Pennsylvania's Residual Waste Program – Compliance and Update

Pennsylvania Chamber of Business and Industry
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KEY TOPICS

- Regulatory Framework
- Definition of Residual Waste and Recycling Requirements
- Residual Waste Generator Requirements
- Residual Waste Permitting Requirements
- Management of Fill Policy
- Residual Waste Practice Pointers

REGULATORY FRAMEWORK

PENNSYLVANIA'S UNIQUE LEGAL FRAMEWORK

- The Pennsylvania Solid Waste Management Act (SWMA) comprehensively regulates solid wastes – 35 P.S. §§ 6018.101 – 6018.1003
  - Hazardous wastes
  - Residual wastes
  - Municipal wastes
- Pennsylvania has three separate sets of regulations to match the three categories of wastes
- SWMA requires permits for processing, treating or disposing of wastes

KEY FEATURES OF RESIDUAL WASTE REGULATIONS

- Residual waste regulations borrow elements of both the hazardous waste and municipal waste regulations
- Comprehensive “cradle to grave” program for residual waste
  - Generation
  - Storage
  - Transportation
  - Processing
  - Disposal
- Various amendments to residual waste regulations since 1992
- Significant policy developments regarding interplay between residual waste program and oil and gas program

THE THREE KEY QUESTIONS

- Do I have a waste?
- If so, is it a hazardous, residual or municipal waste?
- If it is a residual waste, what am I doing with it?
  - Generation
  - Transportation
  - Storage
  - Processing
  - Disposal

Note – Under Pennsylvania's hazardous waste regulations, wastes other than "contaminated media subject to remediation" must be managed as hazardous wastes until shown not to be hazardous wastes.

DEFINITION OF RESIDUAL WASTE AND RECYCLING REQUIREMENTS

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UNIVERSE OF RESIDUAL WASTES

- Residual waste defined to include garbage, refuse, other discarded material or other waste (excluding hazardous waste) resulting from:
  - Industrial operations
  - Agricultural operations
  - Mining operations
- Waste classification scheme generally turns on type of facility generating the waste and not the type of waste itself
- Exception - cross-over wastes

CROSS-OVER WASTES

The following wastes are regulated as residual wastes regardless of their source of generation:

- Water supply treatment plant sludges
- Waste oil that is not hazardous waste
- Waste tires and autofluff
- Contaminated soil
- Used asphalt
- Dredged material
- Friable asbestos-containing waste
- PCB-containing waste

CROSS-OVER WASTES (cont'd)

The following wastes are regulated as municipal wastes regardless of their source of generation:

- Construction/demolition waste
- Industrial lunchroom and office waste
- Regulated medical and chemotherapeutic waste
- Leaf waste and grass clippings
- Waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material

DEFINING WASTES - KEY POLICY ISSUES

- Reuse and recycling scenarios are the most challenging to untangle
- Inherent tension in the regulatory provisions –
  - Policies to facilitate certain types of recycling and reuse activities
  - Policies to prevent “sham” recycling
- Consequences – complexity and confusion

DEFINITIONS - WASTE

- SWMA does not contain a definition of the term “waste”
- Definition of “waste” is different under the hazardous waste, residual waste and municipal waste regulations
- Definition of “waste” under the hazardous waste regulations largely follows the federal definitional scheme – is the material discarded?
- Definition of “waste” under municipal waste regulations – “a material whose original purpose has been completed and which is directed to a disposal, processing or beneficial use facility or is otherwise disposed of, processed or beneficially used.”

DEFINITIONS – WASTE (cont'd)

Definition of "waste" in residual waste regulations:

- **Discarded material** which is **recycled** (used or reused or reclaimed) or **abandoned**
- Abandoned by being
  - Disposed, burned or incinerated, or
  - Accumulated, stored or processed prior to or in lieu of being abandoned, disposed, burned or incinerated
- "Discarded material" not independently defined
- Discarded material described by examples including contaminated soil, contaminated water, contaminated dredge material, spent materials, and certain recycled by-products
- Recycled materials applied to land or used to produce fuel are wastes unless they qualify as coproducts

EXCLUSIONS FROM DEFINITION OF WASTE IN RESIDUAL WASTE REGULATIONS

- Materials used or reused as ingredients in an industrial process to make a product **without reclamation** (sizing, shaping and sorting is permissible)
- Materials employed as effective substitutes for commercial products **without reclamation** (sizing, shaping and sorting is permissible)
- Materials returned to the original process from which they are generated as a substitute for feedstock materials **without reclamation**
- Note - a material is “reclaimed” if it is processed to recover a useable product, or if it is regenerated
- Basic concept – “ready for reuse”

EXCLUSIONS FROM DEFINITION OF WASTE IN RESIDUAL WASTE REGULATIONS (cont'd)

- Coproducts
- Steel slag used for certain on-site purposes
- Materials from the slaughter and preparation of animals that are used as raw materials in the production or manufacture of products

Note - in enforcement proceedings, a regulated entity that claims a material is not a waste because it is being recycled must demonstrate that there is a known market or disposition for material and all terms of the exemption have been met

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EXCEPTIONS TO RECYCLING EXEMPTIONS

- Materials used in a manner constituting disposal or to produce products applied to the land (except coproducts)
- Materials used for energy recovery, used to produce fuel or contained in fuel (except coproducts)
- Materials accumulated speculatively

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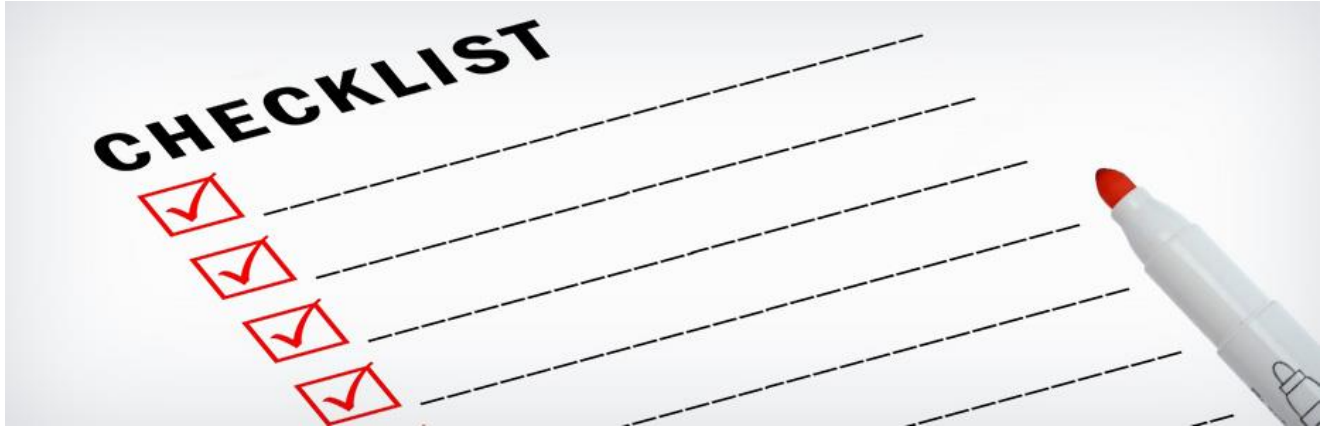
MATERIALS ACCUMULATED SPECULATIVELY

- Any material that is accumulated before recycling
- Exceptions
  - At least 75 percent of accumulated material is recycled during a calendar year
  - Changing market conditions may impede turnover rate
  - Waste piles being mined under approved closure plan or mining permit (for pre-1980 wastes)

DEFINITIONS - COPRODUCT

- Coproducts only encompass materials that are applied to the land, used to produce products that are applied to the land, or are burned for energy recovery (minimum BTU value of 5,000/lb)
- A coproduct is **not a waste** if recycled or reused
- To qualify a material as a coproduct, a series of requirements must be met



COPRODUCT – REQUIREMENTS

- Generated by manufacturing or production process or spent material
- Physically and chemically equivalent to intentionally manufactured product or produced raw material
- Cannot be processed prior to use other than by sizing, shaping, sorting or other than processing required for material it is substituting for
- Cannot be accumulated speculatively

COPRODUCT – REQUIREMENTS (cont'd)

The use of the material can present no greater threat of harm to human health and the environment than the use of the product or produced raw material that is being replaced

The material must be used by the generator of the material or transferred in good faith as a commodity in trade

Burden is on those producing, selling, transferring, processing or using a material to demonstrate that it meets definition

Individual coproduct determinations do not require approval from PADEP

Concurrences no longer listed on PADEP website and PADEP is reluctant to make concurrence determinations

Industry-wide coproduct determinations (25 Pa. Code §287.9) do require approval from PADEP

RESIDUAL WASTE GENERATOR REQUIREMENTS

RESIDUAL WASTE GENERATOR REQUIREMENTS

- All generators of residual wastes (other than residential generators) must maintain records (5-year retention requirement) documenting:
  - types and amounts of wastes generated
  - dates of generation
  - dates of onsite disposal or processing
  - identity of transporters of wastes to offsite locations
  - identity of receiving facilities
- Large quantity residual waste generators are subject to additional requirements

LARGE QUANTITY RESIDUAL WASTE GENERATOR REQUIREMENTS

- Entities that generate more than an average of 2,200 pounds of residual waste per month (13 tons) during the previous year are subject to -
  - Biennial reporting requirements (Forms 330 and 330-GM)
  - Source reduction strategy requirements (Form 25R)
- Entities that generate more than 2,200 pounds of residual waste in **any single month** during the previous year must characterize the physical properties and chemical composition of their waste streams (Form 26R)
- Wastewater from industrial, agricultural and mining sources currently is generally classified as residual waste

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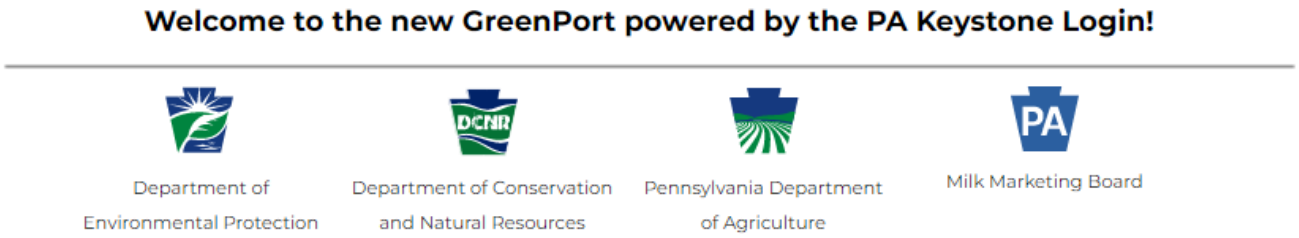
LARGE QUANTITY GENERATOR REQUIREMENTS– EXCLUSIONS

- Requirements relating to biennial reports, source reduction strategies and chemical analysis of waste do not apply to -
  - residual waste generated as a result of collecting the waste from the repair or replacement of parts, machinery, vehicles and appliances
  - waste generated from a spill, release, fire, accident or other unplanned event
  - oil used as lubricant in internal combustion engines or for transmissions, gears or axles

BIENNIAL REPORT - OVERVIEW

- Information about generator, types of residual waste, and destination of waste
  - Form 330 – general information
  - Form 330-GM – waste-stream specific information
- Due by March 1 of odd-numbered years – biennial reports for 2020 were due March 1, 2021
- Next reporting cycle – March 1, 2023
- Reports may be submitted via PADEP GreenPort in lieu of paper forms



BIENNIAL REPORTS – 2020 EXCLUSIONS

- Non-reportable wastes:
  - sanitary sewage
  - uncontaminated non-contact cooling water
  - office, lunchroom and restroom wastes
  - construction and demolition debris
  - vehicle maintenance waste

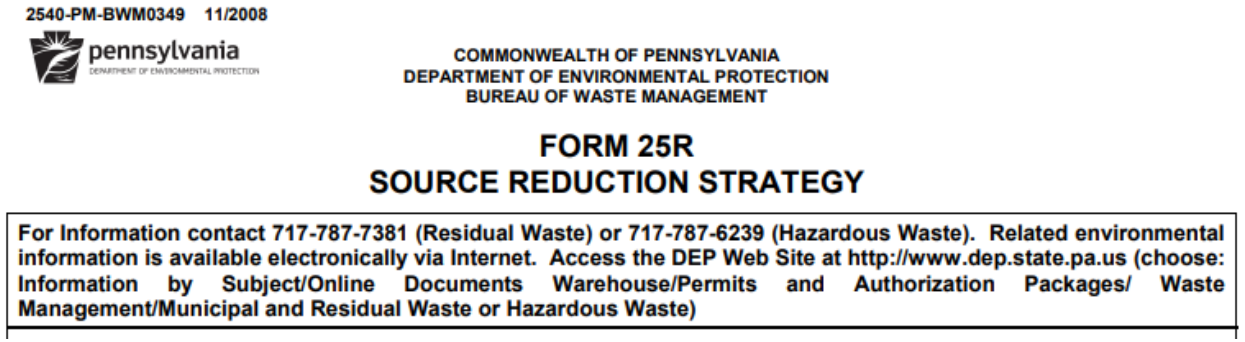
- The following waste streams did not need to be reported or counted toward reporting thresholds:
  - uncontaminated pallets (if recycled)
  - paper, corrugated paper, cardboard (if recycled)
  - scrap metal (if recycled)
  - process wastewater discharged to POTW or via NPDES permit

BIENNIAL REPORTS – 2020 EXCLUSIONS (cont'd)

- For small waste streams (less than one ton in 2020), Form 330-GMs not required but need to list small waste streams in the report
- Wastes from oil and gas operations that are reported through the oil and gas program do not need to be included in biennial reports

- Wastes from spills, releases or other unplanned events do not need to be included in biennial reports
- Warehouses are excluded from reporting requirements

SOURCE REDUCTION STRATEGY – FORM 25R



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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM 25R
SOURCE REDUCTION STRATEGY

For Information contact 717-787-7381 (Residual Waste) or 717-787-6239 (Hazardous Waste). Related environmental information is available electronically via Internet. Access the DEP Web Site at http://www.dep.state.pa.us (choose: Information by Subject/Online Documents Warehouse/Permits and Authorization Packages/ Waste Management/Municipal and Residual Waste or Hazardous Waste)

- 5-year history of source reduction activities
- Plan for reducing weight or toxicity of waste or an evaluation of potential source reduction options
- Source reduction strategies must now be prepared for all residual waste streams (no exclusion for smaller waste streams)
- No required performance standards – process oriented

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SOURCE REDUCTION STRATEGIES – FORM 25R (cont'd)

- Source reduction strategies:
  - must be updated if there is a significant change in waste streams or the processes generating the waste streams
  - must be updated at least every five years
  - must describe past source reduction activities and future source reduction steps

CHEMICAL ANALYSIS OF RESIDUAL WASTE – FORM 26R

- Extensive information about chemical and physical characteristics of each waste stream must be assembled
  - gross analysis (each constituent that is 1 percent or more of the waste stream)
  - trace analysis (each Appendix VIII hazardous constituent likely to be present at concentrations greater than 50 ppm)
- Includes a hazardous waste determination
- Generator knowledge can be used to refine chemical analysis

CHEMICAL ANALYSIS OF RESIDUAL WASTE – FORM 26R (cont'd)

- Form 26R not required if <2,200 lbs of residual waste generated **in every month**
- For small waste streams (<2,200 lbs/month), hazardous waste determination is sufficient
- Form 26R must be submitted to PADEP annually for each waste stream (default deadline of March 1)
  - can recertify for up to five years if no changes to waste stream or process generating waste stream
  - must reanalyze waste streams at least every five years
- Form 26R designed to dovetail with Form U (Request to Process or Dispose of Residual Waste)

REQUEST TO PROCESS OR DISPOSE OF RESIDUAL WASTE (FORM U)

- Facility waste acceptance plan (WAP) - types and chemical concentration limits
- Facility makes determination that waste from a generator falls within WAP and requests approval from PADEP via Form U to receive waste
- Form U deemed approved after 15 days unless notified by PADEP to the contrary
- Significant increase in electronic Form U submissions during last few years, primarily for oil and gas waste disposal

RESIDUAL WASTE PERMITTING REQUIREMENTS

PERMIT REQUIREMENTS

- Permits required for processing or disposing of residual waste
- Permits available in three forms
  - Permits-by-Rule
  - General Permits (recycling/beneficial use activities)
  - Individual Permits
- Temporary storage of residual waste at a location different than the point of generation is deemed to be “processing”

PERMITS-BY-RULE (287.102)

- What is a permit-by-rule?
  - Permit issued by regulations
- To qualify:
  - Meet Chapter 299 (storage and transportation requirements)
  - Comply with all other permits
  - PPC plan
  - Maintain records
  - Maintain compliance with specific permit-by-rule requirements
  - Protect human health and the environment

PERMITS-BY-RULE (287.102) (cont'd)

- Captive processing
- Wastewater treatment
- Incinerators
- Mechanical processing
- Container processing
- Empty drum reconditioning
- Residual/hazardous transfer

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MANAGEMENT OF FILL POLICY

MANAGEMENT OF FILL POLICY – CONTEXT AND BACKGROUND

- The Management of Fill Policy is designed to address when materials that may be used as fill can be moved from one location to another without triggering requirements under the Pennsylvania Solid Waste Management Act (SWMA)
- As such, the Management of Fill Policy defines the limits and applicability of the SWMA
- No statutory provisions expressly govern management of fill materials – the clean fill program is entirely a creature of PADEP's making

IMPORTANCE OF MANAGEMENT OF FILL POLICY

Scope of clean fill program is broad – generally covers soils and other materials that are excavated or moved in connection with projects or activities involving:

- Infrastructure
- Construction (earth moving)
- Demolition
- Redevelopment
- Remediation

The Management of Fill Policy impacts a greater range of projects and activities than perhaps any other guidance document issued by PADEP.

DEVELOPMENT OF MANAGEMENT OF FILL POLICY

- PADEP's efforts to regulate management of fill has a long history dating back to the 1990s
- Fill management requirements have been extremely controversial - lightning rod for infighting among different programs within PADEP

- Current Management of Fill Policy took effect on January 1, 2020 (with minor revisions effective January 16, 2021)
- Combines elements of waste management program under SWMA and risk-based concepts under the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2)

DEFINITION OF CLEAN FILL

- Clean fill is regulatorily defined as **uncontaminated**, nonwater-soluble, nondecomposable inert solid material **used** to level an area or bring the area to grade
- Uncontaminated materials include materials that:
  - Are unaffected by a spill or release of regulated substances; or
  - If affected by a spill or release, contain regulated substances at concentrations below specified numeric standards
- Numeric standards are based on lower of the residential direct contact numeric values and generic soil-to-groundwater numeric values implementing the statewide health standard under Act 2 (incorporated by reference)
- Clean fill standards will change every time the numeric cleanup standards under Act 2 change

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MATERIALS THAT MAY BE CLEAN FILL

- Soil, rock and stone
- Dredged material
- Used asphalt
- Brick, block and concrete from construction and demolition activities that are separate from other wastes and recognizable as such

DEFINITION OF REGULATED FILL

- Regulated fill is fill material that is classified as a residual waste but that may be reused pursuant to a permit under the SWMA - General Permit No. WMGR096
- To qualify as regulated fill, materials must meet two additional conditions -
  - materials must have been affected by a spill or release of a regulated substance or qualify as historic fill
  - concentrations of regulated substances must exceed the clean fill numeric standards
- In other words, the fill material does not meet the definition of “uncontaminated”
- Regulated fill numeric standards generally based on nonresidential cleanup standards under Act 2

FILL POLICY - CONCEPTUAL FRAMEWORK:
Steps for Moving Fill from One Site to Another

- ✓ Perform due diligence
- ✓ If no evidence of a release of regulated substances, the material may be managed as unregulated clean fill
- ✓ If evidence of a release of regulated substances or the material is historic fill, the material must be tested
- ✓ If analytical results meet specified numeric standards (the clean fill numeric standards), the material is unregulated clean fill

- ✓ If the analytical results exceed numeric standards, the material is regulated as a waste
- ✓ If the analytical results meet the numeric standards for regulated fill, the material may be used as regulated fill once coverage under General Permit No. WMGR096 is applied for and obtained

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HISTORIC FILL

- Material used to bring an area to grade prior to 1988 that is a conglomeration of soils and residuals, such as ash (wood, coal and incinerator), slag, dredged material and construction and demolition waste
- Exceptions –
  - iron or steel slag that is separate from residuals if the slag qualifies as a coproduct
  - coal ash that is separate from residuals if it is beneficially used under the residual waste regulations

- Historic fill may qualify as clean fill provided that it does not consist **primarily** of “residuals” such as coal ash or slag –
- Historic fill **must be sampled** to determine if it meets the clean fill numeric standards
- Default list of target analytes including specific volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs) and pesticides

KEY REQUIREMENTS IN CURRENT VERSION OF FILL POLICY

- "Project area" broadly defined
- Due diligence requirements far more robust than before
- Sampling not required in all instances but where necessary, sampling must be representative, spatially comprehensive and carefully planned
- Synthetic precipitation leaching procedure (SPLP) can be used to develop an alternate soil-to-groundwater value on a case-by-case basis (approximately 80% of the clean fill standards are based on the generic soil-to-groundwater values)
- Background concentrations can be used to adjust clean fill numeric standards (donor site and receiving site)
- Form FP-001 must be submitted for any transfer of fill material (electronic portal for submissions) and be accompanied by sampling plans and laboratory reports (as applicable)
- Fill material containing PCBs at concentrations greater than 2 mg/kg subject to separate approval process by EPA

INTERIM-FINAL GUIDANCE ON REGIONAL BACKGROUND LEVELS OF VANADIUM

- Because the residential MSC for vanadium under Act 2 (15 mg/kg) is significantly below naturally-occurring background levels of vanadium, the clean fill concentration limit has been unworkable since the beginning of 2020
- A regulatory amendment to correct the problem is slowly working its way through the regulatory review process (expected to be finalized by mid-2023)
- In the meantime, PADEP issued an interim-final guidance document (effective February 26, 2022) to allow representative background levels of vanadium to be used in lieu of the clean fill concentration limit
  - Pennsylvania – 129 mg/kg
  - New Jersey – 136 mg/kg
  - New York – 118 mg/kgDue diligence requirements far more robust than before
- PCBI instrumental in achieving this outcome

PRACTICE POINTERS

RESIDUAL WASTE – GENERAL PRACTICE POINTERS

- Understand how your materials are classified
  - Materials that are recycled may or may not be subject to regulation
  - Materials may be classified as either residual waste or municipal waste depending on where they are generated and what they are
- Processing or disposal of residual waste requires a permit
- Storing residual waste for longer than one year is presumed to be disposal and will trigger permitting requirements

RESIDUAL WASTE – GENERAL PRACTICE POINTERS (cont'd)

- Many different kinds of activities involve processing of residual waste and trigger permitting requirements (which may be covered through permits-by-rule) such as:
  - Wastewater treatment activities
  - Operating oil/water separators
  - Draining oil filters
  - On-site processing in advance of recycling
- Keep good records
- Treat your waste streams with the same level of care as your products

QUESTIONS?

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