

RR 309 area Trim Magnet Alignment and Inspect/Repair Vertical Beam Position Monitor (VBPM) for RR line DS of MI307 Collimator as per ALARA plan.

309 Trim Person-mrem

Name	Dose (mRem)
ESH	
Dale White	1
PPD Alignment	
Craig Bradford	10
Mike Smego	5
Total	16.0

mrem

Summary

12/10/20 Person-mrem for this job was 16 with an estimate of 33

The main scope of this job was to align two Trim Magnets for RR above Q309 for MI. Time allotted for job was too low but overall dose received was still low.

309 VBPM-mrem

Name	Dose (mRem)
ESH	
Dale White	0
AD-Instrumentation	
Carl Lundberg	1
Total	1.0

mrem

Summary

12/10/20 Person-mrem for this job was 1 with an estimate of 8

The main scope of this job was to inspect the VBPM that is not operating correctly and repair if possible. Inspection proved nothing external obviously wrong. In order to fix this, it would have to be cut out and a new one welded in. They are not willing to do this at this time.

AD-20-161 Align Trim Magnets for RR above MIQ309

All items presumed to be radioactively contaminated

Job Stop limit =

Individual checkpoint =

41 mrem (incl. 25% contingency)

75 mrem per person, and not to exceed 300 mrem per quarter

STEP	TIME	NUMBER	EXPOSURE	ESTIMATED	DOSE	DOSE	RECEIVE	COMMENTS
	hours	PEOPLE	mR/hr.	person	mrem	mrem	mrem	
1	0.25	2	5	2.5	1			
2	1	2	10	20	8			
3	0.25	2	15	7.5	6			
4	0.25	2	5	2.5	0			
Total				32.5	16			

Recycler 309 as found, Quad trim move

Setup alignment equipment at 309

As found 309 girder

Move Recycler QT309 trims

Remove alignment equipment at 309

Rad Safety

AD-20-161 Repair Recycler BPMs near MI30 Collimators

All items presumed to be radioactively contaminated

Job Stop limit =

Individual checkpoint =

9 mrem (incl. 25% contingency)

75 mrem per person, and not to exceed 300 mrem per quarter

STEP	TIME	NUMBER	EXPOSURE	ESTIMATED	TOTAL	DOSE	COMMENTS
	hours	PEOPLE	mR/hr.	person mrem	person mrem	mrem	
1	0.25	1	30	7.5	1	1	
		Total		7.5		1	

R:VP307 inspection/repair

Inspect R:VP307, possible repair