WEST VIRGINIA
SECRETARY OF STATE
KEN HECHLER
ADMINISTRATIVE LAW DIVISION

Form #3

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

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

CITE AUTHORITY 22-15-5(a)

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:

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.

Carrie J. Chambers

Authorized Signature

$13.60

Executive Office
#10 McJunkin Road
Nitro, WV 25143-2506
Telephone: (304) 759-0515
Fax: (304) 759-0526

West Virginia Bureau of Environment

Cecil H. Underwood
Governor

Michael C. Castle
Commissioner

August 3, 1999

Ms. Judy Cooper
Director, Administrative
Law Division
Secretary of State's Office
Capitol Complex
Charleston, WV 25305

RE: 33CSR2 - " Sewage Sludge Management Rule"

Dear Ms. Cooper:

This letter is to give my approval for filing of the above-referenced rule with your Office and the Legislative Rule-Making Review Committee as "Notice of an Agency-Approved Rule."

Your cooperation in this matter is very much appreciated. If you should have questions or need additional information, please call Carrie Chambers in my office at 759-0515.

Sincerely yours,

Michael C. Castle

Michael C. Castle
Commissioner

MCC:cc

Attachment

cc: Cap Smith
James Summers
Carrie Chambers

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: August 5, 1999

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) 558-2497

LEGISLATIVE RULE TITLE: "Sewage Sludge Management Rule"

1. Authorizing statute(s) citation 22-15-5 (a)

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

June 16, 1999

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

DEP's InDEPth Newsletter; DEP's Public Notice Bulletin; State-Wide News Releases

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

July 22, 1999

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

Attached X No comments received _____

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

August 5, 1999

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

James Summers, Office of Waste Management, 1356 Hansford Street, Charleston, WV 25301 - 1401

Phone (304) 558-2497; Fax (304) 558-3948; E-Mail jsummers@mail.dep.state.wv.us

Carrie Chambers, Director's Office, #10 McJunkin Road, Nitro, WV 25413

Phone (304) 759-0515; Fax (3040 759-0526; E-Mail, cchambers@mail.dep.state.wv.us

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 (f)

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:

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

June 11, 1999

BUREAU OF ENVIRONMENT
DIVISION OF ENVIRONMENTAL PROTECTION

BRIEFING DOCUMENT

Rule Title: Sewage Sludge Management Rule

A. AUTHORITY: WV Code §§22-15-5(a)

B. SUMMARY OF RULE:

In response to a 1996 legislative mandate, the proposed Legislative Rule change proposes revisions to the soil limits for sewage sludge land application sites and updates other related areas of the rule in order to provide better management of sewage sludge within the state. These include specifying the analytical method used for soil analysis; placing strict conditions on any variances from the soil limits for land application sites; adjusting the sewage sludge limits for four metals; and providing an incentive for municipalities to produce higher quality "Class A" compost products.

C. STATEMENT OF CIRCUMSTANCES WHICH REQUIRE RULE:

The proposed Legislative Rule change is necessary to comply with the 1996 West Virginia Legislative mandate in Title 33, Series 2, Section 3.2.b requiring the West Virginia Division of Environmental Protection to propose revisions to the soil limits for sewage sludge land application sites by June 30, 1999.

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

The general federal counterpart regulation (40 CFR, Part 503) has been previously incorporated by reference into this rule. There are no federal counterpart regulations to the rule amendments being proposed, except for the metals' concentration limits in the sewage sludge; proposed limits for three of the metals are the same as the federal limits, while the proposed limit for arsenic is more stringent than the federal limit. A more stringent limit is proposed for arsenic because West Virginia's soil background levels of arsenic are higher than the national average values

used in determining the federal sewage sludge limit, and because the quantity of arsenic that could be ingested without a negative health impact was over-estimated in the risk assessment calculation used to determine the federal arsenic limit.

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 33CSR2 at their June 10, 1999 meeting, the DEP Advisory Council recommended to the Director that this rule be filed as amended. No further amendments were recommended.

MINUTES

ENVIRONMENTAL PROTECTION ADVISORY COUNCIL

June 10, 1999, Director's Conference Room, Nitro

The sixteenth meeting of the DEP Advisory Council was held Thursday, June 10, 1999, in the Director's Conference Room located in Nitro. Chairman Mike Miano called the meeting to order at 10:00 a.m.

ATTENDING:

Advisory Council Members:

Mike Miano, Chairman
Jacqueline Hallinan
William Raney
Rick Roberts
William Samples

Environmental Protection:

Bill Adams
Andy Gallagher
Tony Grbac
Randy Huffman
Mike Johnson
Mike Lewis
Robert Keatley
Pam Nixon
Rocky Parsons
Cap Smith
Charlie Sturey
Barbara Taylor
Karen Watson
Mike Zeto

1) Review and Approval of March 22, 1999 Minutes. Chairman Miano called the meeting to order at 10:00 a.m. The first item on the agenda was approval of the minutes of the March 22 Advisory Council; they were approved as written.

2) Discussion of Proposed Rule Amendments - 2000 Legislative Session. In accordance with WV Code §22-1-1(c), and DEP's new rule-making procedure that was implemented by Director Miano in September 1998 to involve the Advisory Council in DEP's rule-making process as early as possible to enable the Council to review, comment, and make recommendations to the Director on DEP's proposed legislative rule changes before they are filed for public hearing, the following proposed rules were brought to the Council's attention.

Chairman Miano said he would like to begin by saying he hoped all Council members had received their draft rules by E-mail without any complications and they were able to review them before the meeting. He informed the Council that due to the large number of rules being proposed for the 2000 Legislative Session, DEP's program offices would review them with the

Council as thoroughly as possible, in the allotted time frame, and try to answer any questions or concerns the Council may have.

The following Office of Air Quality's proposed rule amendments were discussed by Karen Watson, OAQ, with assistance from Richard Keatley, also from the OAQ office:

- 45CSR1 - "TO PREVENT AND CONTROL AIR POLLUTION FROM COAL REFUSE DISPOSAL AREAS"
- 45CSR2 - "TO PREVENT AND CONTROL PARTICULATE AIR POLLUTION FROM COMBUSTION OF FUEL IN INDIRECT HEAT EXCHANGERS"
- 45CSR3 - "TO PREVENT AND CONTROL AIR POLLUTION FROM THE OPERATION OF HOT MIX ASPHALT PLANTS"
- 45CSR4 - "TO PREVENT AND CONTROL THE DISCHARGE OF AIR POLLUTANTS INTO THE OPEN AIR WHICH CAUSES OR CONTRIBUTES TO AN OBJECTIONABLE ODOR OR ODORS"
- 45CSR5 - "TO PREVENT AND CONTROL AIR POLLUTION FROM THE OPERATION OF COAL PREPARATION PLANTS, COAL HANDLING OPERATIONS AND COAL REFUSE DISPOSAL AREAS"
- 45CSR6 - "TO PREVENT AND CONTROL AIR POLLUTION FROM COMBUSTION OF REFUSE"
- 45CSR7 - "TO PREVENT AND CONTROL PARTICULATE MATTER AIR POLLUTION FROM MANUFACTURING PROCESSES AND ASSOCIATED OPERATIONS"
- 45CSR10 - "TO PREVENT AND CONTROL AIR POLLUTION FROM THE EMISSION OF SULFUR OXIDES"
- 45CSR12 - "AMBIENT AIR QUALITY STANDARD FOR NITROGEN DIOXIDE"
- 45CSR16 - "STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES PURSUANT TO 40 CFR PART 60"
- 45CSR17 - "TO PREVENT AND CONTROL PARTICULATE MATTER AIR POLLUTION FROM MATERIALS HANDLING, PREPARATION, STORAGE AND OTHER SOURCES OF FUGITIVE PARTICULATE MATTER"
- 45CSR18 - "TO PREVENT AND CONTROL PARTICULATE AIR POLLUTION FROM DIRECT MEAT-FIRING DEVICES"
- 45CSR23 - "TO PREVENT AND CONTROL EMISSIONS FROM MUNICIPAL SOLID WASTE LANDFILLS"
- 45CSR25 - "TO PREVENT AND CONTROL AIR POLLUTION FROM HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES"
- 45CSR33 - "ACID RAIN PROVISIONS AND PERMITS"
- 45CSR34 - "EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS PURSUANT TO 40 CFR PART 63"

Karen began by bringing the Council up to date on the status of two OAQ rules that were filed during the last session (or late in the session). 45CSR8 revised the ambient air quality for sulfur oxides and particulate matter, and 45CSR9 pertained to ambient air quality standards for carbon monoxide and ozone. The DC Circuit Court of Appeals has ordered EPA to show how they arrived at the new standards - EPA may go back to the previous standards. Karen also apprised the Council on the N_{ox} State Implementation Plan. The Circuit Court stayed the implementation of that rule and there are no plans to develop any other amendments in the

immediate future. 45CSR28, which is the emissions trading rule that was filed late in the 1999 Session, was not taken up by the Legislature, but plans are to put the rule on the July agenda of the Interim Legislative Committee.

Karen explained the reason for the unusually large number of DEP rules that are being filed for the next Legislative Session. She informed the Council that several of the rules were outdated and were amended for consistency and streamlining, and are a result of months of on-going meetings with stakeholders -- involving both the regulated community and citizens. A particulate matter and sulfur oxide work group was also involved. Those rule amendments as a result of the stakeholders process include: 45CSR1 (which is being repealed and replaced with language in 45CSR5), 45CSR2, 3, 4, 5, 6, 7, 10, 12, 17, and 18 (which is being repealed since the rule is no longer deemed necessary). The amendments to the remainder of the rules, 45CSR16, 23, 25, 33, and 34 were necessary to adopt by reference definitions, clarifications, technical amendments, etc., recently adopted by US EPA.

After several minutes of discussion, the Advisory Council recommended to the Director that the following amendments be made to the OAQ rules:

Mr. Samples pointed out that 45CSR2 and 45CSR7 contain different definitions for the term "opacity." The agency responded that this discrepancy was inadvertent and the language should be as it is in 45CSR2. The agency agreed to revise 45CSR7, subsection 2.23, accordingly.

Mr. Larry Harris was unable to attend the meeting; however, he expressed the following comments on 45CSR10 and 45CSR33 by e-mail. He stated that the State's rules should be more stringent than the federal counterpart regulations, since the State's streams are being adversely impacted. The agency responded that, at this point in time, it does not possess sufficient evidence to make the written finding that is required by WV Code §22-2-3a before promulgating a rule which is more stringent than a counterpart federal regulation.

Cap Smith and Mike Zeto discussed the following Office of Waste Management proposed rule amendments:

- **33CSR2 - "Sewage Sludge Management Rule"**
- **33CSR20 - "Hazardous Waste Management Rule"**

Mike Zeto briefed the Council on the proposed amendments to 33CSR2. He stated that in 1996 the Legislature mandated DEP to perform a study on soil limitations for sewage sludge land application sites. These amendments (as a result of the study) were to be proposed by June 30, 1999. Other amendments to the rule include specifying the analytical method used for soil analysis, placing conditions on variances from the soil limits for land application sites, providing an incentive for municipalities to produce higher quality compost products, and adjusting the sewage sludge limits for four metals. Mr. Zeto told the Council these amendments are being proposed to update other related areas of the rule in an attempt to provide better management of sewage sludge within the state.

Cap Smith discussed 33CSR20 with the Council. He informed the Council that amendments are proposed in section 2 of the rule that will allow the Office of Waste Management to delist hazardous wastes, which has previously been handled by EPA. The other significant amendments that are being proposed by adoption of the Federal Register pertain to revision standards for owners and operators of closed and closing hazardous waste management facilities, post closure permit requirements, and the closure process. These amendments are referenced throughout the rule and will hopefully expedite site cleanup while maintaining environmental protection.

There were several minutes of discussion on OWM's proposed rule amendments; however, no recommendations were made to the Director concerning the amendments.

Mike Lewis, Office of Oil and Gas, discussed the following new proposed rule:

- **35CSR7 - "Well Operations - Within and Around Gas Storage Reservoirs"**

Mike informed the Council that 35CSR7 is a proposed "new" rule for the O&G Office. The rule is needed to provide protection of the environment, the public, and the state's natural gas resources. It is the intent of the proposed rule to accomplish this by addressing certain operating procedures that oil and gas and gas storage operators are to use when drilling into or through a gas storage reservoir or the gas storage reservoir protective area. In order to assure absence of leaking gas, the proposed rule requires gas storage operators to conduct monitoring and inspections of gas storage wells.

There were no questions or discussion by the Council on this proposed rule.

The following proposed rules were discussed by the Office of Mining and Reclamation:

- **38CSR2 - "Surface Mining and Reclamation Rule"**
- **38CSR2A - "Rules for Mining and Restoration for Sandstone, Limestone, and Sand"**
- **38CSR2B - "RULES FOR MINING AND RECLAMATION OF MINERALS OTHER THAN COAL"**

Ed Griffith, Office of Surface Mining, discussed the proposed amendments to the Surface Mining and Reclamation Rule. Ed told the Council that there are only minor amendments being proposed to this year's rule. The proposed definition of "woodlands" in subsection 2.136 relates to the utilization of commercial woodlands in Approximate Original Contour variance areas. This change is being proposed in order for the state to meet the federal policy that is expected to change in July 1999. The proposed amendment to change the bonding requirements of mining operations that request variances from contemporaneous reclamation to the maximum amount per acre bond ($5,000 per acre) is found in subdivision 14.15.f. All other amendments are being proposed in order to meet the requirements of the Office of Surface Mining's program amendments.

Rocky Parsons, OMR's Philippi Office, next addressed OMR's proposed rules 38CSR2A and 2B. Rocky explained to the Council members that 38CSR2B has been in place since 1983 and regulates all minerals other than coal. However, in accordance with the requirement that separate rules for limestone, sandstone, and sand are to be promulgated, DEP is proposing

38CSR2A which will regulate only those minerals - 38CSR2B will regulate all minerals other than limestone, sandstone, sand, and coal. Both proposed rules will regulate roads, blasting, drainage control, methods of operation, excess spoil disposal, revegetation, mapping, transfer of permits, permit renewals, revisions and incidental boundary revisions. 38CSR2A will provide provisions for restoration and 38CSR2B will include provisions for reclamation. Rocky gave the Council a brief history on the roadblocks the agency has encountered in the past several years in their attempt to amend the quarry statute. He said since the agency has been unsuccessful in that approach, it has become necessary to try to accomplish this through rule making. He informed the Council of a public meeting held the previous week to discuss the two proposed rules. He said the meeting was well attended and he believes the rules were well received by everyone in attendance.

The three OMR proposed rules were discussed by the Council members. Bill Raney said that although Rocky stated that the quarry rules have been well received by industry and the citizens, he is concerned about whether there has been enough time for the review of the proposed rules after they were drafted. He believes there would be a smoother transition into the rule making process, i.e., the public hearing/comment period, etc., if there had been more involvement from outside DEP during the drafting of the rules.

Mr. Larry Harris commented by e-mail 38CSR2A and 2B. His question is whether the siltation measures include silt fences where runoff might enter streams. He said it is not apparent what best management practices are for this situation, and he wonders if it needs to be spelled out. He knows of some operations in quarries where streams muddy after rainfalls, such as the Elkins and Waco quarries near Snowshoe, and he feels this is harming the streams. Do the new rules address this?

Rocky Parsons responded by saying that design criteria for drainage control structures is found in the technical handbook. Silt fences are not adequate for sediment control. The drainage system must be designed to hold .125 ac/ft of sediment for each acre of disturbed land. All runoff must pass through a drainage control structure. There is a provision for less sediment control (1/2 factor) for certain circumstances as approved by the Director. Effluent limits as established in the NPDES permit must be met.

Tony Grbac, Office of Surface Mining, addressed the following rule:

199CSR1 - "SURFACE MINING BLASTING RULE"

Tony began by briefing the Council on the history of the Surface Mining Blasting Rule. This rule is being proposed to comply with SB681 - passed during the last session. This bill created the Office of Explosives and Blasting and the Office of Coalfield Community Development, which is under the West Virginia Development Office. The proposed rule will regulate blasting laws and rules associated with all surface-mining operations. All duties currently performed by OMR related to blasting, and all rules which now regulate blasting (38CSR2C) will be transferred to this new office. Besides regulating blasting on all surface mining operations, it will also implement and oversee pre-blast survey processes; maintain and operate a system to receive and address questions, concerns and complaints relating to mining

operations; determine the qualifications for individuals and firms performing pre-blast surveys; establish the education, training, examination and certification of blasters; administer a claims process for property damage caused by blasting; and conduct a study of blasting and make recommendations regarding any appropriate rule or code changes.

Tony explained that the revenue generated by the proposed fee in 199CSR1 (one-half cent times the number of pounds of explosive material used ruing the preceding month for any purpose on the surface mining operations) would fund both the offices, as required by SB681. After one year of collection, both offices are to report to the Legislature as to whether the revenue collected is sufficient to operate both offices.

After several minutes of discussion between DEP and the Council members, Bill Raney expressed his concern in filing the rule for public hearing in the specified time frame. Mr. Raney asked if anyone outside DEP has been involved in drafting the rule. OMR answered by saying the rule was drafted by several staff within OMR. Mr. Raney replied that he believes there will be serious concerns with this rule once industry has had an opportunity to review it. He believes the rule drafting process definitely needs input from firms and individuals outside DEP, and he thinks the process will go smoother once everyone has had the opportunity to address their concerns. Mr. Raney recommended that the Director withhold this rule from the list of rules DEP proposes to file for public hearing/comment period in the coming week to give all interested parties a chance to participate in drafting the rule.

After discussion of this recommendation, Chairman Miano said he believes the best approach would be to continue with the filing of the proposed rule for public hearing, start the rule in the normal process and time frame, and in the meantime he would commit to putting together a work group of interested parties to discuss the rule. If DEP feels that more time is needed once the group begins their work on the rule, he will consider the possibility of either extending the comment period or filing for another public hearing. He said he will also decide in the near future whether DEP will file the rule as an "Emergency Rule" since HB 681 will become effective on June 11.

Council members also pointed out a typographical error in subdivision 3.9.a.3. of the rule relating to cross-references that will be corrected by DEP.

Barb Taylor and Mike Johnson, Office of Water Resources, briefed Council on the following rules:

- **47CSR57A - "Groundwater Protection Standards at Steam Electric Generating Facilities"**
- **47CSR26 - "Water Pollution Control Permit Fee Schedule"**
- **47CSR31 - "State Water Pollution Control Revolving Fund Program Rule"**

Barb described the proposed "new" rule relating to Groundwater Protection Standards at Steam Electric Generating Facilities. She noted that the rule is a result of a Notice of Intent filed on October 24, 1994, by the West Virginia Steam Electric Generation Industry, with the Director of DEP, in accordance with 47CSR57 to apply for a class variance for all West Virginia power stations and associated disposal sites. At that time, DEP provided AEP and AP with the

opportunity to conduct a four-year study to gather the necessary data to support their variance request. The objectives were met by assembling and reviewing data, estimating potential impacts to receptors, and performing an economic assessment impact analysis to the industry, commercial enterprises, and citizens at large if compliance with the Groundwater Protection Act were required without benefit of the variances. After review of the four-year study, the Director determined that granting this request for a variance at these locations would not pose adverse effects to human health or the environment. There are no human or environmental sensitive receptors between the coal storage areas or as ponds; therefore, it is unlikely there will be adverse affects. Barb gave each member a copy of the four-year study on which the Director made his determination.

Chairman Miano told Council that DEP is definitely willing to look at such cases where extensive research and study have been done by the regulated community to back up their findings before granting such variances, and believes DEP will see more studies like this in the future.

Barb next apprised the members on the proposed amendments of the Water Pollution Control Permit Fee Schedule. She stated that amendments are being proposed as a result of HB 2684, passed March 11, 1999, and effective ninety days from passage. The Director is required to implement an emergency rule to implement the fee schedule authorized by the amendments by July 1, 1999. This rule was filed as an "Emergency Rule" on June 7, 1999.

Mike Johnson, Office of Water Resources' Construction Assistance Office, briefed the Council on 47CSR31 - the Water Pollution Control Revolving Fund Program rule. The amendments to this rule are being proposed to allow the State Revolving Fund low interest terms to be extended from 20 years to 30 years for communities that qualify as "disadvantaged." There is only one other state in the country to receive such approval from EPA. Mike informed the Council that he was only recently made aware of this extension by EPA to extend the low interest loans from 20 to 30 years while attending a meeting out of state. This rule was filed as an "Emergency Rule" on May 24, 1999.

Council members unanimously agreed that Mike Johnson should be commended for gathering this information and proposing the amendment to the rule that will enable disadvantaged communities to immediately take steps toward constructing watershed projects that will provide affordable monthly sewer rates.

Open Discussion:

Chairman Miano and Council members expressed their compliments to the program offices for all their hard work, especially with the stakeholders process -- it is obvious a lot of hard work has gone into the process in order to make their efforts more productive.

Bill Raney asked a question relating to the "More or Less" Stringency statement that appears on the front of some DEP rules, but not on others, and voiced his concern if DEP is paying close attention to this, or if the same statement is appearing with all proposed rules. Carrie Chambers from the Director's Office explained that statement was once required to be included in the "General" section of each rule; however, it is now placed in the briefing document that is attached to each rule, and required by the Secretary of State's Office and the

Legislative Rule-Making Review Committee, before it is filed. She went on to explain that with the rush to get draft copies of the rules to Council members as soon as possible, some of the Briefing Documents had not been completed, but would be attached to all DEP rules before they are filed for public hearing. Chairman Miano went on to say it is his belief that all program offices are carefully scrutinizing each rule before that decision is made.

Chairman Miano thanked Council for taking time from their busy schedules to review the extensive list of DEP's proposed rules. He informed the Council that the minutes would be left open for comment until Wednesday, June 16, at which time the minutes will be attached to the rules and filed with the Secretary of State's Office and the Legislative Rule-Making Review Committee for notice of public hearing/comment period.

Before adjourning the meeting, the Council informed Chairman Miano that they would prefer beginning future meetings at 10:00 a.m., instead of the usual time of 1:00 p.m. The meeting was then adjourned at 3:30 p.m.

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: "Sewage Sludge Management Rule"

Type of Rule: x **Legislative** ____ **Interpretive** ____ **Procedural**

Agency WV Division of Environmental Protection

Address 1356 Hansford Street

Charleston, WV 25301

No fiscal or economic impact is anticipated from this rule amendment.

1. Effect of Proposed Rule N/A

	ANNUAL		FISCAL YEAR		
	INCREASE	DECREASE	CURRENT	NEXT	THEREAFTER
ESTIMATED TOTAL COST	$	$	$	$	$
PERSONAL SERVICES					
CURRENT EXPENSE					
REPAIRS & ALTERNATIONS					
EQUIPMENT					
OTHER					

2. Explanation of above estimates:

N/A

3. Objectives of these rules:

Rule Title: "Sewage Sludge Management Rule"

4. Explanation of Overall Economic Impact of Proposed Rule.

A. Economic Impact on State Government.

N/A

B. Economic Impact on Political Subdivisions; Specific Industries; Specific groups of Citizens.

N/A

C. Economic Impact on Citizens/Public at Large.

N/A

Date: 6/17/99

Signature of Agency Head or Authorized Representative

Carrie J. Chambers

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

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. -- ~~April 30, 1999~~

1.4. Effective Date. -- ~~April 30, 1999~~

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. "Agricultural Land" is land on which a food crop, feed crop, or fiber crop is grown. This includes, but is not limited to, range land and land used as pasture.

~~2.1.~~ 2.2. "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.~~ 2.3. "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 may specify, including the following: spouses, parents, children and siblings.

~~2.3.~~ 2.4. "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.~~ 2.5. "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.~~ 2.6. "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.

2.7 "Bulk Sewage Sludge Product" is a material derived from sewage sludge that is sold or given away in quantities exceeding one metric ton.

~~2.6.~~ 2.8. "Chief" means the chief of the Office of Waste Management of the Division.

~~2.7.~~ 2.9. "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~~ 2.10. "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.

~~2.9.~~ 2.11. "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 waste 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.

~~2.10.~~ 2.12. "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.

~~2.11.~~ 2.13. "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 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.~~ 2.14. "Compost" means a humus like material resulting from aerobic, microbial, thermophilic decomposition of organic materials.

~~2.13.~~ 2.15. "Composting" means the aerobic, thermophilic decomposition of natural constituents of solid waste to produce a stable, humus-like material.

~~2.14.~~ 2.16. 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.

~~2.15.~~ 2.17. "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.

~~2.16.~~ 2.18. "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.

~~2.17.~~ 2.19. "Distributor" is a person who prepares the product for distribution and marketing and is responsible for distributing and marketing the product.

~~2.18.~~ 2.20. "Division" means the Division of Environmental Protection.

~~2.19.~~ 2.21. "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.

~~2.20.~~ 2.22. "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.

~~2.21.~~ 2.23. "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.

~~2.22.~~ 2.24."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.

~~2.23~~. 2.25. "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.

~~2.24.~~ 2.26. "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.~~ 2.27. "Mature compost" means compost which has been produced in an aerobic, microbial, thermophylic manner and which does not exhibit toxic effects to plant species.

~~2.26.~~ 2.28. "Mixed solid waste" means solid waste from which materials sought to be reused or recycled have not been source-separated from general solid waste.

~~2.27.~~ 2.29. "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.

~~2.28.~~ 2.30. "Municipal solid waste incineration" means the burning of any solid waste collected by any municipal or residential solid waste disposal company.

~~2.29.~~ 2.31. "Odor" means a sensation resulting from the stimulation of the human sense of smell.

~~2.30.~~ 2.32. "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.

2.33. "Other Container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, box, carton, and vehicle or trailer with a load capacity of one metric ton or less.

~~2.31.~~ 2.34. "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.

~~2.32~~. 2.35. "Producer" means any person

producing sewage sludge at a publicly owned treatment works (POTW).

~~2.33.~~ 2.36. "Publicly owned treatment works" or "POTW" means any 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.

~~2.34.~~ 2.37. "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.

~~2.35.~~ 2.38. "Representative sample" means a sample collected from a population or whole that exhibits the average or typical properties of the larger population or whole.

~~2.36.~~ 2.39. "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.

~~2.37.~~ 2.40. "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.

~~2.38.~~ 2.41. "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.

~~2.39.~~ 2.42. "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.

~~2.40.~~ 2.43. "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.

~~2.41.~~ 2.44. "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.~~ 2.45. "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.

~~2.43.~~ 2.46. "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.

~~2.44.~~ 2.47. "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.

~~2.45.~~ 2.48. "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. Except as provided in subsection 3.2.b of this rule, sewage ~~S~~sludge ~~will~~ shall 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.a.13. Other land determined by the director to be unsuitable for application of sewage sludge.

3.2.b Sewage sludge products which meet the Table 1 metals limits of this rule, and which have been treated to achieve Class A pathogen reduction requirements in accordance with 40CRF503.32(a) and one of the vector attraction reduction requirements in 40CFR503.33(b)1 through (b)8, and which are sold or given away in a bag or other container, are not subject to the requirements of 3.2.a.1 through 3.2.a.12 of this rule except that these sewage sludge products shall not be applied to land that meets the any of the following conditions:

3.2.b.1. Land within 50 feet of any surface water, or surface water collection point.

3.2.b.2 Land with a slope greater than 15%.

~~3.2.b.~~ 3.2.c. 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~~ or 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~~ where the background levels of metals in the soil exceed the maximum soil concentrations of metals listed in Table 3; ~~where~~ Provided, that the sewage sludge analyses, soil analyses, and pollutant loss rates from erosion, leaching, and volatilization 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~~ at a loading rate prescribed by the director, the land application of the sewage sludge will not cause additional net accumulation of any metal in the soil already exceeding the maximum soil concentration listed in Table 3. Any such variance issued by the director shall contain a requirement to annually monitor the soil concentration of each metal exceeding the Table 3 limit for as long as the site is utilized for the land application of sewage sludge or sewage sludge products. ~~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.c.1. Analytical methods in SW-846 shall be used to analyze all soil metals samples required by this rule.

~~3.2.b.1.~~ 3.2.c.2. 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. New soil analyses for those metals listed in Table 3 shall be required at each land application site whenever the site has received for land application fifty percent of the assigned lifetime loading rate.

~~3.2.b.2.~~ 3.2.c.3. If circumstances at sewage sludge processing facilities result in short term excursions of Table 1 criteria, written notification must be given to the Chief of the Office of Water Resources within five days of

learning of the excursion. A written plan to identify and correct the problem must be submitted for the facility within sixty days. The director may develop temporary loading rates, for a period not to exceed ~~six months~~ one year, based on the provisional limitations of Table 2 of this rule and on results from monthly sewage sludge and wastewater samples taken at the facility.

~~3.2.c.~~ 3.2.d. No person shall be allowed to 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.~~ 3.2.e. 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.~~ 3.2.f. 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, including 46CSR12, 46CSR58, and 46CSR59.

3.3.b. Any person operating a sewage sludge processing facility shall conduct off-site odor monitoring. The frequency of odor monitoring shall be quarterly or as otherwise specified by the director. The Barnebey-Cheney scentometer or other instrument, device or technique designated by the director may be used as a guide in the enforcement of this rule and may used in the determination of the objectionability of an odor.

3.3.b.1. When an odor is determined to be objectionable and repetitious by the director, the director may require the facility to conduct related studies within a specified time period. These studies may include, but are not limited to, sampling and analysis to identify the specific chemical compound(s) which are causing the objectionable odor, analysis of samples by odor panels, air dispersion modeling studies, and evaluation of applicable odor control devices and odor control programs.

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 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, 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.

3.6.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.

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. Except as provided in 4.1.c.1 and 4.1.c.2 of this rule, ~~N~~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.c.1. A land application permit is not required for sewage sludge products which meet the Table 1 metals limits of this rule, and which have been treated to achieve Class A pathogen reduction requirements in accordance with 40CRF503.32(a) and one of the vector attraction reduction requirements in 40CFR503.33(b)1 through (b)8, and which are sold or given away in a bag or other container;

4.1.c.2. Any person who land applies bulk sewage sludge products which meet the Table 1 metals limits of this rule, and which have been treated to achieve Class A pathogen reduction requirements in accordance with 40CRF503.32(a) and one of the vector attraction reduction requirements in 40CFR503.33(b)1 through (b)8, is not required to obtain a land application permit for sites where such products are applied on agricultural land less than two acres in size and the annual quantity of sludge product applied to that site does not exceed two dry tons per acre, except that those products derived from domestic septage shall not be exempt from permitting requirements. This exemption from permitting does not apply to multiple sites on the same parcel of land, and does not exempt sewage sludge processing facilities from any other permitting or reporting requirements of this rule or of the Sewage

Sludge Management Act, W. Va. Code §22-15-20.

4.1.d. For those publicly owned treatment works (POTW's) or privately owned treatment works 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 director. Upon approval by the director, POTWs may accept sewage sludge from other publicly or privately owned treatment works 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 but 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 Application 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, 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 used 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 Application 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 a sewage sludge processing facility 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; 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. 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 Application 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. A copy of the NPDES permit for the POTW from which the sludge or material originated;

4.2.c.12. Information relative to the significant industrial users of the POTW from which the sludge or material originated;

4.2.c.13. 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; except that permits issued for land application of domestic septage shall contain requirements to monitor the soil at the land application sites in lieu of sampling individual domestic septic tank systems. Such permits for domestic septage shall contain a provision requiring a manifest listing each source of domestic septage and certifying that the domestic septage contains no industrial or commercial waste products;

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, 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 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, and subsection 3.2.b of this rule;

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

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 and 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; except that domestic septage shall be held at or above a pH of 12.0 for a period of at least two hours before being applied to land at any location.

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

6.1. Applicability. -- Any producer, 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, processors, or transporters of sewage sludge.

6.4. Fee Assessments.

6.4.a. Producers, 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 used in a landfill disposal cell by a solid waste facility 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 (actual dry tons per 365 day period)	FREQUENCY 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~~ 20
Cadmium	~~10~~ 39
Chromium	1000
Copper	~~1000~~1500
Lead	250
Mercury	10
Molybdenum	18
Nickel	200
Selenium	36
Zinc	~~2500~~2800

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~~ 13.0
Cadmium	~~5.0~~ 2.4
Chromium	~~300.0~~ 290
Copper	~~300.0~~ 92
Lead	~~70.0~~ 85
Mercury	~~2.0~~ 2.4
Molybdenum	~~4.0~~ 4.6
Nickel	~~74.0~~ 83*
Selenium	~~7.0~~ 10
Zinc	~~500.0~~ 290**

* For sandy to silt loam soils with a permeability greater than 2.0 inches per hour, the maximum allowable soil concentration for nickel is 50 mg/kg.

** For those sites with greater than 30% legume species, the maximum allowable soil concentration for zinc is 130 mg/kg for sandy to silt loam soils with permeability greater than 2.0 inches per hour and 200 mg/kg for other soil types.

Sewage Sludge Management Rule Hearing

July 22, 1999

RHEINLANDER: My name is Bill Rheinlander. Carol Cather is to my left. Jane Summers is to my right back here, and Sara Prouse is with the Environmental Advocate's Office. I'm with the Public Information Office, and these two guys work out of Waste Management. The purpose of this meeting is to provide citizens with an opportunity to comment on proposed changes to the Sewage Sludge Management rules. The meeting was advertised in the Secretary of State's West Virginia Register, and the agency also announced the meeting by statewide news release. I'm going to read a quick summary that was in the news release of the rule. It says, "These proposed rule amendments are in response to a 1996 Legislative mandate requiring the agency to propose new soil limits for sewage sludge land application sites by June 30, 1999. While the sludge rule is being amended, DEP is proposing an update of other related areas of the rule in order to provide better management of sewage sludge within the state. These include specifying the analytical method used for soil analysis, placing strict conditions on any variances from the soil limits for land application sites, adjusting the sewage sludge limits for four metals and providing an incentive municipalities to produce higher quality Class A compost products." We will receive comments now. Who wanted to make a comment first? Just grab the mike. Tom, did you want to . . . ?

DEGAN: My name is Tom Degan, representing Calhoun County Solid Waste Authority, concerning Section 3.2.B. A problem with the language in Section 3.2.B is that it refers to a non-existent section, 3.1.B, of the rule. The agency should clarify that. I am assuming that the intent was to refer to Section 3.2.A, in which case this

language is similar to the exemption in 503 of the federal rule, Section 10C, except that the federal rule requires that sewage sludge sold or given away in a bag or other container meet one of the vector attraction reduction requirements of 503-13-B1 through B8. And that sludge receiving this type of exemption also meet a standard of pollutant limits. By not similarly limiting the exception in 33CSR2 Section 3.2.B, the rule is less stringent than the federal rule, and the agency puts its ability to achieve primacy of the program at risk. Since the state rule has a different scheme of pollutant limits than the federal rule, I would suggest that the state use Table 1 of 33CSR2 for its standard of pollutant limits in this case.

Section 3.2.C - the director's authority to grant this variance, expired in 12-31-99 (sic). To me that means there is no variance. It is my understanding that the agency has never issued a variance, so a variance should not be necessary. I recommend striking the variance language from this section.

Section 3.2.C.3 - six months should be adequate time to deal with short-term excursions. I recommend striking the language extending the period to one year.

Section 4.1.C.1 - such an exemption should apply only to sewage sludge sold or given away in a bag or other container that complies with Table 1 of CSR2, Class A pathogen requirements in 503-32-A and one of the vector attraction reduction requirements in 503-33-B1 through B8. My first comment concerning that applies here as well.

Section 4.1.C.2 - West Virginia Code 22-15-20-B requires that entities that generate, process, dispose, or otherwise manage sewage sludge in the state are

required to report to the Division the source of the sewage sludge, the amount actually generated, treated, stored, processed, composted, disposed, or placed; the content of heavy metals, pathogens, toxins, or vectors in the sludge; each location 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. That section also requires that no person be allowed to apply sludge to land so that maximum soil concentrations for all pollutants are exceeded. Although processing facilities in West Virginia are required to comply with these provisions through the permit requirements in Sections 42-A, 42-B, 5-1, and 5-2, sludge processed outside the state would be exempt from compliance with these provisions. This creates a situation where the rule exceeds the statutory authority granted by the code and also treats out-of-state sludge differently from in-state sludge, creating a potential constitutional infirmity of the type that we have spent years correcting. By exempting these sludges from reporting requirements, the agency ensures that enforcement of the provisions of the exemption will be impossible. And the comments in my ... my first comments apply here as well, concerning tying any such exemption to pollutant limits in the provisions of 33-B1 through 8 in the 503 rule.

If it is the agency's intent to create incentives for clean sludge, it should do so through a mechanism that complies with federal rule, state law, and constitutional considerations. The effect on the land application fees and their ability to fund a program should be considered in the crafting of any such incentive. I would

recommend that 4-1, C-2 be withdrawn and completely reconsidered.

6.4 Fee Assessments - the West Virginia Code at 22-15-20-B12 provides that the land application fee schedule shall vary according to the volume of materials handled and the contaminant level of the sewage sludge. It would seem logical to assess higher fees on dirtier sludge as an incentive to encourage clean sludge. Yet, Section 6.4A imposes fees only on sludges that do not exceed the values in Table 1. Sludges that exceed Table 1 levels, thus requiring the agency to develop temporary loading rates based on Table 2, should be assessed a higher fee. There is also the question of what effect the proposed exemptions from land application permits in 4-1-C-1 and 4-1-C-2 will have on the land application fees. Will the fees be applied to such sludges at a lower rate than other sludges? Will the fees be applied to such sludges at all? If the answer to either question is yes, then it would seem that the fees on other sludges would have to be increased to make up for the shortfall in fees and to cover the increased work that would be required to determine the pollutant loss rates from erosion, leaching, and volitization. Concerning Table 3, the maximum allowable soil concentrations. It is my understanding that the new numbers are arrived at through considerations of worst-case scenarios and the 503 risk assessments, which many consider to be outdated and inadequate, thereby providing an inadequate margin of protection for soil health. If it is the agency's intent to create incentives for clean sludge, it could do so through more attention to Table 3 than through the flawed mechanism in 4-1-C-2. I refer the agency to an excellent study put out by the Cornell Waste Management Institute entitled, "The

Case for Caution – Recommendations for Land Application of Sewage Sludges and an Appraisal of the USEPA's Part 503 Sludge Rules," by Ellen Z. Harrison, Murray B. McBride, and David R. Bolden. This paper published in August 1997 can be accessed on the Internet at www.cfe.cornell.edu/wmi or ordered from CWMI's Center for the Environment, 100 Rice Hall, Cornell University, Ithica, New York 14853-5601.

That concludes my comments. I appreciate the opportunity to submit them. Thank you.

RHEINLANDER: Thank you. Who's next? Does somebody else want to make a verbal comment on the sludge rule?

COATSON: My name is James Coatson. I am submitting some written comments for the record. I guess my verbal comments in addition to that emphasize perhaps three areas. First, I would agree with the concern about the variance procedure. If it is a process that is rarely or never used, then it might greatly the agency's regulatory program simply to eliminate that altogether. There is a tendency in the case of many regulatory agencies where the variance becomes the rule, rather than an exception to the rule. And if it's not one that is currently being used, there is a lot of logic to solving a lot of future problems by not leaving that door open.

The second issue deals with some of the numbers in Table 3. Specifically I am concerned that in many cases the proposed limits for Table 3 are higher than those needed to protect against phytotoxicity. If, in fact, most uses of sludge are meant to serve as a way of enhancing plant growth, then the heavy metals limits need to be low enough to prevent any adverse effects to plant growth. Both the

Oakridge National Laboratories' ecological risk-based numbers, in terms of their benchmark levels as well as the Cornell Waste Management Institute recommended levels are, in many cases substantially more stringent than the numbers proposed under Table 3, and I would urge the agency to give some serious consideration to tightening those numbers to levels that would prevent any [inaudible] losses or any adverse health effects.

The third issue that I would raise deals with the very laudable goal of trying to provide incentives for what I call very clean sludges or very clean composts, emphasizing the beneficial uses of sludge. There were some efforts in Section 4-C-2 to attempt to do this. Unfortunately, as Mr. Degan did point out, there is a fairly stringent provision in the statute that requires soil monitoring. The way the rule is currently set up, the only way that you can obtain the soil monitoring data is through the land application permit. If there is no land application permit required, then no soil monitoring data would be required. And therefore an exception to that sort of sort-circuits what the state statute does require. I would propose as an alternative to that, that there might be, perhaps, three options to consider. First, there would be an option to encourage very clean sludges, those with metals contents lower than some kind of a reasonable pollutant loss rate, either by leaching, erosion, volitization, or plant uptake, or what have you. That would almost have to be determined on a site-specific basis. That's something that may be beyond the ability of the agency to do easily. But that would be one technically appropriate mechanism. A second mechanism would be to establish a Table 4 of values for very

clean sludges. Metals levels in the sludge that, at the appropriate loading rate, would be less than a pollutant loss rate from that land, and therefore, it could be inherently assumed that those sludges would never lead to an exceedance of the soil's metals concentrations. The third approach to providing an incentive would have nothing to do with the land application permit, per se, but would be an adjustment on the fees section in Section 6. And that would be to establish a lower fee for land application for very clean sludges, or even no fee at all if there were a separate category for very clean sludges. The revenue from this incentive could be made up by higher fees on those sludges that exceed the values in Table 1 but are still within the limits of Table 2.

So those would be three methods for providing some incentives, and I certainly would encourage the agency to consider those. In addition to those written comments that I've submitted, that concludes my testimony.

RHEINLANDER: Anyone else? The end of the comment period is at the end of this hearing. At this time we will close out the Sewage Sludge . . . [inaudible comments in the background] . . . it can't be addressed tonight, Cap would have to do that, or something like that. We'll have to talk to him on Monday. Any other questions? Okay, let's close out the Sewage Sludge Management Rule Hearing. Thank you.

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

Public hearing: Sewage sludge management/hazardous waste management rules
Date: July 22, 1999
Time: 6 p.m.

Name	Address	Would you like to comment?
Sara M. Pyles	WVDEP EAD	NO
[signature]	PO Box 63 Chloe, 25235	notify of extension 655-8651
FRED ROMAN, BIOSOLIDS COORD.	CITY OF FAIRMONT WWTP	NO 304-366-0540 X-222
Joe Hatton	WVSCA	Yes
Teresa Byler	WVSCA	No
JAMES KOFCON	412 YOUNG ALLEY Road MORGANTOWN 26508	YES 293-3911(O) 594-3322(H)

TOM DEGEN

P.O. Box 83 • Chloe, WV 25235 • phone/fax (304) 655-8651 • TDegen@wvwise.org

Date: July 22, 1999

To: Bill Rheinlander, Public Information Officer
DEP Office of Waste Management
1346 Hansford St.
Charleston, WV 25301-1401

Re: Comments on 33CSR2 Sewage Sludge Management Rule

Below are my comments on 33CSR2 Sewage Sludge Management Rule. The bold type indicates the section of 33CSR2 that is being commented on.

[1] **3.2.b.** A problem with the language in 33CSR2 section 3.2.b. is that it refers to a non-existent section 3.1.b. of the rule. The agency should clarify its intent. I am assuming that the intent was to refer to section 3.2.a., in which case this language is similar to the exemption in 503.10(c) except that the federal rule requires that sewage sludge sold or given away in a bag or other container meet one of the vector attraction reduction requirements of 503.13(b)(1) through (b)(8), and that sludge receiving this type of exemption also meet a standard of pollutant limits. By not similarly limiting the exemption in 33CSR2 section 3.2.b., the rule is less stringent than the Federal rule, and the agency puts its ability to achieve primacy of the program at risk. Since the State rule has a different scheme of pollutant limits than the Federal rule, I would suggest that the State use Table 1 of 33CSR2 for its standard of pollutant limits in this case.

[2] **3.2.c.** The director's authority to grant this variance expired in 12/31/99. That means no variance. It is my understanding that the agency has never issued a variance, so a variance should not be necessary. I recommend striking the variance language from 3.2.c.

[3] **3.2.c.3.** Six months should be adequate time to deal with "short term excursions." Recommend striking the language extending the period to one year.

[4] **4.1.c.1.** Such an exemption should apply only to sewage sludge sold or given away in a bag or other container that complies with Table 1 of 33CSR2, Class A pathogen requirements in 503.32(a), and one of the vector attraction reduction requirements in 503.33(b)(1) through (b)(8). See comment [1] above.

[5] **4.1.c.2.** WV Code §22-15-20(b) requires that entities which generate, process, dispose or otherwise manage sewage sludge in the state *are required* to report to the division the source of the sewage sludge; the amount actually generated, treated, stored, processed, composted, disposed or placed; the content of heavy metals, pathogens, toxins or vectors in the sludge; each location sludge is stored, land applied

or otherwise disposed of; amount so stored, land applied or otherwise disposed of; and the capacity of that location to accept sewage sludge. That section also requires that no person be allowed to apply sludge to land so that maximum soil concentrations for all pollutants are exceeded.

Although processing facilities in West Virginia are required to comply with these provisions through the permit requirements in 33CSR2 sections 4.2.a., 4.2.b., 5.1. and 5.2, sludge processed outside the state would be exempt from compliance with these provisions. This creates a situation where the rule exceeds the statutory authority granted by the Code, and also treats out-of-state sludge differently from in-state sludge, creating a potential constitutional infirmity of the type that we have spent years correcting. By exempting these sludges from reporting requirements, the agency ensures that enforcement of the provisions of the exemption will be impossible.

The comments in [1] above apply here as well, in that the exemption is not tied to any compliance with pollutant limits, nor the provisions of 503.33(b)(1) through (8).

If it is the agency's intent to create incentives for clean sludge, it should do so through a mechanism that complies with Federal rule, State law, and constitutional considerations. The effect on the land application fees and their ability to fund the program should be considered in the crafting of any such incentive.

4.1.c.2. should be withdrawn and completely reconsidered.

[6] **4.2.** the title of this subsection, "General, Processing Facility, and Land Application Permit Requirements," is identical to the title of section 5, which creates some confusion. A reading of subsection 4.2 suggests that the subsection is addressing permit *application* requirements. Title should be changed to "General, Processing Facility, and Land Application Permit Application Requirements."

[7] **6.4 Fee Assessments**. WV Code §22-15-20(b)(12) provides that the land application fee schedule shall vary according to the volume of materials handled and the contaminant level of the sewage sludge. It would seem logical to assess higher fees on dirtier sludge as an incentive to encourage clean sludge, yet section 6.4.a. imposes fees only on sludges that do not exceed the values in Table 1. Sludges that exceed table 1 levels, thus requiring the agency to develop temporary loading rates based on table 2, should be assessed a higher fee.

There is also the question of what effect the proposed exemptions from land application permits in 4.1.c.1. and 4.1.c.2. will have on the land application fees. Will the fees be applied to such sludges at a lower rate than other sludges? Will the fees be applied to such sludges at all? If the answer to either question is "yes," then it would seem that the fees on other sludges would have to be increased to make up for the shortfall in fees, and to cover the increased work that would be required to determine the pollutant loss rates from erosion, leaching, and volatilization.

[8] **Table 3.** Maximum Allowable Soil Concentrations. It is my understanding that the new numbers are arrived at through considerations of worst case scenarios and

the outdated and inadequate EPA 503 risk assessments, thereby providing an inadequate margin of protection for soil health.

If it is the agency's intent to create incentives for clean sludge, it could do so through more attention to Table 3 than through the flawed mechanism in 4.1.c.2. I refer the agency to an excellent study put out by the Cornell Waste Management Institute entitled "The Case for Caution: Recommendations for Land Application of Sewage Sludges and an Appraisal of the US EPA's Part 503 Sludge Rules" by Ellen Z. Harrison, Murray B. McBride, and David R. Bouldin. This working paper, published in August 1997, can be accessed on the Internet at www.cfe.cornell.edu/wmi/ or ordered from CWMI, Center for the Environment, 100 Rice Hall, Cornell University, Ithaca, NY 14853-5601.

I appreciate the opportunity to submit these comments.

Thank you,

Tom Degen

Agricultural and Environmental Education
West Virginia University
Division of Resource Management ▫ College of Agriculture and Forestry

FAX Transmittal Sheet

Date: 7/22/99

Pages: 3
Including Transmittal Sheet

TO:

Bill Rheinlander
Name

DEP
Organization

(304) 558-4253
Office Telephone Number

(304) 558-4530
FAX Telephone Number

FROM:

Robert G. Diener P.E., Professor
Agricultural & Environmental Education

Division of Resource Management
128 Ag. Science Annex
POB 6257
Morgantown WV 26506-6108

FAX: (304) 293-6641
Phone: (304) 293-5031; 293-4832 x 4484

Home Page: www.caf.wvu.edu/resm/aee/aeehtml.htm

COMMENTS:

See attached sheet.

RE: "SLUDGE MANAGEMENT RULE" (33CSR2)

My comments are as follows:

1. Section 3.2.b - Needs to include metals and other pollutant limits.

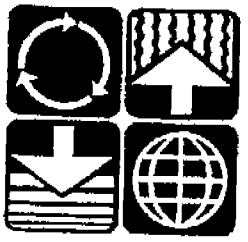
2. Section 4.1c.1 - Should use Table 1 (33CSR2) for land loading limits.

3. Section 4.1c.2 - Sludge land applier (company entity) should not have an exemption from having a Land Application Permit.

4. 33CSR2 Table 3 needs further review. Please see:

    A. Oak Ridge National Laboratory (see comments by Dr. Jim Kotcon).

    B. Case for Caution - Cornell University Study. Table 10, page 36, "Recommended Contaminants in Soils", Table 6, "International Soils Standards".



CORNELL WASTE MANAGEMENT INSTITUTE

CWMI, Center for the Environment 100 Rice Hall Cornell University Ithaca, NY 14853-5601 (607) 255-1187
email: cwmi@cornell.edu
internet: www.cfe.cornell.edu/wmi/

THE CASE FOR CAUTION

RECOMMENDATIONS FOR LAND APPLICATION OF SEWAGE SLUDGES

AND

AN APPRAISAL OF THE US EPA'S PART 503 SLUDGE RULES

by Ellen Z. Harrison
Murray B. McBride and David R. Bouldin

Working Paper
August 1997

WETZEL COUNTY SOLID WASTE AUTHORITY
200 North Street, Box 9, • New Martinsville, WV 26155 • Phone: (304) 455-5262

July 22, 1999

Bill Rheinlander, PIO
DEP Office of Waste Mgt.
1346 Hansford Street
Charleston, WV 25301-1401

Re: Comments on 33CSR2 Sewage Sludge Management Rule. Below references are from the section of 33CSR2 that I want to comment on.

3.2.b. Similar language to the Federal Rule requiring that sewage sludge sold or given away in a bag or other container meet one of the vector attraction reduction requirements of 503.13(b)(1)through (b)(8), and that sludge receiving this type of exemption also meet a standard of pollutant limits. By not similarly limiting the exemption in 33CSR2 section 3.2 b., the rule is less stringent than the Federal rule. Table 1 of 33CRS2 should be a better use for standard of pollutant limits in this case.

3.2.c. The director,s authority to grant this variance expired in 12/31/99. I recommmend striking the variance language from 3.2.c. as was formerly decided.

3.2.c.3.I recommend striking language that extends the period to one year from former six months to deal with short term excursions.

4.1.c.1.Such an exemption should apply only to sewage sludge sold or given away in a bag or other container that complies with Table 1 of 33CSR2, Class A pathogen requirements in 503.32(a), and one of the vector attraction reduction requirements in 503.3 (b)(1) through (b)(8).

4.1.c.2. WV Code 22-15-20b) requires that entities which generate, process, dispose or otherwise manage sewage sludge in the state are required to report to the division the source of the sewage sludge;the amount actually generated, treated, stored, processed, composted, disposed or placed; the content of heavy metals pathogens, toxins or vectors in

the sludge; each location sludge is stored, land applied or otherwise disposed of ; amount so stored, landapplied or otherwise disposed of; and the capacity of that land to accept sewage sludge. That section also requires that no person be allowed to apply sludge to land so that maximum soil concentrations for all pollutants are exceeded. Although processing facilities in West Virginia are required to comply with these provisions through the permit requirements in 33CSR2 sections 4.2.a., 4.2.b.,5.1. and 5.2., sludge processed outside the state would be exempt from compliance with these provisions. This creates a situation where the rule exceeds the statutory authority granted by the Code, and also treats out-of-state sludge differently fom in-state sludge.

The comments above apply here also, in that the exemption is not tied to any compliance with pollutant limits, nor of 503.33(b)(1) thru(8).

The agency should go through a process that complies with Federal rule, State law and stay within the constitutional considerations to create a clean sludge.

4.1.c.2. Entirely, should be reworked.

4.2. Title should be changed to General Processing Facility and Land Application Permit Application Requirements.

6.4 Fee Assessments. WV Code 22-15-20(b)(12) provides that the land application fee schedule shall vary according to the volume of materials handled and the contaminant level of the sewage sludge.Sludges that exceed table 1 levels, thus requiring the agency to develop temporary loading rtes based on table2 should be assessed at a higher fee.

Table3. Maximum Allowable Soil Concentrations. I am advised that the understanding that the new numbers arrived at through considerations of worst case scenarios and the outdated EPA 503 risk assessments, thus providing an inadequate margin of protection for soil health.

If it is the intent to create incentives for clean sludge, it could do so through more attention to Table 3 than through the flawed mechanism in 4.1.c.2. See Cordnell Waste Management Institute entitled "The Case for Caution:Recommendations for Land Application of Sewage Sludges and an Appraisal of the US EPA's Part 503 Sludge

Rules" by Ellen Z. Harrisonm Murray B. McBride, and David R. Bouldin.

Thank you for this chance to comment on these proposed sludge rules.

Sincerely,

Shirley Mullett
Coordinator /WCSWA

To Bill Rinelander
DEP
Office of Wast Mgt

From WCSWA
Shirley Mullett

July 22, 1999

Bill Rheinlander, PIO
DEP Office of Waste Mgt.
1346 Hansford Street
Charleston, WV 25301-1401

Re: Comment on 33CR2 Sewage Sludge Management Rule

1) Requirement of Nitrogen soil testing of land application sites.

Nitrogen is a highly volatile element. In the soil, it changes considerably depending on the soil temperature, moisture, etc. Data collected in the winter will not be comparable to samples collected in the summer. I would recommend that WWTPs not be required to collect nitrogen analysis. It is costly to them and will only deter them from encouraging the land application.

2) Site specific requirements

Refer to USDA Soil Surveys when possible in the regulations to simplify the planning process. Specifically, this would help avoid confusion when soil permeability falls at a soil survey break point.

3) Agronomic loading rates

Why weren't Site Application (Nutrient Management) Plans specifically referred to in the regulation as a requirement?

Sincerely,

Joseph L. Hatton

Cecil H. Underwood
Governor

West Virginia
Soil Conservation Agency
1900 Kanawha Boulevard, East
Charleston, WV 25305-0193
Phone: (304) 558-2204
Fax: (304) 340-4839

Gus R. Douglass
Chairman

Lance Tabor
Executive Director

July 22, 1999

WV Division of Environmental Protection
Office of Water Resources
1201 Greenbrier Street
Charleston, WV 25311-1088

To Whom It May Concern:

I am writing in reference to the proposed legislative rule amendments for sewage sludge land application. While I recognize today is the final date for public comment, our agency did not receive a copy of the proposed change and was unaware this was occurring. We would appreciate the opportunity to review these proposed changes and provide comments. We respectfully request until July 31, 1999, to formulate and submit our comments to these amendments.

Please contact me at (304) 558-2204 if you have any comments or questions.

Sincerely,

W. Russell Campbell
Assistant Director

c. Joe Hatton

File # 180-16

July 22, 1999

Bill Rheinlander, PIO
DEP Office of Waste Mgt.
1346 Hansford Street
Charleston, WV 25301-1401

Re: Comment on 33CR2 Sewage Sludge Management Rule

I would like to comment on the requirement of Nitrogen testing in Soil Samples for Approving Land Applications sites.

I feel these parameters of Total Nitrogen (N), Ammonia N and Organic N are unnecessary for evaluating a potential site. Having spoke to a few experts in the field, they also feel the N testing produces extremely varied results that would be very difficult to interpret.

Another concern for N testing that it would be the additional costs incurred upon the producer of the biosolid. WVU Agronomy soil testing labs are currently performing the Soil analysis at no cost to the facility but they do not perform the N testing required by the DEP. In order to comply with current regulation we are required to send soil samples to other testing facilities.

Theses tests can run a producer of biosolid a minimum $15.00 per field that's to be evaluated. These costs can quickly add up during the evaluation process of numerous field. These costs could keep facilities from evaluating farms in the future. This only hurts the farmer who can greatly benefit form the program.

Regards,

Alfred R. Roman II
City of Fairmont, WV
Pretreatment and Biosolids Coordinator

July 22, 1999

WV-DEP Public Information Office
1356 Hasford Street
Charleston, WV 25301-1401

Please consider the following revisions to the proposed amendments to 33-CSR-2, the Sewage Sludge Management Rule.

1. Section 3.2.b. This section references a section, 3.1.b, which does not exist. The intent seems to refer to land use restrictions, however, I believe some additional discretion on restrictions may be warranted. Therefore, the reference to 3.1.b must be changed to 3.2.a.1 through 3.2.a.12. This leaves some discretion with the director to address lands unsuitable for application.

The reference to 40CFR503.33(b) is broader than allowed under federal rules. I believe the intent would be better met by restricting the reference to those portions of 40CFR503.33(b) that are permitted under federal rules. This would involve limiting the options for vector attraction reduction and imposing additional restrictions on metals contents of sludges. Therefore, the rule must be changed by inserting after 40CFR503.33(b) wording such as the following: "subsections (b)1 through (b)8 and Table 1 of this rule". Note: This same language change will be needed elsewhere in the rule as indicated below.

2. Section 3.2.c. In the original rule, this section implemented the soil concentration standards and also established a variance for those standards. It is my understanding that the Legislature never intended to establish a permanent variance procedure, but that this process was established as an interim compromise measure until the revisions referred to were proposed by the director. I also understand that no such variance has ever been granted by the DEP, suggesting that no such variance is needed to successfully operate this program in West Virginia. Since there is a tendency in many regulatory bodies for "the variance to become the rule", and since it is not needed, eliminating this provision will minimize confusion and better meet legislative intent. I recommend that the final rule delete all of section 3.2.c EXCEPT the first sentence.

3. Section 3.2.c.3. One year is less protective than six months. I prefer the original language. Also, the monthly sampling is less protective and I would prefer to delete the last phrase added to that section.

4. Section 4.1.c.1. As indicated above, please add after 40CFR503.33(b) words such as: "(b)1 through (b)8 and Table 1 of this rule".

5. Section 4.1.c.2. As indicated above, please add after 40CFR503.33(b) words such as: "(b)1 through (b)8 and Table 1 of this rule".

Since the land application permit is the only section of the rule that requires soil monitoring, and since such monitoring is required to assure that land application does not violate 22-15-20 (b) 6 of the state code, this section is extremely problematic. I appreciate the intent to provide an incentive for cleaner sludges, although the above restrictions are needed to assure that. Nevertheless, state code may not allow bulk sludge application without soil monitoring. I therefore have concluded that the only legal and technically valid way to meet the language and intent of the code, while providing a permit-waiver incentive for cleaner sludges, would be to restrict this permit waiver to very clean sludges, i.e., those whose metal levels are less than acceptable annual pollutant loss rates due to erosion, leaching or volatilization. Thus the language in this regard that was used in section 3.2.c may be appropriate. This however would require the agency to establish procedures adequate to do this on a site-by-site basis. An alternative approach would be to establish a "Very Clean Sludge Standards" Table (a new Table 4), with metals levels and loading rates below those pollutant loss rates. I propose metals from the "Very Clean Compost" standards from The Netherlands, which were established to meet this precise goal, (July 1993) as follows:
Arsenic 5 ppm; Cadmium 0.7 ppm; Chromium 50 ppm; copper 60 ppm; lead 100 ppm; mercury 0.3 ppm; nickel 20 ppm; zinc 200 ppm. (No levels were reported for selenium,, but I recommend a level from Ontario of 2 ppm.)

6. Section 4.2 The title to this section is very confusing. I recommend that it be changed to the following: Application Requirements for Processing Facility and Land Application Permits"

7. Section 6.4. An alternative to establishing separate sludge metals limits or soils criteria as a basis for providing an incentive to clean up sludge would be to adjust fee assessments. A higher fee for dirtier sludges would be appropriate. This could be balanced by lowering the fees on cleaner sludges, or eliminating them altogether for the Very Clean sludge as in my proposed Table 4. This would allow the agency to remain within the $200,000 fee assessment cap. I am not especially fond of such a cap as I recognize the need to generate funding adequate to support a quality program. Nevertheless, the cap seems to be a political necessity. Thus adjusting fee levels would provide the needed incentive in a very clear and understandable way.

Thank you for the opportunity to comment.

Sincerely,

James Kotcon

James Kotcon
412 Tyrone-Avery Road
Morgantown, WV 26508

RESPONSE TO COMMENTS ON PROPOSED SEWAGE SLUDGE MANAGEMENT RULE (Public Hearing on July 22, 1999)

Request to extend the public comment period to July 31, 1999.

Response: The comment period was not extended, due in part to the short time frame for filing the proposed rule and related documents with the West Virginia Secretary of State and the Legislative Rule Making and Review Committee.

The requirement in 4.2.c.1 to perform soil nitrogen analysis at each land application site should be eliminated.

Two individuals commented that soil nitrogen test results are unnecessary, costly to facilities wishing to land apply sewage sludge, and that nitrogen results vary according to soil temperature, moisture, etc. making them difficult to interpret.

Response: The agency agrees that soil *nitrate* tests are variable, depending on a number of unrelated factors. However, the agency has been requiring an *organic nitrogen* test on proposed land application sites as part of the permit application. The organic nitrogen test is useful in evaluating residual nutrients left in the soil, for example, from past manure applications. While residual nitrate in the soil can vary and may not be useful information, the organic nitrogen level in the soil can be used to screen sites where over application of organic fertilizers has occurred and/or prevent unnecessary application of sewage sludge to a site with a high level organic nitrogen already in the soil. Therefore, the agency will not propose any changes to the soil nitrogen sampling requirement.

The sludge rules should refer to United States Department of Agriculture soil types whenever possible. This would simplify the planning process and avoid confusion when a soil permeability falls at a soil survey breaking point.

Response: USDA soil surveys could be used to compile a list of soil types with characteristics suitable for land application of sewage sludge, e.g. slope <15%, depth to groundwater >2 feet, permeability >0.6 and <6.0 inches/hour, etc. When a new site was proposed for land application, the site's soil type(s) could be compared to the list and a determination made on whether the site was suitable for land application. However, there are at least two problems with this approach. The soil surveys maps are not entirely accurate and not all counties have completed surveys.

DEP prefers the current rule strategy of listing the actual environmental controls in the rule's list of site restrictions. No additional resources are needed by citizens wishing to determine where sewage sludge can legally be spread, i.e., it is easier for the average citizen to interpret "sewage sludge can't be spread on slopes exceeding 15%" than "sewage sludge can't be spread on soils with a D phase USDA designation." DEP does agree that such a list of soil series would be a useful resource to use as *part* of the planning process, but it would not replace an actual site visit.

Site Application (Nutrient Management) Plans should be specifically required in the rule.

Response: The information necessary for calculating an agronomic loading rate for a sewage sludge land application site is already required by the rule for each land application site. The site management plans (or nutrient management plans) are to be prepared by the West Virginia Soil Conservation Agency as part of a "Memorandum of Agreement" between that

agency and the DEP Office of Water Resources. This Agreement is not permanent and can be terminated by either party with 60 days written notice. If the agreement was terminated, the WV SCA might be unable or unwilling to perform these nutrient plans for sewage sludge land application sites, making compliance with the suggested requirement difficult or impossible.

Subdivision 3.2.b of the rule incorrectly refers to a non-existent section 3.1.b of the rule

Response: This error in the rule was noted by DEP shortly after filing the rule, and a letter was sent to the Secretary of State's Administrative Law Division to notify any recipients of the proposed rule of the error. Subdivision 3.2.b of the rule should reference 3.2.a.1 through 3.2.a.12. The rule will be amended to correct this error.

Subdivisions 3.2.b, Paragraph 4.2.c.1, and Paragraph 4.2.c.2 of the rule should reference the Table 1 metals limits, and should only allow vector attraction reduction options 1-8 from 40 CFR, 503.33.

Response: The metals limits and vector attraction reduction requirements are addressed in other areas of the rule, but in order to avoid possible confusion, the wording of the rule will be amended to clarify that the Table 1 metals limits do apply and that only vector attraction reduction options 1-8 may be used for these provisions.

The title of Subsection 4.2 is confusing and should be changed.

Response: The agency agrees with this comment and the 4.2 of rule will be amended to read "General, Processing Facility, and Land Application Permit Application Requirements." Additionally, the titles of subdivisions 4.2.b and 4.2.c will also be changed to avoid similar confusion: "Sewage Sludge Processing Facility Permit Application Requirements" and "Land Application Permit Application Requirements," respectively.

The variance language in 3.2.c. should be taken out of the rule.

Commentors noted that no variance from the soil limits has ever been issued by the agency under this provision, concluding that none should be necessary in the future. One commentor expressed a concern that the variance might "become the rule."

Response: Soil limits for five of the metals are proposed to be lowered from the values that were in effect when the variance language was written into the rule in 1996. Since the limits are being lowered, an historic comparison of the necessity of the variance is not appropriate.

There is no environmental justification for prohibiting land application of sewage sludge to a site with a metal concentration exceeding the Table 3 soil limit, in cases where the metal is present at such a low (or non-detectable) level in the sewage sludge that the land application of such sewage sludge would not contribute to any additional accumulation of that metal in the soil.

Regarding the necessity of the variance procedure, DEP has determined that a small percentage of soils in the state have background levels of arsenic that do exceed the proposed maximum allowable soil concentration for arsenic. While this will not create a large scale problem across the whole state (as with the original soil limit of 5.7 mg/kg), it could create unnecessary and burdensome problems for a few municipalities who have limited acreage available for land application. Arsenic is rarely even detected in most municipal sewage sludges. The application of sewage sludge that does not contain arsenic would not increase the level of arsenic in the soil, and should be allowable through a legal mechanism.

The agency has made every effort to write into the rule very strict variance conditions, i.e. no net accumulation of any metal exceeding the Table 3 limit, a requirement for annual soil sampling to demonstrate "no net accumulation," and limiting the variance only to those situations where the background metal concentration exceeded the limit before any application of sewage sludge products to the site -*not as the result of the application of sewage sludge*. Further, any proposed variance would be open to public review and comment as part of the normal permit application process for any land application site.

The variance procedure proposed in this rule is necessary, justified, protective of human health and the environment, and sufficiently narrow in scope and application so as to avoid misuse.

The provisional land application period should not be extended from six months to one year.

Commentors were concerned that this would provide a lower level of protection, and believed that six months was an adequate time to correct short term excursions. One commentor also questioned the monthly sampling requirements, stating that it was less protective than the current rule.

Response: Whenever a facility's sewage sludge analysis shows a metal exceeding the Table 1 limits but still within the Table 2 limits, the current rule allows temporary loading rates to be established by DEP to allow continued land application for up to six months while the problem is being corrected. Although the concentration of metal in the sludge is higher, this temporary sewage sludge loading rate is designed so that the metals loading (lbs/acre) is actually reduced from the loading during normal land application periods. Additionally, DEP routinely *increases the sewage sludge sample frequency* during provisional land application periods from quarterly or semi-annual to monthly sampling, and requires influent and effluent sampling for the parameter in question.

It typically takes about three to four weeks for sewage sludge sample results to be returned from a laboratory. By the time the results are entered into a report form, mailed to DEP, and reviewed, another six weeks will pass. Locating the source(s) of a given metal in a large collection system can sometimes be complicated and time consuming. Once located, even more time may be involved in finding a solution to the problem. Even after the source of the metal is located and corrected, the sludge remaining in the treatment plant has to move through the treatment process, aeration tanks, digesters, etc. This can take another 2 months.

The agency is proposing to improve this process by requiring generators to notify DEP within five days of any Table 1 excursions. This will not only get investigations to correct the problem underway sooner, it will also expedite the issuance of temporary loading rates by DEP. This will take nearly two months off the "front end" of the six-month provisional period.

DEP is proposing to increase the *maximum* period allowed for provisional loading rates to one year to accommodate those situations where such a period is warranted, but is also emphasizing prompt reporting of excursions, increased monitoring, and implementation of corrective action. Even though the provisional period could be extended to one year, the metal loadings would actually be decreased.

4.1.c.2 of the proposed rule does not meet the statutory requirements of 22-15-20(b)6.

One commentor noted that since the land application permit application is the only place in the rule requiring soil metals analysis, eliminating the permitting requirement (and in so doing the soil monitoring requirement) for any bulk sewage sludge application site would not comply with the

statute. The commentor maintained that the only legal and technically valid way to meet the language and intent of the code, while providing a permit waiver incentive for cleaner sludges, would be to restrict this permit waiver to very clean sludges.

Response: The statute itself does not require soil monitoring. Rather, the statute requires that the sludge rules assure that "no person be allowed to apply sewage sludge to land in a manner which will result in exceeding the maximum soil concentration..." for the regulated metals. It is the agency's position that limiting the permit exception to land application of no more than two tons/acre on a maximum of two acres will, in effect, assure that no person applies sewage sludge in a manner that results in exceeding the Table 3 limits.

Since the soil limits are set slightly above the naturally occurring range for all parameters except arsenic, it can be shown that at least 22 tons/acre of sludge products could be applied to high end soils (i.e., the 98-percentile soil metals' concentration) at the maximum Table 1 sludge limit without any of those nine parameters reaching their respective proposed soil limits.

For arsenic the soil limit is set at the 98-percentile soil concentration. The addition of two tons/acre of sludge at the maximum limit would increase the soil concentration by at most 0.04 mg/kg (ignoring erosion, leaching, and plant uptake losses). At least 3.5 tons/acre acre could be added before the arsenic increase was even measurable. However, considering the low probability of this occurrence (i.e., someone wishing to land apply sewage sludge under this provision and who has a 98-percentile background soil arsenic and has a sewage sludge product with 20 mg/kg arsenic and the sludge product has been treated to meet Class A pathogen reduction standards and who wishes to land apply the sludge product several consecutive years), it is the agency's position that this provision's proposed conditions on land application will prevent persons from applying "sewage sludge to land in a manner which will result in exceeding the maximum soil concentration..."

Further, the 98-pecentile arsenic concentration in *sewage sludges* sampled by DEP was 9.1 mg/kg. Using this sludge concentration and the *90-percentile* soil concentration (10.4 mg/kg), over 100 tons/acre of sludge could be loaded to a site without exceeding the maximum allowable soil concentration for arsenic. There is only a 0.2 percent probability that this scenario would occur, even with limiting the variables to background soil and sludge concentrations.

In summary, it is the agency's position that restrictions placed on the use of sewage sludge and the size of the site in rule provision 4.1.c.2 will sufficiently act to prevent the sewage sludge products from being applied in manner that causes violations of the Table 3 soil limits. The proposed rule is both technically justified and compliant with the statutory requirements of 22-15-20(b)6.

4.1.c.2 of the proposed rule does not comply with 22-15-20(b)1, treats in state and out of state sludge products differently, and may cause constitutional appeals.

Commentors were concerned that waiving the permit requirement for some bulk sludge land application sites would exempt an out of state sludge processor from having to comply with 22-15(b)1 and with 4.2.a, 4.2.b, 5.1 and 5.2 of the rule which implements this part of the statue. Since in-state processors have to comply with these requirements, the proposed rule creates a potential constitutional infirmity.

Response: The intent of the proposed language in 4.1.c.2 of the rule is not to exempt in-state or out of state processors from the requirements of 22-15-20(b)1 or the rules promulgated to implement those requirements. Rather, the intent is exempt both in-state and out of state processors from obtaining a *land application* permit for each site that meets the requirements of the proposed 4.1.c.2. The proposed language of the rule will be amended to clarify this intent and to ensure that all processors, whether in-state or out of state, are required to comply with the

statutory requirements of 22-15-20(b)1 and the requirements of 4.2.a and 5.1 of the rule. The sewage sludge processing facility permit requirements of 4.2.b and 5.2 would not apply to an out of state processing facility, regardless of the proposed rule provision.

The proposed language of 4.2.c.2 will be changed to:

4.1.c.2. Any person who land applies bulk sewage sludge products which meet the Table 1 metals limits of this rule, and which have been treated to achieve Class A pathogen reduction requirements in accordance with 40CRF503.32(a) and one of the vector attraction reduction requirements in 40CFR503.33(b)1 through (b)8, is not required to obtain a land application permit for sites where such products are applied on agricultural land less than two acres in size and the annual quantity of sludge product applied to that site does not exceed two dry tons per acre, except that those products derived from domestic septage shall not be exempt from permitting requirements. This exemption from permitting does not apply to multiple sites on the same parcel of land, and does not exempt sewage sludge processing facilities from any other permitting or reporting requirements of this rule or of the Sewage Sludge Management Act.

The fee assessment rates in 6.4 of the rule should be adjusted to provide an incentive to produce a cleaner sewage sludge product.

Response: At this time the agency has elected not to change the fee structure contained in the rule.

The soil limits proposed in Table 3 of the rule are based on worse case scenarios and the outdated EPA 503 risk assessment, and will provide an inadequate margin of protection for soil health.

Some of the proposed Table 3 limits are above soil screening benchmarks proposed by Oak Ridge National Laboratory and above the soil limits for sewage sludge land application sites proposed by Cornell University's Waste Management Institute. Phytotoxicity was a particular concern to one individual.

Response: The proposed soil limits are more than "adequate" to protect soil health and guard against phytotoxicity. These limits are a result of three years of investigation and study into current research, the EPA risk assessment methodology, and soil metal concentrations in West Virginia. The proposed limits are not based on the EPA risk assessment findings, and are much more protective of West Virginia's soil health. Nor are the limits *based on* worse case scenarios. The limits are based on an evaluation of available research and many other pieces of information. A generalized "West Virginia worse case scenario" was one of many pieces of information evaluated. It should be noted that in most cases the "worse case scenario" values were either lower than or comparable to values derived from other sources of information, such as Cornell University and Oak Ridge National Laboratory. When these other sources of information documented support for lower soil limits because of various environmental concerns that are applicable to land application of sewage sludge in West Virginia, the more conservative value was ultimately proposed for use in West Virginia.

DEP reviewed the assumptions in the federal risk assessment and performed an extensive sampling of soils proposed to be used for sewage sludge land application sites. One conclusion from this was that background soil metals' levels in West Virginia differed from the background values used in the risk assessment for some parameters. Given the small number of samples used in the risk assessment to determine the "national average" background metals concentrations for some parameters, DEP concluded that some of the values used in the risk

assessment were not representative of conditions in West Virginia. DEP also concluded that some other conditions in West Virginia could differ from risk assessment assumptions. These included depth to the groundwater table, depth of incorporation of sludge into the soil, percentage of a farms' acreage used annually for sludge application, and even some dietary assumptions. Also, the risk assessment did not consider simultaneous impacts from different pollutants or different pathways of entry for the same individual.

DEP also choose that, in some cases, it would like to adhere to a higher level of protection than the risk assessment did. For example, DEP did not deem a 50% reduction in crop yield as an acceptable standard of protection for a product marketed to improve crop yields. A standard, such as Oak Ridge National Laboratory's, designed to protect against a 20% reduction in production from 10% of the plant species on a site seems a more reasonable regulatory standard for such a product.

DEP did calculate projected soil concentrations of metals that would result from the addition of the EPA risk-based cumulative pollutant loading limits in the federal regulations. The DEP calculation incorporates the background metals values used in the risk assessment; accounts for plant uptake (micronutrient demand) of copper, molybdenum, and zinc; and makes an adjustment for dispersion depth. While DEP did decide to deviate from the federal limits and recommend more conservative limitations on accumulation of metals in the soil, DEP believes that soil concentrations calculated from the federal risk-based loading limits are useful as a reference point for comparison.

DEP then calculated the projected soil concentrations of metals that would result from a "West Virginia worse case scenario." The "West Virginia worse case scenario" was defined as loading 200 dry tons of sludge per acre with the maximum allowable sludge metal concentration to a soil with the 90-percentile background level of metal. The worse case scenario values were compared to the values calculated from the EPA pollutant loading rates. The lesser of these two values was then compared to available research on plant toxicity/soil productivity, etc. This comparison was made for each metal and adjustments were made for some metals to better protect soil health and productivity. Research from both Cornell and Oak Ridge National Laboratory was reviewed and carefully considered before the final soil limits were proposed in June 1999.

Comparison to the Oak Ridge National Laboratory screening levels and Cornell recommendations:

First, it is important to understand that the Oak Ridge values were proposed as soil *screening levels,* not as soil limits. The Oak Ridge report recognizes its significant bias in the use of soluble metal salts for the toxicity tests. *"These salts are likely to be more toxic than the mixture of forms encountered in field soils.* That bias would result in conservative benchmarks." "*Most metals in natural soils and contaminants of waste sites are in poorly available forms."* This level of conservatism may be desired in a screening benchmark for soils to "determine which are worthy of further consideration as contaminants of concern." There is nothing wrong with having conservative benchmarks when they are applied to their intended use, but using these as regulatory limits is not an intended or appropriate use. The report, itself, states that "*these benchmarks are to be used as screening values and do not require the consistency and precision of regulatory criteria." [Emphasis added in report quotes.]*

Cornell's recommendations are based on conditions in New York State. While many of their recommendations may be applied in West Virginia and/or nationally, not all of their recommendations are "universal." For example, the soil limits proposed by Cornell are more conservative, in part, because of northeastern acid soil concerns and the prevalence of sensitive agricultural plant species in New York State. The report does not address soil liming in conjunction with the land application of sewage sludge, perhaps because neither the Federal rule (which it is critiquing) nor New York State rules require adjusting the soil pH. Since West Virginia

does require pH adjustment of the soil to 6.2 or above and the maintenance of that pH for five years after the last addition of sewage sludge to a site, metals are generally less mobile and pose less of an environemntal threat .

The following information is provided for each parameter in an effort to sort out which research data is applicable to West Virginia's sewage sludge land application site soil limits.

Arsenic

The proposed arsenic limit of 13 mg/kg is in the range of naturally occurring soils and is comparable to Oak Ridge's proposed screening level for phytotoxicity (10 mg/kg) based on studies using highly available inorganic arsenic salts. Also, the Oak Ridge screening level is based largely on several studies with a 10 mg/kg "No Observed Effect Concentration" and one study which showed a reduced barley yield when grown in sand with an arsenic salt concentration of 2 mg/kg. Sand soils would generally have a permeability which would exclude them from being used as sewage sludge land application sites in West Virginia (the maximum allowed permeability is 6.0 inches/hour), so this data point should not be applicable for West Virginia sewage sludge land application. Also, the permeability of the "fine sandy loam" used in the Deuel & Swoboda (1972) study would be questionable for use in West Virginia's land application program; this study showed yield reductions at 11.2 mg/kg in the fine sandy loam. "Fine sandy loam" and "loamy fine sandy" soils such as those from the Ashton and Lakin Series present in West Virginia have permeability's greater than 6.3 inches/hour.

Additionally, the Oak Ridge screening values are rounded down to one significant figure, so the proposed limit of 13 mg/kg is within the same range as the Oak Ridge screening level. Since the Oak Ridge screening value is based on data from highly available arsenic salts applied in sandy soils which would not be used for sludge application in West Virginia, and numerous "No Observed Effect Concentration" values of 10 mg/kg are reported in other soil types by the Oak Ridge study, the agency maintains that the proposed soil limit of 13 mg/kg will protect against plant toxicity from arsenic introduced to the soil by the land application of sewage sludge.

The Cornell recommendation for an arsenic soil limit mirrors the range of "typical agricultural soil concentrations" for New York State. In the same manner, West Virginia's proposed soil limit for arsenic is with in the range of background soil arsenic concentrations found in this state. DEP is also proposing to lower the arsenic limit in sewage sludge in order to further limit the accumulation of arsenic in the soil.

Cadmium

The proposed value (2.4 mg/kg) is lower than the Oak Ridge National Laboratory screening values for phytotoxicity (4 mg/kg) or soil invertebrates (20 mg/kg), and is comparable to the Cornell recommendation (2 mg/kg).

Chromium

Experiments reviewed in the Oak Ridge report were based on hexavalent chromium salts. Setting a regulatory limit for total chromium based on hexavalent chrome results is not appropriate. Since hexavalent chromium is a strong oxidizer and oxidation-reduction reactions (such as nitrification/denitrification) are a natural occurrence as part of the wastewater treatment process, the chromium present in the sewage sludge would generally be expected to be trivalent. DEP does have regulatory authority to require monitoring for additional parameters, and could use this authority if hexavalent chromium was considered a potential concern at a particular facility because of an industrial discharger, such as a chrome plating operation. *Note also that the proposed total chrome limit (290 mg/kg) is still well below the Brownfields residential soil limit for hexavalent chromium (390 mg/kg).*

Cornell did not recommend a limit for total chromium in the soil.

Copper

Of the thirty four different test designs reviewed in the Oak Ridge report, only four showed any effect to soil invertebrate test species when copper salts were added at concentrations lower than the proposed soil limit for copper. Two of these studies utilized soils with a low pH (5) and three utilized sandy loams with relatively low organic content. When copper chloride was added to sandy loam (pH of 5) with higher organic matter content, the "Lowest Observed Effect Concentration" raised to at least 122 mg/kg. Further, at least one study concluded that copper and zinc act antagonistically at the low concentrations tested.

A study by Hartenstein (1980) was not cited in the Oak Ridge report, but was the only study used in the federal sludge risk assessment. This study showed "no toxic effects" on *E. Foetida* after it fed on sewage sludge with a copper concentration of 1,500 mg/kg.

The Oak Ridge "soil screening" value for earthworms was 50 mg/kg and 100 mg/kg for microorganisms. Since the ionic copper salt studies are not representative of the typical chemical conditions at sewage sludge land application sites and would over-estimate the bioavailability of copper in these circumstances, the agency maintains that the proposed limit (92 mg/kg) is protective of soil invertebrates.

Regarding phytotoxicity, the Oak Ridge screening value was 100 mg/kg for terrestrial plants. The proposed maximum soil limit (92 mg/kg) is lower than the Oak Ridge value. The Cornell report references research from three studies indicating copper levels in the 100-125 mg/kg range for phytotoxicity threshold to "protect most sensitive field crops."

Lead

The EPA risk assessment did not evaluate lead toxicity to plants in non-agricultural settings. However, data from the Oak Ridge report shows that lead reduces growth in woody plants at a much lower concentration than is needed to impact herbaceous plants. According to the Oak Ridge report, the addition of lead chloride at 50 mg/kg reduced growth of red oak seedlings in a sandy loam and the same concentration reduced growth of sycamore saplings in silty clay loam soil. An addition of 250-1000 mg/kg of lead was needed to reduce growth of herbaceous plants.

The proposed limit for total lead in soil is 85 mg/kg. Given that the Oak Ridge *screening* level (50 mg/kg) is based on the effects of lead chloride salt which are not representative of the typical chemical conditions at sewage sludge land application sites and that there is a low probability of the use of sewage sludge in hardwood (i.e., red oak) woodland areas, the agency maintains that a maximum allowable lead concentration of 85 mg/kg will protect soil quality at sewage sludge land application sites.

Cornell recommended a maximum level of 150 mg/kg, with "the lowest attainable levels desirable."

Mercury

The Oak Ridge soil screening bench mark for plant toxicity is given a low level of confidence rating from the report writers because only two studies were reviewed -- one reported "unspecified toxic effects on plants" with 0.3 mg/kg mercury and the other study reported a toxicity threshold two orders of magnitude higher. The earthworm toxicity benchmark is also based on only two studies and has a low confidence level. Note also that the benchmark for soil microorganisms was 30 mg/kg. Cornell recommends a precautionary level of one mg/kg but gives no description of the derivation of this value.

The agency maintains that a maximum allowable mercury concentration of 2.4 mg/kg will protect soil quality. This value is over three times lower than Brownfields residential standards.

Molybdenum

The Oak Ridge soil screening benchmark of 2 mg/kg is based on only *one study* that reported "unspecified toxic effects on plants" with the addition of 2 mg/kg molybdenum. The Oak Ridge report also cites another reference that states that phytotoxicity of molybdenum in the field has never been demonstrated. Molybdenum was not evaluated for phytotoxicity in the EPA risk assessment. Of greater concern than phytotoxicity is toxicity to ruminants grazing on sludge amended soil. Cornell has suggested a value of four mg/kg for molybdenum in the soil. The proposed limit of 4.6 mg/kg is very comparable to this value.

Nickel

The soil screening benchmark from the Oak Ridge report is based on experiments that were biased by low soil pH, highly available metal salts, and soil with low organic matter content. The screening value recommended by Oak Ridge was 30 mg/kg. West Virginia's proposed limit is 50 mg/kg in sandy to silt loam soils, and 83 mg/kg for other soils.

The Cornell report notes research that red beet production can be reduced at 50 mg/kg, but also references research from two studies indicating threshold values to protect "most sensitive field crops" against phytotoxicity well above the proposed Table 3 value. No information on soil type, the source of the nickel, or the chemical form of the nickel in the red beet study was given in the report. The agency is confident that the proposed nickel limit will protect against phytotoxicity at sewage sludge land application sites.

Selenium

Most of the test data cited by the Oak Ridge report is from studies utilizing sodium selenate. One study did compare the effects of selenate and selenite (Carlson, 1991). Selenate had severe growth reductions at 1 ppm, while no reductions were observed with selenite salt additions up to 4 ppm in a loamy sand soil. When selenite was added to a low pH (4.9) sand, reductions were observed with 2 ppm additions. The applicability of these test results to sewage sludge land application sites in West Virginia is questionable, given the state's minimum soil pH and maximum soil permeability requirements.

The oxidation state of the selenium also plays an important role in plant toxicity. As with chromium, it would be expected that the lower oxidation state form (seleni*te*) would be the prevalent form in wastewater treatment plant sludges due to the redox reactions inherent to the treatment process. Seleni*ate* is the more toxic form of selenium.

Possible effects of selenium on foraging animals are also a concern. DEP has further reviewed the information on selenium presented by Cornell. Only one study relating selenium levels in the soil to the concentration in forages is referenced in the report. No information was given about the source of the selenium or the form in which the selenium was added to the soil, and the original research was not available for review.

The proposed limit (10 mg/kg) is about 10% of the EPA risk based value for human consumption and about 3.5% of the Brownfields residential standard. The agency will continue to review information on selenium, but maintains that the proposed limit is protective of human health and soil quality.

Zinc

Research has shown that some legumes are more sensitive to zinc toxicity than other terrestrial plant groups. The applicability of studies conducted on legumes grown in low pH sandy soils to West Virginia land application sites is again questionable.

In West Virginia sewage sludge is rarely spread on any legume crops, with the exception of clover dispersed though meadows and pastureland. To apply the screening level based on legume studies to all land application sites would be inappropriate.

Cornell references recommendations from Penn State (1985) which suggest soil limits ranging from 130 mg/kg for sandy/silt loam soils to 200 mg/kg for silt to clay soils to protect sensitive species.

The proposed zinc limit for soils with legume crops is the same as recommended by Cornell. The limit for other soils is 290 mg/kg.