WASTE MANAGEMENT

100 Brandywine Blvd, 3rd Floor
Newtown, PA 18940-4000
Main (215) 269-2100
Fax (215) 269-2349

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ecomment@pa.gov
Technical Guidance Coordinator, Policy Office
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063

Re: Comments on Draft Technical Guidance, Substantial Revision, "Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities"
DEP ID 250-3100-001

Dear Technical Guidance Coordinator

On October 19, 2019, the Pennsylvania Department of Environmental Protection (the "Department") published in the Pennsylvania Bulletin a notice announcing the availability for public comment of substantial revisions to a draft technical guidance document entitled "Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities" ("Proposed Guidance"). The Department's notice stated that it was seeking comments on the Proposed Guidance, which it would accept through November 18, 2019.

Please accept the following comments on the Proposed Guidance on behalf of Waste Management of Pennsylvania, Inc. and Waste Management Disposal Services of Pennsylvania, Inc., and its network of affiliates operating in Pennsylvania (collectively, hereinafter referred to as "Waste Management" or WM").

A. Background

By 1993, many municipal solid waste landfills in Pennsylvania had installed radiation detectors to monitor incoming loads of non-hazardous solid waste. At the time, the focus was on the presence of radioactive material in waste from hospitals (i.e. from nuclear medicine procedures). In addition, there was concern about potential radioactive material in construction and demolition debris (e.g. signs). Also, radiation detectors would sometimes detect loads containing technically-enhanced, naturally-occurring radioactive material ("TENORM") from certain industries. There were no consistent standards for the detection of radioactive materials coming into landfills.

On December 22, 2000, the Department began to publish amendments to the various chapters of the solid waste management regulations. The regulations provide that certain types of radioactive material are forbidden in all circumstances, including most of types of man-made radionuclides. By contrast, other types of radioactive material are permitted at the landfill if approved in writing by the Department including (1) Short-lived

radioactive material from a patient having undergone a medical procedure, (2) TENORM, (3) Consumer products containing radioactive material. As part of the regulations, applicable waste management facilities were required to develop and implement radiation action plans ("RA Plans") for monitoring of incoming waste loads using radiation detectors.[1]

Between 2001 and 2002, numerous Pennsylvania waste management facilities prepared and submitted applications for RA Plans. By the end of 2002, all affected facilities were actively monitoring incoming waste loads.

Regarding radiation dose rates, the regulations recognized the ability of the Department to provide a blanket authorization to landfills for small quantities of material, as well as case- specific approvals for larger quantities of radioactive material. In October 2002, the Department issued a blanket authorization for TENORM that allowed for disposal of loads that exhibited dose rates of 30 uR/hr if the number of these trucks was less than 2% of the total number of trucks allowed into a facility to dump waste. This limitation soon proved to be overly restrictive. On March 7, 2003, PADEP issued a revised Blanket Authorization for accepting wastes impacted by radionuclides which would trigger the radiation monitors at waste disposal sites. The acceptance of such materials follows a sliding scale depending on its activity which is measured at the facility gate. The maximum amount of material which can be accepted at any facility under the SQ exemption was as follows:

Load triggers facility alarm to 35uR/hr	2% of landfill total waste
35uR/hr to 70uR/hr	1% of landfill total waste
70uR/hr to 140uR/hr	0.5% of landfill waste
Above 140uR/he	Not allowed

Wastes which did not trigger radiation alarms were excluded from this calculation. PADEP had assumed in this analysis that radiologically active wastes was mixed with other landfill wastes at a ratio of 50:1 (given the 2% limit).

On January 2, 2004, PADEP issued the Radioactivity Monitoring Guidance (the proposed revisions to this Guidance are the subject of this comment letter). Final Guidance Document on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities, January 2, 2004 (#250-3100-001) (Current Guidance). In the Current Guidance, PADEP included review of potential issues with TENORM, and noted that a load of TENORM waste from an oil and gas site had set off the first alarm at a Pennsylvania landfill. The Current Guidance noted the blanket authorization for small quantities of TENORM waste. It also

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[1] See, e.g., 25 Pa. Code §288.201(h): "The following radioactive material may not be disposed at the facility, *unless approved in writing by the Department and the disposal does not endanger the environment, facility, staff or public health and safety*: (1) Short-lived radioactive material from a patient having undergone a medical procedure. (2) *TENORM*. (3) Consumer products containing radioactive material." (emphasis added); 25 Pa. Code §288.201(i): "The limitations in subsections (g) and (h) do not apply to radioactive material as found in the undisturbed natural environment of the Commonwealth."

noted TENORM waste may be accepted at disposal facilities at higher volumes (or emitting higher radiation levels or at higher radium concentrations) than those allowed under the blanket authorization (See Current Guidance, Section 1.C, p. 10).

In December 2010, PADEP prepared a document that provided default parameters to use when modelling for acceptance of TENORM at quantities higher than that allowed under the blanket authorization. See "Final Rev. December 6, 2010 "Final Rev., Pennsylvania DEP Standard ResRad Model Input Parameters/Assumptions for TENORM Landfill Disposal" ("ResRad Assumptions Document").[2] The document indicates to "use the "Resident Farmer" exposure scenario on top of the landfill, with all pathways turned on [including radon], the dose must be less than 25 millirem per year (mrem/year) for 1,000 years post TENORM waste placement." The ResRad Assumptions Document began to be used as a frame of reference by solid waste facilities that were requesting higher-than-blanket-authorization levels of radiation for certain solid waste streams, such as those produced by the oil and gas industry.

Around that time, Waste Management submitted ResRad modelling information to the Department regarding one of its facilities. WM noted that the default parameters could be adjusted based on site specific conditions for that landfill, and noted problems with certain assumptions being used by PADEP, based on sound science and substantial precedents among the Federal governmental agencies and the various state agencies.

In early 2012, PADEP issued a letter with a new spreadsheet to landfills to begin tracking waste loads that triggered radiation alarms. The new spreadsheet began to be submitted monthly to PADEP, and other changes in measurement procedures and notifications were implemented (e.g. DEP was to be notified if the averages were over 140 uR/hr). The Allowed Source Term Loading (ASTL) is the total tons of TENORM waste a site can accept each year and it is currently set at 70% of the facility's previous year tonnage.

By letter dated December 24, 2014, PADEP advised landfills that it would issue a revised TENORM tracking spreadsheet converting the annual allowance to a monthly allowance, and containing revised multipliers for sludge generated from treatment of oil and gas well wastewaters. Landfills continue to cooperate with the TENORM tracking spreadsheet.

In 2015, PADEP released a TENORM study to the public. It was revised in 2016. The study established that there is little potential for radiation exposure to workers and the public from landfills receiving TENORM including oil and gas waste. Even in "future use scenarios" involving a resident farmer (one thousand years in the future, living on top on an uncontrolled landfill, in a society where all institutions and institutional controls have broken down), WM and the industry have demonstrated that the risk to the resident farmer was less than a similarly situated resident living on virgin Pennsylvania soil.

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[2] This document was not published online, provided to the regulated community or public at large, nor was it published in a rulemaking or guidance document, nor was it intended to be a final adjudication.

Between 2015 and 2016, Waste Management, the Pennsylvania Waste Industry Association, and representatives from the oil and gas industry provided information to PADEP regarding its overly-conservative interpretation of the 25 mrem standard and other aspects of the ResRad model. In particular, Waste Management provided information regarding how other states addressed background radiation, including background soils information in the ResRad model. These precedents established that the indoor air pathway is turned off, and/or the 25 millirem dose standard is interpreted to exclude radon (and/or, that naturally occurring background radiation is considered in establishing dose rates). Information on that subject is attached to this letter.

With this as background, our specific comments on the Proposed are below.

B. Applicability of Proposed Guidance to Oil and Gas Facilities

The scope of the Proposed Guidance with respect to O&G facilities should be limited to the regulatory authority established by the Department in 25 Pa. Code 78a.58: "An operator processing fluids or drill cuttings generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells shall develop an action plan specifying procedures for monitoring for and responding to radioactive material produced by the treatment processes, as well as related procedures for training, notification, recordkeeping and reporting."

The applicability of this Proposed Guidance to waste generators is not clear; and, some of the procedures specified in the Proposed Guidance may not be applicable or relevant.

C. Transportation Issues – DOT Special Permit Applicability

Waste Management is concerned the Proposed Guidance may create confusion about when a DOT Special Permit should be required during instances when loads of TENORM are rejected by a landfill. We believe the Proposed Guidance should refer to and be consistent with the Federal Regulations governing the applicability of the Hazardous Materials Regulation, 49 CFR Parts 171-180. The Proposed Guidance should refer specifically to DOT threshold for requiring a special permit, and that is calculated based on 49 CFR § 173.436. For total radium the exempt value is approximately 270 pCI/g, but the calculation depends on the specific elements detected in the sample (e.g. TH 228 needs to be considered if detected, see 40 CFR 173.436, footnote b).[3]

In some sections, the Proposed Guidance suggests a DOT Special Permit is needed for any TENORM load that has been rejected by a disposal facility. However, PADEP itself has acknowledged that TENORM loads can be rejected for reasons that are unrelated to

[3] There are also exemptions that may apply to natural material and ores containing naturally occurring radionuclides which are not intended to be processed for use of these radionuclides, provided the activity concentration of the material does not exceed 10 times the values specified in 49 CFR § 173.436. Waste Management does not contend that this exemption applies to processing of fracking water, and does not rely on the 10x NORM factor in connection with determining the applicability threshold for a DOT Special Permit.

the DOT regulations, see PADEP Supplemental Waste Tracking Form, revised December 14, 2015.

The Proposed Guidance indicates a federal DOT Special Permit is required for any "unexpected and unidentified radioactive material or contamination." This would include any TENORM that triggered an alarm, even if, for example, total radium concentrations were much lower than 270 pCi/g, or the other applicable thresholds in 173.436, or a landfill might have allocated its TENORM monthly allowance to other customers. Id.

As a general threshold, Waste Management assumes that a DOT special permit should only be required if waste load exceeds 49 CFR 173.436 thresholds.[4]

WM proposes revisions to the proposed definition of DOT Special Permit, as follows:

- Page 2 - DOT Special Permit: This special permit authorizes the one-way transportation in commerce by highway or rail of shipments of scrap metal or solid waste which have been found, during or at the conclusion of transportation or during inspection of the shipment following its receipt, to contain radioactive material or contamination in excess of the applicable thresholds referenced in 49 CFR 173.436. The one-way transportation authorized by this special permit is exempted from the classification,

In addition,

- On Page 9 of the Proposed Guidance, it suggests that on all occasions when radiation cannot be processed or disposed of onsite, a special permit is required. But in some cases, the site may be unable to accept waste for disposal based on its radiation characteristics, but the load would still be under the 49 CFR § 173.436 special permit thresholds. Therefore, a special permit would not be required.

- On Page 11 of the Proposed Guidance, it states that "when a prohibited or licensed RAM is detected or a waste load is to be rejected, a DOT Special Permit must be issued...." This should be edited to indicated "a DOT Special Permit may be required and the determination should be made based on 49 CFR 173.436".

- On 12 of the Proposed Guidance, it states: "The solid waste facility operator will always have the option to reject any waste load causing a radiation alarm; however, no vehicle containing RAM should leave the facility without written approval and an authorized DOT Special Permit issued by DEP (see above section relating to the detection of radiation)."

  However, there are cases where loads would be rejected but compliance with the HMR, including DOT Special Permits would not be required because the radioactive element concentrations are under the § 173.436 special permit thresholds.

Therefore, this language should be revised. See Supplemental Waste Tracking Form.

- On Page 14 of the Proposed Guidance it states. "If rejected, no vehicle containing RAM can leave the facility without written approval from the Radiation Health Physicist in DEP's Regional Office having jurisdiction over the facility and an authorized DOT Special Permit."

  This statement should be revised to refer to a DOT special permit "as applicable".

- Page 19. "If radioactive material is detected, the vehicle containing the radioactive material may not leave the facility without written DEP approval and an authorized federal DOT Special Permit."

  This statement should be clarified to indicate "as applicable".

- Page 30. "Action Level One procedures. Do not allow the vehicle or container to leave the facility without the permission of DEP and the driver being issued a DOT Special Permit signed by DEP's Area Health Physicist or their authorized representative. "

  The special permit reference should be clarified to indicate as applicable per 49 CFR § 173.436.

In each instance these sections should be revised to address the need for a DOT Special Permit only when loads are in excess of the DOT regulation thresholds.

D. <u>Leachate and Ground Water Monitoring</u>

Page 9 of the Proposed Guidance contains the following new sentence (not contained in the Current Guidance).

> If large volumes and high-concentration TENORM wastes are routinely disposed of in a Commonwealth landfill, DEP may require long-term monitoring of leachate and ground water for total radium-226 plus -228.

<u>See also</u> Page 10 ("To validate TENORM landfill waste disposal calculations, DEP may require long-term monitoring of leachate and ground water for total radium-226 plus -228, and possible uranium").

We believe these sentences should be removed from the Proposed Guidance or substantially revised. First the Proposed Guidance has never been intended to address leachate or groundwater monitoring, and it is not authorized to do so by regulation. Issues regarding long term monitoring of leachate and post-closure care are addressed by the solid waste management regulations, and include the radiation issues (for example, the final regulations identify the point of compliance for the radium drinking water standard at the perimeter of the landfill for final closure).

Any changes to the groundwater, leachate monitoring and post-closure care standards should undergo a regulatory process that complies with the Commonwealth Documents Law and Regulatory Review Act, and other relevant principles of administrative law. It should also be addressed in technical discussions with the industry first. The regulations identify the Guidance as intended to address the use of radiation detectors on incoming waste loads, and the response to such loads. See 25 Pa. Code 273.140a; 30 Pa.B. 6685. Extending the Proposed Guidance to address general leachate and groundwater monitoring is not consistent with or authorized by the regulations. Because the regulation does refer to and specifically incorporates the Guidance Document with respect to "specifying procedures for monitoring for and responding to radioactive materials entering the facility, as well as related procedures for training, notification, recordkeeping and reporting," it should be limited to its specified, regulatory-identified purposes. These purposes do not include leachate and groundwater monitoring, which is addressed in other Department regulations and forms.

At a technical level, these issues have been addressed and continue to be addressed cooperatively between the waste industry and PADEP. The information obtained to date on leachate and groundwater monitoring does not support the statement suggesting long-term monitoring is appropriate for landfill leachate (the information about leachate includes but is not limited to the 2015 and 2016 reports on TENORM including landfill leachate sampling). Therefore, the refenced statements in the Proposed Guidance seems premature and not advisable from a public health communication standpoint, given the risks previously analyzed and the conclusions reached by the Department regarding the 2015 TENORM Study.[5] The blanket TENORM restrictions to date have utilized extremely conservative assumptions and the Department's study confirms the protectiveness of the Department's programs. "Large volumes" and "high concentrations" are not permitted under the Department's blanket authorization. Site specific authorizations utilizing the ResRad model will also provide for reasonable levels of protectiveness.

In addition, the proposal to require long-term monitoring of leachate and groundwater for "large volumes" "and" "high concentration" wastes that are "routinely disposed of" in a landfill is vague and ambiguous. It does not define what are large volumes and high concentration TENORM wastes, and provides neither the public nor the regulated community with due notice of what would trigger such a major modification to a landfill, requiring a change in post closure plans and other modifications. Is the statement intended to apply to drill cuttings? To sludges? To other waste streams?

Moreover, it is not clear why merely acceptance of large volumes of, for example, drill cuttings (RWC 810 waste), would trigger additional long monitoring requirements, when such material bears a lower level of radiation (radiation is everywhere) that rarely triggers the monitoring alarms (less than 1% of loads). As to alarm-triggering waste, the Department's existing policies, including the TENORM 2% policy (citation) and the subsequent waste allocation spreadsheets substantially limit TENORM acceptance to a fraction of actual waste volumes accepted. They also use very conservative assumptions

[5] In the 2015 TENORM Study, the Department did not conclude there was a risk with respect to the leachate and groundwater pathways. As to that pathway, the solid waste regulations specify the requirements for post-closure certification at the relevant point of compliance. As to radon inhalation risk to a future resident farmer, that is a separate risk pathway and subject, and is addressed further within this comment letter.

that are protective of future use scenarios. Therefore, long term monitoring of leachate for radium 226 plus 228 would not seem warranted. This is particularly true given Pennsylvania's very high levels of radium in native soils, and high background concentrations of radon gas.

Page 33 of the Proposed Guidance, regarding Long-term Monitoring and Termination of Operations, states:

> Landfills that have accepted large volumes of TENORM waste should have long-term environmental monitoring programs in place to monitor leachate and detection of radiological groundwater contamination. Appendix H provides a table of Applicable or Relevant and Appropriate Requirements (ARARs).

We believe this sentence should be removed, for the reasons previously stated (e.g. vagueness). Moreover, the solid waste regulations already identify the applicable ARARs for the landfill. They are not necessarily the standards identified in Appendix H nor are the points of compliance and applicable timeframes referenced. These are not remedial sites and they were never intended to be cleaned up to a residential cleanup standard or to protect a resident farmer 1000 years in the future from a radon dose (25 mrem) one fraction as stringent as a current well controlled Pennsylvania home (200 mrem – 800 mrem) with a radon remediation system. The standards for post-closure care, including radium in drinking water, are identified in the applicable post closure care solid waste regulations, and other applicable regulatory programs (e.g. Landfill NSPS).

E. <u>Justification in RP Action Plan for TENORM Acceptance</u>.

The Proposed Guidance states on Page 13.

> Landfills that accept TENORM-containing waste for disposal should provide justification in the proposed RP Action Plan demonstrating that it can adequately handle TENORM-containing waste, taking into consideration the facility's design and operational plan (e.g., considering the facility's engineered barriers, leachate collection and treatment, and environmental monitoring) and apply for approval to dispose of TENORM-containing waste at the facility through a permit modification. The monthly and annual volume of TENORM-containing waste that the facility is permitted to accept may be limited by DEP to ensure that the dose to a member of the public residing on the landfill in the future will not exceed 25 mrem/yr with all exposure pathways (including radon) considered.

In many instances, Landfills that accept TENORM-containing waste and/or other waste streams from the oil and gas industry have applied for the right to do so via solid waste permit modifications, NPDES permit modifications, air permit modifications, and other modifications that may have also addressed the applicable radiation issues, albeit without always specifically revising the RP Action Plan. This is not surprising, since the RP plan was never intended to address those issues, but rather, it was intended to address the

receipt of the waste at the gates and response to radiation containing loads. The regulations do not authorize the Department to require retroactive amendment of RP Action Plans to address issues such as leachate collection and treatment. Requiring the resubmission of RP action plans for issues already addressed in other permit modules would be expensive and burdensome, and it would not be in conformance with administrative law requirements applicable to binding norm requirements. See also discussion regarding radon pathway, infra. It would also impose unnecessary cost and burdens on landfills with respect to major permit modifications despite no change in operations.

The Proposed Guidance also suggests that modeling is required even for landfills that rely only on the blanket authorization. See Page 10 ("In all reviews of proposed RP Action Plans, DEP will perform evaluations to ensure solid waste processing or disposal and O&G operations do not endanger the environment, facility staff, or public health and safety. Therefore, proposed RP Action Plans should describe the potential radiation exposure pathways for workers and members of the general public and how these expected doses were modeled. DEP will only accept modeling that shows the radon pathway turned on."). This would represent a newly imposed requirement, and one that should require a regulatory amendment prior to promulgation.

F. Dose Limits to The Public, and Addressing the Future Resident Farmer Scenario – Consideration of Pennsylvania Background Radiation and Radon

The Department's Proposed Guidance insists that the dose limit for a resident farmer be limited to 25 mr/yr, with the radon pathway on. See pages 9-10, 13 43-44.

However, the Department also recognizes that the ARAR for Radon is 4 pCi/L for a member of the general public. See also Appendix G ("For radon we limit the concentration in air to 4 and 30 pCi/L for residential and occupational exposure scenarios.") 4 pCi/L translates to a radiation dose of 800 mRem/year. Even a well-controlled home would receive a dose greater than 200 mrem/year (1 pCi/L) from naturally occurring radon gas. The Department also refers to the 100 mrem standard applicable to the public. But see Proposed Guidance, page 38 (average home radon dose 230 mrem).

Thus, the Department expects a landfill to model the indoor air of a hypothetical farmer on top of an unregulated, "all control fails" scenario landfill where 1000 years in the future, the farmer may only be exposed to a radon dose (25 mrem), a dose that is 1/32th of the permissible exposure to radon in a home (the 800 mrem limit or 4 pCi/L). This type of requirement is not reasonable, and it leads to absurd results.

If PADEP desires to use a dose limit of 25 mrem/year for a future resident farmer, it must at least acknowledge that the 25 mrem/year dose should not include radon, or that the radon dose from the waste cannot be held to a standard stricter than occurs naturally throughout the Commonwealth. Said another way, municipal solid waste in landfills provides a radiation dose of essentially zero. By contrast, the surrounding soils have high radium content (these types of soils were excavated from the landfill, resulting in a lower overall dose of radium). Accordingly, mixing TENORM waste with municipal solid waste should be allowed to the extent that the dose from living on a landfill is at least equivalent to the dose from living outside the landfill.

There is significant precedence, both in the Commonwealth's other regulations and guidance and in the regulation of TNEORM nationally for ensuring that background contributions of contaminants (radionuclides) are considered when setting standards and limits.

Pennsylvania landfills have maintained disposal of TENORM in average concentrations well the radon dose experienced by the average Pennsylvania with or without today's existing controls (basement fans).

Landfills should be allowed to demonstrate, through scientifically valid and accepted methods, that TENORM deposited in the landfill will not increase the risk to a future resident farmer beyond that which any other famer throughout the Commonwealth is exposed from naturally occurring radiation.

In 2016, Waste Management provided documentation to the Department on these subjects which is Attachment A to this comment letter.

We believe the following statement in the Proposed Guidance does not meet the requirements in the Commonwealth Documents Law and the Regulatory Review Act, as it constitutes a binding norm:

"DEP will only accept modeling that shows the radon pathway turned on"

"DEP [will] ensure that the dose to a member of the public residing on the landfill in the future will not exceed 25 mrem/yr with all exposure pathways (including radon) considered.

These statements should be removed from the Proposed Guidance.

G. Training Requirements

Waste Management believes the requirements in Appendix E, 1. C. for a "minimum one-day training session" in the fundamentals of radiation safety and detection may be both too prescriptive (to the extent it applies a single "all day" training event) and too narrow (to the extent we tend to have approved multi-partial-day training events with refreshers). Many of our landfills' approved Form X plans provide for initial training of 3 hours, intermediate level training at six hours, and retraining every two years for one hour. We believe the training can be accomplished in less than a day. We realize this is not a change proposed from the Current Guidance, but if revisions are occurring, we request greater flexibility.

H. Operational Requirements

On page 15 of Proposed Guidance, under Identification and Disposition of RAM found in a Waste Stream (Section F Records and Reports F.2.b) the following statement appears "a brief narrative description of the occurrence" is needed for the operational record for each RAM detection. This is superfluous, and each of the related facts are already contained on the Form 30.

Appendix D 3.B. page 24 "Portable instrumentation should have multiple probes for contamination and a range of gamma dose rate measurements...". Units typically have one probe which is sufficient.

Appendix D 3.C. Some fixed monitoring equipment only displays count rate and does not have the capability to display dose rate even though it is properly calibrated to meet DEP requirements.

Appendix D 3. D. Scale multiplying factors and logarithmic scales are not present or needed on digital meters.

Appendix D 4.C. "Supplies for taking samples for laboratory analysis..." Under the principles of ALARA, scale-house workers and other landfill staff should generally not be involved in any sampling.

Appendix E 1.D. Revision of the Plan states that the plan should be updated each time DEP regulations or policies are revised. This could require annual updates, but if major permit modifications are intended for each revision to a RA Plan, then this will lead to administrative burdens and issues for PADEP and the regulated community. There have been frequent updates to the TENORM spreadsheet.

In that regard, the Guidance should reflect between changes to a RA Plan that require a major modification under the solid waste regulations, and changes that can be done by minor modification. Not all changes to an RA Plan should require a major modification.

Appendix E. 2. B. "Solid Waste Vehicles" 2) says to mark the area with highest radiation level with chalk. This is not needed for proper isotope identification and not in keeping with ALARA.

Appendix E. 2. B. "Soild Waste Vehicles" 4) states that if a Level One RAM-containing load "is to be rejected, contact the appropriate DEP Area Health Physicist for approvals." This should be removed, since it infers that additional approval is needed beyond DOT-required shipping approvals discussed above.

Appendix I "Flowchart of Recommended Immediate Actions for a Solid Waste Facility Radiation Alarm." Neither this Section nor Appendix E. 2. B. "Solid Waste Vehicles" address a vehicle dose rate that is barely high enough to trigger the portal alarm yet too low for isotope identification with current state-of-the-art hand-held meters. We propose logging the load on the TENORM spreadsheet and listing the isotope as "not identified". A near-background level load like this should not require additional DEP approval.

I. Conclusion

As set forth above, it is requested that the Proposed Guidance be modified to address the concerns discussed herein.

Thank you for the opportunity to provide the Department with these comments on the Proposed Guidance. If the Department wishes to discuss these comments in more detail, please feel free to contact me.

Sincerely,

Michael J. Brennan
Sr. Environmental Counsel