

SECRETARY OF STATE

KEN HECHLER

ADMINISTRATIVE LAW DIVISION

Form #3

FILED

JUL 31 3 27 PM '98

OFFICE OF WEST VIRGINIA SECRETARY OF STATE

NOTICE OF AGENCY APPROVAL OF A PROPOSED RULE AND FILING WITH THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

Office of Waste Management
AGENCY: WV Division of Environmental Protection TITLE NUMBER: 33

CITE AUTHORITY 22-15-8(e), 20(b) and 20(q)

AMENDMENT TO AN EXISTING RULE: YES X NO

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 2

TITLE OF RULE BEING AMENDED: Sewage Sludge Management Rule

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED: No

TITLE OF RULE BEING PROPOSED:

THE ABOVE PROPOSED LEGISLATIVE RULE HAVING GONE TO A PUBLIC HEARING OR A PUBLIC COMMENT PERIOD IS HEREBY APPROVED BY THE PROMULGATING AGENCY FOR FILING WITH THE SECRETARY OF STATE AND THE LEGISLATIVE RULE MAKING REVIEW COMMITTEE FOR THEIR REVIEW.

Larry S. Atha, ERS III
Authorized Signature

\$12.10



**BUREAU OF ENVIRONMENT**  
10 McJunkin Road  
Nitro, WV 25143-2506

CECIL H. UNDERWOOD  
GOVERNOR

MICHAEL P. MIANO  
COMMISSIONER

July 24, 1998

Ms. Judy Cooper  
Director  
Administrative Law Division  
Capitol Complex  
Charleston, WV 25305

RE: 33CSR2 - "Sewage Sludge Management Rule"

Dear Ms. Cooper:

This is to advise that I am giving approval to file the above-referenced rule with your Office and Legislative Rule-Making as an agency-approved rule.

Your cooperation in this regard is very much appreciated. If you have any questions or require additional information, please feel free to contact Carrie Chambers in my Office at 759-0515.

Sincerely yours,

  
Michael P. Miano  
Commissioner

MPM:cc

Attachment

cc: Carrie Chambers  
Larry Atha

MINUTES

DIVISION OF ENVIRONMENTAL PROTECTION ADVISORY COUNCIL

July 22, 1998, DIRECTOR'S CONFERENCE ROOM, NITRO HEADQUARTERS

The eleventh meeting of the DEP Advisory Council was held Wednesday, July 22, 1998, in the Director's Conference Room, Nitro Headquarters' Offices. The meeting was called to order at 1:00 p.m. by Chairman Mike Miano.

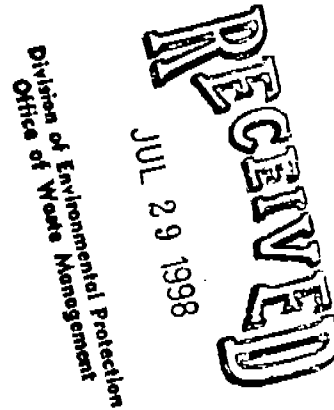
ATTENDING:

Advisory Council Members:

Michael P. Miano, Chairman  
Jacqueline Hallinan  
Larry Harris  
William Raney  
Rick Roberts  
William Samples

Environmental Protection:

John Ailes	Jennifer Pauer
John Benedict	Pete Pitsenbarger
Dick Cooke	Ken Politan
Mike Dorsey	Cap Smith
Andy Gallagher	Barb Taylor
Randy Huffman	Karen Watson
Pat Park	Mike Zeto



1) Introduction of A. V. Gallagher, DEP's Chief Communications Officer.

Chairman Miano introduced DEP's new Chief Communications Officer, A. V. Gallagher. Council Members welcomed Mr. Gallagher and wished him well in his new job.

2) Review and Approval of Minutes of April 30, 1998.

The minutes of the April 30 meeting were approved with the correction of two typos. Mr. Roberts brought to everyone's attention the discussion in the April 30 minutes of AML funding issues in the last meeting, and the Council's desire to send letters to West Virginia's Congressional delegation to identify West Virginia's share of the AML funds that need to be

released by the US Congress. Separate letters would go to West Virginia's legislative leadership informing them of the problems created by not having the AML funds available, with a copy of the letters sent to the Congressional delegation attached to them.

Randy Huffman asked if the Council members would like to sign each letter individually. They each expressed their desire to do so. Pat Park, AML, distributed a copy of the draft letters to Council for their review. After several minutes of discussion, it was decided the draft letters would be edited and made available to the Council members for their signature before the end of the meeting.

Mr. Miano said that Pete Pitsenbarger would like a few minutes of the Council's time before they continued with the agenda.

Mr. Pitsenbarger informed the Council of his retirement plans for the end of August. He said he would like to express his heartfelt thanks to the Council for their letter of appreciation they had sent him thanking him for his many years of service to the State of West Virginia. Mr. Pitsenbarger said his years in state government had been a wonderful opportunity, and he will miss both the work and the people.

**3) Review of Proposed DEP Rules in Accordance with WV Code §22-1-3(c).**

Mr. Miano asked if there were any other issues to be discussed before continuing with the Agenda and the review of DEP proposed rules for the 1999 session.

Mr. Roberts said he would like to express his concern with the approach DEP has taken in involving the Council members in the rulemaking process -- not only this year, but in the past. He said the rules are not sent to the Council members until the last minute and they are not given adequate time to review and comment on them.

It was pointed out that the law [22-1-1(c)] specifically requires the Council to be consulted prior to the proposal of any new rule.

Mr. Raney said he would like to go on record wholeheartedly in agreement with the concerns of Mr. Roberts. He said he has great concerns with giving advice or recommendations to the Director on development of rules (or amendments to rules) the Council members were not involved in before they were filed with the Secretary of State's Office for Public Hearing and Comments. He said he believes there definitely needs to be improvement in this process in the future.

A discussion was then held on possible ways to bring the Council into the rulemaking process in an earlier stage of rule development. Several DEP staff members expressed their frustrations with the rulemaking process, and gave one example as the short period of time between the signature of bills by the Governor and the early filing date of the rules with the

Legislative Rulemaking Review Committee. Another example that was given was turnaround time with federal agencies, i.e., EPA and OSM, which are also involved in the process.

After several minutes of discussion, Mr. Huffman stated, with the Chairman's approval, that he would put together a committee to discuss the Council's concerns and get back to the Council with their recommendations by the first of September.

Mr. Miano also expressed his desire to improve the involvement of the Council in the rulemaking process, and assured the Council that everything possible would be done in the future to comply with the Council's recommendations.

**[It should be noted that at this time Ms. Hallinan left the Advisory Council Meeting because of a previously-scheduled commitment].**

Continuing with the agenda, Mr. Miano said that staff would be available from each program office to give a brief description of the proposed new rules or rule amendments and to answer any questions the Council members might have. If a question should come up that couldn't be answered during the meeting, we would make note of it and get back with an answer to the Council as soon as possible. The first rule on the agenda is 60CSR4, filed under the Director's Office.

**60CSR4 -"AWARDING OF WEST VIRGINIA STREAM PARTNERS PROGRAM GRANTS  
RULE"**

Jennifer Pauer, AML, said 60CSR4 is a new rule that is being proposed by the West Virginia Stream Partners Program to provide requirements and guidance concerning the awarding of grants to broad-based community organizations for watershed improvement projects. Ms. Pauer stated that the program is a joint effort of DEP, Forestry, Natural Resources, and the West Virginia Soil Conservation Agency.

A brief discussion was held concerning the source of the funding, availability of the funds, guidelines for criteria, and possible additional funding. Mr. Samples asked if there could also be additional funding sources, for example contributions from supplemental environmental projects used to offset proposed penalties. Ms. Pauer stated that as the rule now stands, it's only purpose is to distribute the funds, but she would check into the law and let the Council know if language could be added to also implement provisions for additional funding from penalty collections or other sources. Mr. Raney moved to recommend to the Chairman (in his capacity as Director of DEP) the filing of 60CSR4 with the condition that Mr. Samples' recommendation be considered. The motion was seconded and passed unanimously.

The following Air Quality rules were discussed by Karen Watson, OAQ, with assistance from John Benedict, also from the OAQ office:

**45CSR33 - "ACID RAIN PROVISIONS AND PERMITS"**

**45CSR25 - "TO PREVENT AND CONTROL AIR POLLUTION FROM HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES"**

**45CSR34 - "EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS PURSUANT TO 40 CFR PART 63"**

**45CSR16 - "STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES PURSUANT TO 40 CFR PART 60"**

**45CSR24 - "TO PREVENT AND CONTROL EMISSIONS FROM HOSPITAL/MEDICAL/INFECTIOUS WASTE INCINERATORS"**

**45CSR36 - "CONFORMITY TO STATE OR FEDERAL IMPLEMENTATION PLANS OF TRANSPORTATION PLANS, PROGRAMS, AND PROJECTS DEVELOPED, FUNDED OR APPROVED UNDER TITLE 23 U.S.C. TO THE FEDERAL TRANSIT LAWS, TO APPLICABLE AIR QUALITY IMPLEMENTATION PLANS (TRANSPORTATION CONFORMITY)"**

**45CSR8 - "AMBIENT AIR QUALITY STANDARDS FOR SULFUR OXIDES AND PARTICULATE MATTER"**

**45CSR9 - "RULES PERTAINING TO AMBIENT AIR QUALITY STANDARDS FOR CARBON MONOXIDE AND OZONE"**

Ms. Watson gave the Council a brief explanation of the proposed OAQ rules. She explained that seven rules (45CSR33, 25, 34, 16, 36, 8, and 9) were being amended to conform to federal regulations, and 45CSR24 is a proposed new rule to adopt federal New Source Performance Standards for new and existing hospital/medical/infectious waste incinerators. This rule also incorporates by reference the federal standards, with limited exception.

Mr. Raney said he had always questioned the validity of the Appendix B Fiscal Note that is attached to each rule that is filed; in particular the section that relates to the effect of the proposed rule which usually contains all zeros.

John Benedict explained that is a question that has come up several times in the past, and the agency has always taken the position that the numbers are reflective of the cost to the state of implementing the new rule or the proposed amendments to an existing rule.

After a brief question and answer session of the OAQ rules, Mr. Raney moved that recommendation be made to the Director that all eight (8) rules be filed, as proposed, with the exception that 45CSR34, subdivision 4.1.b, be revised to clarify that 45CSR30 includes certain requirements relating to Section 112(r) of the Clean Air Act. The motion was seconded and passed unanimously by the Council.

**38CSR2 - "SURFACE MINING AND RECLAMATION RULE"**

John Ailes, Chief of OMR, said the amendments to this year's submission of the Surface Mining and Reclamation rule were few in number. Two new definitions were added,

“mountaintop mining operation” and “area mining operation,” and only minor cleanup to correct typographical errors and update and clarify other sections within the rule. Mr. Raney moved recommendation be made to the Chairman that the rule be filed as proposed. The motion was seconded and passed unanimously by the Council.

Mike Dorsey and Dick Cooke from the Office of Waste Management described the following Waste Management rules:

**33CSR20 - “HAZARDOUS WASTE MANAGEMENT RULE”**

**33CSR1 - “SOLID WASTE MANAGEMENT RULE”**

**33CSR2 - “SEWAGE SLUDGE MANAGEMENT RULE”**

Mike Dorsey explained the amendments to 33CSR20 - Hazardous Waste Management Rule. Along with other federally-required amendments to this rule, Section 11 contains a major rewrite to conform with the federal requirements of 40 CFR Part 124.

Mr. Samples asked why it takes up to 120 days to receive approval from the state to exclude a waste at a particular generating facility when EPA has already approved the petition - could the time be changed from 120 days to 60 days?

Cap Smith, Chief, OWM, said the time of 60 to 120 days is just a general number. He stated that he didn't see a problem with changing the time from 120 days to 60 days. He said it rarely takes anywhere close to that time to approve or deny the petition - it is usually taken care of in a matter of days.

There was some discussion as to whether this amendment should be proposed in this legislative session. The Council decided to wait until the rule is modified and filed in the 2000 Legislative Session to propose the amendment.

Dick Cooke, OWM, briefed the Council on 33CSR1. He said the revision is necessary to ensure consistency between the WV Code and 33CSR1. The emergency rule will establish criteria in determining a commercial solid waste facility's monthly tonnage limits, as required by Chapter 22, Article 15, as amended by Senate Bill No. 178.

Mike Zeto, Environmental Enforcement Office, then discussed 33CSR2 and explained the proposed emergency rule is necessary to update the Sewage Sludge Management rule to comply with mandates of Senate Bill 178. The revisions and inclusions are necessary to ensure consistency between the WV Code and 33CSR2. The emergency rule will also impose new requirements relating to the management of sewage sludge as required by Chapter 22, Article 15, as amended by Senate Bill 178, specifically as it relates to the control of off-site odors, and the protection of waters of the state.

After discussion was completed on the Waste Management rules, Mr. Raney moved to recommend that the Chairman file the Waste rules as proposed. The motion was seconded and passed unanimously.

The following Office of Water Resources rules were reviewed by Barb Taylor and Ken Politan.

**47CSR31 - " STATE WATER POLLUTION CONTROL REVOLVING FUND"**

**47CSR33 - "STATE CONSTRUCTION GRANTS PROGRAM RULE"**

**47CSR3 - " POLLUTION PREVENTION AND COMPLIANCE ASSISTANCE"**

**47CSR4 - "STATE CERTIFICATION OF ACTIVITIES REQUIRING NATIONWIDE PERMITS NO. 21 AND NO. 26"**

Barb Taylor, Chief, OWR, explained the amendments contained in 47CSR31, 33, and 3. She said 47CSR31 is being amended to comply with the latest revisions of the Clean Water Act and current design practices; 47CSR33 is a proposed new rule which allows DEP to make grants to communities to provide adequate wastewater collection and/or treatment services; and 47CSR3 is a new proposed rule to implement the provisions of HB 4693 passed during the 1998 Session to promote pollution prevention by encouraging reduction or elimination of pollutants at the source through process modification, material substitution, in-process recycling, reduction of raw material use or other source reduction opportunities.

Mr. Roberts asked if the proposed amendments to prohibit the use of closed-vessel ultraviolet disinfection and inverted siphons in "Appendix B" under "Design Standards for Collection Systems and Treatment Works" is one recommended by EPA or by the state.

Ms. Taylor replied that she would need to check with Bob Coontz in Water Resources' Construction Assistance Office who drafted the proposed rule amendments, and have Mr. Coontz get back with Mr. Roberts with an answer as soon as possible.

The last rule to be addressed by the Council, 47CSR4, was reviewed by Ken Politan from the Office of Mining and Reclamation. Ken stated that this is a new proposed rule that will establish a water certification program for surface mining operations and will implement the provisions of SB 145 passed during the 1998 Session.

Mr. Raney asked if implementation of this rule was specifically mandated in SB 145.

Mr. Politan said no, but the agency felt the proposed rule is needed to give some guidance in the implementation of the Senate bill.

Mr. Raney voiced his concern over the rule. He said he did not believe it was a workable

rule, and he had received several comments from others indicating the same concerns. He said that one of his biggest objections to the proposed rule was lack of input from outside DEP when the rule was written. Mr. Raney stated that SB 145 indicates the Director shall confer with representatives of the surface coal mining industry and representatives of environmental organizations who have an interest in water quality, before such a manual is developed and DEP staff did not do this.

After several minutes of discussion concerning 47CSR4, Mr. Raney made a motion to recommend that the Chairman file 47CSR3, 31, and 33 as proposed, with the condition that Mr. Roberts' questions are addressed in 47CSR31; that the comment period be extended after the end of the public hearing for 47CSR4, and any actions to implement the proposed rule be delayed until such time as a more workable rule can be drafted with the opportunity for input from interested parties. The motion was seconded and passed with a 3 to 1 vote.

Due to the length of time taken to review the proposed rules, there was no open discussion by the Council members. The meeting was adjourned at 5:15 p.m.

QUESTIONNAIRE

(Please include a copy of this form with each filing of your rule: Notice of Public Hearing or Comment Period, Proposed Rule, and if needed, Emergency and Modified Rule.)

DATE: July 31, 1998

TO: **LEGISLATIVE RULE-MAKING REVIEW COMMITTEE**

FROM: (Agency Name, Address & Phone No.) Division of Environmental Protection  
Office of Waste Management  
1356 Hansford Street  
Charleston, WV 25301-1401  
Phone (304)558-6350  
Fax (304)558-1574

LEGISLATIVE RULE TITLE: Solid Waste Management Rule; Title 33, Series 2

1. Authorizing statute(s) citation Sections 22-15-8(e), 22-15-20(b)  
and 22-15-20(q)

2. a. Date filed in State Register with Notice of Hearing or  
Public Comment Period:

June 1, 1998

b. What other notice, including advertising, did you give  
of the hearing?

Public Information Office News Release

c. Date of Public Hearing(s) or Public Comment Period ended:

July 20, 1998

- d. Attach list of persons who appeared at hearing, comments received, amendments, reasons for amendments.

Attached XX No comments received \_\_\_\_\_

- e. Date you filed in State Register the agency approved proposed Legislative Rule following public hearing:  
(be exact)

July 31, 1998

- f. Name, title, address and phone/fax/e-mail numbers of agency person(s) to receive all written correspondence regarding this rule: (Please type)

Richard P. Cooke, Assistant Chief

Division of Environmental Protection, OWM  
1356 Hansford Street

Charleston, WV 25301-1401

Phone: (304) 558-6350 Fax: (304) 558-1574

- g. IF DIFFERENT FROM ITEM 'f', please give Name, title, address and phone number(s) of agency person(s) who wrote and/or has responsibility for the contents of this rule: (Please type)

Same as Above

3. If the statute under which you promulgated the submitted rules requires certain findings and determinations to be made as a condition precedent to their promulgation:

N/A

- a. Give the date upon which you filed in the State Register a notice of the time and place of a

hearing for the taking of evidence and a general description of the issues to be decided.

N/A

---

---

---

---

b. Date of hearing or comment period:

N/A

---

c. On what date did you file in the State Register the findings and determinations required together with the reasons therefor?

N/A

---

d. Attach findings and determinations and reasons:

Attached N/A

---



**DIVISION OF ENVIRONMENTAL PROTECTION**  
1356 Hansford Street  
Charleston, WV 25301-1401

CECIL H. UNDERWOOD  
GOVERNOR

MICHAEL P. MIANO  
DIRECTOR

July 31, 1998

**BUREAU OF ENVIRONMENT**  
**DIVISION OF ENVIRONMENTAL PROTECTION**

**BRIEFING DOCUMENT**

Rule Title: Sewage Sludge Management Rule

A. AUTHORITY: WV Code §§22-15-8(e), 20(b) & 20 (q)

B. SUMMARY OF RULE:

This proposed Legislative Rule is necessary to update the Sewage Sludge Management Rule, Title 33, Series 2, to comply with the 1998 West Virginia Legislative mandates of Senate Bill No. 178. This Bill, in §§22-15-8(e), 22-15-20(b) and 22-15-20(q), as amended, requires the promulgation of Legislative rules for the various items listed in Chapter 22, Article 15, as amended by Senate Bill No. 178, relating to the management of sewage sludge.

C. STATEMENT OF CIRCUMSTANCES WHICH REQUIRE RULE:

This proposed Legislative Rule is necessary to update the Sewage Sludge Management Rule, Title 33, Series 2, to comply with the 1998 West Virginia Legislative mandates of Senate Bill No. 178. This Bill, in §§22-15-8(e), 22-15-20(b) and 22-15-20(q), as amended, requires the management of sewage sludge for the potential impact upon groundwater, surface waters, potable waters and air quality in the area. (Chapter 22, Article 15, Section 8(e) of the Code of West Virginia, as amended by Senate Bill No. 178.)

D. FEDERAL COUNTERPART REGULATIONS - INCORPORATION  
BY REFERENCE/DETERMINATION OF STRINGENCY:

There are no federal counterpart regulations.

E. CONSTITUTIONAL TAKINGS DETERMINATION:

In accordance with §22-1a-1 and 3(c), the Director has determined that this rule will not result in taking of private property within the meaning of the constitutions of West

Virginia and the United States of America.

F. CONSULTATION WITH THE ENVIRONMENTAL PROTECTION  
ADVISORY COUNCIL:

After review of 33CSR1 at their July 22, 1998 meeting, the DEP Advisory Council recommended to the Director that this rule be filed as amended. No further amendments were recommended.

**APPENDIX B**

**FISCAL NOTE FOR PROPOSED RULES**

Rule Title: Sewage Sludge Management Rule (Title 33, Series 2)

Type of Rule:  Legislative  Interpretive  Procedural

Agency: Division of Environmental Protection

Address: Office of Waste Management/Solid Waste Management Section  
1356 Hansford Street  
Charleston, WV 25301

**1. Effect of Proposed Rule**

	ANNUAL FISCAL YEAR				
	INCREASE	DECREASE	CURRENT	NEXT	FOURTH YEAR
<u>ESTIMATED TOTAL COST</u>	\$	\$	\$	\$	\$
PERSONAL SERVICES					
CURRENT EXPENSE					
REPAIRS & ALTERNATIONS					
EQUIPMENT					
OTHER	*See No. 2				

**2. Explanation of above estimates:**

An additional \$150,000 may be collected by fees imposed on "processor or Transporter" under the provisions of Title 33, Series 2, Section 6.

**3. Objectives of these rules:**

This proposed Emergency Rule is necessary to update the Sewage Sludge Management Rule, Title 33, Series 2, to comply with the mandates set forth in Senate Bill No 178, previously passed into law during the 1998 Regular Session of the West Virginia legislature. Senate Bill No. 178 requires that the West Virginia Division of Environmental Protection promulgate this Emergency rule pursuant to directives found at West Virginia Code §§ 22-15-8(e), 22-15-20(b), and 22-15-20(q), as amended.

JUL 31 3 20 PM '98

TITLE 33  
LEGISLATIVE RULE  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF WASTE MANAGEMENT

OFFICE OF THE ATTORNEY GENERAL  
SECRETARY OF STATE

SERIES 2  
SEWAGE SLUDGE MANAGEMENT RULE

**§33-2-1. General.**

1.1. Scope. -- This legislative rule establishes requirements for the permitting siting, bonding, installation, establishment, construction, modification, and operation of any facility that generates, processes, recycles and/or disposes of sewage sludge by whatever means, including, but not limited to, land application, composting, incineration, mixed waste composting, or any other method of handling sewage sludge within the state. This rule applies to any person who owns or operates a sewage sludge facility or who is responsible for the processing or disposal of sewage sludge.

1.2. Authority. -- W. Va. Code §§22-15-8(e), 22-15-20(b) and 22-15-20(q).

1.3. Filing Date. -- ~~May 1, 1996~~.

1.4. Effective Date. -- ~~May 1, 1996~~.

1.5. Incorporation by Reference. -- Whenever federal or state statutes or regulations are incorporated into this rule by reference, the reference is to the statute or regulation in effect on the effective date of this rule.

**§33-2-2. Definitions.**

The following definitions shall apply to this rule unless otherwise specified herein:

2.1. "Agronomic rate" means the whole sewage sludge application rate, by dry weight, designed: (1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop or vegetation on the land; and (2) To minimize the amount of nitrogen in the sewage

sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

2.2. "Applicant" means the person applying for a commercial solid waste facility permit or similar renewal permit and any person related to such person by virtue of common ownership, common management or family relationships as the director of the ~~Division~~ may specify, including the following: spouses, parents, children and siblings.

2.3. "Approved solid waste facility" means a solid waste facility or practice which has a valid permit under W. Va. Code §22-15-1 et seq.

2.4. "Backhauling" means the practice of using the same container to transport solid waste and to transport any substance or material used as food by humans, animals raised for human consumption or reusable item which may be refilled with any substance or material used as food by humans.

2.5. "Bulking Agent" means materials mixed or composted with sewage sludge such as yard waste, wood chips, leaves and other living or dead plant tissues approved by the chief as suitable to promote the passage of air through a static pile or windrow.

2.6. "Chief" means the chief of the Office of Waste Management of the Division.

2.7. "Class A facility" means a commercial solid waste facility which handles an aggregate of between ten thousand and thirty thousand tons of solid waste per month. Class A facility includes two or more Class B solid waste landfills owned

or operated by the same person in the same county, if the aggregate tons of solid waste handled per month by such landfills exceeds nine thousand nine hundred ninety-nine tons of solid waste per month.

2.8 "Class B facility" means a commercial solid waste facility which receives or is expected to receive an average daily quantity of mixed solid waste equal to or exceeding one hundred tons each working day, or serves or is expected to serve a population equal to or exceeding forty thousand persons, but which does not receive solid waste exceeding an aggregate of ten thousand tons per month. Class B facilities do not include construction/demolition facilities; Provided, That the definition of Class B facility may include such reasonable subdivisions or subclassifications as the director may establish by legislative rule proposed in accordance with the provisions of chapter twenty-nine-a of the W. Va. Code.

~~2.10:~~ 2.9. "Commercial Composting facility" means any solid waste facility processing solid waste by composting, including sludge composting, organic waste or yard waste composting, but does not include a composting facility owned and operated by a person for the sole purpose of composting solid waste that is located at the site where the waste was generated created by that person or such person and other persons on a cost-sharing or nonprofit basis and shall not include land upon which finished or matured compost is applied for use as a soil amendment or conditioner.

~~2.7:~~ 2.10. "Commercial recycler" means any person, corporation or business entity whose operation involves the mechanical separation of materials for the purpose of reselling or recycling at least seventy percent (70%) by weight of the materials coming into the commercial recycling facility.

~~2.8:~~ 2.11. "Commercial solid waste facility" means any solid waste facility which accepts solid waste generated by sources other than the owner or operator of the facility and does not include an

approved solid waste facility owned and operated by a person for the sole purpose of disposing the disposal, processing, or composting of solid wastes created by that person or such person and other persons on a cost-sharing or nonprofit basis and shall not include land upon which reused or recycled materials are legitimately applied for structural fill, road base, mine reclamation and similar applications.

~~2.12:~~ 2.12. "Compost" means a\* humus like material resulting from aerobic, microbial, thermophilic decomposition of organic materials.

~~2.9:~~ 2.13. "Composting" means the aerobic, thermophilic decomposition of natural constituents of solid waste to produce a stable, humus-like material.

~~2.14:~~ 2.14. "Cured compost" or "finished compost" means compost which has a very low microbial or decomposition rate which will not reheat or cause odors when put into storage and that has been put through a separate aerated curing cycle stage of thirty to sixty days after the initial composting cycle or compost which meets all regulatory requirements after the initial composting cycle.

~~2.11:~~ 2.15. "Curing area" means an area where organic material that has undergone the rapid initial stage of decomposition is further stabilized into a humus-like material.

~~2.12:~~ 2.16. "Director" means the director of the Division of environmental protection or such person to whom the director has delegated authority or duties pursuant to Chapter 22, Article 1 of the W. Va. Code.

~~2.13:~~ 2.17. "Distributor" is a person who prepares the product for distribution and marketing and is responsible for distributing and marketing the product.

~~2.14:~~ 2.18. "Division" means the Division of Environmental Protection.

~~2.15:~~ 2.19. "Domestic septage" means either liquid or solid material (septage) removed from a

septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

~~2-16:~~ 2.20. "Energy recovery incinerator" means any solid waste facility at which solid waste is incinerated with the intention of using the resulting energy for the generation of steam, electricity or any other use not specified herein.

~~2-17:~~ "Importer" means any person receiving sewage sludge from any source whatsoever for the purpose of processing.

~~2-18:~~ 2.21. "Incineration technologies" means any technology that uses controlled flame combustion to thermally break down solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials, regardless of whether the purpose is processing, disposal, electric or steam generation or any other method by which solid waste is incinerated.

~~2-19:~~ 2.22. "Incinerator" means an enclosed device using controlled flame combustion to thermally break down solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials.

~~2-20:~~ 2.23. "Landfill" means any solid waste facility for the disposal of solid waste on or in the land for the purpose of permanent disposal. Such facility is situated, for purposes of W. Va. Code §22-15-1 et seq., in the county where the majority of the spatial area of such facility is located.

~~2-21:~~ 2.24. "Materials recovery facility" means any solid waste facility at which source-separated materials or materials recovered through a mixed waste processing facility are manually or mechanically shredded or separated for purposes of reuse and recycling, but does not include a composting facility.

2.25. "Mature compost" means compost which has been produced in an aerobic, microbial, thermophilic manner and does not exhibit phytotoxic effects.

~~2-22:~~ 2.26. "Mixed solid waste" means solid waste from which materials sought to be reused or recycled have not been source-separated from general solid waste.

~~2-23:~~ 2.27. "Mixed waste processing facility" means any solid waste facility at which materials are recovered from mixed solid waste through manual or mechanical means for purposes of reuse, recycling or composting.

~~2-24:~~ 2.28. "Municipal solid waste incineration" means the burning of any solid waste collected by any municipal or residential solid waste disposal company.

~~2-25:~~ 2.29. "Open dump" means any solid waste disposal which does not have a permit under W. Va. Code §22-15-1 et seq., or is in violation of state law, or where solid waste is disposed in a manner that does not protect the environment.

~~2-26:~~ 2.30. "Person" or "persons" mean any industrial user, public or private corporation, institution, association, firm or company organized or existing under the laws of this or any other state or country; state of West Virginia; governmental agency, including federal facilities; political subdivision; county commission; municipal corporation; industry; sanitary district; public service district; drainage district; soil conservation district; watershed improvement district; partnership trust; estate; person or individual; group of persons or individuals acting individually or as a group; or any legal entity whatever.

~~2-27:~~ 2.31. "Producer" means any person producing sewage sludge at a publicly owned treatment works (POTW).

~~2-28:~~ 2.32. "Publicly owned treatment works" or "POTW" means any device or system used in

~~the conveyance and/or treatment (including recycling and reclamation) of municipal sewage or industrial waste of a liquid nature which is owned by a state or municipality as defined by section 502(4) of the Clean Water Act, any other treatment works treating domestic sewage (TWTDS), or wastewater treatment device or system, regardless of ownership (including federal facilities) used in the storage, treatment, recycling and reclamation of municipal or domestic sewage treatment works owned by the state or any political subdivision thereof, any municipality or any other public entity which processes raw domestic, industrial, or municipal sewage by artificial or natural processes in order to remove or so alter constituents as to render the waste less offensive or dangerous to the public health, comfort or property of any of the inhabitants of this state, before the discharge of the plant effluent into any waters of this state, and which produces sewage sludge.~~

~~2.29:~~ 2.33. "Recycling facility" means any solid waste facility for the purpose of recycling at which neither land disposal nor biological, chemical or thermal transformation of solid waste occurs: Provided, That mixed waste recovery facilities, sludge processing facilities and composting facilities are not considered recycling facilities nor considered to be reusing or recycling solid waste within the meaning of W. Va. Code §§22C-4-1 et seq. and 20-11-1 et seq.

~~2.30:~~ 2.34. "Representative sample" means a sample collected from a population or whole that exhibits the average or typical properties of the larger population or whole.

~~2.31:~~ 2.35. "Sewage sludge" means solid, semi-solid or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage, scum or solids removed in primary, secondary or advanced wastewater treatment processes and a material derived from sewage sludge. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator.

~~2.32:~~ 2.36. "Sewage sludge processing facility" is a solid waste facility that processes sewage sludge for land application, incineration or disposal at an approved landfill. Such processes include, but are not limited to, composting, lime stabilization, thermophilic digestion and anaerobic digestion.

~~2.33:~~ 2.37. "Sludge" means any solid, semisolid, residue or precipitate, separated from or created by a municipal, commercial or industrial waste treatment plant, water supply treatment plant or air pollution control facility or any other such waste having similar origin.

~~2.34:~~ 2.38. "Solid waste" means any garbage, paper, litter, refuse, cans, bottles, waste processed for the express purpose of incineration; sludge from a waste treatment plant, water supply treatment plant or air pollution control facility; and other discarded materials, including offensive or unsightly matter, solid, liquid, semisolid or contained liquid or gaseous material resulting from industrial, commercial, mining or community activities but does not include solid or dissolved material in sewage or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources and have permits under W. Va. Code §22-11-1 et seq., or source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, including any nuclear or by-product material considered by federal standards to be below regulatory concern, or a hazardous waste either identified or listed under W. Va. Code §22-18-1 et seq., or refuse, slurry, overburden or other wastes or material resulting from coal-fired electric power or steam generation, the exploration, development, production, storage and recovery of coal, oil, and gas and other mineral resources placed or disposed of at a facility which is regulated under W. Va. Code §§22-2-1 et seq., 22-3-1 et seq., 22-4-1 et seq., 22-6-1 et seq., 22-7-1 et seq., 22-8-1 et seq., 22-9-1 et seq. or 22-10-1-1 et seq., so long as such placement or disposal is in conformance with a permit issued pursuant to such chapters.

~~2.35:~~ 2.39. "Solid waste disposal" means the practice of disposing of solid waste including placing, depositing, dumping or throwing or causing to be placed, deposited, dumped or thrown any solid waste.

~~2.36:~~ 2.40. "Solid waste disposal shed" means the geographical area which the solid waste management board designates and files in the state register pursuant to W. Va. Code §22C-3-9.

~~2.37:~~ 2.41. "Solid waste facility" means any system, facility, land, contiguous land, improvements on the land, structures or other appurtenances or methods used for processing, recycling or disposing of solid waste, including landfills, transfer stations, materials recovery facilities, mixed waste processing facilities, sewage sludge processing facilities, commercial composting facilities and other such facilities not herein specified but not including land upon which sewage sludge is applied in accordance with W. Va. Code §22-15-20. Such facility shall be deemed to be situated, for purposes of this rule, in the county where the majority of the spatial area of such facility is located: Provided, That a salvage yard licensed and regulated pursuant to the terms of W. Va. Code §17-23-et seq., is not a solid waste facility.

2.42. "Solid waste facility operator" means any person or persons possessing or exercising operational, managerial or financial control over a commercial solid waste facility, whether or not such person holds a certificate of convenience and necessity or a permit for such a facility.

~~2.38:~~ 2.43. "Source separated materials" means materials separated from general solid waste at the point of origin for the purpose of reuse and recycling but does not mean sewage sludge.

~~2.39:~~ 2.44. "Source separated organic waste" means readily degradable organic material such as food waste, yard waste and wood waste, except pressure-treated wood

waste, which is collected separately from the mixed solid waste stream. It does not include sewage sludge or domestic septage.

~~2.40:~~ 2.45. "Stabilization" means the decomposition of organic material to the point where it neither reheats when wetted nor gives off offensive odors and does not include pathogens, toxins or vectors in excess of Federal regulations 40CFR503.

### **§33-1-3. Standards for Use, Disposal and Processing of Sewage Sludge.**

3.1. Incorporation of Federal Regulations. -- Federal regulations 40CFR503, excluding sections 503.10(b)(1) and 503.20 through 503.29 inclusive, in effect on the effective date this rule, are hereby fully incorporated and implemented as a part of this rule promulgated under the authority of W. Va. Code §22-15-20. Provided, That in instances where similar provisions exist, the more stringent requirements (state or federal) shall apply.

3.2. Sewage Sludge Land Application Siting Restrictions and Location Standards.

3.2.a. Sludge will not be applied to land that meets any of the following conditions:

3.2.a.1. Land that is frozen, snow-covered, or known to be flooded on a regular basis unless the applicant can demonstrate to the director that the land application will not cause runoff into streams or wetlands.

3.2.a.2. Land within fifty (50) feet of surface water to include streams, springs, ponds, wetlands, or other collection points for surface water.

3.2.a.3. Land within two hundred (200) feet of drinking water supply wells or other personal water supply.

3.2.a.4. Land within two hundred (200) feet of an occupied dwelling.

3.2.a.5. Land within fifty (50) feet of a federal or state highway.

3.2.a.6. Land within one hundred (100) feet of an adjacent property owner's property line.

3.2.a.7. Land from which drainage leads into a sinkhole.

3.2.a.8. Land that has been tested and determined to have a pH of less than 6.2, unless the pH is adjusted to 6.2 or greater.

3.2.a.9. Land that has a slope greater than 15%.

3.2.a.10. Land that has a seasonal high groundwater table less than 2 feet from the surface.

3.2.a.11. Land that has less than 6 inches of soil over bedrock or an impervious pan.

3.2.a.12. Land containing soil with surface permeability of less than 0.6 inches/hour or greater than 6 inches/hour.

3.2.b. No person or entity shall be allowed to apply sewage sludge to land in a manner that will result in exceeding the maximum soil concentration for arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc, as listed in Table 3 of this rule and the soil testing requirements of this rule. The director is authorized until December 31, 1999 to issue variances to this subdivision to allow land application to soils which exceed the maximum soil concentrations of metals listed in Table 3 where soil analyses demonstrate that other soil factors, including but not limited to, soil pH, cation exchange capacity, organic matter content, or clay content, will limit mobility and availability of the metals. No later than June 30, 1999, the director shall propose revisions to Table 3 to adequately protect soil quality, human health and the environment.

3.2.b.1. The director shall assign an individual and lifetime loading rate for each land application site by considering background soil concentrations and maximum allowable pollutant concentrations as per Table 1 and per Table 3 of this rule.

3.2.b.2. If circumstances at sewage sludge processing facilities result in short term excursions of Table 1 criteria, the director may develop temporary loading rates, for a period not to exceed six months, based on the provisional limitations of Table 2 of this rule.

3.2.c. No land, ~~except a solid waste facility~~, person shall be allowed to ~~accept or store~~ land apply so much sewage sludge as to exceed the agronomic rate for that land or a rate of fifteen dry tons per acre per year, whichever is less: Provided, That up to twenty-five dry tons per acre per year may be applied in the reclamation of surface mine land.

3.2.d. No person shall be allowed to store sewage sludge at a land application site for a period longer than one week; except storage shall be allowed for no longer than three months where provisions, approved by the chief of the Office of Water Resources of the Division, have been made to prevent leachate runoff into surface or groundwater. Septage storage shall only be allowed in-tank and for no more than three days, or as otherwise authorized by the chief of the Office of Water Resources of the Division.

3.2.e. No person shall be allowed to land apply sludge except during the hours of daylight.

3.3. Sewage Sludge Processing Facility Operational and Design Requirements.

3.3.a. Sewage sludge processing facilities must adhere to the following requirements:

3.3.a.1. Areas used for processing, curing and storage of raw materials,

intermediate and final products, loading and unloading areas, impoundments, pipelines, ditches, pumps and drums, sumps and tanks, must be designed, constructed and operated to prevent release of contaminants to the groundwater and surface water. Storage of finished products from the facility shall be limited to one year.

3.3.a.2. The facility must be designed and operated to control vectors and odors.

3.3.a.3. The facility must not be operated or constructed within the one hundred year flood plain unless provisions have been made to prevent the encroachment of flood waters upon the facility.

3.3.a.4. All land areas within the boundaries of a sewage sludge processing facility upon which sewage sludge, intermediate or final products come in direct contact with the land surface must be protected in accordance with the Groundwater Protection Act, W. Va. Code §22-12-1 et seq., and the rules promulgated thereunder.

3.3.b. Any person operating a sewage sludge processing facility shall provide off-site odor monitoring in accordance with the Division of Environmental Protection, Office of Air Quality legislative rule 45CSR4; Provided that the frequency of odor monitoring shall be quarterly or as otherwise specified by the director.

#### 3.4. Leachate Management Requirements.

3.4.a. Any liquid which comes in contact with sewage sludge at a sewage sludge processing facility must be handled as leachate and is subject to the requirements of W. Va. Code §§22-11 and 12, and the rules promulgated thereunder.

#### 3.5. Storm Water Requirements.

3.5.a. Storm water drainage must be directed around and away from the operating area. All storm water must be collected and discharged in compliance with State Water Quality Standards and the permit issued by the Office of Water Resources of the Division.

#### 3.6. Landfill Disposal of Sewage Sludge.

3.6.a. Sewage sludge disposed at in a landfill shall contain at least twenty percent (20%) solids by weight. This requirement may be met by adding or blending sand, sawdust, lime, or soil, or other materials that have been approved by the director prior to disposal. Alternative sludge disposal methods can be utilized upon obtaining prior written approval from the chief.

~~3.5.a.~~ 3.6.b. Sewage sludge may not represent more than twenty-five percent (25%) by weight of the total weight of waste disposed of at the landfill on any working day.

3.6.c. No facility may accept for landfilling in any month sewage sludge in excess of twenty-five percent (25%) of the total tons of solid waste accepted at the facility for landfilling in the preceding month.

3.6.d. Sewage sludge shall not be used as daily cover by a landfill.

#### §33-2-4. Permits Required.

##### 4.1. Applicability.

4.1.a. No person may construct or operate a sewage sludge processing facility (including mixed waste composting facilities which utilize sewage sludge) or a commercial solid waste facility which processes or handles sewage sludge or materials derived from sewage sludge without first obtaining a solid waste facility permit; Provided, That land upon which sewage sludge is applied is not a solid waste facility.

4.1.b. On and after the effective date of this rule, all permitted facilities shall submit an application to modify such permit.

4.1.c. No person may land apply sewage sludge without first obtaining a land application permit; Provided, That land application permit requirements may be incorporated into a modification of a facility's WV/NPDES permit required under W. Va. Code §22-11-1 et seq.

4.1.d. For those publicly owned treatment works (POTW's) which produce sewage sludge and are regulated by the Division pursuant to a water pollution control permit including a West Virginia national pollutant discharge elimination system WV/NPDES permit required under W. Va. Code §22-11-1 et seq. a sewage sludge processing facility modification will be obtained by the applicant as a part of the existing WV/NPDES permit and shall include a sewage sludge management plan approved by the ~~chief of the Office of Water Resources of the Division~~ director. Upon approval by the director, POTWs may accept sewage sludge from other POTWs on a cost-sharing or non-profit basis under its WV/NPDES permit without being considered a commercial solid waste facility.

4.1.e. Facilities which are surface disposal sites as defined in 40CFR503, Subpart C, are hereby defined as "landfills" and must meet all requirements of 33CSR1 applicable to landfills.

4.1.f. Permits issued under subdivision 4.1.a of this rule, shall be subject to the provisions of 33CSR1, section 3 (excluding the provisions for liner requirements) and the closure requirements of 33CSR1, section 6.

4.1.g. Permits issued under subdivision 4.1.d. of this rule, shall be subject to the permit issuance procedures, procedures for permit modifications, suspension and revocation, procedures for transfer of permits, and the procedures for permit appeals of 47CSR10 and

are not subject to the procedures outlined in subdivisions 4.1.e, 4.1.f and 4.1.h of this rule.

4.1.h. Permits issued under subdivision 4.1.e of this rule, shall be subject to the procedures of 33CSR1 section 3 and the closure requirements of 33CSR1 section 6.

4.1.i. Permits issued under subdivision 4.1.c of this rule except for land application modifications made in WV/NPDES permits under subdivision 4.1.d of this rule shall be subject to the permit issuance procedures (subsections 3.17 through 3.29 inclusive) of 33CSR1 and are not subject to the procedures outlined in subdivisions 4.1.e, 4.1.f and 4.1.g of this rule.

4.2. General, Processing Facility, and Land Application Permit Requirements. -- Persons required to obtain a permit pursuant to this rule must provide the following information, in the form and manner prescribed by the chief of the Office of Waste Management or the Office of Water Resources of the Division as appropriate. The form may require information in addition to that required by this subsection.

4.2.a. Permit Application General Requirements. -- All applicants must provide the following information:

4.2.a.1. The name, address, and location of the facility;

4.2.a.2. A description of the activities conducted or to be conducted by the applicant;

4.2.a.3. The operator's and owner's name, address, telephone number, ownership status, and status as a federal, state, private, public or other entity;

4.2.a.4. Other environmental permits issued by any local, state or federal agency;

4.2.a.5. A description of the specific source(s) of sewage sludge;

4.2.a.6. The amount of sewage sludge actually generated ~~or imported,~~ processed, land applied, or disposed;

4.2.a.7. The content of heavy metals, pathogens, toxins or vectors and moisture (percent solids) present in the sewage sludge;

4.2.a.8. Each location that the sewage sludge is stored, land applied or otherwise disposed of; the amount so stored, land applied or otherwise disposed of; and the capacity of that location to accept sewage sludge;

4.2.a.9. Information relative to the quality of the sewage sludge(s) or product(s) derived from sewage sludge as required by 40CFR503, and

4.2.a.10. A detailed design and a description of the method to collect and control leachate and surface water runoff, including the method for treatment and disposal of leachate generated.

4.2.b. Sewage Sludge Processing Facility Permit Requirements. -- All applicants for permits for sewage sludge processing facilities, except facilities located at the site where sewage sludge is generated, must submit the following additional information:

4.2.b.1. An engineering report to construct must contain, at a minimum, the following:

4.2.b.1.A. A regional map, or maps, (of appropriate scale) that delineate the entire service area of the proposed facility (both existing and proposed); existing and proposed collection, processing, and disposal operations; the location of the closest population centers; and the transportation systems including highways, airports, railways and waterways;

4.2.b.1.B. A vicinity map (minimum scale of 1"=2000') that delineates the area within one mile of the facility boundaries, zoning and land use, residences, potable water supplies, surface waters, access roads, bridges, railroads, airports, historic sites, and other existing and proposed man-made or natural features relating to the project;

4.2.b.1.C. A site plan (minimum scale of 1"=200' with five foot contour intervals) that delineates property boundaries, the location of existing and proposed soil boring, monitoring wells, buildings and appurtenances, fences, gates, roads, parking areas, drainage, culverts, storage facilities or areas, loading areas; existing and proposed elevation contours and direction of prevailing winds; and the location of residences, potable wells, surface water bodies, and drainage swales located within the site and in the site plan area; and

4.2.b.1.D. A map indicating wetlands and flood plains within 1,000 feet of the site, if any.

4.2.b.2. A description of the operation of the facility, detailed engineering plans and specifications for the entire facility, must be submitted by the applicant including at a minimum:

4.2.b.2.A. A schedule of operation, including the days and hours that the facility will be open, preparations before opening, and procedures followed after closing for the day;

4.2.b.2.B. Anticipated daily traffic flow to and from the facility, including the number of trips by private or public collection vehicles, and the quantity of material contained in each vehicle;

4.2.b.2.C. The procedure for unloading trucks (including frequency, rate, and method);

4.2.b.2.D. Special precautions or procedures for operation during wind, heavy rain, snow, and freezing conditions;

4.2.b.2.E. A description of the ultimate use for the finished compost or other product, a marketing plan for the finished compost, method for removal from the site, and a plan for use or disposal of those finished products that cannot be used in the expected manner due to poor quality or change in market conditions;

4.2.b.2.F. A (description) copy of the label or other information source, by the distributor, that outlines the type of waste the compost product was derived from, a list of any restrictions on use, and recommended safe uses and application rates;

4.2.b.2.G. Identification of the personnel required to operate and maintain the facility and their job descriptions/ responsibilities;

4.2.b.2.H. A detailed description of the source, and anticipated quality, and quantity of any bulking agent to be used in the process; and

4.2.b.2.I. A detailed description of the quantity, quality and specific source of the sewage sludge received or anticipated to be received.

4.2.b.3. The permit application must contain an operating engineering report which must include, at a minimum, the following:

4.2.b.3.A. Detailed engineering plans and specifications for the entire sewage sludge processing facility, including manufacturer's performance data for the selected equipment;

4.2.b.3.B. Contingency plans detailing corrective (or remedial) action to be taken in the event of equipment breakdown; air

pollution (odors); unacceptable waste delivered to the facility; groundwater contamination; spills; and undesirable conditions such as fires, dust, noise, vectors, lack of a market for the compost product and unusual traffic conditions; and

4.2.b.3.C. An Operation and Maintenance Manual. -- The manual must contain general design information, detailed operational information and instructions. In addition, the manual must list the specific procedures used or to be used in monitoring, sampling and analyzing sewage sludge and the finished product, and record keeping requirements.

4.2.b.4. A description of the design of the facility, including:

4.2.b.4.A. The type, size, and associated detention times of equipment used in the handling, processing, and storage of sewage sludge;

4.2.b.4.B. The method of measuring, shredding, mixing, and proportioning input materials;

4.2.b.4.C. A description and sizing of the storage facilities for amendment, bulking agent, and finished product;

4.2.b.4.D. The separation, processing, storage, and ultimate disposal of materials that cannot be composted, if applicable;

4.2.b.4.E. The location of all temperature and any other type of monitoring points, and the frequency of monitoring;

4.2.b.4.F. A process flow diagram of the entire process, including all major equipment and flow streams. The flow streams must indicate the quantity of material on a wet weight, dry weight, and volumetric basis;

4.2.b.4.G. The aeration capacity of the system;

4.2.b.4.H. The method of supplying and regulating airflow;

4.2.b.4.I. The expected mass balance through the composting system;

4.2.b.4.J. A description of how the (temperature) monitoring equipment will ensure that facility qualifies as a process to further reduce pathogens, toxins, heavy metals and/or vectors; and

4.2.b.4.K. ~~If applicable, a~~ A description of the air emission collection and control technologies.

4.2.b.5. A description of existing and potential land-use of the area within one mile of the facility.

4.2.b.6. A certified copy of any municipal or county zoning restrictions, if applicable.

4.2.c. Land Application Permit Requirement. -- Persons performing land application of sewage sludge or materials derived from sewage sludge must submit the following information to the chief of the Office of Water Resources of the Division in addition to that required under subdivision 4.2.a. of this rule:

4.2.c.1. Soil analysis for all land application sites including but not limited to pH, potassium, phosphorus, nitrogen, all metals listed in Table 1 of this rule and any additional chemical analysis required by the director;

4.2.c.2. Information relative to the nitrogen content of the sludge(s) or product(s) derived from sewage sludge to be land applied;

4.2.c.3. A soils map with application sites clearly defined;

4.2.c.4. An agreement between the preparer of sewage sludge(s) or material(s) derived from sewage sludge, the applier, and the owner of the land application site indicating each party's concurrence with the application, and certifying that each will comply with applicable requirements of 40CFR503. and this rule;

4.2.c.5. A description of existing and future uses of the land application site;

4.2.c.6. Information relative to past application(s) of sewage sludge or material(s) derived from sewage sludge as necessary to comply with section 40CFR503.12 and this rule;

4.2.c.7. Information relative to past fertilizer applications to the site;

4.2.c.8. In addition to the chemical analyses required in subdivision 4.2.a of this rule, any additional chemical analyses of sewage sludge(s) or material(s) derived from sewage sludge, requested by the chief of the Office of Water Resources of the Division, including, but not limited to sodium, chloride, fluoride, calcium and sulfates;

4.2.c.9. A description of the methods to be used for land application;

4.2.c.10. A description of the methods for transportation of sludge to the site;

4.2.c.11. ~~For sewage sludge or material derived from sewage sludge, which has been imported, a~~ A copy of the POTW's NPDES permit for the POTW from which the sludge or material originated;

4.2.c.12. ~~For sewage sludge or material derived from sewage sludge, which has been imported, I~~ Information relative to the significant industrial users of the POTW from which the sludge or material originated;

4.2.c.13. ~~For sewage sludge or material derived from sewage sludge, which has been imported, a~~ A description of the methods

by which pathogen control and vector attraction reduction are being achieved; and

4.2.c.14. A description of the methods to be utilized to adjust and maintain the soil to a minimum pH of 6.2 for at least 5 years from the date of application.

**§33-1-5. General, Processing Facility, and Land Application Permit Requirements.**

5.1. Permit General Requirements. -- All permits issued pursuant to this rule shall contain the following:

5.1.a. Any requirement of 40CFR503, including but not limited to:

5.1.a.1. Limitations on the concentrations of pollutants (heavy metals), toxins, vectors and pathogens in the sewage sludge or sewage sludge products;

5.1.a.2. Requirements relative to monitoring sewage sludge and sewage sludge product quality and reporting the results of those analyses for pH, percent solids, organic nitrogen, potassium, phosphorus, calcium, magnesium, total nitrogen, ammonia nitrogen, pathogen test results, vector attraction verification; and all heavy metals listed in Table 1 of this rule except that the frequency of monitoring shall be as described in Appendix A of this rule;

5.1.a.3. Requirements relative to reporting and certification;

5.1.a.4. Requirement to pay fees as identified in section 6 of this rule;

5.1.a.5. Requirements for the proper collection, control and disposal of leachate and stormwater runoff for the protection of groundwater, and surface waters, and potable waters in the area;

5.1.a.6. Requirements to retain records for the facility for a minimum of five years;

5.1.a.7. Requirements to monitor and report monthly to the Division the specific source and quantity of sewage sludge ~~produced or imported and the specific source of the sewage sludge produced or imported~~ generated, treated, stored, processed, composted, disposed, or placed;

5.1.a.8. Requirements not to exceed a commercial solid waste facility's tonnage limits, where applicable;

5.1.a.9. Requirements to provide copies of monthly reports to the county or regional solid waste authority in which the facility or land application site(s) is located;

5.1.a.10. Any other requirements, including additional monitoring, determined to be necessary by the director to insure compliance with state and federal regulations;

5.2. Processing Facility Permit Requirements. --In addition to the requirements of subsection 5.1. of this rule, any solid waste facility permit issued to a sewage sludge processing facility, pursuant to this rule, must contain the following:

5.2.a. Operational requirements relative to pathogen control in accordance with 40CFR503.32. and its Appendix B;

5.2.b. Operational requirements relative to vector attraction reduction in accordance with 40CFR503.33;

5.2.c. Requirements to routinely monitor and report information relative to the quality of raw materials used in the sewage sludge processing facility including but not limited to: sewage sludge, bulking agents, and kiln dust; except that the frequency of monitoring shall be as described in Appendix A of this rule;

5.2.d. Limitations for the pollutant concentrations of the end product of the sewage sludge processing facility;

5.2.e. Labeling requirements as per 40CFR503.14.e, if applicable;

5.2.f. Requirements for the implementation of practices to prevent the contamination of ground and surface waters, including liners if necessary; ~~and~~

5.2.g. For commercial sewage sludge processing facilities, requirements for reporting in accordance with 33CSR1 subsection 4.12.; and

5.2.h. Requirements for the implementation of practices to protect air quality in the area around the facility.

5.3. Land Application Permit Requirements. -- In addition to the requirements of subsection 5.1 of this rule, any land application permit issued pursuant to this rule shall contain the following:

5.3.a. Requirements delineating the sites for which land application is approved;

5.3.b. Limitations on the maximum amount of sewage sludge allowed to be land applied;

5.3.c. Requirements implementing the siting restrictions and location standards of subsection 3.2 of this rule;

5.3.d. Requirements limiting the types of crops that may be grown on land used for application of sewage sludge and the time between application of sewage sludge and the harvesting of crops, in accordance with 40CFR503.32.(b);

5.3.e. Restrictions on animal grazing and public access, in accordance with 40CFR503.32.(b);

5.3.f. Applicable vector attraction reduction requirements of 40CFR503.33; and

5.3.g. Applicable pathogen reduction requirements of 40CFR503.32 and its Appendix B.

### **§33-1-6. Fee and Bonding Requirements.**

6.1. Applicability. -- Any producer ~~or importer~~ processor, or transporter of sewage sludge for land application shall be subject to non-refundable fees, as described herein, which shall be used to cover the costs of the sewage sludge management program. The fees established herein in subdivisions 6.4.a and 6.4.b of this rule shall be assessed on forms prescribed by the chief of the Office of Water Resources of the Division and shall be paid to said chief quarterly.

6.2. Water Quality Management Fund. -- Fees collected for land application shall be deposited in the special revenue fund designated the "Water Quality Management Fund" established under the provisions of W. Va. Code §22-11-10 except as otherwise specified herein.

6.3. Bonding. -- The director may require a surety bond, deposit or similar instrument in an amount sufficient to cover the cost of future environmental remediation from producers ~~and importers~~ processors, or transporters of sewage sludge.

#### 6.4. Fee Assessments.

6.4.a. Producers ~~and importers~~ processors, or transporters of sewage sludge or material derived from sewage sludge for land application shall be assessed a sewage sludge management program fee calculated as \$5.00 per actual ton of sludge times the proportion of solids in the sludge for sludge with maximum metals concentrations not exceeding those listed in Table 1 of this rule.

6.4.b. All sewage sludge placed in, ~~or upon~~, or used in a landfill disposal cell by a solid waste facility ~~or processed or handled~~, ~~pursuant to a permit issued by the Division~~, shall be subject to the same tipping and other fees as levied on the disposal of solid waste

under W. Va. Code §22; Provided, That no such fees, excepting assessment fees required by this subdivision, shall be levied upon the application of sewage sludge to land outside a solid waste facility in accordance with the statute and this rule.

6.4.c. Fees generated pursuant to subdivision 6.4.a. shall be reviewed periodically by the director and shall be adjusted as necessary to assure that total collections shall not exceed \$200,000 per year.

## APPENDIX A

## FREQUENCY OF MONITORING

AMOUNT OF SEWAGE SLUDGE RECEIVED FREQUENCY (actual dry tons per 365 day period)	OF MONITORING
Greater than zero but less than 290 .....	once every 6 months
Equal to or greater than 290 but less than 1,500 .....	once per quarter (4 times per year)
Equal to or greater than 1,500 but less than 15,000 .....	once per month (12 times per year)
Equal to or greater than 15,000 .....	once per week

**TABLE 1**  
**MAXIMUM CONCENTRATION OF METALS IN SEWAGE SLUDGE**  
**FOR LAND APPLICATION**

Metal	Concentration (mg/kg)
Arsenic .....	41
Cadmium .....	10
Chromium .....	1000
Copper .....	1000
Lead .....	250
Mercury .....	10
Molybdenum .....	18
Nickel .....	200
Selenium .....	36
Zinc .....	2500

**TABLE 2**  
**PROVISIONAL MAXIMUM CONCENTRATION OF METALS IN SEWAGE SLUDGE**  
**FOR PRODUCERS NOT MEETING TABLE 1 CRITERIA**

Metal	Concentration (mg/kg)
Arsenic .....	75
Cadmium .....	85
Chromium .....	3000
Copper .....	4300
Lead .....	840
Mercury .....	57
Molybdenum .....	75
Nickel .....	420
Selenium .....	100
Zinc .....	7500

**TABLE 3**  
**MAXIMUM ALLOWABLE SOIL CONCENTRATIONS**

Metal	Concentration (mg/kg)
Arsenic .....	18.0
Cadmium .....	5.0
Chromium .....	300.0
Copper .....	300.0
Lead .....	70.0
Mercury .....	2.0
Molybdenum .....	4.0
Nickel .....	74.0
Selenium .....	7.0
Zinc .....	500.0



**COMMENTS, RESPONSES TO COMMENTS  
AND REASONS FOR THE AMENDMENTS**

The various comments received were made by the following:

Mr. Robert Diener, P.E., Professor of Resource Management, West Virginia University

Mr. Tom Degen, representing the Calhoun, Kanawha, Tyler and Wetzel Solid Waste Authorities; and the West Virginia Environmental Council.

The various comments received and the agency's responses are listed below:

**Comment:** That the provisions of 33CSR2, subdivision 3.3.b, in reference to "odor control" and the use of the DEP Office of Air Quality legislative rule, 45CSR4 by reference will be ineffective, and the commentor recommended the Massachusetts DEP "Draft Odor Policy" for adoption.

**Response:** The agency disagrees. The DEP did not deem a two year old draft policy from Massachusetts as an adequate technical basis for developing our state's rules. Instead, the DEP chose to address the promulgation of odor monitoring for this rule by incorporating an existing odor rule (45CSR4. This places sewage sludge processing facilities under the same odor monitoring and control requirements as any other facility in the state which may produce an objectionable odor. In this way, all facilities are subject to the same regulation. The DEP concluded that the incorporation of the existing air quality rule into this rule was the most fair and equitable approach.

**Comment:** That minor editorial comments should be made to 33CSR2, subsections 2.9, 2.41 and 2.42.

**Response:** The agency agrees, and made changes based upon the comment.

7-20-98

TO WV DEP OIAQ, FAX 5383287  
 ATTN- APPROPRIATE STAFF

WV DEP OWM FAX 5384530  
 ATTN- WM RHEINLANDER

FROM DR ROBERT G. DIENER PE  
 PROFESSOR OF RESOURCE MGT WVU MORGANTOWN

SUBJECT PROPOSED ODOR RULE FOR SLUDGE COMPOST FACILITIES IN WV.

The ODOR RULE (TITLE 45 SERIES 4 - "To Prevent and Control the Discharge ----") proposed by WV DEP is entirely inadequate given the complex nature of fugitive odor emission from compost facilities and recent advances in odor measurement technology.

Techniques used today sample odorous air in Tedlar bags using a specialty vacuum device. Bags are then flown to locations where panels determine the D/T (dilution to threshold) value. This is the number of dilutions (plus one) of the original sample to where half the panel can detect the odor.

In order to protect the public from fugitive odors moving off-site the USEPA has developed an AIR DISPERSION MODELING PROGRAM (ISCST3). This program sets odor limits at the most sensitive off-site

location at D/T levels of 3 to 5 which is essentially undetectable. By back-calculating from this point using 1) sample averaging time 2) topographical site data and 3) meteorological data, the D/T required across the BIOFILTER or SCRUBBER can be determined.

Frequently D/T levels across are calculated to be 30 to 60, and are site specific. This is the only way to protect the public because it makes the facility performance-based based on off-site limits.

This modeling need not be expensive since topographical and meteorological data can be down-loaded from existing data bases.

The State of Massachusetts has developed an odor rule, (DRAFT ODOR POLICY, DOCUMENT #2 January 1996) using this DISPERSION MODELING which is considered a success. I have discussed this rule and its applications, at length, with its developer, Thomas Mahin, Section Chief, Massachusetts DEP, Woburn MA. He would be willing to come to WV to present a seminar on how this rule operates and how we could implement such a procedure for WVa.

I recommend that we adapt an ODOR RULE for WV based strongly on the one developed in Massachusetts!

## COMPARING A NEW ODOR POLICY TO PERMIT CONDITIONS AT A MASSACHUSETTS COMPOSTING FACILITY

**T**HE MASSACHUSETTS Department of Environmental Protection (DEP) has developed a draft Composting Odor Policy and Technical Guidance (see "Odor Policy for Composting Facilities," *BioCycle*, December, 1995). The odor policy will become final at the same time as DEP's composting facility regulations, which are anticipated to become final in the spring of 1997. A municipal solid waste/biosolids co-composting plant in Marlborough, Massachusetts is the first project that had to follow the new odor policy (see accompanying article). The following analysis compares the odor policy to selected permit conditions for the Marlborough project.

**Loading Rate:** The design loading rate to the biofilter is 2.5 cubic feet per minute/square foot (cfm/sq ft) with all cells of the biofilter operating. This loading is consistent with the odor policy which states that loadings to biofilters shall not exceed 3.0 cfm/sq ft. The maximum loading rate to the biofilter allowed by the permit (when two of the five cells are down for repair and media depth is 32 inches) is 4.2 cfm/sq ft.

**Biofilter Surface Emissions:** The odor emissions limit at the surface of the biofilter is 50 dilutions to threshold (D/T). This is the same as the odor policy which states that emissions from biofilters should be assumed to be no less than 50 D/T.

*note*  
**Odor Sampling:** The permit states that "during the first year of operation, samples of the air from the biofilter shall be subjected to odor panel analysis monthly to determine compliance with the 50 (D/T) emissions standard. After the first year of operation and upon request from the ... (facility), DEP will evaluate a reduction in the frequency of analysis."

The odor policy requires that facilities have odor emissions sources sampled and analyzed for D/T levels twice per year or at a frequency determined by DEP. The site in question had a previous history of odor complaints. Conducting odor sampling at a frequency other than twice per year on a case-by-case basis is consistent with the odor policy.

**Dispersion Model And Maximum Off-Site Impact:** The ISCST3 air dispersion model was used, as required by the odor policy. The model was

run in a "rural" setting and adjusted for building downwash effects. Hourly meteorological data was obtained from two airports — one providing surface conditions and the other upper air conditions.

The maximum off-site impact as predicted by dispersion modeling is 3 D/T, which meets the odor policy requirement of no impacts greater than 5 D/T.

**Averaging Time:** When used for predicting odors, the ISCST model predicts the odor (D/T) impact levels at various locations on and off the composting facility site. These results are considered by many (but not all) in the field of odor dispersion modeling to represent the average odor levels over a 60 minute time period.

Therefore, the maximum D/T level predicted off-site also can be considered to be an odor level averaged over 60 minutes at the most highly impacted location. Such a 60 minute impact may occur infrequently or frequently at any given location depending on local meteorology and other factors. The consultant for this project also addressed the issue of whether a 60 minute averaging time might miss some odor nuisance events. Such a situation could occur if peak odor levels lasting, for example, for 10 to 15 minutes were high enough to create nuisance levels even though the overall 60 minute average odor level is predicted to be at a non-nuisance level. The more frequently such conditions are predicted to occur, the more concern there would be.

Based on studies of peak odor incidents and their correlation to odor complaints, the project developer's consultant used an adjustment factor to convert the 60 minute averaging time impacts predicted by the model to 10 minute average levels. This was done by multiplying (increasing) the impacts predicted by the model by a factor of 1.82 (which resulted in the predicted peak off-site impact of 3 D/T).

The formula normally used to convert from 60 minute average impacts to 10 minute average impacts will yield different conversion factors depending on whether the odor emissions point is from a stack such as the Marlborough facility (where the biofilter will be enclosed) or from a ground

level source such as an unenclosed biofilter. The conversion from 60 minutes averaging time to 10 minutes averaging time for an unenclosed biofilter would be expected to be a factor of about 1.43 (as opposed to 1.89 for the stack at Marlborough). This is because ground level sources such as biofilters generally create the greatest odor impact under stable atmospheric conditions. The difference between 10 minute or 15 minute and 60 minute impacts is not as great for ground level emission sources because there is less variability under stable meteorological conditions. The odor policy does not specify averaging time; instead, it will be addressed on a case-by-case basis.

**Property Line and General Nuisance:** Per the odor policy, the permit requires that "the facility shall be operated at all times in such a manner as to prevent odors in excess of 5.0 D/T at the property line." In addition, the permit — as stated in the odor policy — requires that "the facility shall be operated in a manner to prevent the occurrence of dust or odor conditions which cause or contribute to a condition of air pollution as defined in Regulation 310 CMR 7.09."

**Maximum Back Pressure:** The maximum back pressure of the biofilter is eight inches of water, as allowed by the permit; however, when the back pressure reaches six inches of water, facility personnel are required to take corrective action (stiff or lift the biofilter media). This requirement is design specific and therefore is not directly addressed by the odor policy.

**Selected Monitoring Requirements:** The back pressure at the inlet of the biofilter has to be monitored daily. The following has to be monitored weekly: Total VOC removal as measured by a portable organic vapor meter; moisture in the biofilter; and depth of the biofilter.

—Thomas Mahin

Tom Mahin is a section chief at with the Massachusetts Department of Environmental Protection's Northeast Regional Office. For a copy of the DEP's odor policy (including the technical guidance document), contact the author at Massachusetts DEP, 10 Commerce Way, Woburn, MA 01801. tmahin@state.ma.us.

## TOM DEGEN

HC-75 Box 324 • Chloe, WV 25235 • phone/fax (304) 655-8651

Date: July 19, 1998,

To: William Rheinlander

Re: Proposed Sewage Sludge Management Rule, 33 CSR 2

I appreciate the opportunity to comment on this rule. For the most part, the changes in the rule are confined to those that implement changes in language and definitions in SB 178, which is commendable.

However, there is one notable problem. SB 178 mandated the DEP to promulgate a rule for odor control. The exact language is:

(q) All persons operating a sewage sludge processing facility shall provide off-site odor monitoring or testing mechanisms, approved by the director. The director *shall* [emphasis added] promulgate emergency rules and propose legislative rules for legislative promulgation, rules specifying the nature and type of odor monitoring or testing which will be approved or how to obtain approval for proposed odor monitoring or testing; the areas where the monitoring or testing should occur; the frequency of monitoring or testing which shall be no less than semiannually or as otherwise ordered by the director and any other conditions necessary to effectuate the purposes of this subsection. [§22-15-20(q)]

The agency did not promulgate any rule on odor. Instead, it included the following sentence in the proposed sewage sludge rule:

Any person operating a sewage sludge processing facility shall provide off-site odor monitoring in accordance with the Division of Environmental Protection, Office of Air Quality legislative rule 45CSR4; Provided, that the frequency of odor monitoring shall be quarterly or as otherwise specified by the director. [33CSR2, section 3.3.b.]

The problem is that 45CSR4, which is entitled "To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors" is the two page rule that has been in effect since 1967 and was completely ineffective in dealing with the tremendous odor problems at Mascaro's Brooke County sewage sludge facility. It was the ineffectiveness of this rule that resulted in the common law case [Civil Action No. 96-C-11] that shut the facility down by court order. The facility has been allowed to operate since that time because of an agreed order that implements the latest odor control technology protocols.

The DEP knows of the case, the agreed order, the odor control technology protocols currently in use at that facility, and the Massachusetts rule from which they were

TOM DEGEN

HC-75 Box 324 • Chloe, WV 25235 • phone/fax (304) 655-8651

Date: July 19, 1998

To: William Rheinlander, Public Information Officer, Office of Waste Management

Re: Proposed Sewage Sludge Management Rule, 33 CSR 2

**Technical Correction Sheet for  
33CSR2 Sewage Sludge Management Rule**

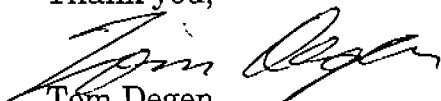
Page 2, Section 2.9: After the words "land upon which" insert the word "finished."  
This will make the language consistent with §22-15-2.(11).

Page 5, Section 2.41: In the second line, after the words "system, facility, land"  
insert a comma. This will make the language consistent with §22-15-2.(34).

Page 5, Section 2.42: In the second line, after the words "any person or persons"  
replace the word "processing" with the word "possessing." This will make the language  
consistent with §22-15-2.(35).

Please note that I have attached to this comment the Draft Odor Policy from the  
Commonwealth of Massachusetts. This document should prove valuable in  
developing an odor control rule that will protect both communities and facilities.

Thank you,

  
Tom Degen



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ONE WINTER STREET, BOSTON MA 02108 (617) 292-5500

WILLIAM F. WELD  
Governor

ARGEO PAUL CELLUCCI  
Lt. Governor

TRUDY COXE  
Secretary

DAVID B. STRUHS  
Commissioner

## COMPOST FACILITY REGULATIONS: PUBLIC COMMENT DRAFT

DOCUMENT # 2

DRAFT ODOR POLICY

January 1996

COMPOSTING ODOR POLICY

**APPLICABILITY:** This policy was prepared primarily for biosolids (sludge) and municipal (non-yard waste) solid waste composting facilities but the Department may use the policy on a case by case basis for yard waste composting odors and other odors as appropriate.

The intent of this document is to provide consistency and guidance in the complex area of odor control and evaluation at composting operations. Nothing contained herein should be construed as prohibiting further requirements or review as deemed appropriate on a case by case basis. Further, nothing in this policy should be construed as allowing a condition of air pollution (odor nuisance) as defined in 310 CMR 7.00 "Air Pollution Control Regulations". Additional methods and guidelines are outlined in the "Supplemental Guidance Document", attached.

1. **PROPOSED (NEW) SOURCES:** Experience has shown that the need for odor control is the rule rather than the exception at biosolids and municipal solid waste composting facilities. Therefore, except as outlined in item #4 below, proposed (new) non-yard waste composting facilities must:
  - A. Include air pollution control for all emissions from active composting operations and analyze whether other sources (general building ventilation air, mixing area, curing piles, etc.) need controls. Any odor control treatment systems should be designed consistent with the attached "Supplemental Document". The level of control, BACT, shall include all reasonable practices to reduce/minimize odors and add-on controls as determined by a BACT analysis (see definition of BACT, item #3).
  - B. Demonstrate through Department approved air dispersion modeling that any odors emitted will not result in a predicted off-site nuisance odor condition. All composting odors, all odors from non-composting operations at the site (i.e. wastewater treatment unit processes) that are generated at sufficient levels to cause off-site nuisance conditions and all residual odors remaining after controls should be included as inputs to the model.

3. **BACT (Best Available Control Technology)** is an emission limit based on the maximum degree of reduction of an air contaminant emitted from a facility which the Department, on a case-by-case basis taking into account energy, environmental, economic impacts and other costs, determines is achievable through application of production processes and available methods, systems and techniques for control of such contaminants.

A **BACT analysis** (determining BACT) shall be conducted in a "top-down" manner. All control methods and devices possible must be considered; elimination of specific strategies must be documented on technical, economic or other considerations. Control methods currently and successfully in long-term use at other similar facilities will automatically be considered technically feasible unless substantial documentation to the contrary is provided.

The **minimum** level of air pollution control that will be considered BACT is that level which will not result in a condition of nuisance odors off-site. This criteriaon must be met regardless of the cost such control would entail.

4. **EXEMPTIONS:** The Department recognizes that some sources may not warrant add-on air pollution/odor control devices for reasons such as remote site location. However, the Department has determined that most non-yard waste composting operations do need controls; a position which has been substantiated by numerous experiences with existing facilities. The Department will consider, on a case by case basis, exemptions from the add-on control requirement for new facilities, item #1A, (but not for existing facilities with odor problems), if the proponent can demonstrate a condition of odor will not occur due to the size and location of the facility. Such exemptions will not be considered for facilities in urban areas or very close to residential areas in rural areas. A detailed dispersion modeling analysis and other supporting documentation must be submitted to the Department as part of any such exemption request.

Facilities that receive such an exemption must submit to the Department, for review and approval, a detailed contingency plan. The contingency plan must include a written agreement adequate to ensure that an available alternative disposal, handling, or composting facility exists should odorous conditions necessitate the routing of the compostable material to an alternate facility. The contingency plan must also detail what operation and maintenance steps will be taken to minimize odors at the facility applying for the exemption should nuisance conditions occur.

emissions from treatment systems such as biofilters and chemical scrubbers; areas that are vented without treatment (through fans and stacks or through building ventilation systems) and outside piles and storage areas.

7. **TESTING:** All new non-yard waste composting sources and associated air pollution/odor control equipment should undergo compliance testing either twice per year or at a frequency that the Department determines is sufficient to demonstrate compliance with odor emission limits and/or control efficiencies as contained in any Department approval for the source. Any existing composting operations that the Department determines in writing is likely to be generating off-site odor nuisance conditions may also be required to undergo compliance testing.

Compliance testing should consist of odor panel analysis of samples taken at the points of generation and the analysis should be conducted in accordance with ASTM Method 679-91, unless otherwise approved by the Department. Sampling and analysis should be conducted in accordance with the attached "Supplemental Document". Samples should be taken from the point(s) of generation. In no case should sample storage time exceed 24 hours prior to odor analysis.

If the compliance testing indicates an exceedance of the "back-calculated" emissions limit, the composting facility should at a minimum initiate a preliminary investigation into the reasons for the exceedances. The preliminary investigation should include at a minimum an evaluation of whether odor control system and aeration system components are operating correctly. In addition, a scope of work for tasks related to a more detailed and comprehensive evaluation of the reasons for the exceedances should be submitted (with the preliminary investigation) to the Department for review and approval as soon as possible but in no case later than 30 days from the facility's receipt of the compliance testing results. The scope of work should include an evaluation of whether O&M procedures can be modified to minimize odor generation rates at the facility.

8. **DETERMINATION OF NUISANCE:** Limited testing can not cover all operating conditions and odor level testing includes some inherent variability. Therefore, the Department will also use site visits and will consider other pertinent information (complaints, etc.) when determining whether odor/nuisance conditions exist off-site regardless of emissions compliance test results. The operator should complete a standard form (to be prepared by the Department) for all odor complaints received by the composting facility. Copies of the completed form should be sent to the Department, the local Board of Health, and the complainant.

## II. GENERAL ODOR ANALYSIS PROCEDURES

There are two basic methods of defining odor:

1. By specific compound, for example, hydrogen sulfide. Many studies have been conducted and results published on the odor threshold of various compounds. The available information/studies on the detection thresholds for individual compounds contain a wide range of detection limits (with one to two orders of magnitude difference for some common odorous compounds).
2. By an overall rating of the odor without regard to specific chemicals. The odor from composting, for example, can be derived from hundreds of odorous compounds. The quantifying of an overall odor is sometimes given by the number of dilutions of clean, odor-free air (plus the one volume of odorous air) necessary to reduce the odor to a level at which 50% of a particular panel can detect any odor. Thus, a Dilution to Threshold (D/T) of 5 indicates that any given volume of the odorous air must be diluted with odor-free air of 4 times the volume of odorous air in order to dilute the odorous sample to a level at which 50% of an odor panel can detect any odor from the diluted sample.

Odor can also be rated in terms of its intensity, usually referenced against butanol intensity. D/T and "odor intensity" levels are often reported together since both are usually rated as part of odor panel evaluations. There are advantages and disadvantages to each of these methods but the one common weakness is the fact that the ability to detect odors by people is subject to considerable variability. This is true for both compound specific odor threshold levels and evaluation of overall odors. In addition, odor intensity as measured by butanol intensity (as opposed to D/T levels) is not readily modeled in dispersion models.

Issues relevant to both methods are discussed in more detail below (Sections A and B). Their use/applicability is discussed in Section C below.

In the opinion of the Department, the determination of a nuisance condition resulting from composting odors should not, in the final analysis, be based on specific chemical thresholds. Because of synergistic effects, different levels of sensitivity to odors, and limitations on analytical methods and other factors a nuisance may exist even when specific compounds are found to be below any established thresholds. Nuisance determination should always be a case by case judgement.

**B. Overall Odor Rating (Odor Panel Testing)**

The overall method of odor analysis does not identify individual compounds, but uses a total of all odor detected. Thus, synergistic effects and odors from compounds too obscure or dilute to analytically measure are accounted for in the analysis. The most common overall method is the use of odor panels to determine the Dilutions to Threshold (D/T) level as previously described.

A review of regulations from other states indicates that several states have ambient odor limits based on D/T levels of 7 - 8 D/T. California has a 5 D/T ambient limit (for at least some portions of the state) as well as limits on D/T levels (and certain specific compounds) for emissions from stacks. Agricultural operations are usually exempted by states but one state sets an ambient limit of 127 D/T for such operations. Other literature references cite a D/T of 5 - 10 as the level at which complaints can begin to be expected at many sites.

The Odor Policy Work Group (that includes members from a variety of Divisions and Bureaus within the Department) has met with consultants involved in the evaluation of new composting facilities in the New England area, conducted a phone survey of composting operations around the country, reviewed studies and articles in the literature, and evaluated applicable dispersion modeling results. Based on this review, the Odor Policy Work Group has proposed a design standard of a maximum modeled impact of 5 D/T at the property line (or most sensitive receptor if approved by the Department) to be used as a minimum design standard for emissions from odor control systems at most properly operated composting operations.

The Department may however require as part of facility permitting that the applicant demonstrate compliance with a design standard (as predicted at the property line and/or most sensitive receptor) less than 5 D/T at sites for which the Regional Director of the Department's regional office determines are appropriate due to local meteorology and topography, previous history of chronic odors or intensity/density of local development.

2. The sampling bag should be filled purged with the sample at least once prior to collecting the sample to precondition the sampling line and the interior walls of the sampling bag. The gas should be transferred directly into the sampling bag without going through any potential sources of contamination such as pumps. Samples should be maintained at ambient temperature and contact with direct sunlight should be avoided. Under no circumstances should sample storage exceed 24 hours.
3. Air flow should be regulated at a minimum of 3 liters per minute per sniff port unless otherwise approved in writing by the Department. Therefore, total air flow rate to the olfactometer (that consists of three ports) would be a minimum of 9 liters per minute unless otherwise approved by the Department in writing. During odor panel testing each diluted sample must be presented to the sample with two odor-free blanks (for statistical validation purposes) by using three sniff ports.
4. Odor panels shall consist of a minimum of 6 to 8 individuals preferably comprised of non-smokers and of both genders. Panelists should be screened and trained.
5. All olfactometer parts that come into direct contact with the sample in any way must be chemically inert and non-reactive and must be able to be purged or cleaned quickly.

### III. MODELING PROCEDURES

Modeling protocols must be submitted to the Department for approval. In general, the protocol should follow the recommendations contained in the Department - Bureau of Waste Prevention's Recommended Contents of a Modeling Protocol, dated 6/1/94. These are minimum requirements and specific projects may require further or additional modeling based on the site, initial modeling results or other Department requirements. To highlight:

- Use the EPA approved ISCST model and instruction manual. Use generic worst-case meteorological data. Site specific meteorology can be used for refined analysis if limit is exceeded in screening. Site specific data must first be approved by DAQC modeling branch.
- Incorporate downwash and terrain factors in the model;
- Model all sources simultaneously for total impacts;
- Model using worst-case, short term, peak odor emission rates.
- Acceptable limit (for the purposes of design and compliance testing) is a modeled impact not greater than 5 D/T at the

at some facilities. Air dispersion modeling using reliable data and availability of buffer zones at the site should be used to determine whether curing piles should be located in an enclosed building. Regardless all curing piles should be covered and facilities should be evaluated on a case by case basis to determine whether covering of storage piles is necessary to prevent re-establishment of biological conditions conducive to odor generation. Some facilities will need a dedicated aeration system for curing and possibly even storage piles. All facilities should have, at a minimum, access to an available portable aeration system available for use on curing and/or storage piles.

- F. Storage of finished compost product should be minimized to avoid potential odors and in general should not exceed one year.

#### V. AIR POLLUTION CONTROL TECHNOLOGY GUIDELINES

Based on Department experience, available literature and other information, any analysis for odor or odor control should, at a minimum, be based on the following assumptions/findings:

##### A. Chemical Scrubbers

1. While single stage scrubbers can be effective for ammonia removal, they are not considered to be very effective for the simultaneous removal of both reduced sulfur compounds and ammonia.
2. If wet chemical scrubbing is the odor control technology chosen to remove reduced sulfur compounds, and a first stage scrubber is required for ammonia removal, then a three stage scrubber may be required to optimize reduced sulfur emissions removal and to prevent excessive chlorine emissions. In a three stage system, the first stage is designed for ammonia removal; the second stage for oxidation of reduced sulfur compounds, and the third stage for removal of chlorine carry over from the second stage. The available information points to the need in many cases for the third stage to control chlorine odors and emissions and to allow the operators of the facility to optimize control of reduced sulfur compounds in the second stage.
3. The ammonia removal efficiency of the first stage should be checked to ensure that ammonia does not carry-over into the second stage where it may interfere with the oxidation of odor causing compounds in the second stage.

may be acceptable, depending on the extent of process similarities. Pilot testing may be considered as an alternative in some cases.

The project proponent should clearly state what methodology was used to estimate emission rates used from both controlled and uncontrolled areas. Comparisons of other "similar" facilities must include similarities and differences in HVAC criteria. Emission rates from each area should be adjusted accordingly. All supporting data and assumptions used must be clearly stated.

For the purposes of dispersion modeling of property line/receptor impacts, emissions from biofilters should be assumed to be not less than approximately 50 D/T on average unless adequate info is submitted otherwise, even though some facilities may perform better on an on-going basis.

**Division of Environmental Protection**

Office of Waste Management  
 1356 Hansford St.  
 Charleston, WV 25301

**Public hearing:** Sewage sludge management rule

**Date:** July 20, 1998

**Time:** 7 p.m.

Name	Address	Would you like to comment?
Richard P. Cooke	DEP/OWM/SWMS	No
LARRY S. ATHA	DEP/OWM/SWMS	No
PAT & BONNIE	1321 B Quarrain St. Chas 25301	NO
Tom Allen	P.O. Box 83 Chas 25335	YES
Cynthia Albert	Depont Belle Mt	Yes

# Sludge Management Rule Hearing

July 20, 1998

*{Recording medium was in poor condition and extremely difficult to transcribe accurately}*

**Bill Rheinlander:** Good evening, my name is Bill Rheinlander. I'm with the Office of Waste Management of the Division of Environmental Protection. Also here from the DEP is Dick Cook from the Solid Waste Management Section and Larry Atha with the Solid Waste Management Section, and James Summers from the [inaudible]. The purpose of this meeting is to provide citizens with an opportunity to comment on proposed changes to the Sewage Sludge Management Rule. The proposed changes resulted from passage of Senate Bill 178, a law the legislature enacted during the 1998 (sic) session to bring state laws into compliance with the final ruling of United States District Court Judge Frederick Stamp in *Volero Terrestrial et al. vs. McCoy et al.* Judge Stamp ruled portions of the State's Solid Waste Management and Sewage Sludge Management rules unconstitutional. The meeting was advertised in the Secretary of State's Register, and the DEP also announced it in a state-wide news release. At this time James will give a quick summary of the changes to the rule.

**James Summers:** Changes in the West Virginia Sludge Management Rule are necessary to update this rule with changes mandated by Senate Bill 178. Generally the word "importer" has been deleted and replaced with language such as "generator, producer, processor, land flyer, or transporter."

Requirements for odor monitoring and sewage sludge processing facilities were added, and other changes were made to make the wording of the sewage sludge management rule consistent with the wording of Senate Bill 178. Specifically, the definition of "importer" was deleted from the definition section. New definitions were added to the rule for Class A Solid Waste Facilities, Class B Solid Waste Facilities, Compost, [inaudible] and solid waste facility operators. Changes in the wording were made from definitions of [inaudible] commercial solid waste facility, director of landfill, publicly owned treatment, and solid waste facility. Two new requirements were added regarding the land filling of sewage sludge. These prohibit sewage sludge from being used as daily cover by a landfill and limit the amount of sewage sludge [inaudible] on a monthly basis.

Section 4.1D was modified to specify that a publicly owned treatment works may accept sewage sludge from other publicly owned treatment works on a cost-sharing or non-profit basis without being considered a commercial compost facility. And additional new requirements for sewage sludge processing facilities includes submitting the information on potable water supplies within a one mile radius of the facility, description of surrounding land use, zoning restrictions, and a marketing plan for [inaudible] compost. Permits issued for sewage sludge processing facilities must now contain requirements to protect air quality in and around the facility, and sewage sludge processing facilities must provide quarterly off-site odor monitoring, using techniques approved by the Office of Air Quality. The Office of Air Quality is an

objectionable odor regulation, Title 45, Series 4, was incorporated into [inaudible] so that sewage sludge processing facilities will be required to adhere to the same odor standards as other facilities in the state which may produce objectionable odors. [inaudible] would not repeat Senate Bill 178 maximum tonnage or storage limits into the rule because the statutory requirements were sufficiently clear and [inaudible].

**Rheinlander:** Thank you. We have one person who would like to make a comment.

Tom Degen.

**Tom Degen:** I appreciate the opportunity to comment on this rule. For the most part, the changes in the rule are confined to those that implement changes in language and definitions in SB 178, which is commendable. However, there is one notable problem. SB 178 mandated the DEP to promulgate a rule for odor control. The exact language is: "(q) All persons operating a sewage sludge processing facility shall provide off-site odor monitoring or testing mechanisms, approved by the director. The director shall promulgate emergency rules and propose legislative rules for legislative promulgation; rules specifying the nature and type of odor monitoring or testing which will be approved or how to obtain approval for proposed odor monitoring or testing; the areas where the monitoring or testing should occur; the frequency of monitoring or testing which shall be no less than semiannually or as otherwise ordered by the director and any other conditions necessary to effectuate the purposes of this subsection."

The agency did not promulgate any rule on odor. Instead, it included the following sentence in the proposed sewage sludge rule: "Any person operating a sewage sludge processing facility shall provide off-site odor monitoring in accordance with the Division of Environmental Protection, Office of Air Quality legislative rule 45CSR4; provided, that the frequency of odor monitoring shall be quarterly or as otherwise specified by the director."

The problem is that 45CSR4, which is entitled, "To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors" is the two page rule that has been in effect since 1967 and was completely ineffective in dealing with the tremendous odor problems at Mascaro's Brooke County sewage sludge facility. It was the ineffectiveness of this rule that resulted in the common law case (Civil Action No. 96-C-11) that shut the facility down by court order. The facility has been allowed to operate since that time because of an agreed order that implements the latest odor control technology protocols.

The DEP knows of the case, the agreed order, the odor control technology protocols currently in use at that facility, and the Massachusetts rule from which they were developed. This case has consolidated all the information that the DEP needs to develop an odor rule that will protect surrounding communities and allow a large composting operation to function.

It is remarkable that the DEP chooses instead to ignore the legislative mandate to promulgate rules, and fall back on a 30 year old rule that has

proven to be ineffective. This action would seem to indicate that the agency is unwilling to protect the public or facility operators.

I am attaching to these comments a sheet with several technical corrections and a copy of a draft odor policy from the State of Massachusetts. The Massachusetts rule employs the latest information on odor management and if implemented, can enable sewage sludge composting facilities and communities to coexist. I hope that the agency will take this information into consideration and promulgate an effective odor rule, as was intended by the Legislature when it directed the agency to promulgate emergency and legislative rules concerning odor monitoring and testing. Thank you.

**Rheinlander:** Thank you. Anyone else? The comment period ends at the conclusion of this hearing. Thank you for coming.

[End of Recording]

Transcribed by Happy Fingers Word Processing & Résumé Service (304-345-4495) as a rough draft, for general content only. This work does not claim to be a verbatim transcript and has not been verified against the original recording nor proofread for typographical errors. (This was done at your request to keep costs to a minimum.) This transcript will be stored on computer disk until September 1, 1998. Additions, corrections, or revisions to this material can be made at additional charge before this deadline. If you require additional storage time, please notify us before September 1. There is a \$10 annual fee for record storage.