



OHIO DEPARTMENT OF HEALTH

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John R. Kasich / Governor

Theodore E. Wymyslo, M.D. / Director of Health

January 3, 2014

Austin Master Services, LLC
ATTN: Kevin Kosko
P.O. Box 275
Pottstown, PA 19464

**SUBJECT: BRP REVIEW OF AUSTIN MASTER SERVICES, LLC APPLICATION FOR
A RADIOACTIVE MATERIALS LICENSE DATED 12/6/2013**

Dear Mr. Kosko:

On December 10, 2013, the Ohio Department of Health, Bureau of Radiation Protection (BRP) received a binder from Austin Master Services, LLC (AMS) entitled "Radiological Characterization of Equipment and On-Site Processing of TENORM". The binder contained the following five sections: (1) AMS Quality Assurance Sampling and Analysis Plan (QAP), dated December 2013; (2) AMS Radiation Protection Plan (RPP), Revision 0, dated December 2013; (3) Correlation Analysis (Tables 1 thru 6); (4) AMS application for a license for radioactive materials, dated 12/6/2013; and (5) AMS sample analysis CD. Then on December 13, 2013, the BRP received an additional binder from AMS entitled "AMS Radiation Safety Procedures". This binder contained AMS Radiation Safety Procedures (RSP) (*Control Copy-Rev 1*) numbers RP-AMS-001 through RP-AMS-034.

BRP staff have completed its' review of your license application and supporting AMS documentation and have the following questions / comments that must be resolved before we can grant our final approval.

1. Many of the documents contain reference to USNRC and/or USDOE radiation protection regulations. It's paramount that AMS understand that as an ODH radioactive materials licensee you must comply with Ohio Revised Code 3748 and the Ohio Administrative Code rules promulgated there under. That said, it will not be necessary at this time to modify all of your RPP procedures, etc... to cite the applicable ODH regulations, but it will be necessary for you to understand and comply with the ODH regulatory equivalent of any cited USNRC and/or USDOE regulation.

Please acknowledge your understanding that ORC 3748 and the OAC rules promulgated thereunder are applicable to all licensed activities in Ohio.

2. Our review finds a few instances where the AMS QAP conflicts with AMS RSP for example the "free release criteria" in the AMS QAP is ANSI 13.12 limits however the AMS RPP and AMS RSP: RP-AMS-016 both list USNRC Regulatory Guide 1.86 limits for unconditional release. ODH finds that AMS RSP procedures RP-AMS-001 through

RP-AMS-034 are sufficiently protective of public health and therefore acceptable for use in Ohio.

Please acknowledge your understanding that all AMS licensed activities in Ohio will be implemented in accordance with AMS RSP procedures RP-AMS-001 through RP-AMS-034.

3. In “4 Authorized use” of your “Radioactive Materials License Request” you request authorization for “Solidification and treatment of waste”. Additionally, on page 3-2 of AMS QAP you include under section 3.0 Scope of Work, “Blending of volumetric materials containing higher than background concentrations of NORM to produce disposal volumes that meet the State of Ohio landfill disposal requirements” as a proposed licensed activity.

Notwithstanding the above, on December 30, 2013 you sent an email stating that your initial operations will in fact not include a facility to down blend. As a result, we are not reviewing or commenting on anything related to your proposed TENORM down-blending operations at this time. If at some point in the future, you wish to resume discussions relative to purposeful dilution of TENORM wastes (down-blending) and assuming that you gain ODH approval, your license will have to be amended.

Please acknowledge your understanding that your initial radioactive materials license will NOT include authorization for OAC 3701:1-43-18 (C) “Purposeful Dilution” (i.e., down-blending).

4. Your ISOCS methodology to EPA901.1M laboratory comparison project did not produce the definitive results that would allow ODH to approve it for use as a stand-alone instrument to demonstrate compliance to ODH regulatory criteria at this time. Our review of the results of your pilot study finds that both the AMS laboratory and ISOCS, more times than not, under report the radioactivity concentration as determined by a NELAC accredited laboratory. ODH has no issues with ISOCS being used to characterize and/or provide a go/no-go evaluation to pre-determine if a regulatory criterion might be met. However, at this time AMS must employ the methodologies delineated in its’ RP-AMS procedures when documenting regulatory compliance.

That being said, ODH will accept an AMS proposal for creation of a sampling and analysis procedure specific to TENORM solid wastes that uses ISOCS as the primary means of demonstrating regulatory acceptance for TENORM waste disposal in an Ohio permitted landfill in combination with a robust Quality Assurance/Quality Control procedure that uses EPA901.1M sample analysis by AMS and a 3rd party laboratory. Implementation of such a procedure will allow for additional data to support ISOCS as a stand-alone device while at the same time, AMS is providing an expedited service to its’ clients.

The elements of a modified AMS sampling and analysis procedure for TENORM solid wastes going to Ohio permitted landfills might include a process similar to the below:

- A. ISOCS analysis of a shipping container of TENORM solid waste. [Note: ODH & OEPA acceptance criteria is ≤ 6.99 pCi/g combined Ra226/Ra228 including background].

IF: ISOCS finds that the combined Ra226/Ra228 concentration is ≤ 3.5 pCi/g, the container is acceptable for disposal in an Ohio landfill [Note: 3.5 pCi/g = ISOCS set @ +90% uncertainty].

THEN: Collect a composite sample from the container using SW846 sampling methodology. Label the composite sample and chart the ISOCS result.

- B. For each 10 individual composite samples from shipments that ISOCS determined were acceptable and that were disposition into the same landfill, combine and homogenize them into a single container and sample for AMS lab analysis using EPA method 901.1M [dried, 21 day ingrowth]. Chart the results for comparison with the 10 ISOCS charted results for the same shipments.

- C. For every 10 composited and homogenized AMS sample collected, a split of that sample shall be sent to an independent lab (i.e., PACE) for analysis using EPA method 901.1M [dried, 21 day ingrowth]. Chart the PACE results for comparison to AMS lab results and ISOCS results.

- * If at any time, an EPA method 901.1M lab analysis results shows ≥ 6.99 pCi/g THEN: all ISOCS use shall immediately STOP. An investigation shall be initiated by the Corporate RSO and the Project Health Physicist/SME to determine the reason for the exceedence. ODH shall be notified within 24 hours or upon completion of the investigation whichever is sooner for permission to RESTART ISOCS uses.

Please submit a modified AMS sampling and analysis procedure for TENORM solid wastes for ODH review and approval or, if you so desire, you can state that you request to that your initial license be issued without authorization to use ISOCS for stand-alone regulatory compliance determination at this time.

5. In "Section 3 of your "Radioactive Materials License Request" you request specific radioactive isotopes, forms and maximum amounts that are significantly different from what we typically license category 03219 services providers to use/process. I've attached an example of a typical category 03219 license for your review. With the addition of "TENORM, Any chemical and/or physical form", and "As necessary for the uses authorized under item 9", you should expect your initial license (assuming that down-blending and stand-alone ISOCS uses are not included) to contain this same information.

Please acknowledge your understanding of the types of information and conditions that will most likely be contained within your initial category 03219 radioactive materials license.

If you have any questions with any of the above, please contact me directly.

We will continue our review once we have received your responses to the above questions/concerns.

Thanks,

A handwritten signature in black ink, appearing to be 'CMC', written in a cursive style.

Chuck McCracken, Supervisor
Nuclear Materials Safety Section
Bureau of Radiation Protection
614-466-5135
chuck.mccracken@odh.ohio.gov

Attachment (1)

cc: M. Light, Administrator – BRP NMSS
S. Helmer, Administrator – BRP TS
J. Colleli, Sr. HP – BRP NMSS