



A. ORGANIZATION AND SCOPE OF PROGRAM:

A final initial application for a Chief's Order was received on 10/30/14 and Chief's Order 2014-541 was issued on 11/26/14 authorizing the receipt and processing of liquid, suspension and solid oil & gas waste substances at the Austin Master Services – Martins Ferry (AMS-MF) location. Authorized activities include: transfer of containers delivered to the facility by truck to rail cars for eventual transport to disposal facilities outside of Ohio; stabilization of materials using cement kiln dust and/or approved stabilization agents to reduce the amount of free liquid in the container; Mixing of materials to reduce the over-all radiological concentrations in the resulting mixture; Packaging of mixed materials and loading of packages for disposal transport at Ohio landfills provided material meets Ohio EPA acceptance criteria for landfill disposal; Pressure washing, tank cleaning and decontamination; and containerized waste storage.

The AMS-MF Radiation Protection Program-Plan (RPP) currently in use is Revision 2, dated 12.19.2018 and was approved for implementation on January 8, 2019.

B. INSPECTION AND ENFORCEMENT HISTORY

This is the initial routine inspection of the implementation of the AMS-MF RPP.

C. INCIDENT AND EVENT HISTORY:

A pre-inspection desk review of the DOGRM file for this facility, did not identify any radiological incidents or events had occurred to date.

D. TEN RADIATION PROTECTION PROGRAM SUBJECT AREAS

1. RESPONSIBLE INDIVIDUALS

Jack Bement (CEO); Pete Collopy CHP (Consultant RSO); Troy Mazur (AMS-MF RSO) Anthony Mazzocco (HPT), Albert Cerullo (HPT), Jerri Knapp (HPT), Drew Loutzenhiser (HPT).

2. PERSONNEL TRAINING

Initial radiation safety training is mandatory for all AMS-MF employees. Training records for current staff members Troy Mazur, Brandon Berline and Anthony Mazzocco were reviewed by the inspector and found to be satisfactory.

3. SELF-ASSESSMENTS (Internal Audits):

The AMS-MF RPP revision 2, dated 12.18.18 was approved for implementation of January 8, 2019 so, no annual audits have been performed. The RSO understood his responsibility to perform an audit of the radiation protection program on an annual basis beginning with the annual period of January 2019 to January 2020.

4. RADIATION MONITORING INSTRUMENTS

Field use instruments were checked for calibration labels and calibration certificates were examined by the inspector. During an inspection of the instrument locker, the inspector identified an instrument that was past its calibration due date. The instrument was promptly tagged as out of service by the RSO. All other instruments that were checked were found to be satisfactory.

<b>Instrument Make</b>	<b>Model</b>	<b>SN</b>	<b>Detector, Type</b>	<b>Detector SN</b>	<b>Cal Date</b>	<b>Notes</b>
Ludlum	3030	185399	ZnS(Ag) Scintillator $\alpha\beta$	NA	1/10/19	Cal label checked & Cal cert verified
Ludlum	3002	25017673	43-93 $\alpha\beta$	PR379560	1/17/19	Cal label checked & Cal cert verified
Ludlum	2360	145490	43-89 $\alpha\beta$	PR159943	8/15/18	Cal label checked
Ludlum	2360	202398	43-93 $\alpha\beta$	PR197431	4/30/18	Cal label checked
Ludlum	3019	25015103	$\mu$ R	NA	1/14/19	Cal label checked
Ludlum	3019	25015136	$\mu$ R	NA	12/11/18	Cal label checked & Cal cert verified
Ludlum	3019	25012850	$\mu$ R	NA	10/10/18	Cal label checked & Cal cert verified
Ludlum	3019	25012978	$\mu$ R	NA	10/10/18	Cal label checked

5. MATERIAL RECEIPT & ACCOUNTABILITY:

The inspector reviewed the waste receipt log for 1/01/2019 through 2/11/2019. The log included in-bound weight, in-bound dose rates, received date, container/box I.D., out-bound shipper and out-bound waste weight. The inspector discussed the importance of documenting dose rates on out-bound material and the AMS-MF RSO agreed to implement that moving forward.

6. OCCUPATIONAL DOSE

The AMS-MF RPP contained a retrospective dose assessment based on historical radiation survey data from known exposure / work areas at the MF facility. During the field inspection the inspector collected dose rates in these areas and observed dose rates as high as 660  $\mu$ R/hr on contact and 320 uR/hr at 30cm in one of the areas. The retrospective dose assessment also used historical area TLD results to support an estimate of maximum dose to workers. During the field inspection it was discussed that placement locations for area TLD's need to be revisited to more accurately assess work area exposure to workers. The RSO committed to re-locating area TLD's to be more representative of employee exposures.

7. PUBLIC DOSE / ENVIRONMENTAL MONITORING

Public dose / environmental monitoring was not specifically addressed in this RPP. During the field inspection, the RSO indicated that public dose was being monitored by TLD's placed outside of the process building. This (these) TLD's were not observed during the inspection. During exit meeting discussions with the AMS Contractor RSO on commencing implementation of airborne radioactivity monitoring (air sampling) in certain process building area(s), environmental air monitoring to demonstrate dose to the public was discussed. It was agreed to revisit the subject of environmental air monitoring once several months of air sampling results from inside the process building have been collected.

8. ROUTINE AND EMERGENCY PROCEDURES

Procedures were reviewed to confirm they were unchanged from what is on file with the Division. The inspector was told that several of these procedures will be modified to reflect the specific operations at the AMS MF facility. The modified procedures will be submitted for Division approval prior to implementation.

## 9. RADIOLOGICAL SURVEYS

Surveys conducted between 1/2/19 and 2/11/19 were reviewed for compliance with Division approved AMS-MF procedure RPP-AMS-051. Survey numbers MF-2019-005, 027, 079, and 080 were examined in detail and found to be in compliance with procedure requirements.

## 10. TRANSPORTATION

All transportation items reviewed met the commitments found in section XII of the AMS-MF RPP.

### E. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

General area dose rates inside the facility ranged from 9 uR/hr to 320 uR/hr. The highest dose rate found was 660uR/hr on contact and 320uR/hr at 30cm on a large “burrito” bag of waste waiting to be loaded into a gondola rail car destined for Waste Control Specialists (a LLRW disposal facility in Texas). All dose rates in unrestricted areas were < 2,000 uR/hr. The inspector performed his survey using a pre-use checked, Ludlum model 3019 uR survey meter, serial # 25012987 with a calibration due date of 12/26/2019.

### F. POTENTIAL ITEMS OF NON-COMPLIANCE OR OBSERVATIONS OF CONCERN:

The inspector discussed the following with AMS-MF management during the inspection exit meeting:

- Repositioning of the process building area TLD’s to better assess potential worker exposure;
- Installing area TLD’s outside of radiologically restricted areas to demonstrate compliance with public dose constraints;
- The AMS-MF RPP commitment to providing job specific training to HP technician staff;
- Adding dose rate survey data for all waste shipments leaving the AMS-MF facility, to the current waste management excel spreadsheet;
- Updating generic AMS -MF SOP’s to reflect AMS-MF site specific conditions;
- All Radiological Restricted Areas need to be posted;
- Radiological air monitoring inside the process building needs to be implemented ASAP,
- AMS-MF will reassess the issue of environmental air monitoring once several months of air sampling results from inside the process building have been collected.

### G. PERSONNEL CONTACTED DURING INSPECTION

\*@ Jack Bement - President  
\*+@ Troy Mazur – AMS-MF RSO  
\*+@ Pete Collopy, CHP – Consultant RSO  
+ Albert Cerullo – HP Technician  
+ Brandon Berline – Filter Press Operator

\* Present at entrance meeting  
+ Present/participated in the facility/field inspection  
@ Present at exit meeting