WEST VIRGINIA
SECRETARY OF STATE
Betty Ireland
ADMINISTRATIVE LAW DIVISION

Form #1

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OFFICE WEST VIRGINIA SECRETARY OF STATE

NOTICE OF A PUBLIC HEARING ON A PROPOSED RULE

AGENCY: ~~Department of~~ Environmental Protection, Secretary's Office TITLE NUMBER: 60

RULE TYPE: Legislative CITE AUTHORITY: W.Va. Code §22-22-3

AMENDMENT TO AN EXISTING RULE: YES [X] NO [ ]

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 3

TITLE OF RULE BEING AMENDED: VOLUNTARY REMEDIATION AND REDEVELOPMENT RULE

IF NO, SERIES NUMBER OF RULE BEING PROPOSED:

TITLE OF RULE BEING PROPOSED:

DATE OF PUBLIC HEARING: July 12, 2007 TIME: 6:30 P.M.

LOCATION OF PUBLIC HEARING: WV Department of Environmental Protection
Division of Land Restoration, Coopers Rock Training Room # 1203
601 57th Street, S.E.
Charleston, WV 25304

COMMENTS LIMITED TO: ORAL [ ] WRITTEN [ ] BOTH [X]

DATE WRITTEN COMMENT PERIOD ENDS: July 12, 2007 TIME: At close of hearing

WRITTEN COMMENTS MAY BE MAILED TO:

The Department requests that persons wishing to make comments at the hearing make an effort to submit written comments in order to facilitate the review of these comments.

WVDEP, Division of Land Restoration
601 57th Street, S.E.
Charleston, WV 25304
Attn: Ken Ellison, Director

The issues to be heard shall be limited to the proposed rule.

ATTACH A **BRIEF** SUMMARY OF YOUR PROPOSAL

Authorized Signature

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BRIEFING DOCUMENT

Rule Title: Voluntary Remediation and Redevelopment Rule

A. AUTHORITY: W.Va. Code §22-22-3

B. SUMMARY OF RULE:

The rule establishes the eligibility, procedures, standards, and legal documents required for voluntary and brownfield cleanups.

C. STATEMENT OF CIRCUMSTANCES WHICH REQUIRE RULE:

This proposed rule amendment incorporates provisions of the Uniform Environmental Covenant Act and updates the toxicological profiles used in developing the DeMinimis risk-based cleanup standards.

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

There is no federal counterpart regulation, thus no determination of stringency is required.

E. CONSTITUTIONAL TAKINGS DETERMINATION:

In accordance with §22-1A-1 and 3(c), the Secretary 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:

At its meetings on May 21, 2007, and May 30, 2007, the Environmental Protection Advisory Council discussed this rule. (See attached minutes for Council's discussion.)

West Virginia Department of Environmental Protection

ADVISORY COUNCIL MEETING MINUTES

Monday – May 21, 2007
1:00 p.m. – 3:00 p.m.
601 57th Street, SE, Charleston, WV
West Virginia Room – 3rd Floor

ATTENDEES:

Advisory Council Members:

Rick Roberts
Karen Price
Bill Raney
Lisa Dooley
Larry Harris
Jackie Hallinan

DEP:

Randy Huffman, Deputy Cabinet Secretary/Director –Division of Mining & Reclamation
Karen G. Watson, Assistant General Counsel
Ken Ellison, Director - Division of Land Restoration
Lisa McClung, Director – Division of Water and Waste Management
John Benedict, Director – Division of Air Quality
Lewis Halstead, DMR
Ken Politan, DMR
Charlie Sturey, DMR
Jessica Greathouse, Chief Communication Officer – WVDEP – Public Information Office
James Martin, Chief, Office of Oil & Gas
Carroll Cather, DWWM
Pam Nixon, Advocate
David L. Vande Linde, Blasting
Jim Mason, DAQ
Mike Zeto, DWWM – EE
Matt Sweeney, DWWM

VISITORS:

Ann Bradley, Spilman Thomas & Battle
Charlie Burd, IOGA
Don Garvin, WVEC
Dave Yaussy, Robinson & McElwee

Randy Huffman, Deputy Cabinet Secretary - West Virginia Department of Environmental Protection called the meeting to order at 1:00 p.m.
Karen Price stated that the Council did not have enough time to review the rules, therefore was

requesting to have another meeting to discuss further and the remaining of the Council agreed. The Council will meet May 30, 2007 at 10:00 a.m. – WVDEP – 601 57th Street, SE – Charleston, WV 25304 – West Virginia Room (3001).

Deputy Cabinet Secretary Huffman apologized for the short time period regarding the rules getting out to Council. Randy Huffman then introduced Karen Watson, Assistant General Counsel to discuss with the Council the DEP bills that had passed in the 2007 Regular Legislative Session:

- SB 337 – Establishing New Greenhouse Gas Inventory Program
  Approved by Governor – April 4, 2007
- SB 425 – Relating to Water Pollution Control Revolving Fund
  Approved by Governor – April 4, 2007
- SB 465 – Establishing Dam Safety Rehabilitation Revolving Fund
  Approved by Governor – March 27, 2007
- SB 490 – Relating to Underground Storage Tank Insurance Fund
  Approved by Governor – April 3, 2007
- SB 524 – Requiring Proof of Lawful Disposal of Solid Waste
  Approved by Governor – March 28, 2007
- SB 588 – Removing Tax Expiration Date on Manufacturing or Production of Synthetic Fuel From Coal
  Approved by Governor – April 4, 2007

Karen Watson then gave a brief summary of each proposed rule for the 2008 legislative session:

Air Quality

45CSR6 – Control of Air Pollution from Combustion of Refuse

SUMMARY

Proposed Rule 6 is now a basic open burning/ incinerator rule. Revised scope includes 'statutory air pollution,' addition of new language for posted operating instructions and open burning or incineration of animal or poultry carcasses during a declared state of emergency. Except for temporary Air Curtain Incinerators for land clearing debris (DOH jobs) and incineration of animal or poultry remains, most Air Curtain Incinerators will now be exempted under Rule 6 and placed under Rule 18.

COMMENT

Mr. Harris: Why does it allow low-level radioactive waste?

DEP Response: To allow crematories to dispose of bodies with chemo drugs. Does not allow high-level radioactive compounds related to research.

Council wanted to know if the agency would accept comments in writing after the meeting (e-mail in comments)

DEP Response: Yes

45CSR8 – Ambient Air Quality Standards

SUMMARY

NAAQS rules 45CSR8, 45CSR9 & 45CSR12 have been combined for the 2008 legislative session. Rule 8 is now the complete NAAQS incorporation by reference rule, and 45CSR9 & 45CSR12 will be repealed and replaced. Revisions to SO_2 & PM NAAQS include correction of SO_2 annual primary standard from 0.003 to 0.030 ppm, addition of annual and 24-hour $PM_{2.5}$ standards, and addition of measurement methods for $PM_{2.5}$. Revisions to CO & Ozone NAAQS include revocation of one-hour ozone standard except for Berkeley & Jefferson counties, identification of one-hour ozone maintenance areas, and addition of 8-hour primary and secondary ozone standards. Revisions to NO_2 and Lead NAAQS include addition of primary and secondary standards for lead, and addition of measurement methods for lead. Revisions also include general language updates, improved citing and consistency.

COMMENT

Mr. Harris: Are we sure we are protecting the public's health? We should not be lowering standards so that our energy being transmitted to other states doesn't pollute our air. Are we aware of EPA's Science Advisory Panel?

DEP Response: CAIR aims to lower emissions at power plants. Utility controls are helping us meet targets earlier. EPA's regional approach has generally been successful and we are seeing tremendous benefits. The agency is aware of the EPA's panel, and EPA is considering more stringent regulations but has not done so yet.

45CSR16 – Standards of Performance for New Stationary Sources

SUMMARY

Revisions to rule incorporate annual incorporation by reference updates and exclusions.

COMMENT

No questions.

45CSR18 – Control of Air Pollution from Combustion of Solid Waste

SUMMARY

CISWI Rule 18 combines and incorporates by reference all current federal Section 111/129 combustion regulation into one rule. Old Rule 24 will be repealed and replaced. New exemption section is consistent with revised Rules 6, 25 and 34. Revisions also include revised scope, extensive federal counterpart language updates, improved citing and consistency.

COMMENT

No questions.

45CSR25 – Control of Air Pollution from Hazardous Waste Treatment, Storage and Disposal Facilities

SUMMARY

Revisions to the proposed rule include general annual incorporation by reference and revisions required to maintain consistency with the DWWM's rule 33CSR20 and federal counterpart regulation. Addition of direct incorporation by reference of new provisions published in the Federal Register. Language for pathological waste incinerators is revised for clarity.

COMMENT

No questions.

45CSR34 – Emission Standards for Hazardous Air Pollutants

SUMMARY

Rule 34 now combines all NESHAP regulations previously adopted under both Rules 15 & 34. Old Rule 15 will be repealed and replaced. Revisions to Rule 34 incorporate annual NESHAP updates under Parts 61 & 63. Some Part 63 standards affecting non-major sources of hazardous air pollutants are being excluded from incorporation by reference: Oil and Natural Gas; Polyvinyl Chloride and Copolymers; Primary Copper Smelting; Secondary Copper Smelting; and Primary Nonferrous Metals.

COMMENT

No questions.

45CSR39 – Control of Annual Nitrogen Oxides Emissions

SUMMARY

Annual CAIR NOx Rule - Incorporates revisions to 40 CFR Part 96.

COMMENT

No questions.

45CSR40 - Control of Ozone Season Nitrogen Oxides Emissions

SUMMARY

Ozone Season CAIR NOx Rule - Incorporates revisions 40 CFR to Part 96.

COMMENT

No questions.

45CSR41 – Control of Annual Sulfur Dioxide Emissions

SUMMARY

Annual CAIR SO_2 Rule - Incorporates revisions to 40 CFR Part 96.

COMMENT

No questions.

45CSR42 – Greenhouse Gas Emissions Inventory Program

SUMMARY

The Greenhouse Gas Inventory Program Rule is authorized by SB337 passed in the 2007 legislative session. The rule establishes a program which requires the reporting and inventory of greenhouse gas emissions by stationary sources which emit more than a *de minimis* amount; inventories greenhouse gas emissions from stationary, area, mobile and biogenic sources, and accounts for reductions, capture and sequestration; provides for: a periodic compilation of a greenhouse gas inventory; a determination whether WV is a net sink or emitter; development of a registry for voluntary reductions; and a determination whether greenhouse gas can be developed as an asset for economic development.

COMMENT

Mr. Raney: Is the exclusion still there for coal preparation activities?

DEP Response: Yes, section 3.2. (45CSR42)

Mr. Raney: How do we quantify sequestration?

DEP Response: Don't think we will get down to stationary source level. Agency will look at area sources and biogenic activities. Once we get information, we will compile in an inventory.

Division of Water and Waste Management

33CSR9 – Standards for Beneficial use of Filtrate from Water Treatment Plants

SUMMARY

This legislative rule establishes a mechanism and requirements for the permitting, siting, bonding, and use of water treatment plant sludge from water treatment plants that has beneficial properties. This rule applies to the beneficial use of water treatment plant sludge and to any person who seeks approval from the Secretary to beneficially use such sludge within the state. This rule is intended to enhance the resource recovery and recycling goals of article fifteen of chapter twenty-two of the West Virginia Code and to encourage the beneficial use of water treatment plant filtrate. Section 22-15-23 of the West Virginia Code and this rule, and not the provisions of W. Va. Code § 22-15-10 or 33 CSR 1, shall govern the beneficial use of water treatment plant sludge. This rule does not apply to sewage sludge, products derived from sewage sludge, sludges regulated under 33 CSR 8, or materials regulated as hazardous waste under W. Va. Code §§22-18-1, et seq.

COMMENT

Lisa Dooley: Public notice of permits – who bears the cost – there has to be a more efficient way of getting notices out than Class I legal ads. This is a suggestion for the future.

DEP Response: Applicant bears cost – DEP is trying other methods of getting the information out – but not everyone has access to e-mail.

400 people on DEP's mailing list to receive permits by e-mail and we have between 30-40 who receive permits by US mail.

33CSR20 – Hazardous Waste Management System

SUMMARY

This amendment will adopt by reference approximately two years of changes to federal regulations by adopting the federal regulations in effect as of June 1, 2007 consisting of changes that correct errors in previously enacted Dye and Pigment rule and Manifest rule, allow more hazardous waste, allow greater flexibility in SW-846 testing and monitoring, allow more mercury containing devices to be managed as universal waste, streamline permitting process through a standardized permit, allow additional headworks and de minimus waste exemptions, reference Clean Air Act standards for hazardous waste combustors, allow a series of paperwork burden reductions for hazardous waste management facilities, corrects errors in 40 CFR (federal regulations) and excludes cathode ray tubes from the definition of solid waste under certain conditions. Language corrections, updated references and a change as the result of an EPA comment regarding annual groundwater monitoring at corrective action sites are also included in the amended rule. The rule amendment is not projected to require additional operating expenses above current levels as the amendments are generally de-regulatory in nature.

COMMENT

No questions.

33CSR30 – Underground Storage Tanks

SUMMARY

There are several new provisions to reflect the 2005 Federal Energy Act, including: secondary containment requirements for new or replaced thanks or piping; secondary containment requirements for new or replaced fuel dispenser systems; tank eligibility for delivery, deposit or acceptance – enables agency to prevent deposit or delivery to a tank that is not in compliance; and training requirements for individuals who operate, maintain or are responsible to address emergencies from spills or releases from underground storage tank systems.

COMMENT

No questions.

47CSR2 – Requirements Governing Water Quality Standards

SUMMARY

The proposed revisions reflect updates identified during the federally-mandated triennial review of the Water Quality Standards rule. These include proposed additions to the trout water list, new criteria for nutrients, revisions to criteria in Appendix E and a use redesignation in the Guyandotte River Basin.

COMMENT

Mr. Raney: Would like to have the trout water list stay within the agency and be able to discuss the science on a case-by-base basis before the EQB, not the Legislature.

DEP Response: The DEP believes the scientific basis for the proposed trout streams is clear and does not need to be litigated before the EQB.

Mr. Harris: Commented on the changes in Appendix E and asked whether the formula change for copper and cadmium resulted in a more or less stringent standard.

DEP Response: The changes in Appendix E are recommended by EPA, updating MCL's, etc. The revised hardness formulas represent EPA's latest science.

47CSR10 – National Pollutant Discharge Elimination System (NPDES)

SUMMARY

The proposed revisions to the National Pollutant Discharge Elimination System Rule reflect updates/additions made to the various federal regulations that govern the NPDES program. The proposed changes also include specific language in section 14 of the rule relating to the Pretreatment Program to ensure that the rule is consistent with the most recent federal pretreatment regulations in

40 CFR Part 403.

COMMENT

No questions.

47CSR34 – Dam Safety

SUMMARY

The proposed revisions establish requirements governing the disbursement and use of moneys in the Dam Safety Rehabilitation Revolving Fund, authorized by SB 465 in the 2007 legislative session.

COMMENT

Ms. Hallinan: Any progress being made in reducing the number of deficient dams?

DEP Response: Not very much. The fund initiative is badly needed.

60CSR5 – Antidegradation Implementation Procedures

SUMMARY

Antidegradation is a requirement of the federal Clean Water Act intended to preserve the existing quality of the State's waters and to prevent and/or minimize future degradation. The rule was first adopted in 2001 and establishes four levels, or tiers, of protection for state waters, Tiers 1, 2, 2.5 and 3. Each tier provides a graduated level of protection used during the NPDES permit issuance process. The proposed revisions to the rule carry forward the agency's antidegradation implementation efforts, and move the Tier 2.5 streams that had been on the "presumptive" list in Appendix C to a final proposed list in Appendix A. The agency is proposing a total of 156 streams be included on the list. The list of 156 waters is comprised of the 37 waters that did not receive objections in the formal objection period, those waters that contain reproducing trout and are 100% on public land, those waters listed as high quality on public land based on their high biological scores, and Loop Creek.

COMMENT

Mr. Harris: Suggested we file with 309 streams instead of 156 streams because Legislature will further reduce.
Mr. Raney: Suggested we start with 39.

Mr. Harris: Asked about section 2.11 in the definitions regarding "trading" and if it includes cross-pollutant trading.

DEP Response: The definitions were unchanged from the ones the EQB first adopted in 2001. The agency does not think it allows cross-pollutant trading.

<u>Division of Mining and Reclamation</u>

38CSR2 – Surface Mining Reclamation Rule

SUMMARY

§38-2-3.2.g. Notice of Technical Completeness is new language and is to provide the public an opportunity to review the application once technical review is completed. §38-2-5.4.e.1 is removing language that is contrary to returning the natural drainway to its original pattern, profile, and dimensions once drainage control structure is removed. The changes in §38-2-5.6 clarify what operations may be exempt from conducting a "Surface Water Runoff Analysis", monitoring requirements and removes phase-in compliance schedule that expired on June 19, 2006. Changes to §38-2-6 removes duplication of rules for Blasting and after this change, all the requirements for blasting will be contained in Surface Mining Blasting Rule, Title 199 Series 1. New §38-2-11.8 titled "Bond Credit for Reclamation of Bond Forfeiture Site under a No Cost Reclamation Contract" encourages qualified operators to undertake reclamation of bond forfeiture sites for the purpose of eliminating hazards to human health and safety, abating pollution of surface and ground waters and the contribution of sediment to adjacent areas, and restoring land to beneficial uses. Changes in §38-2-14.15.c.2 and 14.15.d.3 are clarifying contemporaneous reclamation rules on excess spoil disposal. The changes in 14.15.e remove a phase-in compliance schedule that expired in 2004. The changes in §38-2-23 are being made to make the mining rule consistent with the proposed changes in the State's NPDES Mining Rules.

COMMENT

No questions.

47CSR5A – Individual State Certification of Activities Requiring a Federal Permit

SUMMARY

The proposed amendments to this rule are being made to adopt into rule requirements that have been applied through past practices for coal related activities requiring mitigation and issuance of a 401 State Certification of a 404 Permit. Ratios for monetary compensation for temporary impacts are detailed. Monetary compensation for permanent impacts to wetlands from coal related activities are made the same as non-coal related. Additional economic and stream measurement information is being requested to be added to the 401 application.

COMMENT

Mr. Harris: How do we determine the "ordinary high water mark" under section 4.2.f.4 and how is it determined on a small stream?

DEP Response: The US Army Corps of Engineers is responsible for determining "waters of the U.S." under the rule.

Mr. Harris: What are the differences between coal and non-coal impacts and how are they determined?

DEP Response: Rule has to be consistent with statute.

47CSR30 – WV/NPDES Rules for Coal Mining Facilities

SUMMARY

The proposed amendments to this rule are being made to allow general clean-up of sections referencing outdated names of agencies and references to the EQB governing rule making. This rule addresses the Secretary as being the person as head of all actions. References to the "Director" are changed to "Secretary" to eliminate the need to distinguish between the Director of Mining and Reclamation and the Director of Water and Waste Management when issuing a coal related WV/NPDES permit. This rule adds provision for storm-water coverage for certain minimal activities without the requirement for modification through application to the permit. This rule also provides for an advanced approval of transfer of a WV/NPDES Permit to coincide with the advanced approval of the corresponding Article 3 Permit. This rule clarifies provisions related to coal remining operations and provides a remining water quality standard variance for any parameter of concern.

COMMENT

No questions.

199CSR1 - Surface Mining Blasting Rule

SUMMARY

The proposed amendments change the following sections: 2.27. Adds the definition of "other structure" (structures built by the permittee); 2.38 Clarifies definition of "surface mine operation"; 3.2.C. Plan for blasting should include seismic monitoring when within 1000 ft of a structure, and performance specifications for blasting seismographs; 3.4. Areas of blasting that will be regulated for shaft and slope development; 3.6.c.3. Requiring field practice guidelines for blasting seismographs; 3.7a Request for alternate limits must have written consent of the owner; 3.9. Minimum qualifications and continuing education requirements for surveyor; 4.1.b. Allows the agency to consider blasting experience of applicants that was gained prior to the last three years; 4.5.d. Requires applicants who have been suspended or revoked in other states to show cause as to why should be issued a certification; 4.9.a.2 process for issuing a temporary suspension to a blaster and appeal rights; 4.13 Clarifies blasters responsibility of training the blasting crew; 5.2.a.3&4 Clarifies

the investigations process on a claim of blasting damage; 6.1 Requiring that any arbitrators that are removed from the list must be done with cause; and 7.3 Detonators and initiation systems are not considered for calculation of fees.

COMMENT

No questions.

Office of Oil and Gas

35CSR3 – Coalbed Methane Wells Rule

SUMMARY

The WVDEP, Office of Oil and Gas is proposing to revise existing rule 35CSR3. Series 3 is a legislative rule in place to enforce the provisions in WV Code §22-21-1 et seq., Coalbed Methane Wells and Units, commonly referred to at the Coalbed Methane Act. The revisions will: Address the establishment of special field rules to promote the orderly development of coalbed methane fields; Protect the correlative rights of all owners located within the geographic area for which special field rules are established; Provide a process by which the Review Board may hold a hearing on an application for special field rules and issue such rules; Insert language (Section 17) which was inadvertently deleted from the rule during the 2006 legislative session. This language existed in the rule prior to the revisions in 2006.

COMMENT

Is this the same rule that went through last year?

DEP Response: Yes, except for two sections that had changes:

16.2.e – advertisement "15 days"

16.1.6.1 – "FOIA" issue that came out of the LRMRC.

Mr. Raney: Is this the product of the stakeholders group?

DEP Response: Yes.

Ms. Hallinan: What is a field rule?

DEP Response: Special spacing procedure for coalbed methane wells. It deals with pooling and royalty issues.

Division of Land Restoration

33CSR10 – Recycling Assistance Grant Program

SUMMARY

This rule sets out guidelines and procedures for providing assistance grants to local governments and other interested parties for the purpose of planning, initiating, expanding, or upgrading recycling programs, provide related public education programs, and assist in recycling market procurement efforts.

COMMENT

No questions.

60CSR3 – Voluntary Remediation and Redevelopment Rule

SUMMARY

This legislative rule establishes the eligibility, procedures, standards and legal documents required for voluntary and brownfield cleanups and updates risk protocol standards, including updates to the deminimis table. It also includes changes to the land use covenant section to incorporate the components of the Uniform Covenant Act.

COMMENT

Ms. Dooley: Are there grant dollars for brownfields?

DEP Response: Yes

The next scheduled Advisory Council Meeting will be on May 30, 2007 at 10:00 a.m. Mr. Huffman asked the Council members to notify the DEP of which rules they want to discuss so the right agency person can be at the meeting. He also asked them to submit comments prior to the meeting if possible.

West Virginia Department of Environmental Protection

ADVISORY COUNCIL MEETING MINUTES
Wednesday – May 30, 2007
10:00 a.m. – 12:00 p.m.
601 57th Street, SE, Charleston, WV
West Virginia Room – 3rd Floor

ATTENDEES:

Advisory Council Members:

Rick Roberts
Karen Price
Bill Raney
Larry Harris - Teleconference
Jackie Hallinan

DEP:

Randy Huffman, Deputy Cabinet Secretary/Director –Division of Mining & Reclamation
Karen G. Watson, Assistant General Counsel
Lisa McClung, Director – Division of Water and Waste Management
John Benedict, Director – Division of Air Quality
Jessica Greathouse, Chief Communication Officer – WVDEP – Public Information Office
Pam Nixon, Advocate
Jim Mason, DAQ
Mike Zeto, DWWM – EE
John Morgan, DWWM
Scott Mandirola, DWWM
Greg Adolfson, PIO

VISITORS:

Dave Yaussy
Brittany Carns
Joe Gollehon
Gregory Hoyer
Jeff Mauzy
Amy Christy

Randy Huffman, Deputy Cabinet Secretary - West Virginia Department of Environmental Protection called the meeting to order at 10:00 a.m. Advisory Council Member Larry Harris joined the meeting via teleconference. Deputy Cabinet Secretary Huffman then turned the meeting over to Karen Watson, Assistant General Counsel for the West Virginia Department of Environmental Protection. Karen informed the Council that the agency had received comments from several Council members and those comments would be appended to the minutes. (see attached) She explained the agency had representatives from each of the programs to answer questions for the rules identified in those comments. She also explained the agency had made several changes in the rules as a result of those comments.

<u>Air Quality</u>

45CSR6 – Control of Air Pollution from Combustion of Refuse

SUMMARY

Proposed Rule 6 is now a basic open burning/ incinerator rule. Revised scope includes 'statutory air pollution,' addition of new language for posted operating instructions and open burning or incineration of animal or poultry carcasses during a declared state of emergency. Except for temporary Air Curtain Incinerators for land clearing debris (DOH jobs) and incineration of animal or poultry remains, most Air Curtain Incinerators will now be exempted under Rule 6 and placed under Rule 18.

COMMENT

Larry Harris: Had raised the issue of "low-level radioactive waste" in the last meeting.

DEP Response: DEP has removed the chemotherapeutic waste and low-level radioactive waste provisions from the proposed rule. The proposed rule does not in any way affect current medical waste incineration rules now on the books.

45CSR8 – Ambient Air Quality Standards

SUMMARY

NAAQS rules 45CSR8, 45CSR9 & 45CSR12 have been combined for the 2008 legislative session. Rule 8 is now the complete NAAQS incorporation by reference rule, and 45CSR9 & 45CSR12 will be repealed and replaced. Revisions to SO_2 & PM NAAQS include correction of SO_2 annual primary standard from 0.003 to 0.030 ppm, addition of annual and 24-hour $PM_{2.5}$ standards, and addition of measurement methods for $PM_{2.5}$. Revisions to CO & Ozone NAAQS include revocation of one-hour ozone standard except for Berkeley & Jefferson counties, identification of one-hour ozone maintenance areas, and addition of 8-hour primary and secondary ozone standards. Revisions to NO_2 and Lead NAAQS include addition of primary and secondary standards for lead, and addition of measurement methods for lead. Revisions also include general language updates, improved citing and consistency.

COMMENT

Karen Price: Section 4.2.c – $PM_{2.5}$ Maximum 24-Hour Average Concentration. The level for the 24-hour primary and secondary standard states 35 ug/m^3. This should be 65 ug/m^3, pursuant to 40 CFR 50.7.

DEP Response: On October 17, 2006, the federal NAAQS regulation changed from 65 to 35.

Larry Harris: Restated his concern that the standards may not be stringent enough to protect public health. He also restated his question about the antidegradation language struck from the rule.

DEP Response: DEP cannot lower the NAAQS standards below that of federal levels unless the provisions for the stringency test in §22-1-3a are fully met. 45CSR14, in its entirety, has wholly replaced the intent of the relic anti-degradation language struck in proposed Rule 8.

45CSR39 – Control of Annual Nitrogen Oxides Emissions

45CSR40 - Control of Ozone Season Nitrogen Oxides Emissions

Ozone Season CAIR NOx Rule - Incorporates revisions 40 CFR to Part 96.

Annual CAIR NOx Rule - Incorporates revisions to 40 CFR Part 96.

45CSR41 – Control of Annual Sulfur Dioxide Emissions

Annual CAIR SO_2 Rule - Incorporates revisions to 40 CFR Part 96.

COMMENT

Karen Price: Asked why the opt-in language was deleted from each of these rules.

DEP Response: has removed the opt-in provisions in the three CAIR rules so that West Virginia can say that CAIR equals NOx RACT for EGUs under the PM2.5 implementation rule.

45CSR42 – Greenhouse Gas Emissions Inventory Program

SUMMARY

The Greenhouse Gas Inventory Program Rule is authorized by SB337 passed in the 2007 legislative session. The rule establishes a program which requires the reporting and inventory of greenhouse gas emissions by stationary sources which emit more than a *de minimis* amount; inventories greenhouse gas emissions from stationary, area, mobile and biogenic sources, and accounts for reductions, capture and sequestration; provides for: a periodic compilation of a greenhouse gas inventory; a determination whether WV is a net sink or emitter; development of a registry for voluntary reductions; and a determination whether greenhouse gas can be developed as an asset for economic development.

COMMENT

Karen Price and Larry Harris: Both asked about the definitions of "anthropogenic" and "biogenic" in the rule and asked for examples of each.

DEP Response: An example of an anthropogenic source is the coal extraction process and an example of a biogenic source is the erosion of soil exposing a coal seam. The agency does not plan to ask sources to report biogenic activities. In order to receive credit a source must report all of its emissions.

Karen Price: Can the reporting requirement in section 4.1 be made consistent with the emissions inventory requirements.

DEP Response: The date in the rule is March 31st and is the same as the emissions inventory date.

Karen Price: Does not believe fees should be required for greenhouse gas reporting.

DEP Response: The agency will consider the issue.

Karen Price: The last sentence in section 5.3 allowing the Secretary to request information is not authorized by statute.

DEP Response: It is authorized by the statute.

Karen Price: There should be a reasonable protocol for reporting emissions.

DEP Response: D AQ purposely wrote the rule in a manner flexible to the Secretary, as greenhouse gas reduction quantification protocols are still being developed at this time.

Karen Price: Is WV going to sign on to the climate registry or are we going to have our own?

DEP Response: In order to trade, we have to be consistent with other programs, but we do not want to be more specific in the rule.

Bill Raney: The exemption in section 3.2 includes language referring to sources covered by chapter 22-3 as well as sources required to report emissions. We are concerned this may take the exemption in the statute away.

DEP Response: While the agency did not want to require mining extraction to report emissions, thermal dryers associated with coal prep plants often have huge emissions of greenhouse gases. That is the reason the statute and rule only exempt sources permitted under chapter 22-3.

<u>Division of Water and Waste Management</u>

33CSR9 – Standards for Beneficial use of Filtrate from Water Treatment Plants

SUMMARY

This legislative rule establishes a mechanism and requirements for the permitting, siting, bonding, and use of water treatment plant sludge from water treatment plants that has beneficial properties. This rule applies to the beneficial use of water treatment plant sludge and to any person who seeks approval from the Secretary to beneficially use such sludge within the state. This rule is intended to enhance the resource recovery and recycling goals of article fifteen of chapter twenty-two of the West Virginia Code and to encourage the beneficial use of water treatment plant filtrate. Section 22-15-23 of the West Virginia Code and this rule, and not the provisions of W. Va. Code § 22-15-10 or 33 CSR 1, shall govern the beneficial use of water treatment plant sludge. This rule does not apply to sewage sludge, products derived from sewage sludge, sludges regulated under 33 CSR 8, or materials regulated as hazardous waste under W. Va. Code §§22-18-1, et seq.

COMMENT

Larry Harris: DEP made changes to this rule during the Interims process last year, and the rule now requires a permit for both short-term and long-term applications. This is a good change. However, we feel that most of the information required in Section 7.3. Permit Application Requirements for long-term permits should also be required for short-term permits.

DEP Response: The requirements of section 7.3 were intended to be directed toward facilities that proposed to land apply filtrate as the beneficial use. It was intended to be applicable to both, if land application was the proposed method of reuse. Section 7.3 will be revised to more clearly reflect the applicability of the requirement for both long-term and short-term, if land application is the proposed beneficial reuse.

Rick Roberts and Larry Harris: Regarding the environmental effects of disposal of sludge are the values in Table 1 of the rule sufficient?

DEP Response: The Table 1 values are the same as the sewage sludge levels in DEP's other rules, and the agency believes they are supported by sound science.

Rick Roberts and Larry Harris: Mr. Harris expressed concern with the distinction between "beneficial reuse" and "disposal." Mr. Roberts believes that his concern is satisfied by the language in section 3.1.b.1.

Rick Roberts: The rule should include general permits as proposed.

Larry Harris: Only individual permits should be allowed under the rule.

DEP Response: There will be public notice in the general permit process.

33CSR30 – Underground Storage Tanks

SUMMARY

There are several new provisions to reflect the 2005 Federal Energy Act, including: secondary containment requirements for new or replaced thanks or piping; secondary containment requirements for new or replaced fuel dispenser systems; tank eligibility for delivery, deposit or acceptance – enables agency to prevent deposit or delivery to a tank that is not in compliance; and training requirements for individuals who operate, maintain or are responsible to address emergencies from spills or releases from underground storage tank systems.

COMMENT

Karen Price: Section 6.1. states "....including any person who accepts a delivery order, accepts payment, delivers or deposits product into an underground storage tank.....". The portion that states "...accepts payment..." should be removed from this section because those individuals within a company who accept payment or make payments most often do not know anything about the underground storage tank (UST), the operation of the UST, or the current regulatory status of the

UST.

DEP Response: This language will give the agency a better handle on transporters and middle-men involved in the process.

Karen Price: Section 7.3.a.1. states "....the methodology for verifying attendance, the date, time and location of the course, the name of the offering organization, the credentials of the instructors, and a certification that the technology or methods.....".

1. The portion that states "..the date, time and location of the course,...." should be deleted. For large companies with many UST installations and locations there can be numerous individuals that need to be trained. Training will most likely occur on multiple dates, times, and locations that may not always be known until just prior to the training event. When new employees are hired training might occur on short notice and for one individual. The burden of having to report the dates, time and locations would hinder and slow down the training process and restrict a company's ability to comply.

2. The portion that states "...the credentials of the instructors..." should be removed. Credentials will vary from instructor to instructor new instructors might be utilized, and a company might not know which instructors will be used at the various training sessions until just prior to the training session. In addition, the course content is the main issue of concern and should be the main focus in obtaining State approval of a training program.

DEP Response: Regarding dates, times and location of the training the agency will not require the information prior to the training. As far as the credentials of the instructor the agency needs this information as part of its curriculum review, in this case before the training.

Karen Price: Section 7.3.a.2 - This section states that a nonrefundable application fee of $280 must be submitted with the application. Larger companies may have one training program, but administer the training on multiple dates, times and locations. Having to submit an application for approval of the training program each time the program is administered would be cost prohibitive, burdensome, and would hinder the training process.

DEP Response: The agency agrees and believes the rule only requires a one-time fee.

Rick Roberts: Regarding the $5.00 per ton fee, how does a source measure the tonnage? Perhaps the agency should consider using a cubic-yard approach.

DEP Response: The agency will consider.

47CSR2 – Requirements Governing Water Quality Standards

SUMMARY

The proposed revisions reflect updates identified during the federally-mandated triennial review of the Water Quality Standards rule. These include proposed additions to the trout water list, new criteria for nutrients, revisions to criteria in Appendix E and a use redesignation in the Guyandotte River Basin.

COMMENT

Larry Harris: Does the use removal in section 7.2.d follow the federal Clean Water Act requirements?

DEP Response: Yes, the agency followed all the requirements, federal and state, and required extensive information from the company. The agency also conducted two public meetings.
Bill Raney: Mr. Raney repeated his concern with the listing of trout waters in the rule and the fact that the list has to be approved by the Legislature. Karen Price agreed with this comment. Jackie Hallinan and Larry Harris did not agree with this comment.

Karen Price: Questioned the need for Appendix D, because the Category C use applies to all state waters.

DEP Response: Agency will consider.

Karen Price: Will the agency consider not making use removals go through the legislative process.

DEP Response: The agency decided not to include any language pertaining to this issue at this point in time, but will be subjecting this issue to the public participation process in the coming months.

60CSR5 – Antidegradation Implementation Procedures

SUMMARY

Antidegradation is a requirement of the federal Clean Water Act intended to preserve the existing quality of the State's waters and to prevent and/or minimize future degradation. The rule was first adopted in 2001 and establishes four levels, or tiers, of protection for state waters, Tiers 1, 2, 2.5 and 3. Each tier provides a graduated level of protection used during the NPDES permit issuance process. The proposed revisions to the rule carry forward the agency's antidegradation implementation efforts, and move the Tier 2.5 streams that had been on the "presumptive" list in Appendix C to a final proposed list in Appendix A. The agency is proposing a total of 156 streams be included on the list. The list of 156 waters is comprised of the 37 waters that did not receive objections in the formal objection period, those waters that contain reproducing trout and are 100% on public land, those waters listed as high quality on public land based on their high biological scores, and Loop Creek.

COMMENT

Larry Harris: Scientific criteria should be used to add or delete streams from the Tier 2.5 list.

Rick Roberts: Can the SRF program give priority to facilities impacted by the Tier 2.5 list?

DEP Response: Agency will take this under advisement.

Larry Harris: Is the nomination process adequate?

DEP Response: The agency believes the process is generally adequate and workable. If, however a large number of streams are nominated at one time, the individual notification requirements may be difficult and costly.

At this point in the meeting, Bill Raney submitted written comments regarding several mining rules. (see attached)

60CSR8 - Environmental Excellence Program

Greg Adolfson summarized the rule revisions. He said the changes would provide more flexibility for the agency to approve or disapprove of incentives in the program, as well as other flexibilities.

SUMMARY

Changes are being proposed to the Environmental Excellence Program Rule (60CSR8) to better align with and follow the momentum of the United States Environmental Protection Agency's National Environmental Performance Track Program. Additionally, the primary purpose for the changes is to give more flexibility to the Department of Environmental Protection Cabinet Secretary in areas such as: Eligibility Criteria for Participation (section 4); Environmental Performance Record (section 5); Environmental Management System (section 6); Public Participation (section 8); Incentives (section 9); Procedures for Application (section 10); and Annual Performance Report (section 14). Language, such as "may include, but will not be limited to, the following," has been added to allow for this flexibility.

COMMENT

Rick Roberts: Why is section 6.2 completely deleted?

DEP Response: The section is not completed deleted, just the 1996 standards. This will allow the agency to use the most current standards.

Bill Raney: How many companies are participating in the program?

DEP Response: There are two in the National Program, Toyota and Dow.

Jackie Hallinan: The program is a good idea.

Meeting was adjourned by Deputy Cabinet Secretary Randy Huffman.

Council Meeting – 5/30/07
Comments
Submitted
by Bill Raney

Bill…

Here are some preliminary comments provided by the Environmental-Technical Committee on the rules that will be reviewed by the Advisory Council:

Water Quality Standards Rule (47CSR2)

Only concern relates to the Trout Stream List:

Inclusion of a stream in the codified list contained in the rule forever locks in unrealistic WQS on that stream regardless of existing and/or future water quality. The lower standards are very problematic for the coal industry by targeting iron and aluminum.

WVCA believes the list is immaterial to protection of the existing use if it is indeed a trout stream.

WV DEP, in the NPDES permitting process, will apply appropriate trout stream effluent limitations if the agency believes a stream to have a trout population regardless of whether or not it in on the codified list contained in the water quality standards rule or not. The only difference is that in the permitting process, the applicant has the opportunity to present data and sampling to refute the agency's assertion that a stream is a trout stream, and has a right of appeal if they continue to disagree with agency's assignment of trout stream limits. The ability to dispute the trout stream designation is very important, especially since some of the data supporting the current initiative to expand the codified list is decades old.

If a trout stream is included on the codified list approved by the legislature, the only option for removing that designation is to once again pursue a legislative fix. Under those circumstances, it is easier to just challenge the entire expansion of the trout stream list.

The massive expansion of the trout stream list as currently proposed is much more restrictive than the standards found in surrounding states, where the regulatory agencies have developed different levels and categories of trout streams. West Virginia continues to treat all trout streams the same as though they were native, naturally-reproducing, cold water streams that deserve the highest levels of protection. This is simply not true, as many streams in West Virginia are stocked trout streams where the existing, in-stream water quality is lower than the established effluent guidelines for native trout streams.

Mining & Reclamation Rule (38 CSR 2)

Main concern relates to 14.15.c.2, regarding contemporaneous reclamation and valley fills:

This revision will penalize operators that are constructing "bottom-up" valley fills, the agency's preferred method of fill construction by unnecessarily restricting when such fill can be counted as "reclaimed" under the state's contemporaneous reclamation rules. These rules already vastly exceed the federal requirements and those of any other surrounding state, and this change will only make them worse.

Additionally, this proposed revision was deleted during the Legislative session in 2007.

401 Water Quality Certification Rule (47 CSR 5A)

The changes to this rule are totally un-necessary, and add further detail and complication to a state mitigation rule when the Legislature has specifically instructed the agency to better align its mitigation program with that of the Corps of Engineers. Several years ago, the Legislature passed a bill directing WV DEP to provide state mitigation credit for Corps mitigation. While this has occurred, we feel the revisions to this rule will drive the two programs further apart. Additionally, we know of no state statutory revision that necessitates these changes....the state mitigation program has functioned for years without this level of detail, and we question why it's needed now.

Further, we are concerned that the rule seeks to change definitions that should only be revised in the statute with Legislative approval. For example, the revisions jettison the long-used references to stream types and insert reference to ordinary high water mark. This appears to be an effort to expand the definition of "waters of the state" to all cover every erosional feature, regardless of whether or not it actually functions as a stream.

West Virginia Coal Association
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July 18, 2006

Mr. Charles Sturey
West Virginia Department of Environmental Protection
Division of Mining & Reclamation
601 57th Street SE
Charleston, WV 25304

Re: Comments on Proposed Revisions to 47 CSR 5A

Dear Mr. Sturey:

Pursuant to the notice filed with the Secretary of State on June 15, 2006, the West Virginia Coal Association (WVCA) offers the following comments and observations regarding the agency's proposed revisions to 47 CSR 5A, "Rules for Individual State Certification of Activities Requiring a Federal Permit".

WVCA is a non-profit state trade association representing the interests of the West Virginia coal industry on policy and regulatory issues before various state and federal agencies that regulate coal extraction, processing, transportation and consumption. WVCA's primary goal is to enhance the viability of West Virginia's coal industry by supporting efficient and environmentally responsible coal extraction and processing through reasonable, equitable and achievable state and federal policy and regulation. WVCA appreciates the opportunity to provide comments regarding the West Virginia Department of Environmental Protection's (WVDEP") proposed revisions to the state's Clean Water Act ("CWA") Section 401 certification rule.

General Comments

WVCA is very concerned about the WVDEP's proposal to add detail to its § 401 mitigation program, particularly at this time. The WVDEP has not articulated any problems with implementation of its existing mitigation program pursuant to this rule, and the WVCA sees no benefit to adding further detail and complexity now. Even more importantly, the WVCA understands the history of the WVDEP's § 401 mitigation program, and believes that the very basis for its development years ago no longer exists. The WVDEP's program has been fully replaced by the federal mitigation program which has developed into a comprehensive program and is the subject of new joint United States Army Corps of Engineers ("Corps") and the United States Environmental Protection Agency ("EPA") rules to update and conform their collective mitigation goals and requirements. The state's mitigation requirements, at least as they relate to mitigation for activities permitted by a CWA § 404 permit, have become obsolete and duplicative.

History of State § 401 Mitigation Requirements.

The state's mitigation program as maintained by the WVDEP and implemented through the § 401 rules is not a required component of the federal § 404 permitting program. The § 401 certification program is intended to insure that issuance of a federal permit does not result in a violation of state water quality standards:

> CWA section 401 provides that states certify that federal activities or activities requiring federal approvals relative to CWA section 404 would not violate applicable effluent limitations, or other limitations, or other water quality requirements.[1]

Instead, the state has independently required mitigation as a condition of § 401 certification. Implementation of the state's mitigation program and requirements dates from a time when the Corps imposed no federal mitigation requirement on mining operations authorized by the § 404 General Permit for coal mining operations, Nationwide Permit 21("NWP 21"):

> [NWP] 21. Activities associated with surface coal mining activities provided they are authorized by the Department of the Interior, Office of Surface Mining (OSM) or by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 and provided the permittee notifies the District Engineer in accordance with the "Notification" general condition. **The notification must include an OSM or state-approved mitigation plan** (emphasis added).[2]

Based on the requirements of the NWP 21, a state mitigation plan was required for a mining-related § 404 permit (usually a NWP 21) to be issued by the Corps:

> Prior to reissuance of NWP 21 in January 2002, the COE [Corps] considered mitigation adequate with the inclusion of an OSM or state-approved SMCRA onsite mitigation plan in the permit application.[3]

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[1] Programmatic Environmental Impact Statement. Corps, EPA et.al. 2005 page II.C-42.
[2] Final Notice of Issuance, Reissuance, and Modification of Nationwide Permits. U.S. Army Corps of Engineers, Dec 13, 1996. 61 Fed. Reg. 241.
[3] Programmatic Environmental Impact Statement. Corps, EPA et.al. 2005. Page II.C-52

West Virginia implemented this program through the § 401 certification program which imposed monetary or in-lieu fee requirements on coal mining related § 404 permits.

In 2002, the Corps revised and reissued NWP 21 adding a condition that the Corps' District Engineer require federal mitigation, reviewed and approved by the Corps in accordance with its joint mitigation rules and regulations maintained with the EPA.[4] The revised and reissued NWP 21 allowed the Corps to consider state mitigation when determining federal mitigation, but removed the automatic acceptance of state-required mitigation as sufficient for § 404 authorization. From this point on, the state mitigation requirements as maintained in the § 401 certification process became duplicative because the Corps was requiring federal mitigation plans as part of the § 404 permitting process.

Federal Mitigation Requirements are Comprehensive.

Coal mining-related § 404 permitting and mitigation has evolved since the Corps's reissuance of NWP 21 in 2002. Most mining projects are now permitted using the Corps' Individual Permit process and mitigation plans are now developed based on the Corps's and EPA's combined preference for on-site, in-kind mitigation to restore the impacted aquatic resource.

As you know, coal mining operations are typically subject to the federal CWA § 404 program and the state § 401 certification program because of

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[4] Final Notice of Issuance, Reissuance and Modification of Nationwide Permits. U.S. Army Corps of Engineers, Jan. 15, 2002. 67 Fed Reg. 10

activities undertaken in jurisdictional waters. The steeply-sloped terrain of West Virginia is permeated by small ephemeral and intermittent streams that serve to drain natural runoff into larger perennial stream systems. Any development in these areas--coal mining or otherwise--will result in some form of impact to small streams. Unlike many other activities subject to § 404 permitting and § 401 certification, mining activities are mostly temporary in nature, with the reclamation process providing a unique opportunity for reconstruction of impacted stream segments.[5] The Corps has recognized this opportunity for on-site, in-kind replacement/restoration of impacted aquatic resources and issued guidance encouraging this type of mitigation:

> This guidance acknowledges the uniqueness of regional and site-specific conditions, recognizes that features constructed in accordance with the Surface Mining Control and Reclamation Act may contribute to overall mitigation plans, and identifies several appropriate ways to accomplish appropriate mitigation projects.
>
> Surface mining operations can result in the creation of intermittent and and/or perennial streams depending on the on-site hydrologic conditions and the chosen method of dealing with groundwater and/or runoff. Applicants are encouraged to optimize these opportunities for on-site mitigation.
>
> ....Corps staff, Office of Surface Mining staff, and the mining operator should coordinate to explore options for incorporating....features required by SMCRA into compensatory mitigation plans. If successfully implemented, channels and other features will help maintain and potentially improve the physical, chemical and biological integrity of waters of the United States.[6]

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[5] See pages ____ of attachment "A", comments filed by WVCA concerning the draft federal mitigation rule.

[6] "Mitigation for Impacts to Aquatic Resources from Surface Coal Mining." U.S. Army Corps of Engineers. May 7, 2004

In addition to the Corps's above-cited guidance for mining, on-site, in-kind mitigation remains the preferred means of performing mitigation for other authorized impacts to aquatic resources:

> In the interest of achieving functional replacement, in-kind compensation of aquatic resources will often be appropriate. [7]
>
> Mitigation should be required, when practicable, in areas adjacent or contiguous to the discharge site. On-site mitigation generally compensates for locally important functions, e.g., local flood control functions or unusual wildlife habitat. [8]
>
> Compensatory mitigation should generally be "in-kind" and occur as close to the site of the adverse impact as practicable in order to minimize losses to the local aquatic ecosystem. [9]

To satisfy the Corps's preference (enunciated in previously-cited Regulatory Guidance Letters issued by the Corps) for in-kind mitigation, or a functional replacement of the impacted resources, a Functional Assessment Protocol, referred to as the "Central Appalachian Protocol", has been used for several years now by the Huntington District to assist in assessing and assigning mitigation requirements for mining-related projects. [10]

Unfortunately, the WVDEP has to date largely ignored the mitigation guidance and requirements developed and imposed by the Corps, as well as the functional assessment protocol. The WVDEP has continued to implement its duplicative § 401 mitigation requirements, and typically requires mitigation above

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[7] Regulatory Guidance Letter No 01-1. U.S. Army Corps of Engineers, October 31, 2001.
[8] Regulatory Guidance Letter No.02-2. U S Army Corps of Engineers, December 24, 2002.
[9] Compensatory Mitigation Guidelines- Huntington District U.S Army Corps of Engineers, Huntington, WV District. January 30, 2004.
[10] See attached power point presentation—Central Appalachian Protocol.

and beyond that which is required by the Corps despite the mandate of W. Va. Code § 22-11-7a(a)(2)(C):

> The Director shall provide credit for any mitigation that is a required component of the permit issued by the United States Army Corps of Engineers pursuant to 33 U.S.C. § 1344 to the extent that it satisfies required mitigation pursuant to this section.

Because a comprehensive federal mitigation program is being implemented, the WVDEP's failure to provide credit for such mitigation ***as mandated*** is a serious concern to the WVCA. To the extent a state program is relevant at all, perhaps to address the limited circumstances where the state's definition of "waters of the state" is broader than the CWA definition of "waters of the United States," it should be narrowly tailored to address that need. The WVCA cannot support proposed revisions that are not so narrowly tailored.

WVCA urges WVDEP to postpone pursuit of these proposed revisions at this time and to more fully consider the need for its separate mitigation program in light of (1) the federal mitigation now required as part of a § 404 permit, (2) the possibility of creating inconsistencies with the draft federal Corps and EPA rule for mitigation, (3) the deletion of NWP 21 conditions relating to state mitigation, and (4) the mandate of W. Va. Code § 22-11-7a(a)(2)(C) to rely on and give credit for federally mandated mitigation to satisfy any state mitigation needs.

Specific Comments

Page 4 4.2.f.2.A. Economic Info[redacted]tion about the coal mi[redacted]g operations, including, without limitation, the estimated nu[redacted]r of jobs created, the e[redacted]ated proportion of employees who will be residents of Wes[redacted]rginia, the estimated a[redacted]al payroll, the

<u>estimated annual coal production (if applicable), the estimated life of the operation, the estimated severance tax for the operation, the estimated annual property tax, and such other economic information as may be requested by the agency.</u>

WVCA questions why this level of information is needed for the § 401 certification process. Similar information is provided to the Corps under the § 404 permitting program and to the state through the Community Impact Statement. The justification for requiring duplicative information as part of the § 401 certification process is lacking. Further, we are puzzled as to why this information is required only for mining operations. Sections 404 and 401 of the CWA apply to all manner of filling activities, not just coal mining operations. If this information is needed by the WVDEP to properly implement the § 401 certification process, then it should be required for all dredge and fill activities. If it is not, then it should be removed from the proposed revisions. Without further explanation and justification, the WVCA does not support this proposed revision.

4.2.f.4. A Delineation of the Stream to be Impacted. The length, width and depth of the stream segment impacted shall be measured. Width and depth measurements shall be made at one hundred (100)foot intervals. The stream delineation shall indicate the ephemeral and intermittent/perennial segments to be impacted. The stream shall be measured from the farthest downstream disturbance, excluding stream crossings associated with haul roads for surface mining operations, upstream to the beginning of ~~an intermittent stream, as defined in 46 CSR 1-2.9 and/or 38 CSR 2-2.71.~~ <u>the ordinary high water mark.</u> The applicant shall provide a table listing the station number with the corresponding acreage, including the drainage area from the toe of the pond and the toe of the fill.

As proposed, this revision appears to extend the reach of the state's jurisdiction and expand the WVDEP's mitigation requirements under the § 401 certification program. While this change may be motivated by a desire to more closely align the state's mitigation requirements with those of the Corps, the

WVDEP's first and most needed step in that direction is compliance with W. Va. Code § 22-11-7a(a)(2)(C). Until the WVDEP revises its mitigation rules and policies to accept Corps-required mitigation, this proposed change will serve only to increase the amount of in-lieu fee mitigation provided to the state, with no resulting environmental benefit. Further, the proposed change appears to be counter to the authorizing statute which bears no mention of the "ordinary high water mark." The WVCA does not support this proposed revision.

6.2.b.1. Compensatory mitigation shall be required for all permanent and temporary stream impacts resulting from coal related activities in watersheds greater than or equal to two hundred and fifty (250) acres and/or when the activity results in a stream loss or impact exceeding one half (1/2) acre of stream. The drainage area and ½ acre assessments shall be measured starting from the toe of the most downstream permanent or temporary impact (excluding stream crossings) in which the activity occurs.

WVCA believes that this proposed revision extends the authority of the state beyond the authorizing, underlying statute:

> 1) If the applicant's surface coal mining operation will not impact waters of the state designated as national resource waters and streams where trout naturally reproduce and will not impact wetlands of the state in a manner inconsistent with all applicable state or federal standards as the case may be, as required by the federal Clean Water Act, and if the watershed above the toe of the farthest downstream permanent structure authorized pursuant to the United States Army Corps of Engineers permits issued in accordance with 33 U.S.C. §1344 and 33 C.F.R. Parts 323 or 330 is less than two hundred fifty acres, then the director may issue a water quality certification pursuant to the requirements of this section. If the watershed above the toe of the farthest downstream permanent structure impacted is equal to or greater than two hundred fifty acres, the director shall require that mitigation be undertaken. Additionally, the director may require mitigation for temporary impacts to waters of the state as specified in subdivision (2) of this subsection.

> (2) If the watershed above the toe of the farthest downstream permanent structure authorized pursuant to the United States Army Corps of Engineers permits issued in accordance with 33 U.S.C. §1344 and 33 C.F.R. Parts 323 or 330 is greater than or equal to two hundred fifty acres and all other necessary requirements are met consistent with this section, the director shall further condition a water quality certification on a requirement that the applicant mitigate the expected water quality impacts under the following conditions...

The above-cited statute contains no reference to "1/2 acre" of stream. Apparently, the agency is attempting to further extend its jurisdiction or merely implementing past policies that existed with respect to coal and non-coal mitigation. Since the statute contains no reference to ½ acre of stream, **WVCA suggests the agency delete this proposed revision. If the agency truly believes that this change is necessary, it should seek a legislative revision to 22-11-7(a) and only then seek to modify the rule.**

6.2.d.1. ~~**Permanent impacts for coal related monetary mitigation will be assessed at $200,000 per acre of impacts in watersheds greater than or equal to two hundred and fifty (250) acres from the toe of the farthest downstream permanent structure, and/or exceeds a ½ acre of loss or impact of stream.**~~ <u>**Monetary compensation for stream impacts resulting from coal related activities shall be assessed as follows:**</u>

<u>**6.2.d.1.APermanent impacts for coal related monetary mitigation will be assessed at $200,000 per acre of impacts**</u>

<u>**6.2.d.1.B Temporary coal related stream impacts resulting from structures (excluding stream crossings) that will be removed prior to final bond release will be assessed at $20,000 per acre of stream impact per each five-year period of impact and/or prorated for each year the impact occurs.**</u>

<u>**6.2.d.1.CTemporary coal related stream impacts resulting from stream crossings (i.e. culverting) and stream relocations where the stream impact is greater than or equal to two hundred one (201) lineal feet, but less than or equal to four hundred (400) lineal feet and is in place for five years or more, shall be assessed at $20,000 per acre for the first five (5) year period and prorated for each additional year the impact shall occur. A temporary stream impact resulting in more than four hundred (400) linear feet shall be monetary compensated at a rate of $20,000 per acre per each five (5) year term and/or prorated for**</u>

each year the impact occurs.

As noted in our general comments, the state § 401 certification program has functioned for several years without the level of minutia and detail presented here, and there appears to be no justification for adding these new provisions to the rule at this time. In addition, because § 404 permit mitigation plans cover both permanent and temporary impacts, there is no need for the duplicative state provision for monetary mitigation. As explained in our general comments, the Corps and EPA have continuously stressed a desire for on-site, in-kind mitigation. Using the "Central Appalachian Protocol", coal mining operations have been providing on-site, in-kind mitigation through the reclamation and stream reconstruction process. These projects have been embraced by the Corps and EPA through mining-specific regulatory guidance.

WVCA questions the need for these revisions, and urges WVDEP to re-evaluate the need for this provisions in light of the federal mitigation now required as part of a § 404 permit and the mandate of W. Va. Code § 22-11-7a(a)(2)(C) to rely on and give credit for federally mandated mitigation to satisfy any state mitigation needs.

6.2.d.1.D Permanent wetland impacts for coal related monetary mitigation will be assessed at the rate $30,000 per acre of wetland replaced based on the ratios in section 6.2.c.

Again, as noted in our general comments, the state § 401 certification program has functioned for several years without the level of minutia and detail presented here, and there appears to be no justification for adding these new provisions to the rule at this time. In addition, § 404 permit mitigation plans cover both permanent and temporary impacts to all impacted aquatic resources, including wetlands, and there is no need for the duplicative state provision for monetary mitigation for wetland impacts.

To the extent WVDEP nevertheless chooses to pursue this proposed revision, it has no justification for the $30,000 replacement value proposed. In addition, by proposing this specific amount, the WVDEP has excluded any opportunity to determine a monetary mitigation amount for wetlands on a case-by-case basis, which could be either higher or lower than $30,000 per acre.

In-lieu fee payment for wetlands impacts is a desirable option to have, but we question whether the agency will ultimately determine that wetland replacement as already specified in the rule is sufficient. The WVCA cannot support this proposed revision without additional justification and explanation, and again urges the WVDEP to re-evaluate the need for this provisions in light of the federal mitigation now required as part of a § 404 permit and the mandate of W. Va. Code § 22-11-7a(a)(2)(C) to rely on and give credit for federally mandated mitigation to satisfy any state mitigation needs.

Sincerely,

Jason Bostic, Vice President
Regulatory & Technical Affairs

West Virginia Coal Association

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Ms. Gloria Shaffer
West Virginia Department of Environmental Protection
Division of Water and Waste Management
Water Quality Standards Program
601 57th Street SE
Charleston, WV 25304

Via Electronic Mail: Gjshaffer@wvdep.org

Re: Comments on 2007 Triennial Review of Water Quality Standards

Dear Ms. Shaffer:

Pursuant to the September 22, 2005 announcement by the West Virginia Department of Environmental Protection (WV DEP), the West Virginia Coal Association (WVCA) offers the following comments and observations regarding the agency's first triennial review of water quality standards.

WVCA is a non-profit state coal trade association representing the interests of the West Virginia coal industry on policy and regulation issues before various state and federal agencies that regulate coal extraction, processing, transportation and consumption. WVCA's producing members account for 80 percent of the Mountain State's underground and surface coal production. WVCA also represents associate members that supply an array of services to the mining industry in West Virginia. WVCA's primary goal is to enhance the viability of the West Virginia coal industry by supporting efficient and environmentally criteria. EPA is currently in the process of revising the nationally-recommended selenium criteria.[6] Because of the flawed nature of the current selenium criteria and its inappropriate application to flowing waters in West Virginia, WVCA is supportive of this federal initiative. However, we caution WV DEP to fully analyze the appropriateness of applying any federally-revised standard in West Virginia. Available information seems to indicate that a state-specific selenium standard for West Virginia may be warranted, as fish populations appear to be healthy and diverse in streams with identified selenium concentrations.[7] The pressing nature of selenium also warrants that WV DEP investigate a state-specific criteria for West Virginia since the federal revisions remains pending. The agency has recently completed draft TMDL documents that impose selenium allocations based on the existing water quality criteria, and will continue to develop and implement selenium TMDLs, adding urgency to this important issue.

Trout Streams

In the EQB's last triennial review, it proposed adding some 400 streams to the list of Trout Waters contained in the water quality standards rule. The EQB allowed only a 30-day comment period on this major expansion of the Trout Waters list. The EQB proposal was based only on the recommendations of the

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[6] See Attachment "F", October 29, 1999 Federal Register Notice published by EPA regarding revision of the selenium criteria and Attachment "G", December 17, 2004 Federal Register Notice announcing draft criteria and requesting public comments.

[7] See Attachment "H", relevant pages from comments filed by the National Mining Association and WVCA regarding the programmatic Mountaintop Mining/ Valley Fill Environmental Impact Statement and *Fish Communities and Their Responses to Environmental Factors in the Kanawha River Basin, West Virginia, Virginia, and North Carolina*. U.S. Geological Survey, 2001.

West Virginia Division of Natural Resources, with no accompanying data or information on whether or not the streams actually meet the requirements to be classified as trout waters. Based on the lack of information regarding the current status of the proposed trout waters and the limited opportunity for comment provided, the West Virginia Legislature rejected the revision.

The permitting ramifications of classifying streams as trout waters can be significant, as different water quality standards (uniformly more stringent) apply to trout streams. Incorrectly classifying a water as a trout stream can have serious economic impacts for property owners and NPDES dischargers along that streams and should not be taken lightly be WV DEP. Before the agency undertakes any effort as part of its 2007 triennial review to list any additional streams as trout waters, WV DEP should conduct scientific investigations of water quality and fish populations in order to ascertain if a water body meets the criteria required of a trout stream. The agency should also hold hearings in the communities where such streams are located to take comment from the persons most familiar with the conditions of these streams.

We appreciate the agency's consideration of these comments.

Respectfully Submitted,

Jason D. Bostic
West Virginia Coal Association

West Virginia Coal Association
PO Box 3923, Charleston, WV 25339 ■ (304) 342-4153 ■ Fax 342-7651 ■ www wvcoal.com

July 17, 2006

Mr. Charles Sturey
West Virginia Department of Environmental Protection
Division of Mining & Reclamation
601 57th Street SE
Charleston, WV 25304

Re: Comments on Proposed Revisions to 38 CSR 2

Dear Mr. Sturey:

Pursuant to the notice filed with the Secretary of State on June 15, 2006, the West Virginia Coal Association (WVCA) offers the following comments and observations regarding the agency's proposed revisions to 38 CSR 2, the state's Mining and Reclamation rules.

WVCA is a non-profit state coal trade association representing the interests of the West Virginia coal industry on policy and regulation issues before various state and federal agencies that regulate coal extraction, processing, transportation and consumption. WVCA's membership accounts for over 80 percent of the Mountain State's underground and surface coal production. WVCA's primary goal is to enhance the viability of the West Virginia coal industry by supporting efficient and environmentally responsible coal extraction and processing through reasonable, equitable and achievable state and federal policy and regulation. WVCA appreciates the opportunity to provide comments to the West Virginia

Department of Environmental Protection (WV DEP) regarding the proposed revisions to the state's mining and reclamation rule.

Specific Comments

3.2.g. Notice of Technical Completeness. After the Secretary deems a Surface Mine Application technically complete, the Secretary shall cause the applicant to advertise stating such. The notice shall state that the application has been deemed technically complete by the Secretary and include a fifteen (15) day public review period. Provided, however, Notice of Technical Completeness may not be necessary if the application was technically complete prior to the end of the comment period of the original advertisement and a decision is made within ninety (90) day of the end of the comment period or informal conference.

WVCA believes this revision is unnecessary. Existing state rules provide the agency with authority to require re-advertisement:

> 3.2.e. Re-advertisement. After a Surface Mine Application (SMA) has been advertised once a week for four successive weeks, and is determined by the Secretary to have had a limited number of minor changes that do not significantly affect the health, safety or welfare of the public and which do not significantly affect the method of operation, the reclamation plan, and/or the original advertisement, he may require one (1) additional advertisement to be published with a ten (10) day public comment period.

As the above-cited provision reveals, the agency has the authority to require the additional advertisement that appears to be the goal of the proposed revision. The language of 38 CSR 2.3.e restricts the applicability of the provision to "a limited number of minor changes that do not significantly affect the health, safety or welfare of the public and which do not significantly affect the method of operation, the reclamation plan, and/or the original advertisement...." for changes that are substantive WV DEP has always required re-advertisement. Additionally, the proposed revisions exceed the corresponding federal requirements maintained by the Office of Surface Mining (OSM) at 30 CFR 773.6. Because the agency has already has the authority to require re-advertisement, WVCA suggests that WV DEP delete the proposed revision.

14.15.c.2. Areas within the confines of excess spoil disposal fills which are under construction provided the fill is being constructed in the "conventional" method, i.e., completed from the toe up, or those fills which are being constructed progressively in lifts from the toe up or are being progressively completed from the toe up by constructing benches and appropriate drainage control structures (ditches, flumes, channels, etc.) from the toe up as soon as the ~~area is available to do so;~~ first two lifts are in and are seeded and certified;

WVCA is extremely concerned about this proposed revision and believes that it will unnecessarily restrict operating flexibility and thereby discourage the construction of "bottom-up" valley fills. WVCA strongly suggests the agency delete this proposed revision. This entire section of rules already exceeds the corresponding federal requirements of OSM, but members of WVCA negotiated the rules in good faith to remedy an agency-perceived problem with valley fill construction. These rules have been scrutinized and approved by the West Virginia Legislature and OSM. WVCA is concerned as to why the agency believes this change is necessary, and would be willing to discuss other possible remedies to the situation.

Respectfully Submitted,

Jason D. Bostic, Vice-President
Regulatory & Technical Affairs

Surface Mining 38 CSR 2 (agreement)
401 Certification 47 CSR 5A
TROUT LISTING

2.5 Biogenic Sources include COAL

3.2 turned an exemption into an inclusion

5.3 "Shall Provide information?"

TITLE 45

LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

SERIES 42
GREENHOUSE GAS EMISSIONS INVENTORY PROGRAM

§45-42-1. General.

1.1 Scope. -- This rule establishes a greenhouse gas emissions inventory program in West Virginia which:

1.1.a. Requires the reporting and inventory of greenhouse gas emissions by stationary sources which emit more than a *de minimis* amount of greenhouse gases on an annual basis;

1.1.b Inventories greenhouse gas emissions from stationary, area, mobile and biogenic sources, and accounts for reductions and sequestration of greenhouse gas emissions;

1.1.c. Provides for a periodic compilation of a greenhouse gas emissions inventory and a determination whether West Virginia is a net sink or emitter of greenhouse gases;

1.1.d Provides for development of a registry to record voluntary reductions of greenhouse gas emissions; and

1.1.e. Provides for a determination whether the reduction and sequestration of greenhouse gas emissions can be developed as an asset for economic development.

1.2 Authority -- W. Va. Code §22-5-19

1.3. Filing Date --

1.4. Effective Date. -- June 1, 2008.

§45-42-2. Definitions.

2.1. "Air pollutants" means solids, liquids, or gases which, if discharged into the air, may result in statutory air pollution

2.2. "Air pollution" or "statutory air pollution" means and is limited to the discharge into the air by the act of man substances (liquid, solid, gaseous, organic or inorganic) in a locality, manner and amount as to be injurious to human health or welfare, animal or plant life, or property, or which would interfere with the enjoyment of life or property.

2.3. "Anthropogenic" means a direct result of human activities or the result of natural processes that have been influenced by human activities.

2.4 "Area source" means, for purposes of this rule, a collection of similar sources of air pollutants within a geographic area. Area sources collectively represent individual sources that are small and numerous, and that typically have not been inventoried as a stationary or mobile source.

2.5. "Biogenic" means a naturally occurring biological source or process that is not significantly affected by human actions or activity.

Biogenic sources include COAL

2.6. "Capture" means the collection of greenhouse gas emissions from a stationary source.

2.7. "*De minimis*" means emissions from a stationary source that are equal to or less than ten thousand tons per year for carbon dioxide, four hundred seventy-six tons per year for methane, thirty-two and six tenths tons per year for nitrous oxide, eight hundred fifty-five thousandths tons per year for hydrofluorocarbons, one and nine hundredths tons per year for perfluorocarbons and forty-two hundredths tons per year for sulfur hexafluoride.

2.8. "Emission" means the release, escape or discharge of regulated air pollutants or greenhouse gases into the air.

2.9 "Greenhouse gas" means the gaseous compounds: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6).

2.10. "Mobile source" means a variety of onroad and nonroad vehicles, engines, locomotives, marine vessels, airplanes and other equipment that generate air pollutants and greenhouse gas emissions, and that move or can be moved from place to place.

2.11. "Regulated air pollutant" means, for purposes of this rule, any air pollutant regulated under rules promulgated by the Secretary pursuant to W.Va. Code §22-5-4.

2.12. "Reservoir" means a geological site where a greenhouse gas is securely stored.

2.13. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va Code §§22-1-6 or 22-1-8.

2.14. "Sequestration" means the physical process by which emissions of a greenhouse gas are directly captured for storage in a reservoir, or the biologic process by which a greenhouse gas is indirectly removed from the atmosphere for storage in a sink.

2.15 "Sink" means any process, activity or mechanism which removes a greenhouse gas from the atmosphere. Forests are considered sinks because they remove carbon dioxide through photosynthesis.

2.16. "Source" means, for purposes of this rule, any process or activity which releases a greenhouse gas into the air.

2.17. "Stationary source" means any building, structure, facility, installation, stationary process or process equipment which emits or may emit any regulated air pollutant or greenhouse gas.

2.18 "Ton" means a short ton, or 2000 pounds.

2.19. Other words and phrases used in this rule, unless otherwise indicated, shall have the meaning ascribed to them in W Va. Code §22-5-1 et seq.

§45-42-3. Applicability.

3.1. Any stationary source that emits one or more greenhouse gases on an annual basis greater than the *de minimis* amounts listed in the table below, and reports emissions of regulated air pollutants pursuant to the emissions inventory requirements of the Secretary under rule or W.Va. Code §22-5-4(a)(14), shall be an affected source required to report emissions of all greenhouse gases to the Secretary under section 4:

Greenhouse Gas Compound	tons/year
carbon dioxide	10,000
methane	476
nitrous oxide	32.6

Any facility, etc.

hydrofluorocarbons	0.855
perfluorocarbons	1.09
sulfur hexafluoride	0.42

Coal plants under title IV

3.2. Stationary sources which are regulated by the Secretary under W.Va. Code §22-3-1 et seq. and do not report emissions of regulated air pollutants pursuant to the emissions inventory requirements under W.Va. Code §22-5-4(a)(14) are not required to, but may voluntarily report their greenhouse gas emissions under section 4.

only stationary sources

§45-42-4. Reporting Requirements.

4.1. By March 31, 2009, and March 31 of each year thereafter, affected sources shall report to the Secretary the quantity of all greenhouse gases emitted in the previous calendar year.

4.2. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gas emissions at the source, and shall not be required to report biogenic emissions of greenhouse gases.

4.3. The Secretary shall determine the form and format of the information reported by affected sources under subsection 4.1 to ensure that the information is consistent as possible with developing regional, national, or international greenhouse gas emissions programs.

4.4. Notwithstanding the provisions of subsection 4.3, to satisfy the greenhouse gas emission reporting requirements under this section, affected sources may submit greenhouse gas emissions inventory information from documented greenhouse gas inventories such as those provided to the Environmental Protection Agency's Climate Leaders Program, Chicago Climate Exchange Registry, the International Organization for Standardization and the SF_6 Emissions Reduction Partnership for Electric Power Systems. Greenhouse gas emissions inventory information from other widely recognized and verified greenhouse gas emissions inventory programs may be submitted by affected sources under this subsection, but shall be subject to approval by the Secretary on a case-by-case basis.

4.5. Reports of greenhouse gas emissions submitted to the Secretary under this section shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry."

§45-42-5. Greenhouse Gas Emissions Inventory.

5.1. The Secretary shall periodically compile an inventory of greenhouse gas emissions to:

5.1.a. Characterize the relative contributions of greenhouse gas emissions from stationary, area, mobile and biogenic sources in West Virginia; and

5.1.b. Determine the extent to which greenhouse gas emissions are offset by the rate of sequestration, and whether West Virginia is a net sink or emitter of greenhouse gases

5.2 The greenhouse gas emissions inventory shall include the emissions from stationary sources reported under section 4, and other relevant information regarding significant emissions, reductions, and sequestration of greenhouse gases from stationary, area, mobile

entire surface Area / underground Area is an AREA Source and biogenic sources requested by the Secretary under subsections 5.3 and 5.4.

5.3. To inventory greenhouse gas emissions reductions, the Secretary shall consult with the citizenry and other entities such as industry trade groups that have information relating to greenhouse gas emissions reductions, and sequestration. Upon request of the Secretary, such entities shall provide relevant information relating to greenhouse gas emissions reductions, capture and sequestration.

5.4. The Department of Agriculture, the Division of Forestry, Marshall University, West Virginia University, West Virginia Geological and Economic Survey, and the Department of Transportation shall enter into interagency agreements with the Secretary and at the Secretary's request provide:

5.4.a Relevant information relating to greenhouse gas emissions from area, mobile and biogenic sources;

5.4.b. Relevant information relating to greenhouse gas emissions reductions and sequestration; and

5.4.c Any assistance the Secretary may request during the development of the greenhouse gas emissions inventory.

5.5 The Secretary shall determine the form and format of the information submitted by the entities under subsections 5.3 and 5.4 to ensure that the information is consistent as possible with developing regional, national, or international greenhouse gas emissions programs.

§45-42-6.Greenhouse Gas Emissions Registry Program.

6.1 The Secretary shall develop a registry for the recordation of voluntary reductions of greenhouse gas emissions.

6.2. The greenhouse gas emissions registry program shall be as consistent as possible with developing regional, national, or international programs designed to monitor, quantify and register reductions in greenhouse gas emissions with respect to:

6.2.a. Development of criteria, based on a set of standardized emissions accounting, reporting and verification protocols, to determine baseline emissions and quantification of voluntary reductions in emissions of greenhouse gases;

6.2.b. Public recognition of such voluntary emissions reductions;

6.2.c. Consideration of voluntary greenhouse gas emission reductions when determining baselines and reduction requirements under future federal greenhouse gas emission reduction programs; and

6.2.d The ability of sources to participate in future greenhouse gas emission trading programs.

§45-42-7.Economic Development Potential.

7.1. Using information obtained, gathered or developed under this rule, the Secretary will determine whether the reduction and sequestration of greenhouse gas emissions can be developed as an asset for economic development in West Virginia.

§45-42-8.Inconsistency Between Rules.

8.1. In the event of any inconsistency between this rule and any other rule of the West Virginia Department of Environmental Protection, the inconsistency shall be resolved by the determination of the Secretary and the determination shall be based upon the application of the more stringent provision, term, condition, method or rule.

13 results for: *Biogenic*

Displaying 1 best match. Browse all 13 results below

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Biogenic substance

Wikipedia, the free encyclopedia – *Cite This Source*

A **biogenic substance** is a substance produced by life processes. It may be either constituents, or secretions, of plants or animals.

Examples

Coal and oil are examples of constituents which have undergone changes over geologic time periods.

Chalk, and limestone are examples of secretions (marine animal shells) which are of geologic age.

Cotton and wood is are biogenic constituents of contemporary origin.

Pearls, silk and ambergris are examples of secretions of contemporary origin.

13 More from Wikipedia »

All 13 results for: *Biogenic*

13 from Wikipedia

From: "Charles Harris" <clharris@hsc.wvu edu>
To: <jhallinan@hallinanlaw.com>, <rick@lcpsd.com>, <braney@wvcoal.com>, <PWHITE@wvdep.org>, <karen@wvma com>, <wvml@wvml org>
Date: 5/24/2007 7:54:40 PM
Subject: Re: May 30, 2007 Meeting

Trish: I received some last minute comments on 33CSR8 that I would like to submit:

§33-9-2. Definitions – Section 2 5 defines "Beneficial Use" as "the use of a non-hazardous material for a specific beneficial purpose where it is done in a manner that protects groundwater and surface water quality, soil quality, air quality, human health, and the environment" We are concerned that it has not been adequately demonstrated that this filtrate is non-hazardous, and point to the current "inter-sex" fish issue in the Potomac River drainage which illustrates that there are unanswered questions concerning unmonitored pollutants in sludge from both water and waste treatment facilities

§33-9-2. Definitions - Section 2.5 defines beneficial uses as including "use as a fertilizer substitute, soil amendment, cover material, fill material, mulch or horticultural product, or other purpose approved by the Secretary" However, Section 33-9-3, in sub-Section 3.1 b.1 requires that "The use proposed is a reuse, and not a disposal" We suggest that the use of this filtrate as fill material is actually simply a disposal and not a "reuse." We believe this material should not be used as fill material. This would also require a change to Section 33-9-5, sub-Section 5.2.

§33-9-5. Standards for Beneficial Use of Filtrate - sub-Section 5.3 states, "The Secretary may approve the use of filtrate as fill material within fifty (50) feet of surface water upon submission of information sufficient to show that the fill material will have no significant impact on the quality of runoff reaching the surface water" Even the U.S. Forest Service has adopted stronger stream buffers for sediment runoff DEP should develop stronger stream buffers for this rule, and there should be no discretion.

§33-9-7. – DEP made changes to this rule during the Interims process last year, and the rule now requires a permit for both short-term and long-term applications. This is a good change. However, we feel that most of the information required in Section 7.3. Permit Application Requirements for long-term permits should also be required for short-term permits

§33-9-8. Draft Permits and Public Comment. Section 8.2 a. provides for a 30-day public comment period for long-term permits, but only a 15-day public comment period for short-term permits. We oppose the shortened public notice provisions for short-term permits. The 30-day comment period should apply in both instances.

§ 33-9-11. General permits. We oppose the development of a General Permit to cover the provisions of this rule. Specific individual permits are necessary to inform potentially affected parties of the application of this material.

Appendix A – Frequency of Monitoring. The Legislative Rule-Making Review Committee last session accepted an amendment proposed by industry that reduced monitoring tests to once a year. While we would prefer even more frequent monitoring than proposed in this rule, we hope DEP will strongly oppose any attempts to reduce the monitoring provisions provided in this rule.

Charles L. Harris
Professor of Biochemistry
West Virginia University
School of Medicine
304-293-7749
>>> "Patricia White" <PWHITE@wvdep.org> 05/21/07 4:21 PM >>>
Please be advised of the following meeting:

Comments on DEP Rules for 2007

Communicated by Larry Harris, Public Advisory Council Member

I would like to commend the staff of the DEP for the hard work and expertise used in preparing and reviewing the rules with Council. As promised, I include below some of the technical and other issues raised during the May 21 meeting of the Council, omitting some questions that were answered at the meeting. Members of the environmental community who reviewed the rules raised some of the questions.

Some of the issues mentioned below are related to the act of valley fills and determining compensation for this process. I have pointed out my view to Council previously that the permitting of valley fills is essentially allowing the destruction of upper tributaries of watersheds. As such the process should be outlawed, in my view.

47CSR2 Water Quality

We learned that the B2 list is essentially the same as submitted previously and includes the definition of trout waters cited on page 2 of the rule.

Page 11: Why is the temperature regulation on Stony River being removed?

47CSR2 (7.2.d.9) — The removal of variances, etc. on the Blackwater seems to be a strength, but why do these rivers remain "reserved" on the list? Why not just remove them?

47CSR2 (7.2.d.34.1): Adds language for site-specific applicability of water use categories and water quality criteria: "Pats Branch from its confluence with the Guyandotte River to a point 1000 feet upstream shall not have Water Use Category A and Category D1 designation."

* Is this a use removal? Yes was the answer.
* If so, did this go through the appropriate public process and use attainability analysis to justify a use removal . Did the use and attainability

analysis follow the federal Clean Water Act provision. (i.e. how was this decision justified)? Not sure this was fully answered.

47CSR2 (Appendix E):

Are the changes in concentrations for cadmium, copper, and others in Appendix E consistent with EPA changes/ recommendations? Some of the changes in hardness calculations are in response to comments from our groups last year asking DEP to be consistent—so this is good.

47CSR5A

47 CSR 5A (State Certification)

***47CSR5A (4.2.f.4): seems to be weakening the system for determining stream miles (delineation). DEP inserts the language: "The stream shall be measured from the farthest downstream disturbance, excluding stream crossings associated with haul roads for surface mining operations, upstream to the beginning of the ordinary high water mark."

This will result in fewer stream miles being "delineated" as actual stream miles, it seems. Why would you move upstream (where there are fewer inputs) to find a high water mark? Thus, it also seems fewer miles of headwaters will be mitigated for impacts.

47CSR5A (6.2.b): Typo—"loses" should be "losses"

47CSR5A (6.2.d.1): Is there a discrepancy between how monetary compensation for coal versus non-coal impacts is assessed? It may be worth determining that coal is not getting a break, in comparison to non-coal.

For example—why is it lineal miles for coal and acreage for non-coal? If they are going to assess from the high water mark—as discussed above—will this not result in fewer stream miles and thus fewer miles to mitigate/compensate? Also, there is no assessment for non-coal related temporary impacts—why?

60 CSR5 Antidegradation

I made the suggestion that the list of Tier 2.5 streams (156 in the current rule) should be returned to the same number as began the legislative session, which is 309 streams. A scientific process that included expertise from the WVDNR, which manages trout waters, arrived at the list of 309 streams. The list now submitted with the bill was reduced by the political process. Politics should not determine which streams merit protection from pollution; science should.

Other issues:

2.11 Explanation of the addition of this trading section is needed. Is this similar to EPA rules and consistent with the Clean Water Act?

3.9 Which advisory committee is this phrase referring to:

5.5b is removed. Why?

Is the procedure for nomination and addition of streams to the tier 2.5 list adequate?

Comments from Adam Webster (WVRC)

60CSR5 (2.11): It's good that DEP provides "upstream controls" and mentions "for the same parameter" in the first sentence of the "trading" definition. Overall, the definition is good, but it is important to remember that the intent of the definition is not to allow cross-pollutant trading. With this in mind, the second sentence—"More than one parameter of concern may be traded on a given stream"—needs to be worded more restrictively (i.e. despite what the first sentence says, the second sentence could be interpreted as if cross-pollutant trading is allowed).

*** 60CSR5 (5.2): Removes (strikes) the language: "Water segments that support the minimum fishable/swimmable uses and have assimilative capacity remaining for some parameters shall generally be afforded Tier 2 protection".

Does this suggest the default is Tier 1 (if data does not suggest otherwise)? If so, why?

60CSR5 (5.6.c): The deletion is a response to lawsuit. However, the new 5.6.c suggests they cannot assess assimilative capacity when dealing with pH, DO, temperature, and fecal coliform. We feel that they can assess these parameters and should not treat them separately.

45CSR42 Greenhouse Gases

The fact that the DEP is beginning to deal with the process of greenhouse gases that lead to global warming is commendable. Some questions on the rule were raised by Dr. Kotcon:

The greenhouse gases emissions inventory rule (45-42-1) needs to be
>strengthened considerably. The sections on emissions inventory
>(section 5, pages 3-4) is so vague as to be meaningless, especially
>as it deals with sequestration for area sources and sinks. I do not
>see how any meaningful data can be generated with this language.
How would the carbon sequestration be estimated? Has there been studies estimating the biogenic incorporation of CO2 per acre of woodland, for example? The rule appears to be a vague in how it would be implemented.

Air Quality and Emission Rules (see below)

45CSR8 Ambient Air Quality Standards

Don Garvin pointed out that the the antidegradation language was removed from this rule, and it was explained that the agency feels these provisions are now covered in 45-CSR-14("Prevention of Significant Deterioration.") However, the language that was stricken does not appear in 45-CSR-14, and the stricken language is the ONLY statement in the rules of West Virginia's antidegradation policy for air quality. The environmental community still believes the stricken language should be restored.

Here is what should be reinstated:

§45-8-2. Anti-Degradation Policy.

2.1. Pursuant to the best interests of the State of West Virginia, it is the objective of the Secretary to obtain and maintain the cleanest air possible, consistent with the best available technology.

2.2. Where the present ambient air is of better quality than the established standards, the Secretary will develop long-range plans to protect the difference between the present quality and the established standards. The plans will be based upon the best available forecasts of probable land and air uses in these areas of high air quality.

2.3. The air quality of these areas will not be lowered unless it has been clearly demonstrated to the Secretary that such a change is justifiable as a result of necessary economic or social development and will not result in statutory air pollution. This will require that any industrial, public, or private project or development which could constitute a new source of air pollutants, within an area of such high air quality, provide the best practicable control available under existing technology as part of the initial project or development.

45CSR41 Control of Annual SO2 emissions

45CSR6 Control of Air Pollution from Refuse Combustion

45CSR39 Nitrogen Oxides

I raised the general concern whether the standards for air quality were consistent with the EPA guidelines or not. Further, were any recognized health authorities consulted when these levels were determined? I also raised the issue that West Virginia is increasing supplying electricity to the population east of our mountains. New transmission lines are proposed that are to be connected with coal burning power plants. Billy Jack Gregg, Consumer Advocate for the WV PSC has pointed out that the states receiving our generated power will not permit generation plants in their region. They are concerned about air pollution and its various effects. But they need power, so they turn to West Virginia. This helps the coal industry and generation plants, but puts the health of West Virginians in jeopardy. I feel that our air quality and emission limits should be even more stringent than the EPA calls for in order to protect our citizens. This should be particularly true for power plants that export electricity.

Dr. Kotcon has raised the following issues:

45-CSR-8 Ambient Air Quality Standards

The standards for PM2.5 and Ozone are not adequately protective. I recommend that the standards be lowered from 15 ug/m^3 to 13 ug/m^3 in section 4.2.b., and from 0.08 ppm to 0.07 ppm in section 4.4.b.

The air standards (45-8-1) retains the standards for PM2.5 and ozone
>that the EPA Clean Air Scientific Advisory Council has already
>determined to be inadequate. Keeping these old standards will kill
>dozens or hundreds of West Virginians each year.

>The rule on refuse combustion (45-6-1) attempts to revise the
>definition of low-level radioactive waste and revives the
>Below-Regulatory_Concern (BRC) issue from some years ago. It also
>creates a large number of exemptions for "temporary" pollution
>sources. I am not yet sure if this re-opens old battles over
>medical waste incineration, but this was a really hot issue a few
>years back.

Comment submitted by Karen Price at Council meeting 5/30/07

Questions/Comments on DEP's 2007 Proposed Rules

- **45 CSR 8 Ambient Air Quality Standards**

Section 4.2.c – $PM_{2.5}$ Maximum 24-Hour Average Concentration. The level for the 24-hour primary and secondary standard states 35 ug/m^3. This should be 65 ug/m^3, pursuant to 40 CFR 50.7.

- **45 CSR 39, 45 CSR 40, 45 CSR 41**

The opt-in unit language is deleted from each of these rules. What is the purpose for the deletion of these provisions?

- **33 CSR 30, Underground Storage Tank Rules**

Section 6.1. states "......including any person who accepts a delivery order, accepts payment, delivers or deposits product into an underground storage tank......". The portion that states "....accepts payment...." should be removed from this section because those individuals within a company who accept payment or make payments most often do not know anything about the underground storage tank (UST), the operation of the UST, or the current regulatory status of the UST.

Section 7.3.a.1. states ".....the methodology for verifying attendance, the date, time and location of the course, the name of the offering organization, the credentials of the instructors, and a certification that the technology or methods....."

1. The portion that states "..the date, time and location of the course,....." should be deleted. For large companies with many UST installations and locations there can be numerous individuals that need to be trained. Training will most likely occur on multiple dates, times, and locations that may not always be known until just prior to the training event. When new employees are hired training might

occur on short notice and for one individual. The burden of having to repor the dates, time and locations would hinder and slow down the training process and restrict a company's ability to comply.

2. The portion that states "...the credentials of the instructors...." should be removed. Credentials will vary from instructor to instructor new instructors might be utilized, and a company might not know which instructors will be used at the various training sessions until just prior to the training session. In addition, the course content is the main issue of concern and should be the main focus in obtaining State approval of a training program.

Section 7.3.a.2 - This section states that a nonrefundable application fee of $280 must be submitted with the application. Larger companies may have one training program, but administer the training on multiple dates, times and locations. Having to submit an application for approval of the training program each time the program is administered would be cost prohibitive, burdensome, and would hinder the training process. The State should clarify or make provision for a company to submit one application for the training program that will be administered to all company UST facilities. This will make the $280 application fee reasonable and the application process less burdensome.

INDUSTRY'S REVISIONS

45CSR42

TITLE 45
LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

SERIES 42
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1.1.c. Provides for a periodic compilation of a greenhouse gas emissions inventory and a determination whether West Virginia is a net sink or emitter of greenhouse gases;

1.1.d. Provides for development of a registry to record voluntary reductions of greenhouse gas emissions; and

1.1.e Provides for a determination whether the reduction and sequestration of greenhouse gas emissions can be developed as an asset for economic development.

1.2 Authority -- W Va Code §22-5-19.

1.3. Filing Date --

1.4. Effective Date -- June 1, 2008.

§45-42-2. Definitions.

2.1. "Air pollutants" means solids, liquids, or gases which, if discharged into the air, may result in statutory air pollution

2.2. "Air pollution" or "statutory air pollution" means and is limited to the discharge into the air by the act of man substances (liquid, solid, gaseous, organic or inorganic) in a locality, manner and amount as to be injurious to human health or welfare, animal or plant life, or property, or which would interfere with the enjoyment of life or property.

2.3. "Anthropogenic" means a direct result of human activities or the result of natural processes that have been influenced <u>significantly</u> by human activities.

2.4. "Area source" means, for purposes of this rule, a collection of similar sources of air pollutants within a geographic area. Area sources collectively represent individual sources that are small and numerous, and that typically have not been inventoried as a stationary or mobile source.

2.5. "Biogenic" means a naturally occurring biological source or process that is not significantly affected by human actions or activity.

2.6. "Capture" means the collection of greenhouse gas emissions from a stationary source

2.7. "*De minimis*" means emissions from a stationary source that are equal to or less than ten thousand tons per year for carbon dioxide, four hundred seventy-six tons per year for methane, thirty-two and six tenths tons per year for nitrous oxide, eight hundred fifty-five thousandths tons per year for hydrofluorocarbons, one and nine hundredths tons per year for perfluorocarbons and forty-two hundredths tons per year for sulfur hexafluoride.

2.8. "Emission" means the release, escape or discharge of regulated air pollutants or greenhouse gases into the air.

2.9. "Greenhouse gas" means the gaseous compounds: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6)

2.10. "Mobile source" means a variety of onroad and nonroad vehicles, engines, locomotives, marine vessels, airplanes and other equipment that generate air pollutants and greenhouse gas emissions, and that move or can be moved from place to place.

2.11. "Regulated air pollutant" means, for purposes of this rule, any air pollutant regulated under rules promulgated by the Secretary pursuant to W.Va. Code §22-5-4

2.12. "Reservoir" means a geological site where a greenhouse gas is securely stored.

2.13. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va Code §§22-1-6 or 22-1-8

2.14. "Sequestration" means the physical process by which emissions of a greenhouse gas are directly captured for storage in a reservoir, or the biologic process by which a greenhouse gas is indirectly removed from the atmosphere for storage in a sink

2.15 "Sink" means any process, activity or mechanism which removes a greenhouse gas from the atmosphere Forests are considered sinks because they remove carbon dioxide through photosynthesis.

2.16 "Source" means, for purposes of this rule, any process or activity which releases a greenhouse gas into the air.

2.17 "Stationary source" means any building, structure, facility, installation, stationary process or process equipment which emits or may emit any regulated air pollutant or greenhouse gas.

2.18 "Ton" means a short ton, or 2000 pounds.

2.19. Other words and phrases used in this rule, unless otherwise indicated, shall have the meaning ascribed to them in W.Va. Code §22-5-1 et seq

§45-42-3. Applicability.

3.1. Any stationary source that emits one or more greenhouse gases on an annual basis greater than the *de minimis* amounts listed in the table below, excluding biogenic emissions, and reports emissions of regulated air pollutants pursuant to the emissions inventory requirements of the Secretary under rule or W.Va. Code §22-5-4(a)(14), shall be an affected source required to report emissions of all greenhouse gases emitted above *de minimis* amounts to the Secretary under section 4:

Greenhouse Gas Compound	tons/year
carbon dioxide	10,000
methane	476

nitrous oxide	32.6
perfluorocarbons	1.09
sulfur hexafluoride	0.42
hydrofluorocarbons	0.855

3.2. Stationary sources which are regulated by the Secretary under W Va. Code §22-3-1 et seq. and do not report emissions of regulated air pollutants pursuant to the emissions inventory requirements under W.Va. Code §22-5-4(a)(14) are not required to, but may voluntarily report their greenhouse gas emissions under section 4.

§45-42-4.Reporting Requirements.

4.1. ~~By March 31, 2009, and March 31 of each year thereafter, affected~~ Affected sources shall report to the Secretary the quantity of all greenhouse gases emitted above *de minimis* amounts in the previous calendar year at the same time such sources are to report emissions of regulated air pollutants pursuant to the emissions inventory requirements of the Secretary under rule or W.Va. Code §22-5-4(a)(14).

4.2. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gas emissions directly at the source, and shall not be required to report biogenic or mobile emissions of greenhouse gases, or indirect emissions of greenhouse gases, such as emissions occurring offsite from energy consumption.

4.3. The Secretary shall determine the form and format of the information reported by affected sources under subsection 4.1 to ensure that the information is consistent as possible with developing regional, national, or international greenhouse gas emissions programs

4.4. Notwithstanding the provisions of subsection 4 3, to satisfy the greenhouse gas emission reporting requirements under this section, affected sources may submit greenhouse gas emissions inventory information from documented greenhouse gas inventories such as those provided to the Environmental Protection Agency's Climate Leaders Program, Chicago Climate Exchange Registry, the International Organization for Standardization and the SF_6 Emissions Reduction Partnership for Electric Power Systems. Greenhouse gas emissions inventory information from other widely recognized and verified greenhouse gas emissions inventory programs may be submitted by affected sources under this subsection, but shall be subject to approval by the Secretary on a case-by-case basis

4.5. Reports of greenhouse gas emissions submitted to the Secretary under this section shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry."

4.6. Greenhouse gases reported under this section are not subject to fees under 45 CSR 30, unless the greenhouse gases are otherwise regulated by the Secretary.

§45-42-5.Greenhouse Gas Emissions Inventory.

5.1. The Secretary shall periodically compile an inventory of greenhouse gas emissions to:

5.1.a. Characterize the relative contributions of greenhouse gas emissions from stationary, area, mobile and biogenic sources in West Virginia; and

5.1 b. Determine the extent to which greenhouse gas emissions are offset by the rate of sequestration, and whether West Virginia is a net sink or emitter of greenhouse gases.

5.2. The greenhouse gas emissions inventory shall include the emissions from stationary sources reported under section 4, and other relevant information regarding significant emissions, reductions, and sequestration of greenhouse gases from stationary, area, mobile and biogenic sources requested by the Secretary under subsections 5.3 and 5.4.

5.3. To inventory greenhouse gas emissions reductions, the Secretary shall consult with the citizenry and other entities such as industry trade groups that have information relating to greenhouse gas emissions reductions, and sequestration~~. Upon request of the Secretary, such entities shall provide relevant information relating to greenhouse gas emissions reductions, capture and sequestration~~.

5.4. The Department of Agriculture, the Division of Forestry, Marshall University, West Virginia University, West Virginia Geological and Economic Survey, and the Department of Transportation shall enter into interagency agreements with the Secretary and at the Secretary's request provide:

5.4.a. Relevant information relating to greenhouse gas emissions from area, mobile and biogenic sources;

5.4.b. Relevant information relating to greenhouse gas emissions reductions and sequestration; and

5.4.c. Any assistance the Secretary may request during the development of the greenhouse gas emissions inventory.

5.5. The Secretary shall determine the form and format of the information submitted by the entities under subsections 5.3 and 5.4 to ensure that the information is consistent as possible with developing regional, national, or international greenhouse gas emissions programs.

§45-42-6. Greenhouse Gas Emissions Registry Program.

6.1. The Secretary shall develop a registry for the recordation of voluntary reductions of greenhouse gas emissions.

6.2. The greenhouse gas emissions registry program shall be as consistent as possible with developing regional, national, or international programs designed to monitor, quantify and register reductions in greenhouse gas emissions with respect to:

6.2.a. Development of criteria, based on a set of standardized emissions accounting, reporting and verification protocols, to determine baseline emissions and quantification of voluntary reductions in emissions of greenhouse gases;

6.2.b. Public recognition of such voluntary emissions reductions;

6.2.c Consideration of voluntary greenhouse gas emission reductions when determining baselines and reduction requirements under future federal greenhouse gas emission reduction programs; and

6.2.d The ability of sources to participate in future greenhouse gas emission trading programs.

§45-42-7. Economic Development Potential.

7.1 Using information obtained, gathered or developed under this rule, the Secretary will determine whether the reduction and sequestration of greenhouse gas emissions can be developed as an asset for net economic development or will result in a deterrent to net economic development in West Virginia~~.~~

§45-42-8.Inconsistency Between Rules.

8.1. In the event of any inconsistency between this rule and any other rule of the West Virginia Department of Environmental Protection, the inconsistency shall be resolved by the determination of the Secretary and the determination shall be based upon the application of the more stringent provision, term, condition, method or rule

<u>Summary of Industry's Suggested Changes and Comments on</u>
<u>45 CSR 42, Greenhouse Gas Emissions Inventory Program</u>

- Section 2.3. The definition of "anthropogenic" should be revised to state that it is the "result of natural processes that have been influenced <u>significantly</u> by human activities". Adding the term "significantly" makes the definition consistent with the definition of "biogenic" which means a "naturally occurring biological source or process that is not significantly affected by human actions or activity."

- Section 3.1. Applicability. This section should be revised to clarify that only individual <u>greenhouse gases emitted above the *de minimis* amounts</u> are required to be reported. Otherwise, affected sources that trigger any of the *de minimis* amounts could be required to report emissions of all of the greenhouse gases even if they are below the *de minimis* amounts. We do not believe that this is DEP's intent Also, this section should be revised to clarify that the *de minimis* amounts do not include biogenic emissions.

- Section 4.1. Reporting Requirements. This section should be revised to require reporting of greenhouse gases at the same time the air emissions inventory reporting is required. Sources should not be required to report their emissions at two different times This section should also be clarified so that only greenhouse gases <u>emitted above the *de minimis* amounts</u> are required to be reported.

- Section 4.2 should be revised so that "mobile" emissions of greenhouse gases are not required to be reported. This section should also be revised to clarify that only <u>direct</u> emissions and not indirect greenhouse gas emissions (e.g., emissions occurring offsite from electricity consumption) are required to be reported. The references in section 4.3 to programs like Climate Leaders could lead sources to include indirect and direct emissions in their reporting. This would lead to double counting of electric generation greenhouse gas emissions and to higher source emissions compared to the *de minimis* amounts.

- Section 4.6 should be added so that sources will not be subject to fees for reporting greenhouse gas emissions, as the purpose of such reporting is to create an inventory, not to generate fees.

- Section 5.3. This section should be revised to delete the requirement that certain entities, including trade associations, must provide relevant information on greenhouse gas emissions, reductions, capture and sequestration to the Secretary upon request. This requirement is not found in the statute and could be interpreted to require such entities to report reductions, which is also not required under the statute.

- Section 7.1. Economic Development Potential This section should be revised to require the DEP to also determine whether reduction and sequestration will result in a deterrent to net economic development – not just whether it will be an asset.

- Additional questions/issues:

    - A reasonable protocol for reporting greenhouse gas emissions from stationary sources should be developed. Affected sources should not be required to report emissions from individual units within a stationary source if such emissions are insignificant. Affected stationary sources should have the option to report all of its greenhouse gas emissions in the aggregate.

    - Over 30 states have signed on to "The Climate Registry". Does West Virginia intend on signing on? The rule indicates that West Virginia will have its own registry independent of "The Climate Registry". Does DEP intend to rely upon any greenhouse gas registry programs, such as the Chicago Climate Exchange Registry, in developing the registry program?

MEMORANDUM

TO: Karen Price

FROM: David L Yaussy

DATE: May 29, 2007

SUBJECT: DEP Advisory Council Rules

A. Rules for Individual State Certification of Activities Requiring a Federal Permit.
Title 47, Series 5A.

No comment.

B. National Pollutant Discharge Elimination System (NPDES) Program.
Title 47, Series 10.

We would urge the DEP to update the rule. It still contains references to the Chief, rather than the Director (See, for example, Sections 5.13.d.1, 6.2 and 9.1.a.)

Has the DEP updated this rule to reflect changes in the Code of Federal Regulations that were made since it was last comprehensively updated?

C. Antidegradation Implementation Procedures.
Title 60, Series 5.

We agree that the State should do away with Section 6.2. There is no need for an initial presumptive listing procedure at this point. As for the 156 (I counted 157, but I may have miscounted) streams in Appendix A, we will disagree with all those listed except the 39 to which no objections were ever lodged.

D. Requirements Governing Water Quality Standards.

Title 57, Series 2.

There are a couple of minor errors – Section 2.2 has a "then" that should be "than" and Section 6.1 is missing text

We remain disappointed that the State continues to interpret its water quality standards to apply all uses in all streams at all times Section 6.1 clearly provides that B and C are the only default, or universal, uses

Appendix D should be eliminated. Category C, Water Contact Recreation, is a default use, and listing all streams with that use assigned to them suggests that there are streams that do not have that designation.

Appendix A. The DEP is listing a huge number of trout streams with no justification for their listing. If streams meet the requirements of trout waters, they qualify as such; if they do not, there is no reason to list them. Unless the DEP can document that each stream has year round, multi-age populations, they should not be listed.

DLY:shb

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: 60CSR3 – "Voluntary Remediation and Redevelopment Rule"

Type of Rule: ___X__ Legislative _____Interpretive _____Procedural

Agency: Division of Land Restoration

Address: 601 57th Street SE

Charleston, WV 25304

Phone Number: (304) 926-0455 Email: kellison@wvdep.org

Fiscal Note Summary

Summarize in a clear and concise manner what impact this measure will have on costs and revenues of state government.

This proposed rule amendment incorporates provisions of the Uniform Environmental Covenant Act and updates the toxicological profiles used in developing the DeMinimis risk-based cleanup standards. The proposed rule amendments will have no impact on costs and revenues of state government.

Fiscal Note Detail

Show over-all effect in Item 1 and 2 and, in Item 3, give an explanation of Breakdown by fiscal year, including long-range effect.

FISCAL YEAR			
Effect of Proposal	2008 Increase/Decrease (use "-")	2009 Increase/Decrease (use "-")	Fiscal Year (Upon Full Implementation)
1. Estimated Total Cost	$ 0	$ 0	$ 0
Personal Services	0	0	0
Current Expenses	0	0	0
Repairs & Alterations	0	0	0
Assets	0	0	0
Equipment	0	0	0
Other	0	0	0
2. Estimated Total Revenues	0	0	0

Rule Title: 60CSR3 – "Voluntary Remediation and Redevelopment Rule"

3. Explanation of above estimates (including long-range effect):
Please include any increase or decrease in fees in your estimated total revenues.

The proposed amendments to the technical provisions of the Voluntary Remediation and Redevelopment Rule will cause no increase or decrease in fees.

MEMORANDUM

Please identify any areas of vagueness, technical defects, reasons the proposed rule **would not** have a fiscal impact, and/or any special issues **not** captured elsewhere on this form.

The proposed technical amendments will not have any immediate or overall fiscal impact on state government.

Date: ____________________

Signature of Agency Head or Authorized Representative

____

TITLE 60
LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SECRETARY'S OFFICE

SERIES 3
VOLUNTARY REMEDIATION AND REDEVELOPMENT RULE

§60-3-1. General.

1.1. Scope. -- This legislative rule establishes the eligibility, procedures, standards and legal documents required for voluntary and brownfield cleanups.

1.2. Authority. -- W. Va. Code §22-22-3.

1.3. Filing Date. -- ~~May 8, 2002~~.

1.4. Effective Date. -- ~~May 8, 2002.~~

§60-3-2. Definitions. Terms defined in the Act are accorded the same definition in this rule.

Unless the context in which used clearly requires a different meaning, the definitions contained in W. Va. Code §22-22-2 and § 22-22B-2 shall apply to the terms in this rule in addition to the definitions expressly set forth in this rule. For ease of reference, some of the statutory definitions are repeated in this section.

2.1. Abandoned Property. -- Real property for which the current owner cannot be determined or cannot be located or property which has been forfeited to or acquired by the state for the nonpayment of taxes pursuant to state law.

2.2. Act. -- The Voluntary Remediation and Redevelopment Act, W. Va. Code §22-22-1 et seq.

2.3. Analytical Expenses. -- Those direct costs associated with laboratory analysis of samples associated with a voluntary remediation.

2.4. Anthropogenic Background. -- Concentrations of chemicals that are present in the environment due to human activities unrelated to operation at the site.

2.5. Applicable Standards. -- Standards described in section 9 of this rule. Such standards include any exposure controls used at a site to meet the acceptable risk level for that site, at the time of the remediation or in the future.

2.6. Applicant. -- A person who is applying or has applied to participate in the voluntary remediation program.

2.7. Brownfield. -- Any industrial or commercial property which is abandoned or not being actively used by the owner as of the effective date of this article, but shall not include any site subject to a unilateral enforcement order under §104 through §106 of the Comprehensive Environmental Response, Compensation and Liability Act, 94 Stat. 2779, 42 U.S.C. §9601, as amended, or which has been listed or proposed to be listed by the United States environmental protection agency on the priorities list of Title I of said act, or subject to a unilateral enforcement order under §3008 or §7003 of the Resource Conservation Recovery Act" or any unilateral enforcement order for corrective action under this chapter.

2.8. Brownfield Applicant. -- A

person who is applying or has applied to participate in the voluntary remediation for a Brownfield property and:

2.8.a. Who is seeking or has obtained a site assessment loan from the Brownfields Revolving Fund; or

2.8.b. Who will use funds from the State of West Virginia or any county or municipality thereof in the assessment or remediation of the property.

2.9. Carcinogen. -- Any substance which can cause cancer.

2.10. Cumulative Site Risk. -- The summation of risks to a human receptor or ecological receptor from one or more contaminants released at the site over a period of time.

2.11. Day or Day Calendar. -- The 24-hour period between 12:00 A.M. - 12:00 A.M.

2.12. De Minimis Risks. -- Those risks that are so trivial that they would not require remediation under this rule.

2.13. Ecological Receptors of Concern. -- Specific ecological communities, populations, or individual organisms protected by federal, state or local laws and regulations or those local populations which provide important natural or economic resources, functions and values.

2.14. Ecosystem. -- An integrated, self-functioning system consisting of interactions among both the biotic community and abiotic environment within a specified location in space and time. Sizes of ecosystems may vary considerably.

2.15. Endangered and Threatened Species. -- Any plant or animal species identified as endangered or threatened pursuant to federal, state, or local laws.

2.16. Engineering Controls. -- Remedial actions directed exclusively toward containing or controlling the migration of contaminants through the environment. These include, but are not limited to, slurry walls, liner systems, caps, leachate collection systems, and groundwater recovery trenches.

2.17. Exposure. -- Contact of an organism with a chemical or physical agent. Exposure is quantified as the amount of the agent available at the exchange boundaries of the organism (e.g., skin, lungs, gut) and available for absorption.

2.18. Exposure Factors. -- Values used to estimate exposure in risk assessment, such as the number of days per week that exposure is expected to occur, or the amount of contaminated media that a person might incidentally ingest per day.

2.19. Exposure Pathway. -- A complete exposure pathway consists of a source or release from a source, a transport/exposure medium (e.g., air) or media (in cases of intermediate transfer), an exposure point, and an exposure route.

2.20. Exposure Route. -- The way a chemical or physical agent comes in contact with a receptor (e.g., by eating [ingestion], breathing [inhalation], or touching [dermal contact]).

2.21. Fate and Transport. -- The behavior and movement of a chemical through an environmental media.

2.22. Free product refers to a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water). These substances include liquid petroleum products such as gasoline, kerosene, diesel fuel, or oil, and any hazardous substance either listed in Section 101(14) of CERCLA or defined as such under RCRA. For petroleum hydrocarbons, the term nonaqueous phase liquid includes both liquid phase and residual phase hydrocarbons. Liquid phase product is capable of flowing downward and/or laterally into wells or excavations. Typically it exists as a pool or mound floating on the water table or resting on an impermeable soil layer. Residual phase product does not generally flow as a liquid; it occurs as globules within fractures or pores of soil or bedrock.

2.23. Gross Remediation Costs. -- The direct costs associated with remediation of a site and paid by the remediator. Gross remediation costs include the fees paid to the licensed remediation specialist, and contractors, equipment expenses and rental, disposal costs, permit fees, remediation site personnel costs, and all other expenses directly related to achieving applicable standards at the site.

2.24. Habitat. -- The area or type of environment in which an organism or biological population ~~normally~~naturally lives or ~~occurs~~is found.

2.25. Hazard Index. -- The sum of the hazard quotients for multiple substances and/or multiple exposure pathways.

2.26. Hazard Quotient. -- The value which quantifies noncarcinogenic risk for one chemical for one receptor population over a specified exposure period. The hazard quotient is equal to the ratio of a chemical-specific intake to the reference dose.

2.27. Hourly Rate. -- The gross annual salary (excluding benefits paid to an employee) divided by 2080.

2.28. Implementability. -- The technical and administrative feasibility of an action as well as the availability of needed goods and services.

2.29. Inactive property. -- Real property that has previously been used for commercial or industrial purposes but is no longer actively used for such purposes.

2.30. Industrial Land Use. -- Land used for commercial establishments, manufacturing plants, public utilities, mining, distribution of goods or services, administration of business activities, research and development facilities, warehousing, shipping, transport, remanufacturing, stockpiling of raw materials, storage, repair and maintenance of commercial machinery or equipment, and waste management.

2.31. Institutional Controls. -- Legal or contractual restrictions on property use that remain effective after the remedial action is completed and are used to meet applicable standards. The term may include, but not limited to, deed and water use restrictions.

2.32 Land Use Covenant - A document or deed restriction issued by the secretary on remediated sites which have attained and demonstrate continuing compliance with site-specific standards for any contaminants at the site and which meets the requirements of Section 13 of this rule. A land use covenant is an environmental covenant within the meaning of W. Va. Code § 22-22B-2(4).

~~2.32~~.2.33. Leaching Potential. -- The potential for soluble constituents to be dissolved and filter through the soil by a percolating fluid.

~~2.33.~~2.34 LOAEL or Lowest Observed Adverse Effect Level. -- The lowest concentration or dose evaluated in a test that causes statistically significant adverse effects in experimental trials.

~~2.34~~.2.35. LRS or Licensed Remediation Specialist. --An individual certified by the secretary pursuant to rules adopted under Section 3 of Article 22 as qualified to perform professional services and to supervise the remediation of contaminated sites.

~~2.35~~.2.36 Natural Background. -- Ambient concentrations of chemicals that are present in the environment and have not been influenced by humans (e.g., iron, manganese).

~~2.36~~.2.37 NOAEL or No Observed Adverse Effect Level. -- The highest concentration or dose evaluated in a test that does not cause statistically significant adverse effects in experimental trials.

~~2.37~~.2.38 New Information. -- Any information obtained directly or indirectly by the department from any person after issuance of a certificate of completion, but does not include information the department has received in the application for participation in the voluntary remediation program, including any site assessment, during the execution of the voluntary remediation agreement or any work plan developed under such an agreement, or other information available to department under the voluntary remediation program prior to the execution of the certificate of completion. Information that does not qualify as new information may be considered by the secretary along with new information if necessary, to determine whether any of the conditions for reopening set out in section 16 of this rule, have occurred.

~~2.38~~.2.39 No Further Action. -- A site is eligible to receive a Certificate of Completion on the basis of site assessment sampling or sampling data developed under a Voluntary Remediation Agreement which demonstrates that the site meets all applicable standards.

~~2.39~~.2.40 Operator. -- The person responsible for the overall operation of a facility site. For purposes of this rule, a person who executes a voluntary remediation agreement with the secretary may be deemed an operator for the purpose of carrying out the activities required by the agreement.

~~2.40~~.2.41 Potential to Migrate. -- Refers to the ability of contaminants to migrate from a source or soil to groundwater.

~~2.41~~.2.42 Primary Employee. -- A voluntary remediation project manager, engineer or scientist employed by the secretary in negotiating, facilitating, overseeing or confirming a voluntary remediation project. The term does not include secretaries, paralegals, clerks, technicians or others who serve to support the activities of the primary employee.

~~2.42~~.2.43 Prime Rate. -- The base rate on corporate loans posted by at least

75% of the nation's 30 largest banks.

~~2.43~~.2.44 Probabilistic Risk Assessment. -- A risk assessment performed using a mathematical technique that produces a distribution of values for a calculated term by solving for that term in successive iterations. Each successive iteration requires the selection of a single input value from defined distribution(s) for each of the terms used to derive the calculated term.

~~2.44~~.2.45 Readily Apparent Harm. -- If any one of the following criteria are observed at the site, then readily apparent harm is found:

~~2.44.a~~.2.45a Visual evidence of stressed biota attributable to the release at the site, including, but not limited to, fish kills or abiotic conditions; or

~~2.44.b~~.2.45b Visible presence of oil, tar, or other non-aqueous phase contaminant in soil over an area equal to or greater than two acres, or over an area equal to or greater than 1,000 square feet in sediment.

~~2.45~~.2.46 Reasonably Anticipated Future Use. -- Potential future land and water uses which have a credible chance of occurrence.

~~2.46~~.2.47 Reasonably Potential. --A scenario with a credible chance of occurrence without considering extreme or essentially highly unlikely circumstances.

~~2.47~~.2.48 Receptors (Human). -- Humans potentially exposed to contaminants released from the Site.

~~2.48~~.2.49 Remedial Action. -- To cleanup, mitigate, correct, abate, minimize, eliminate, control and contain or prevent a release of a contaminant into the environment in order to protect the present or future public health, safety, welfare, or the environment, including preliminary actions to study or assess the release.

~~2.49~~.2.50 Reopener. -- One or more of the grounds for setting aside some or all of a certificate of completion and reopening a voluntary agreement that is specified in section 16 of this rule.

~~2.50~~.2.51 Residential Land Use~~.~~ -- Any real property or portion thereof which is used for housing of human beings. This term includes property used for schools, day care centers, nursing homes, or other residential-style facilities ~~or.~~ recreational areas.

~~2.51~~.2.52 Revolving Fund. -- The Brownfields Revolving Fund established in W.Va. Code §22-22-6(b).

~~2.52~~.2.53 Risk-based Concentrations. -- Concentration levels developed by the secretary for individual chemicals that correspond to a specific incremental cancer risk level of $1x10^{-6}$ for residential land use and 1×10^{-5} for industrial land use or a hazard quotient of 1. These concentrations are to be used with the De Minimis Standard.

~~2.53~~.2.54 Saturation Concentration. -- The maximum possible quantity of a substance which can go into solution of a given liquid (e.g., water) at a given temperature and pressure.

~~2.54~~.2.55 Secretary. -- The secretary of the Department of Environmental Protection or such other person to whom the secretary has delegated authority or duties pursuant to this rule.

~~2.55~~.2.56 Site. -- Any property or portion thereof which contains or may contain contaminants and is eligible to participate in the voluntary remediation program as provided under this article.

~~2.56~~.2.57 Site Assessment. -- Characterization of a site through an evaluation of its physical and environmental context, (e.g., subsurface geology, soil properties and structures, hydrology, and surface characteristics) to determine if a release has occurred, the levels of the chemical(s) of concern in environmental media, and the likely physical distribution of the chemical(s) of concern. The site assessment collects data as needed on ground water and surface water quality, land and resource use, potential receptors and generates information to support remedial action decisions.

~~2.57~~.2.58 Site Assessment Costs. -- Costs incurred in connection with site assessment activities including but not limited to: waste disposal costs, professional fees and expenses of those evaluating contamination, the cost of identifying a site history and prior land use, the costs of archaeological investigations, and attorneys fees incurred in evaluating a site or negotiating a voluntary remediation agreement.

~~2.58~~.2.59 Systemic Toxicant. -- A harmful substance or agent that may enter the body and injure an organ or organ system and having an effect other than causing cancer. Most chemicals that produce systemic toxicity do not cause a similar degree of toxicity in all organs but usually demonstrate major toxicity to one or two organs.

~~2.59~~.2.60 Total Dissolved Solids. -- All material that passes through the standard glass fiber filter as provided in the current edition of Standard Methods for the Examination of Water and Wastewater.

~~2.60~~.2.61 Trade Secrets. -- Any information protected from disclosure under W. Va. Code §29B-1-4(1).

~~2.61~~.2.62 Trophic Level. -- The biological energy transfer level;. the position in a trophic pyramid or food chain.

~~2.62~~.2.63 Voluntary Remediation. -- A series of measures that are self-initiated by a person to identify and address potential sources of contamination of property and to establish that the property complies with applicable remediation standards. Brownfield remediation is a subset of voluntary remediation.

~~2.63~~.2.64 Voluntary Remediation Program. -- The program for the voluntary assessment and remediation of sites under the Act.

~~2.64~~.2.65 Weight-of-Evidence Approach. -- The process by which measurement endpoints are related to an assessment endpoint to evaluate whether a significant risk of harm is posed to the environment. The approach is planned and initiated at the problem formulation stage and results are integrated at the risk characterization stage.

§60-3-3. Eligibility.

3.1. Eligibility criteria for voluntary remediation program. -- Any site is eligible to participate in the voluntary remediation program except the following:

3.1.a. Any site that is subject to a unilateral order issued by the U.S. Environmental Protection Agency pursuant to §§104 through 106 of the Comprehensive Environmental Response, Compensation and Liability Act;

3.1.b. Any site that has been listed or proposed to be listed on the National Priorities List developed by the U.S. Environmental Protection Agency pursuant to Title I of the Comprehensive Environmental Response, Compensation and Liability Act; provided that any site that has been formally delisted by the Environmental Protection Agency is eligible to participate in the voluntary remediation program;

3.1.c. Any site that is subject to a unilateral enforcement order under §3008 or §7003 of the Resource Conservation and Recovery Act;

3.1.d. Any site that is subject to a unilateral enforcement order for corrective action issued pursuant to any provision of Chapter 22 of the West Virginia Code; or

3.1.e. Any site where the release which is subject to remediation was created through gross negligence or willful misconduct by the applicant.

3.2. Eligibility Criteria for Brownfield Sites. -- A site ~~may~~shall participate in the voluntary remediation program as a brownfields property if the following conditions are satisfied and the applicant qualifies as a brownfield applicant under this rule:

3.2.a. The site meets the requirements of subsection 3.1 of this rule;

3.2.b. The applicant did not cause or contribute to contamination on the site; and

3.2.c. The site meets either of the following:

3.2.c.1. As of July 1, 1996, the site is an industrial or commercial property which is abandoned; or

3.1.c.2. As of July 1, 1996, the site is an industrial or commercial property that is not being actively used by the owner.

3.3. Eligibility Determination. In deciding the acceptability of an application the secretary shall determine whether the eligibility criteria of this section have been satisfied.

3.4. Appeal of Rejection of Application.

3.4.a. The applicant may appeal the rejection of the application by filing a notice of appeal with the Environmental Quality Board in accordance with the provisions of W. Va. Code §22B-1-7.

3.4.b. For purpose of this appeal, the record of proceedings as referenced in §22B-1-7 shall consist of the application, all correspondence between the secretary and the applicant relating to the application and other documents and correspondence in the applicable files of the secretary relating to this matter.

§60-3-4. Application to Participate in Voluntary Remediation Program.

4.1. Pre-application Conference for Brownfield Applicants. A brownfield applicant shall confer with the secretary and, <u>if a loan is being requested</u>, comply with the loan procedures contained in section 15 of this rule before submitting an application to participate in the voluntary remediation program.

4.2. Contents of Application. Any person who desires to participate in the voluntary remediation program shall submit to the secretary of the ~~Division of Waste Management~~ <u>Department of Environmental Protection</u> an application on a form provided by the secretary which shall contain, at a minimum, the following information:

4.2.a. The applicant's name. This shall include the applicant's legal name and any other aliases or other names by which the applicant is known or under which the applicant does business;

4.2.b. The applicant's address. This shall include the current address at which the applicant can be reached by mail, and in the event that post office delivery is not feasible, the applicant shall also provide a description of his/her current address that will enable the secretary to locate the applicant;

4.2.c. The applicant's financial capabilities. This shall include, but is not limited to, information that demonstrates the applicant has, or has secured access to, financial resources that are adequate to successfully complete the voluntary remediation and satisfy any contractual obligations entered into by the applicant that relate to the voluntary remediation;

4.2.d. The applicant's technical capabilities. This shall include, at a minimum, information that the applicant is or has contracted with a licensed remediation specialist to perform the work required;

4.2.e. For brownfield applicants, a Notice of Intent to Remediate in accordance with subsection 7.1 of this rule, and a certification that he/she, his/her spouse or other member of his/her immediate family did not cause or contribute to the contamination on the property;

4.2.f. A general description of the site. This shall include, at a minimum, the following:

4.2.f.1. A written description of the site that includes any city, county, and street addresses, and adjacent landmarks, buildings, waterways, former uses or other identifying information;

4.2.f.2. The deed book number and deed number of the site property;

4.2.f.3. County tax map references;

4.2.f.4. Geographic information system data adequate to accurately delineate the voluntary remediation site. All spatial data submitted by the applicant will be in one of three coordinate systems:

4.2.f.4.A. Universal transverse mercator (UTM) zone 17 NAD datum. (Preferred);

4.2.f.4.B. Geographic (Latitude and Longitude); or

4.2.f.4.C. State plane coordinates NAD 27 datum.

4.2.f.5. All geographic information system location data will have a horizontal accuracy within 12.2 meters (40 feet) in accordance with the US Department of the Interior US Geologic Survey National Map Accuracy Standards;

4.2.f.6. Any other identifying information that will serve to clearly and concisely identify the property;

4.2.f.7. Information of which the applicant is aware concerning the nature and extent of any known contamination at the site and immediately contiguous to the site, or wherever the contamination came to be located;

4.2.f.8. <u>Information demonstrating the applicant's legal right to perform the work required for participation in the program</u>.

<u>4.2.f.9.</u> Where an application covers two or more non-contiguous locations, this information shall be provided for each location.

4.2.g. A site assessment prepared by a licensed remediation specialist which includes information that identifies all actual or potential contaminants reasonably expected to be at and near the site, the nature and extent of the contamination, and potential receptors and pathways for contaminant migration. In no case, however, may an application be denied on the grounds that the site assessment is inadequate if the site assessment satisfies the requirements contained in W. Va. Code §22-22-4(e). Where the secretary determines that additional site assessment information is necessary, the submission of such additional information may be addressed in the voluntary remediation agreement.

4.2.h. An applicant may appeal the secretary's rejection of an application to the Environmental Quality Board in accordance with W. Va. Code §22B-1-7.

4.2.i. Other information as requested by the secretary.

4.3. Application Fee.

4.3.a. Each applicant shall pay an application fee in accordance with this section. The fee is to be submitted at the time the application is filed in the form of a check payable to the Voluntary Remediation Administrative Fund.

4.3.b. Should the applicant withdraw the application at anytime prior to the determination of eligibility by the secretary, the applicant shall receive a refund of one-half the application fee paid.

4.3.c. If the secretary rejects the application and applicant does not re-submit a revised application within 25 days, the secretary shall refund one-half the application fee within 30 days of the rejection of the application.

4.3.d. The application fee to be paid shall be calculated based upon the points assigned to the property using the following criteria:

4.3.d.1. Size of Property. The total square feet of surface area of the property to be covered by the application, rounded to the nearest 1,000 square feet. For properties less than 1 acre, the assigned points are 10; for properties of one acre or more but less than 5 acres, the assigned points are 20; for properties of 5 acres or more, the assigned points are 30;

4.3.d.2. Years of Operation. The number of years that the property was operated for any non-residential activity. Partial years of operation should be treated as complete years of operation. For properties operated 10 years or less, the assigned points are 10; for properties operated more than 10 years but less than 20, the assigned points are 20; and for properties operated 20 years or more, the assigned points are 30.

~~4.3.d.3. SIC Code. Using the Standard Industrial Classification published by the U.S. Department of Commerce as it applies to the activities that have been conducted on the property, if the property falls within SIC Codes 26 (Paper and Allied Products), 28 (Chemicals and Allied Products), 29 (Petroleum Refining), 30 (Rubber and Miscellaneous Products), 31 (Leather and Leather Products), 33 (Primary Metals), 34 (Fabricated Metal Products), 35 (Industrial and Commercial Machinery), 36 (Electronic and Other Electrical Equipment), 37 (Transportation Equipment), 38 (Measuring, Analyzing and Controlling Equipment); or 39 (Miscellaneous Manufacturing), the assigned points are 30; if the property falls within SIC Codes 10 through 14 (Mining), 20 (Food), 21 (Tobacco Products), 22 (Textiles), 24 (Lumber and Wood Products except Furniture), 27 (Printing and Publishing), 32 (Stone, Clay, Glass and Concrete), 46 (Pipelines), or 49 (Electric, Gas and Sanitary Services), the assigned points are 20, and if the property falls within any other SIC Code, the assigned points are 10. If any activity falls in more than one of these groupings, the category which results in the greatest number of points being assigned shall be used;~~

4.3.d.3. NAICS Code. Using the North American Industry Classification System published by the U.S. Office of Management and Budget as it applies to the activities that have been conducted on the property, if the property falls within NAICS Subsector Codes 316 (Leather and Allied Product Manufacturing), 322 (Paper Manufacturing), 324 (Petroleum and Coal Products Manufacturing), 325 (Chemical Manufacturing), 326 (Plastics and Rubber Products Manufacturing), 331 (Primary Metal Manufacturing), 332 (Fabricated Metal Products Manufacturing), 333 (Machinery Manufacturing), 334 (Computer and Electronic Product Manufacturing), 335 (Electrical Equipment, Appliance, and Component Manufacturing), 336 (Transportation Equipment Manufacturing), or 339 (Miscellaneous Manufacturing), the assigned points are 30; if the property falls within NAICS Subsector Codes, 1 13 Forestry and Logging, 21 1 (Oil and Gas Extraction), 212 (Mining (except Oil and Gas)), 213 (Supporting Activities for Mining), 221 (Utilities), 3 1 1 (Food Manufacturing), 3 12 (Beverage and Tobacco Product Manufacturing), 3 13 (Textile Mills), 314 (Textile Product Mills), 3 15 (Apparel Manufacturing), 32 1 (Wood Product Manufacturing), 323 (Printing and Related Support Activities), 327 (Nonmetallic Mineral Product Manufacturing), 337 (Furniture and Related Product Manufacturing), 486 (Pipeline Transportation), 448 (Support Activities for Transportation), 5 11 (Publishing Industries), or 562 (Waste Management and Remediation Services), the assigned points are 20, and if the property falls within any other NAICS Subsector Code, the assigned points are 10. If any activity falls in more than one of these groupings, the category

which results in the greatest number of points being assigned
shall be used;

4.3.d.4. For any of these criteria, if the correct category is not known, the category resulting in the greatest number of points shall be assumed to apply;

4.3.d.5. Applying the criteria described above, where the total number of points is 30 or 40, the application fee shall be $1,000; 50 or 60, the application fee shall be $3,000; and 70, 80 or 90, the application fee shall be $5,000; and

4.3.d.6. If the application covers 2 or more non-contiguous locations, the application fee shall be $5,000, provided that the locations under consideration display similar contaminant profiles and similar surface and subsurface characteristics. Similar surface/subsurface characteristics shall be construed to be limited to upland, riparian/wetland, karst or other similar land forms as approved by the secretary. If any of the individual locations includes a surface area greater than 2 acres, a separate application and fee must be submitted for that site.

4.4. Confidentiality. -- Information obtained by the department pursuant to this rule shall be available to the public unless the secretary certifies such information to be confidential. The secretary may make such certification where any person shows, to the satisfaction of the secretary, that the information or parts thereof, if made public, would divulge methods, processes or activities entitled to protection as trade secrets.

4.5. Action on Application. -- The secretary shall act upon all applications within 45 days of receipt, unless an extension of time is mutually agreed upon between the secretary and the applicant, and confirmed in writing.

§60-3-5. Licensed Remediation Specialists.

5.1. Professional Responsibilities of Licensed Remediation Specialists.

5.1.a. Any individual who wishes to practice as a licensed remediation specialist in the state of West Virginia must hold a valid remediation specialist license. Each individual shall have the burden of demonstrating to the secretary's satisfaction that he or she meets the requirements for licensing.

5.1.b. It is the licensed remediation specialist's duty to protect the safety, health and welfare of the public in the performance of his or her professional duties. If he or she is unable to meet this duty, the licensed remediation specialist may either sever the relationship with the client or employer or refuse professional responsibility for the work plan, report or design. If the relationship is severed, the applicant shall notify the division within 72 hours of the severing of the relationship Specific areas of professional responsibility are as follows:

5.1.b.1. The licensed remediation specialist is responsible for any release of contaminants during remediation activities undertaken pursuant to and contemplated in the approved remediation agreement, work plans or reports. The act of moving contaminants within a site in the course of remediation activities shall not be considered to be a release;

5.1.b.2. Where a release of contaminants in excess of those identified in the work plan occurs at the site during remediation activities, the licensed remediation specialist shall immediately notify the division unless the release does not exceed reportable quantities found in 40 CFR Part 302;

5.1.b.3. A licensed remediation specialist shall only perform assignments for which the specialist is qualified by training and experience in those specific technical fields;

5.1.b.4. A licensed remediation specialist shall be objective in work plans, reports and opinions and avoid any conflict of interest with employer, clients and suppliers;

5.1.b.5. A licensed remediation specialist shall not solicit or accept gratuities, directly or indirectly from contractors, agents or other parties dealing directly with the employer or client in regard to professional services being performed at the work site;

5.1.b.6. A licensed remediation specialist shall not accept any type of bribe; falsify or permit misrepresentation of professional qualifications; intentionally provide false information to the secretary; or knowingly associate with one who is engaging in business or professional practices of fraudulent or dishonest nature; and

5.1.b.7. A licensed remediation specialist shall not charge any special fees above usual and customary professional rates for being licensed.

5.1.c. The secretary may revoke a license; suspend a license for not more than five years; or impose lesser sanctions as appropriate for acts or omissions in violations of this rule or W. Va. Code §22-22.

5.2. Application for licensure. -- Any individual who wishes to obtain a license to practice as a licensed remediation specialist must submit a complete and accurate application to the secretary on forms supplied by the secretary. An application fee, as specified in Table 60-3A of this rule, shall be submitted with the application. In order to qualify for the licensed remediation specialist examination, the applicant must demonstrate to the secretary that the following eligibility requirements have been met:

5.2.a. Minimum Education Requirements: All individuals applying for a license shall meet the requirements of one of the following tracks:

5.2.a.1. Standard Track: The individual has earned a baccalaureate, masters, or doctorate degree from an accredited educational institution in one of the following areas: biology, chemistry, earth sciences, environmental sciences, geology, hydrogeology, microbiology, soil sciences, toxicology, scientific subdisciplines of public health, risk assessment, or hazardous waste management, engineering, or in a curriculum determined to be equivalent by the secretary. The charter or accreditation of the recognized educational institution must have been effective as of the date the individual's degree(s) was granted; or

5.2.a.2. Alternative Track: The individual has earned at least a high school diploma, but does not meet the requirements for the standard track.

5.2.b. Minimum Experience Requirements: Each individual shall demonstrate to the secretary's satisfaction that he or she meets the requirements for relevant professional experience. Qualifying relevant professional experience must be work of a professional grade and character that indicates the individual is competent to perform professional services pursuant to the requirements of the Act.

5.2.b.1. Relevant professional experience shall include, at a minimum, practical knowledge of the following:

5.2.b.1.A. Remediation activities;

5.2.b.1.B. Procedures necessary to remediate a site;

5.2.b.1.C. Management of contaminants at a site, including, but not limited to:

5.2.b.1.C.1. Site investigation;

5.2.b.1.C.2. Health and safety protocol; and

5.2.b.1.C.3. Quality assurance.

5.2.b.1.D. Feasibility studies; and

5.2.b.1.E. Remedial design.

5.2.b.2. Standard Track: The individual must have six years of relevant professional experience, one of which is supervisory or project management related.

5.2.b.3. Alternative Track: The individual must have ten years of relevant professional experience, one of which is supervisory or project management related.

5.2.b.4. In addition to the practical knowledge criteria pursuant to paragraph 5.2.b.1 of this rule, the secretary will also consider the following criteria in evaluating whether an individual's remediation and practical experience, considered both individually and collectively, constitute sufficient relevant professional experience:

5.2.b.4.A. Proficiency;

5.2.b.4.B. Broad knowledge of the various remediation technologies;

5.2.b.4.C. Number of individuals and disciplines of other professionals supervised or coordinated;

5.2.b.4.D. Duration of employment;

5.2.b.4.E. Nature of work performed (including, but not limited to, whether such experience includes work at sites where subsurface investigations have occurred); and

5.2.b.4.F. Any other factors the secretary deems relevant.

5.2.b.5. The individual applying for licensing shall also provide the secretary with three professional references, each of which, at a minimum, address the individual's range of practical knowledge and professional experience with regard to providing professional services under the Act.

5.2.b.6. Work performed during a period of full-time undergraduate study at an educational institution is considered part of the educational program and is not considered acceptable professional experience; provided, however, that the secretary may accept work performed for periods of at least two and one half consecutive months per calendar year when not enrolled as a full-time student, during, or incidental to, undergraduate education as relevant professional experience if the individual did not receive college credits for that work.

5.2.c. Credits: Individuals who have earned degrees from recognized educational institutions in addition to those required to meet the minimum educational requirements set forth in 5.2.a. may request that the secretary credit some or all of that additional education toward the requirements for relevant professional experience in accordance with the following:

5.2.c.1. Standard Track: One year credit for each master's degree, and two years credit for a doctorate degree, if the degrees are from a recognized educational institution in one of the academic areas identified in 5.2.a.1;

5.2.c.2. Alternative Track: One-half year credit for each associate's degree in one of the academic areas identified in 5.2.a.1; and

5.2.c.3. The secretary will grant to an individual up to two years maximum credit for additional education under the Standard Track; or up to one year maximum credit for additional education under the Alternate Track.

5.3. Licensing Examination: The secretary shall be responsible for implementing the following requirements, at a minimum, of the licensed remediation specialist examination:

5.3.a. Frequency and Scheduling: The secretary shall administer a licensing examination at least every six months to all individuals who have met the requirements for licensure. Examinations shall be held at the time(s) and location(s) set by the secretary. The secretary shall provide public notice at least 15 days prior to the application due date for the next scheduled examination;

5.3.b. Examination Format/Content: Examinations shall test the individual's overall regulatory understanding, and overall technical understanding. Overall regulatory understanding means an understanding of the relevant West Virginia Department of Environmental Protection regulations and related written policies and Federal environmental regulations. Overall technical understanding means demonstrating an understanding of basic concepts and methods in those scientific and technical fields related to assessment, containment, and remediation actions;

5.3.c. The secretary shall

prepare the licensing examination;

5.3.d. The secretary shall initially develop a minimum of three separate examinations. No single examination shall be repeated until the other two examinations have been given;

5.3.e. After any of the individual examinations have been used twice, the secretary shall prepare a minimum of three new examinations;

5.3.f. An individual may take an examination only if the applicable examination fee established by the secretary has been paid. The examination fee, as specified in Table 60-3A of this rule, shall be submitted after an applicant's eligibility to take the exam has been confirmed with the application. Payment shall be made in full by check or money order payable to the West Virginia Department of Environmental Protection. The examination fee is non-refundable, except in the following circumstances:

5.3.f.1. An individual whose failure to appear for the examination is found, by the secretary, to be due to circumstances beyond the individual's reasonable control, shall receive a refund or may request that the application be held open until the individual can take a subsequent examination that occurs within two years of the date the secretary approved the individual's written application.

5.3.g. Examination Procedures and Rules: Each individual shall present some form of photographic identification prior to taking the test. The secretary shall identify whether he or she may use any books, notes, memoranda, scratch paper, non-programmable calculators, or other materials during the examination. No individual may discuss the examination or other procedures, and no individual may make copies of the examination;

5.3.h. The secretary shall establish the passing score prior to administering the examination;

5.3.i. Examination Results: The secretary shall grade the examinations, and the results shall be mailed to each individual within 30 days of the examination. The examination papers will not be returned to the individual;

5.3.j. Reapplication for Examination: Individuals who fail to achieve a passing score on the examination may take a subsequent examination subject to the following procedures:

5.3.j.1. An individual shall be allowed to take a subsequent examination that is scheduled to occur on a date not more than two years after the date the secretary approved the individual's written application, upon receipt by the secretary of the following items:

5.3.j.1.A. A letter stating the individual's intention to take the subsequent examination; and

5.3.j.1.B. The appropriate examination fee;

5.3.j.2. Individuals who seek to take a subsequent examination that is scheduled for a date that is greater than two years after the date the secretary approved the individual's written application must submit the following:

5.3.j.2.A.

Licensing application as per the procedures set forth in 5.2; and

5.3.j.2.B. The full application fee described in 5.2 prior to taking the examination.

5.3.k. Waiver of Examination. -- If an individual requests a waiver of the examination for licensure as a Remediation Specialist, the application shall include any and all information that the applicant desires to be considered including but not limited to relevant licenses and certifications. The secretary may issue a one time waiver of the examination for the purpose of submitting an application for a Voluntary Remediation Agreement. This waiver shall only be valid for six months after the effective date of the rule. No remediation workplan shall be implemented unless and until the Remediation Specialist has passed the examination. However, to be eligible for a waiver, these individuals shall meet all other requirements for licensing, including, but not limited to, education, relevant professional experience, and practical knowledge;

5.3.k.1. An examination fee must be submitted regardless of whether the applicant is requesting a waiver of the examination.

5.3.l. Reciprocity. A licensed remediation specialist in another state may be licensed as a remediation specialist in West Virginia without examination provided that the licensing state recognizes West Virginia licensure.

5.3.l.1. An examination fee must be submitted regardless of whether reciprocity applies.

5.4. License renewal.

5.4.a. A licensed remediation specialist in good standing may have his/her license renewed every two years. A renewal application filed in accordance with all appropriate time frames which includes the appropriate license renewal fee found in Table 60-3A will be considered a complete renewal application. A renewal application shall include evidence of continuing education in the environmental remediation field. Such evidence may include two education credits from a US EPA-approved course or any other equivalent experience acceptable to the secretary.

5.4.b. The secretary will provide a license renewal notice to the licensed remediation specialist 90 days prior to his or her license expiration. Any individual who fails to renew their license may not continue to practice as a licensed remediation specialist after the day of license expiration. Any individual who fails to renew their license within 30 days of the expiration must reapply for examination and is subject to the same requirements as a new applicant.

5.4.c. An individual who has completed in a timely manner all of the license renewal requirements will receive a renewed license and may continue to practice as a licensed remediation specialist prior to receiving the renewed license by registered mail.

5.4.d. Where there has been an application timely filed for renewal of a license and the secretary determines that grounds exist for non-renewal of the license, the secretary shall follow the same procedure for suspension or revocation of licenses in subsection 5.5 of this rule and, pending a final decision by the secretary on such renewal, the license shall remain in effect.

5.5. Suspension and Revocation of Licenses. The provisions set forth in this subsection shall be in addition to and shall not limit the procedures regarding enforcement orders contained in W. Va. Code §22-22-12.

5.5.a. Criteria for suspension or revocation of license. A license issued to a licensed remediation specialist may be suspended or revoked for the following reasons:

5.5.a.1. For fraud by the licensed remediation specialist in the license application process;

5.5.a.2. For fraud or intentional misrepresentation by the licensed remediation specialist in the performance of any work required in a work plan or pursuant to a voluntary remediation agreement;

5.5.a.3. For any act by the licensed remediation specialist in violation of this rule; or

5.5.a.4. Any circumstances that justify revocation of a license under this rule may also justify the non-renewal of such license.

5.5.b. Issuance of Notice of Intent -- If the secretary finds that sufficient grounds exist to suspend or revoke the license of a licensed remediation specialist, prior to the suspension or revocation, the secretary shall notify the licensed remediation specialist of the secretary's intent to suspend or revoke the license. The secretary shall provide the licensed remediation specialist with a Notice of Intent to Suspend or Revoke by certified mail, return receipt requested. The Notice shall set forth the specific reasons for the proposed suspension or revocation and shall state that the licensed remediation specialist may request an informal conference or a contested case hearing as provided in W. Va. Code §29A-5-1 on the proposed suspension or revocation. The purpose of the informal conference and the contested case hearing is to determine the rights, duties, interests and privileges of the licensed remediation specialist. The secretary may appoint an impartial hearing officer to conduct an informal conference or contested case hearing.

5.5.c. Request for Informal Conference or Contested Case Hearing. -- The licensed remediation specialist has 30 calendar days from the receipt of the notice to make a written request for an informal conference or contested case hearing. A request is deemed served the day it is deposited in the United States mail. Failure to respond will result in the imposition of the proposed suspension or revocation. The licensed remediation specialist shall have a right to an informal conference prior to a formal hearing. The licensed remediation specialist may request an informal conference or a contested case hearing, but the request for and holding of an informal conference does not preclude the licensed remediation specialist from requesting a contested case hearing following the disposition reached in the informal conference.

5.5.c.1. The issuance of a notice of intent to suspend or revoke the license of a licensed remediation specialist shall not prevent the licensed remediation specialist from rendering services under the voluntary remediation program pending a final decision from the secretary following an informal conference and, if requested, a contested case hearing.

5.5.d. In all proceedings under this section, the licensed remediation specialist may be represented by counsel. All notice required by this rule shall be sent to counsel in the same manner as is required to be provided to the licensed remediation specialist.

5.5.e. Informal conference. -- If an informal conference is requested within the thirty day period, the secretary shall schedule the conference to be held within 30 days in accordance with the following requirements:

5.5.e.1. The secretary shall notify the licensed remediation specialist and the primary representative of the Department of Environmental Protection who was involved in the decision to suspend or revoke the licensed remediation specialist's license of the time and place of the informal conference. In scheduling the location of the informal conference, the compliance officer shall consider the location of the licensed remediation specialist's business and any particular sites that may have given rise to the decision to revoke or suspend;

5.5.e.2. The secretary shall notify the licensed remediation specialist of the informal conference at least 15 calendar days prior to the date of the informal conference; and

5.5.e.3. The secretary may continue the informal conference upon the agreement of the licensed remediation specialist or for good cause shown.

5.5.f. Informal Conference Procedures. An informal conference, as provided by these regulations, is intended to be an informal discussion of the facts which gave rise to the issuance of the decision to suspend or revoke a license. The secretary shall conduct the conference in the following manner:

5.5.f.1. The secretary shall be guided by, but need not strictly apply, the West Virginia Rules of Civil Procedure and West Virginia Rules of Evidence;

5.5.f.2. A record of the informal conference is not required but any party may request that a record be made at that party's expense. Any other party to the conference may obtain copies of the record at his expense;

5.5.f.3. During an informal conference the licensed remediation specialist may submit to the secretary any evidence or demonstration of mitigating circumstances as to why the secretary should alter the decision to suspend or revoke the license; and

5.5.f.4. At any review proceedings which may occur later, no evidence as to any oral statement made by one party at the informal conference may be introduced as evidence by another party, nor may any statement be used to impeach a witness, unless the statement is or was available as competent evidence independent of its introduction during the informal conference.

5.6. Written Decision.

5.6.a. If the licensed

remediation specialist and the secretary are able to reach an agreement, the secretary shall prepare a written decision signed by the licensed remediation specialist and the secretary implementing the decision reached in the informal conference.

5.6.b. If the licensed remediation specialist and the secretary are unable to reach an agreement, within 30 calendar days following the informal conference, the secretary shall issue and furnish to the licensed remediation specialist a written decision affirming, modifying or dismissing the initial proposal to suspend or revoke the license and give the specific reasons for the decision. The notice of decision by the secretary shall be sent to the licensed remediation specialist by certified mail return receipt requested.

5.6.c. Within 30 calendar days of the receipt of the secretary's written decision, the licensed remediation specialist may demand a formal hearing as provided herein to determine the rights and privileges of the licensed remediation specialist. The licensed remediation specialist must serve a request in writing upon the secretary within 30 days of receipt of the written decision. A request is deemed served on the day it is deposited in the United States mail. Failure to request a formal hearing on the written decision within the time specified shall cause the decision to become a final unappealable order of the secretary.

5.7. Contested Cases, Right to a Formal Hearing. As set forth above, within thirty (30) calendar days after notification of a written decision rendered as a result of an informal conference, the licensed remediation specialist may request a formal hearing before the secretary in accordance with the Administrative Procedures Act, W. Va. Code §29A-5-1 et seq. If requested the secretary shall grant the request and schedule a contested case hearing.

5.8. Appeals. An appeal from any final order or ruling entered in a contested case in accordance with these regulations shall be to the Circuit Court of Kanawha County in accordance with the provisions of the Administrative Procedures Act, W. Va. Code §29A-5-1 et. seq.

5.9. Alternative Procedure. When imminent or substantial harm is threatened or posed at a voluntary remediation site which in the secretary's opinion is attributable to the negligence or incompetence of the licensed remediation specialist at the site, the secretary may, in lieu of the Notice of Intent under subdivision 5.5.b. of this rule, issue an order in accordance with W. Va. Code §22-22-12(a)(1). If a request for reconsideration is filed as provided in W. Va. Code §22-22-12(b), the secretary shall conduct a contested case hearing within ten days of the filing of such request.

§60-3-6. Voluntary Remediation Agreement.

6.1. Any person who desires to participate in the voluntary remediation program shall execute a voluntary remediation agreement with the secretary of the Department of Environmental Protection. The agreements contained in Appendix 60-3A and 60-3B meet the requirements of this section. Additional provisions and modifications consistent with this rule may be agreed to by the applicant and the secretary. Except as provided in subsection 6.4 of this rule, the Voluntary Remediation Agreement shall provide for the following:

6.1.a. The services of a licensed remediation specialist for the supervision of all activities described in the agreement, including the supervision of remediation contractors;

6.1.b. The recovery of all reasonable costs incurred by the Department of Environmental Protection attributable to the implementation of the agreement in excess of fees submitted with the permit application. Recoverable costs shall include the following:

6.1.b.1. Costs incurred in review and oversight of work plans and reports submitted pursuant to the agreement;

6.1.b.2. Costs incurred as the result of field activities attributable to the agreement;

6.1.b.3. Such other costs incurred by the Department of Environmental Protection in implementing and overseeing activities under the agreement;

6.1.b.4. All recoverable costs shall be billed against any deposit and subsequently by separate invoice; and

6.1.b.5. Recoverable costs shall be determined by the number of hours worked under the agreement by each primary employee multiplied by 2.5 times the hourly rate of each such employee and then adding the direct expenses incurred by each such employee.

6.1.c. A schedule for the payment of recoverable costs;

6.1.d. A description of any work plan or report that is to be submitted under the agreement for review by the secretary, including the final report which shall provide all information necessary to verify that all work contemplated by the agreement has been completed: provided, however, that at the discretion of the applicant, work plans describing the work to be performed at the site may be submitted for approval by the secretary with the execution of the agreement;

6.1.e. The identification of appropriate tasks, deliverables and schedules for the submission of any work plans and other deliverables and for the performance of the remediation;

6.1.f. A listing of all environmental statutes and rules for which compliance is mandated;

6.1.g. A listing of the technical standards as determined in the guidance document to be applied in evaluating the site assessment, the work plans and reports, with reference to the proposed future land use to be achieved;

6.1.h. A listing of the applicable standards to be achieved at the site;

6.1.i. Where applicable, a description of any engineering or institutional controls and any Land Use Covenant to be imposed for the property;

6.1.j. The reopening of the voluntary remediation agreement upon consent of the parties or the occurrence of one or more of the conditions described in section 16 of the Act;

6.1.k. The modification of the voluntary remediation agreement upon the agreement of the parties; and

6.1.l. Field adjustments which achieve equal performance may be implemented by the licensed remediation specialist provided he or she notifies the division within 15 days.

6.2. The voluntary agreement shall recognize the right of the applicant to terminate the agreement, in its sole discretion, upon 15 days advance written notice of termination to the Department of Environmental Protection and shall include provisions for the recovery of costs incurred by the Department of Environmental Protection before the notice of termination is issued.

6.3. The voluntary remediation agreement may provide a mechanism for alternate dispute resolution between the parties to the agreement, including, but not limited to arbitration or mediation of any disputes under the agreement.

6.4. For a site where the applicant intends to demonstrate that the site meets all applicable standards without further remediation, in lieu of the requirements of subsection 6.1 of this rule, the voluntary remediation agreement shall provide for the following:

6.4.a. The payment of an agreed sum to cover all reasonable costs incurred by the Department of Environmental Protection attributable to the agreement in excess of fees submitted with the permit application;

6.4.b. A listing of all environmental statutes and rules for which compliance is mandated;

6.4.c. A listing of the technical standards as determined in the guidance document that are applied in evaluating the site assessment with reference to the proposed future land use to be achieved;

6.4.d. A listing of the applicable standards to be achieved at the site;

6.4.e. The reopening of the agreement upon the occurrence of one or more of the conditions described in section 16 of this rule; and

6.4.f. Where applicable, a description of any engineering or institutional controls and any Land Use Covenant to be imposed for the property.

6.5. The voluntary remediation agreement shall reflect the secretary's determination of eligibility in accordance with section 3 of this rule.

6.6. At the discretion of the applicant, the voluntary remediation agreement may address all or only a portion of a site. At the discretion of the secretary the voluntary remediation agreement may cover two or more non-contiguous sites; provided that the sites display similar contaminant profiles and similar surface and subsurface characteristics. Similar surface and subsurface characteristics shall be construed to be limited to upland, riparian/wetland, karst or other similar land forms as approved by the secretary.

6.7. Where the applicant is a person other than the current owner of the site, and the voluntary remediation agreement contemplates the imposition of a Land Use Covenant as provided in section 13 of this rule, the agreement shall have appended to it a provision signed by the current owner(s) of the site authorizing and agreeing to cooperate in the execution and filing of a Land Use Covenant in accordance with the voluntary remediation agreement.

6.8. Upon execution of the voluntary remediation agreement by the parties, the secretary shall not initiate any enforcement action against the applicant or any person described in section 18 of the Act for the contamination that is the subject of the agreement, unless there is an imminent threat to the public. Upon final adoption of this rule, the secretary intends to issue a policy statement to the effect that no enforcement action shall be initiated against any applicant from the time the application is filed until the voluntary remediation agreement is signed so long as the applicant acts in good faith to negotiate a reasonable agreement.

6.9. At the applicant's discretion, he or she may in the interest of minimizing environmental contamination and promoting effective cleanups, begin cleanup of soil and groundwater before the voluntary remediation agreement is approved provided that he or she notifies the secretary.

§60-3-7. Public Involvement/Public Notification. -- Except to the extent incorporated by reference in subdivision 7.12.b, the requirements of subsections 7.1 through 7.8 of this section shall apply only to brownfield applicants as that term is defined in section 2 of this rule. The provisions of subsections 7.9 through 7.12 of this section shall be applicable only to applicants who are not brownfield applicants.

7.1. Notice of Intent to Remediate. -- All brownfield applicants shall file a Notice of Intent to Remediate a brownfield site with the secretary. The notice shall be part of and filed with the application to perform a brownfield remediation.

7.1.a. The Notice of Intent to Remediate shall contain, to the extent known, the following:

7.1.a.1. The name and business address of the brownfield applicant, including street address or route number;

7.1.a.2. Geographic location of site ,and any name by which the site is locally known;

7.1.a.3. Current and former uses of site;

7.1.a.4. Proposed future use of site;

7.1.a.5. Present and suspected contaminants on site;

7.1.a.6. Proposed methods to remediate the site;

7.1.a.7. Proposed methods to control possible health exposure;

7.1.a.8. Location/address ~~of~~where interested persons may review the notice;

7.1.a.9. Name, address and telephone number of brownfield applicant contact for questions from interested individuals; and

7.1.a.10. Name, address and telephone number of Department of Environmental Protection contact where comments and questions can be received.

7.2. Department of Environmental Protection Notice to the Public.

7.2.a. Upon receipt of a Notice of Intent to Remediate, the Department of Environmental Protection shall publish a summary of the notice in a Department of Environmental Protection publication of general circulation. Information contained in the summary shall meet the requirements set forth in subsection 7.1 of this rule.

7.2.b. The summary also shall include information on the public's right under the Voluntary Remediation and Redevelopment Act to become involved in the development of the remediation and reuse plans for the site.

7.2.c. The Department of Environmental Protection shall issue a news release summarizing the Notice. The news release shall be sent to media outlets serving the general area where the remediation is proposed.

7.2.d. The Department of Environmental Protection also may post the Notice and information required under this section on the Department of Environmental Protection=s Internet Website.

7.3. Notice to Governmental Agencies.

7.3.a. Upon receipt of a Notice of Intent to Remediate, the secretary shall notify the municipality and the county commission where the site is located.

7.3.b. Notice shall be issued to the county and/or municipal land use agency, or the area's Regional Planning and Development Council created under W. Va. Code §8-25-1.

7.3.c. Notice may be issued to the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, state Bureau for Public Health and other state or federal agencies that may have an interest in the remediation project.

7.3.d. The secretary shall notify the government agencies identified in this section of the Department of Environmental Protection's final decision on a Certificate of Completion.

7.4. Notice of Intent to Remediate Comment Period and Information Meeting.

7.4.a. The secretary shall require a 30-day comment period and information meeting on all Brownfield Notices of Intent to Remediate filed with the Department of Environmental Protection. Costs incurred under this section shall be paid by the brownfield applicant.

7.4.b. To notify the public of the start of the 30-day comment period, the brownfield applicant shall:

7.4.b.1. Erect a sign on the proposed brownfield site informing the community the site is being considered for participation in the state's brownfield program, under the Voluntary Remediation and Redevelopment Act;

7.4.b.2. The sign

must be placed on the property so it is clearly visible and legible, and shall be, at a minimum, three feet by four feet;

7.4.b.3. The sign shall state: "This site is under consideration for environmental cleanup and participation in the state's brownfield program under the Voluntary Remediation and Redevelopment Act;"

7.4.b.4. The sign shall include the telephone number and address of the Department of Environmental Protection's brownfield office;

7.4.b.5. Publish a commercial box advertisement in a local newspaper of general circulation in the county where the brownfield remediation is proposed once a week for four consecutive weeks;

7.4.b.6. The advertisement shall be, at a minimum, four inches by four inches;

7.4.b.7. The advertisement shall contain information as set forth in subsection 7.1 of this rule, plus the time, date and location of the information meeting;

7.4.b.8. The brownfield applicant shall send a copy of the advertisement to the municipality and the county commission, the county and/or municipal land use agency, or the area's Regional Planning and Development Council created under W. Va. Code §8-25-1.

7.4.b.9. The Department of Environmental Protection shall draft the advertisement and send it to the brownfield applicant for publication; and

7.4.b.10. The brownfield applicant shall submit certified and notarized proof of publication to the Department of Environmental Protection no later than four weeks after the last publication date. The certification of publication shall be made part of the final brownfield remediation agreement file.

7.4.c. The information meeting is to occur by day 21 of the 30-day comment period, provided that a minimum of 15 days notice is given for such meeting. The information meeting shall address how remediation issues are applied to the site, site risk issues including key risk assessment assumptions, uncertainties, populations considered, the context of site risk to other risks, and how the remedy will address site risks.

7.4.d. The information meeting for the purpose of informing the public shall occur in the community where the proposed brownfield remediation is to occur.

7.5. Public Inspection of Brownfield Notice of Intent to Remediate.

7.5.a. A Brownfield Notice of Intent to Remediate filed with the Department of Environmental Protection shall be available for public inspection and copying.

7.5.b. The Notice shall be available upon request at the Department of Environmental Protection's Division of Waste Management in Charleston, and in the municipal and/or county commission offices where the remediation is proposed. Copies of the Notice also may be placed in the county library.

7.6. Request to Participate in Remediation and Reuse Planning.

7.6.a. Any person may ask to be involved in the development of a brownfield remediation and reuse plan.

7.6.b. Requests to participate in a brownfield remediation and reuse plan shall be made in writing to the secretary during the 30-day comment period.

7.6.c. Each person who files a request may participate in the development of the remediation and reuse plan, in person or by representative.

7.7. Brownfield Public Involvement Plan.

7.7.a. The brownfield applicant shall establish a Public Involvement Plan if requested by the public, county, municipality, or the secretary.

7.7.b. The brownfield applicant, in consultation with the persons requesting to be involved in the remediation and reuse of a brownfield site, shall develop a Public Involvement Plan within 30 days of receiving notice from the secretary that a request to participate, as provided in subsection 7.6 of this rule, has been received.

7.7.c. The brownfield applicant shall submit the Public Involvement Plan to the secretary for his/her review and approval prior to its implementation.

7.7.d. The Public Involvement Plan shall include, but is not limited to:

7.7.d.1. Provisions for further meetings in the community; and

7.7.d.2. Opportunities for participants to review and comment on each work plan as well as review and comment on the voluntary agreement before it is finalized and accepted by the secretary.

7.7.e. The secretary shall consider comments from participants and the brownfield applicant's responses to comments regarding the voluntary agreement, work plans, and reports before deciding whether to approve the submission.

7.7.f. Means of communicating with a community, may include, but is not limited to:

7.7.f.1. Brownfield applicant point-of-contact with public;

7.7.f.2. Establish and maintain mailing and telephone list of interested individuals;

7.7.f.3. Newsletter;

7.7.f.4. Doorstep notice to residents and businesses;

7.7.f.5. Newspaper, radio, and television advertisements;

7.7.f.6. News releases to local media;

7.7.f.7. Presentations to local civic organizations; and

7.7.f.g<u>8</u>. Citizen advisory panel for development of remediation and reuse plan.

7.7.g. The Public Involvement Plan shall remain in effect until the Certificate of Completion is issued, or until the brownfield applicant withdraws from the brownfields program.

7.8. Technical Assistance. -- At any time during the life of the Public Involvement Plan, the participants other than brownfield applicants may petition the secretary for technical assistance related to:

7.8.a. Review of site-related documents;

7.8.b. Explaining technical information to panel members;

7.8.c. Translating technical information into language understandable to non-technical persons;

7.8.d. Providing assistance in communicating the concerns of the non-brownfield applicant members of the panel to the appropriate persons; or

7.8.e. Such other areas deemed appropriate by the secretary.

7.8.e.1. Upon receipt of such petition, the secretary and the brownfield applicant, by mutual agreement, will develop a technical assistance component to the Public Involvement Plan. Comments from other participants shall be considered in the development of such component. The applicant shall be responsible for expenses incurred in this process.

7.9. Public Notice of Applications for Voluntary Remediation Projects. -- Except for applications from brownfield applicants, upon receipt of an application to conduct a voluntary cleanup under the Act, the Department of Environmental Protection shall publish a summary of the application in a Department of Environmental Protection publication of general circulation. Information contained in the summary shall include:

7.9.a. The name and business address of the applicant, including a street address or route number;

7.9.b. Geographic location of site and/or, if one exists, the locally used name of the area;

7.9.c. Current use of site;

7.9.d. Suspected contaminants on site;

7.9.e. Proposed methods to clean up site;

7.9.f. Proposed methods to control possible health exposure;

7.9.g. Location address of where interested persons may review application;

7.9.h. Name, address and telephone number of applicant contact for questions from interested individuals; and

7.9.i. Name, address and telephone number of Department of Environmental Protection contact where comments and questions can be received.

7.9.i.1. The Department of Environmental Protection shall issue a news release summarizing the application. The news release shall be sent to media outlets serving the general area where the remediation is proposed.

7.10. Public Inspection of Voluntary Application.

7.10.a. A voluntary cleanup application filed with the Department of Environmental Protection shall be available for inspection and copying by the public.

7.10.b. The application shall be available upon request at the Department of Environmental Protection's Office of Waste Management in Charleston and in the municipal and/or county commission offices where the remediation is proposed. Copies of the application also may be placed in the county library.

7.11. Public Involvement for Site Remediation Loans.

7.11.a. In the event an applicant to participate in the voluntary remediation program becomes a brownfield applicant, he/she shall be required to comply with subsections 7.4, 7.6, 7.7, and 7.8 of this rule.

7.12. Public Involvement/Public Notification in Development of Remediation Goal.

7.12.a. In the development of remediation goals pursuant to subdivisions 9.3.d and 9.4.a of this rule, the secretary shall require a 30-day comment period and information meeting.

7.12.b. To notify the public of the start of the 30-day comment period, the applicant shall comply with paragraphs 7.4.b.5; 7.4.b.6; 7.4.b.7; 7.4.b.8; 7.4.b.9; 7.4.b.10; and subdivisions 7.4.c and 7.4.d of this rule.

7.12.c. The applicant shall respond to comments received during the comment period and submit the responses to the secretary and any commenters.

7.12.d. The secretary shall review the comments and applicant's responses when making a decision. The secretary shall notify the parties who provided comments during the comment period of his/her decision.

§60-3-8. Risk Protocol.

This section establishes a risk protocol for conduct of human health and ecological risk assessments. It describes general requirements for risk assessments and specific requirements for baseline human health and ecological risk assessments, residual risk assessments, and application of probabilistic risk assessment methods.

8.1. General Requirements for Risk Assessments. Risk assessments shall consider existing and reasonably anticipated future human exposures and significant adverse effects to ecological receptors of concern in accordance with this rule.

8.1.a. Risk assessments may be conducted using either deterministic (single point value) or probabilistic risk assessment methodologies as agreed to in the Voluntary Remediation Agreement.

8.1.b. Risk assessments, to the extent practicable, shall consider the range of probabilities of risks potentially occurring, the range of size of populations likely to be exposed, current and reasonably anticipated future land and water uses, and quantitative and/or qualitative descriptions of uncertainties in accordance with subsections 8.1 and 8.2 of this rule.

8.1.c. Appropriate sources of toxicity information include ~~any of~~ the following:

8.1.c.1. For human health risk assessments, in order of preference.:

8.1.c.1.A. U.S. EPA Integrated Risk Information System (IRIS);

8.1.c.1.B. ~~U.S. EPA Health Effects Summary Tables (HEAST)~~ U.S. EPA Superfund Health Risk Technical Support Center (SHRTSC) provisional criteria;

8.1.c.1.C. ~~HEAST Alternative Method~~ Other scientifically valid documents or information developed from governmental or non-governmental sources and approved by the secretary.;

~~8.1.c.1.D U.S. EPA Superfund Health Risk Technical Support Center (SHRTSC) provisional criteria~~;

~~8.1.c.1.E. Other U.S. EPA Documents acceptable to the secretary~~;

~~8.1.c.1.F. Other scientifically valid sources of information as published in peer-reviewed scientific literature, including but not limited to sources such as the Agency for Toxic Substances and Disease Registry's (ATSDR's) toxicological profiles; and~~

~~8.1.c.1.G. Data developed in accordance with a peer-reviewed scientific testing protocol and approved by the secretary.~~

8.1.c.2. For ecological risk assessments:

8.1.c.2.A. U.S. EPA AQUIRE Data Base;

8.1.c.2.B. U.S. EPA IRIS Data Base;

8.1.c.2.C. U.S. EPA HEAST Data Base;

8.1.c.2.D. U.S. EPA ASTER Data Base;

8.1.c.2.E. U.S. EPA PHYTOTOX Data Base;

8.1.c.2.F. U.S. EPA Terrestrial Toxicity Data Base (TERRATOX);

8.1.c.2.G. U.S. Fish and Wildlife Service Technical Reports;

8.1.c.2.H. Oak Ridge National Laboratory Toxicological Benchmark Technical

Reports;

8.1.c.2.I. Other U.S. EPA documents acceptable to the secretary;

8.1.c.2.J. ATSDR Toxicological Profiles;

8.1.c.2.K. Other peer-reviewed technical publications; and

8.1.c.2.L. Data developed in accordance with a peer-reviewed scientific testing protocol and approved by the secretary.

8.1.d. Risk assessments may include the use of fate and transport models subject to secretary approval of the model and the data to be used for the parameters specified in the model.

8.1.d.1. The secretary shall insure that any fate and transport model approved for use is capable of simulating those site conditions and contaminant properties that might have a significant impact on site-specific contaminant fate or transport.

8.1.d.2. Sensitivity analyses of models and data used in model parameters shall be included in risk assessments. Sensitivity analyses shall be based on the range of conditions which historically occurred at the site.

8.1.d.3. For models not included in division guidance documents, a description shall be included in the risk assessments.

8.1.d.4. Where available, the department shall give preference to the use of <u>peer-reviewed</u> models and data for which on-site validation is demonstrated.

8.1.e. The use of population risk estimates in addition to individual risk assessments is provided for as follows:

8.1.e.1. For human health risk assessments, risk estimates shall initially be made at the level of the individual. A population-based risk assessment may be conducted where the applicant determines it would be practicable and of assistance in evaluating the appropriateness of the remedial action; and

8.1.e.2. For ecological risk assessments, risk estimates shall be made: (I) at the individual level where any endangered and threatened species is significantly impacted by the proposed activities at the site; and (ii) at the level of the population for all ecological receptors of concern exposed to contaminants at the site.

8.2. Sampling protocol, data requirements and sampling methods. -- The applicant shall use appropriate sampling approaches and data quality requirements and statistical methods as approved by the secretary to support the risk assessment and remedy selection process.

8.2.a. Characterization of site contamination. A sufficient number of environmental media samples shall be collected and analyzed as to provide a reasonable characterization of the nature and distribution of site contaminants. The number and location of the samples to be collected shall be of sufficient quantity and quality to calculate the appropriate exposure point concentration as defined in subparagraph 8.4.b.3.B and subdivision 8.5.c of this rule.

8.2.b. Media to be sampled. Samples shall be collected and analyzed from those media that are reasonably anticipated to have been impacted from contaminants at the site, considering the nature of the site operations and the nature of the contaminants of potential concern at the site.

8.2.c. Contaminants for analyses. Not all samples will need to be analyzed for the same contaminants. Samples collected shall be analyzed for those contaminants that are reasonably anticipated to be encountered, considering the nature of the site operations and the nature of the substances used or disposed of at the site.

8.2.d. Data validation. The quality of the analytical data to be used shall be validated by review of at least ten percent of the data or some other percentage agreed to by the secretary in accordance with standard EPA protocols. Standard EPA protocols for validation may need to be modified, with the secretary's approval, depending on the type of analyses performed (e.g., Contract Laboratory Protocol or SW-846).

8.2.e. ~~The following statistical approach may be used to demonstrate that a sample population is representative of a larger population: the~~ The 95th percentile upper confidence limit on the mean concentration, or the maximum value of the site contaminant concentration data shall be a reasonable estimate of a plausible ~~upper-bound value~~ exposure point concentration for this contaminant. If a contaminant can be shown to have dissimilar distributions of concentrations in different areas, then the areas should be subdivided. For example "hot spots" may be considered separately.

8.3. Quantification of cumulative risks posed by multiple exposure pathways. (Reserved)

8.4. Baseline Human Health Risk Assessments (BHHRA). A BHHRA may be used to provide a characterization of the risks to human health posed by contaminants at the site, given a full evaluation of site-specific conditions.

8.4.a. The BHHRA may be used either to:

8.4.a.1. Assess the need for remedial action considering site-specific conditions; or

8.4.a.2. Demonstrate the acceptability of current site conditions with respect to the remediation standards specified in this rule.

8.4.b. BHHRAs shall include, but are not limited to, the following information:

8.4.b.1. A conceptual site model showing contaminant sources, release mechanisms, transport routes and media, potential human receptor populations, and reasonably potential exposure scenarios based on current and reasonably anticipated land and water uses;

8.4.b.2. Data quality objectives for the human health risk assessment based on the conceptual site model;

8.4.b.3. An exposure assessment that evaluates the potential for and magnitude of human exposure, considering both the current and reasonably anticipated future land and water uses at, and in close proximity to the site. An exposure assessment shall include:

8.4.b.3.A. An exposure pathway analysis which identifies complete exposure pathways from contaminants to receptor populations shall be performed. The nature and extent of site contamination, the presence or absence of media that could transport such site contamination, the presence or absence of receptor populations that could be exposed to the contamination, and the likely exposure routes shall be identified; and

8.4.b.3.B. If, following the performance of the exposure pathway analysis, the potential exists for exposure of receptor populations to site contaminants, the magnitude of the exposure shall be quantified in accordance with division guidance documents. At a minimum, exposure levels that approximate an estimate of central tendency and reasonable upper bound of the exposure distribution shall be developed.

8.4.b.4. A toxicity analysis shall be performed if the potential for human exposure to site contaminants is identified and quantified in accordance with subparagraph 8.4.b.3.B of this rule. The toxicity analysis shall include a summary of current information regarding the carcinogenic and non-carcinogenic effects of the identified contaminants of concern as well as current slope factors and reference doses from the sources described in subdivision 8.1.c of this rule.

8.4.b.5. Risk Characterization. If the potential exists for human exposure to site contaminants, the exposure quantification information shall be integrated with the dose-response assessment (toxicity analysis) to provide a characterization of the potential risks present at the site. The risk characterization shall include a quantification of risks from individual contaminants. The applicant shall include a quantification of cumulative risks posed by multiple contaminants using the most sensitive exposure pathway <u>for each constituent</u>. The risk characterization shall analyze the following:

8.4.b.5.A. Non-Carcinogenic Risk: In quantifying risks from individual systemic toxicants at the site, a hazard quotient shall be developed for each contaminant . In quantifying the risks from cumulative exposure to multiple contaminants at the site, a hazard index for exposures to multiple contaminants shall be developed. In developing the hazard index for multiple contaminants, additivity shall be assumed only for those contaminants that affect the same target organ ~~and~~ <u>or</u> act by the same method of toxicity;

8.4.b.5.B. Carcinogenic Risk: In quantifying risks from carcinogens at the site, the excess lifetime cancer risk shall be estimated above and beyond the risk associated with background exposures. Such risk estimates are presumed to be additive unless an alternative mechanism is appropriate; and

8.4.b.5.C. A discussion of any available facility-specific human health studies, and consideration of any other non-quantified (qualitative) risks shall be included as appropriate.

8.4.b.6. Uncertainty Analysis: As part of performing the site-specific risk assessment under this section, the qualitative, and to the extent practicable, the quantitative uncertainty embodied in the analysis shall be identified. The likelihood of overestimating or underestimating risk shall be identified for each element of the analysis. At a minimum, this shall include consideration of:

8.4.b.6.A. The analytical characterization of the site;

8.4.b.6.B. The exposure assessment, including the size of the potentially exposed population; and

8.4.b.6.C. The dose-response assessment, including the toxicological criteria used in the analysis.

8.5. Baseline Ecological Risk Assessment. A site-specific De Minimus screening ecological evaluation as specified in subsection 9.5 of this rule may be performed by the applicant as part of the site investigation to determine if a complete exposure pathway exists and there are ecological receptors of concern. If, after this evaluation, a potentially significant complete exposure pathway is identified, then the applicant shall complete the uniform ecological evaluation as specified in subsection 9.6 of this rule to determine if site concentrations exceed benchmark levels. If the applicant proposes remediation goals that exceed benchmark levels, then, at the secretary's discretion, a baseline ecological assessment may be required to evaluate potential risks to ecological receptors and to develop appropriate remediation standards based on these risks. If a baseline ecological risk assessment is determined to be necessary, it shall address, but not be limited to, the following information:

8.5.a. Problem Formulation. The purpose (goals) of the assessment shall be identified and the problem defined. This step includes identification of potential contaminants of concern, potential ecological effects, potential ecological receptors of concern, potential exposure pathways, and initial assessment and measurement endpoints; all with respect to current and reasonably anticipated future land and water uses. A conceptual site model shall be developed to depict how the site conditions might affect ecological components of the natural environment;

8.5.b. Data Quality. Data quality objectives for the site based on the conceptual site model shall be developed;

8.5.c. Exposure Analysis. An exposure assessment that evaluates the potential for and magnitude of ecological effects to receptors of concern considering current and reasonably anticipated future conditions at the site shall be performed. Exposure is analyzed by describing the source and releases, the distribution of the stressor in the environment, and the extent and pattern of contact or co-occurrence. The end product of this analysis is an exposure profile which summarizes the magnitude and spatial and temporal patterns of exposure for the scenarios described in the conceptual site model;

8.5.d. Ecological Response Analysis. An ecological response analysis shall be developed which includes a summary of current information regarding the toxicological and ecological effects of the identified contaminants of ecological concern, as well as ecological benchmark values. Appropriate sources of toxicity information are identified in paragraph 8.1.c.2 of this rule;

8.5.e. Ecological Risk Characterization. If the potential exists for significant ecological risks due to exposure to site contaminants, the exposure quantification information in subdivision 8.5.c of this rule shall be integrated with the ecological response analysis to provide a characterization of the risks presented at the site, considering current and reasonably anticipated future land and water uses. The risk characterization shall include a quantitative evaluation of ecological risks potentially associated with the site, a weight-of-evidence analysis of risk, a discussion of available site-specific ecological studies, and consideration of the non-quantified (qualitative) risks as appropriate; and

8.5.f. Uncertainty Analysis. Qualitative and/or quantitative uncertainty analyses shall be used as appropriate for each element of the risk assessment.

8.6. Residual Risk Assessments (RRA). Conditions that will be present at the site following implementation of the proposed remedy, should one be needed, shall be considered in residual human health and ecological risk assessments.

8.6.a. In a situation where a baseline risk assessment has been conducted and where no further action is the proposed remedy, the base line risk assessment may serve as the residual risk assessment.

8.6.b. A RRA shall include an assessment of the risks under current and reasonably anticipated future land and water use scenarios, given:

8.6.b.1. The exposure conditions that will be present following remediation and the concentrations of untreated ~~waste~~ constituents or treatment residuals remaining at the conclusion of any excavation, treatment, or off-site disposal; and/or

8.6.b.2. The exposure conditions that will result following implementation of any institutional or engineering controls necessary to manage risks from treatment residuals or untreated hazardous constituents.

8.6.c. The RRA shall be conducted following the same basic steps outlined in subsections 8.4 and 8.5 of this rule, except that the conditions used to define the site shall reflect post-remediation conditions, including site-specific numeric remediation standards and site-specific exposure conditions that incorporate any engineering and institutional controls proposed as part of the remedial action.

8.7. Probabilistic Assessment: Probabilistic techniques may be applied to human health and ecological risk assessments. At a minimum, before the commencement of a probabilistic risk assessment, the applicant shall discuss with the secretary the sources and characteristics of the distributions proposed for use in the assessment. The probabilistic risk assessment shall include, but not be limited to, information regarding:

8.7.a. All formulae used to estimate exposure point values, toxicity (cancer slope factor, reference dose) values, ecological benchmark values, hazard indices, and incremental lifetime cancer risks;

8.7.b. A combination of input parameters expressed as either point estimates or distributions. For each input parameter expressed as a distribution, the following information shall be provided:

8.7.b.1. The shape of the full distribution;

8.7.b.2. To the extent practicable, the mean, standard deviation, minimum, 5th percentile, 10th percentile, median, 90th percentile, 95th percentile, and maximum of the specified distribution;

8.7.b.3. Justification for the use of each distribution clearly explaining the rationale for its use and the rejection of other relevant distributions; and

8.7.b.4. The extent to which input distributions and their parameters capture and separately represent both stochastic variability and knowledge uncertainty. This information shall comprise a portion of, but not be a replacement for a comprehensive discussion in the body of the baseline risk assessment of the qualitative and quantitative sources of uncertainty.

8.7.c. A description of any correlations between or among input variables that are known or expected to have the practical effect of significantly affecting the risk assessment;

8.7.d. For each output distribution resulting from the probabilistic risk assessment, the following information:

8.7.d.1. The shape of the full distribution and location of the acceptable risk level; and

8.7.d.2. To the extent practicable, the mean, standard deviation, minimum, 5th percentile, 10th percentile, median, 90th percentile, 95th percentile, and maximum of the specified distribution.

8.7.e. A probabilistic sensitivity analysis for all key input distributions conducted so as to distinguish, to the extent possible, the effects of variability from the effects of uncertainty in the input variables;

8.7.f. Justification for the selection of any point estimate value incorporated into the probabilistic assessment and the rationale for its selection and for the rejection of other relevant point estimate values;

8.7.g. Probabilistic methods may be applied to:

8.7.g.1. Environmental media contaminant concentration data;

8.7.g.2. Transport and fate modeling;

8.7.g.3. Exposure estimation;

~~8.7.g.4. Human toxicity estimation;~~

8.7.g.4 ~~8.7.g.5.~~ Ecological response estimation; or

8.7.g.5 ~~8.7.g.6.~~ Risk characterization.

8.7.h. The plausible upper-bound exposure condition is equal to approximately the 90th percentile of the exposure distribution. The central-tendency exposure case is the 50th percentile of the exposure distribution. Risk assessments utilizing only deterministic (single point value) methods shall provide both central tendency and plausible upper-bound estimates of exposures and risk.

§60-3-9. Remediation Standards. – This section shall be used for developing risk-based soil and groundwater remedial objectives for site remediation. The purpose of these procedures is to provide for the adequate protection of human health and the environment relative to the current and the reasonably anticipated future uses of the site while incorporating site-related information, to the extent practicable, which may allow for more cost-effective site remediation based on identified site risks.

9.1. Types of remediation standards. Each applicant who responds to the release of a regulated substance at a site shall select and attain compliance with one or a combination of the following remediation standards in each of subdivisions 9.1.a and 9.1.b:

9.1.a. Human Health:

9.1.a.1. A De Minimis Risk-Based Standard is one in which contaminant levels pose no significant risks to human health based on any current or reasonably anticipated future land and water use as provided in subsection 9.2 of this rule. If these levels are below natural background, background levels will be considered the De Minimis levels;

9.1.a.2. A Uniform Risk-Based Standard is one which uses pre-approved analytical methodologies established by the secretary to input exposure factors and other site- specific variables to calculate compound-specific remediation levels that will be protective of human health based on any current or reasonably anticipated future land and water use, as provided in subsection 9.3 of this rule. If these levels are below anthropogenic background levels, such background levels will be considered the uniform risk-based levels;

9.1.a.3. A Site-Specific Risk-Based Standard is one which uses a site-specific analysis of present contamination, and develops a remedial approach that considers the remedy selection criteria in subdivision 9.8.a of this rule and is protective of human health based upon any current, or reasonably anticipated future land and water use; or

9.1.a.4. The applicant may use a combination of the remediation standards to implement a site remediation plan and may choose to use the Site-Specific Risk-Based Standard whether or not efforts have been made to attain the De Minimis or Uniform Risk-Based standards.

9.1.a.5. In all cases the presence of free product at a site shall require remediation.

9.1.b. Ecological:

9.1.b.1. A De Minimus Minimis Ecological Screening Evaluation is an evaluation of the nature and extent of contaminants to determine if potential exposure pathways are completed. If contaminants and ecological receptors of concern do not form complete exposure pathways, no significant risk to ecological receptors is assumed.

9.1.b.2. A Uniform Ecological Evaluation -- where contaminant concentrations are compared to benchmark values which reflect no significant risks to ecological receptors of concern. If these benchmark values are below anthropogenic background levels, such background levels will be considered the Uniform Ecological Standard. Where an applicant proposes a remediation standard based on other existing standards which exceed the benchmark levels and the secretary feels those other existing standards are not protective of ecological receptors of concern, he or she may require a site specific ecological risk assessment in order to establish remediation standards.

9.1.b.3. A Site-Specific Ecological Risk-Based Standard which, based on a site-specific analysis of present contamination, develops a remedial approach that considers the remedy criteria in subdivision 9.8.a of this rule and is protective of ecological receptors of concern for the current, or reasonably anticipated future land and water use.

9.1.b.4. The applicant may use a combination of the remediation standards to implement a site remediation plan and may propose to use the Site-Specific Risk-Based Standard whether or not efforts have been made to attain the De Minimis Risk-Based Standards.

9.2. Human Health -- De Minimis Standard. The De Minimis Standard establishes contaminant levels that do not present a significant risk to human health. If on the basis of the site assessment, these standards are found to be met, no remedial action or further characterization is required and the site is eligible for issuance of a Certificate of Completion by the secretary or by a Licensed Remediation Specialist as provided by in this rule. If at any time during characterization or remedial action the site is shown to meet the De Minimis standard, no further action is required and the site is eligible for issuance of the Certificate of Completion.

9.2.a. De Minimis Standards for Soils. The De Minimis Standards for both surface (<2ft depth) and subsurface (>2ft depth) soils shall be the ~~highest~~ higher numerical value of the following:9.2.a.1 or 9.2.a.2, and must not exceed 9.2.a.3 unless it is shown to the satisfaction of the secretary that migration of soil contaminants to groundwater will not result in an exceedance of De Minimis Groundwater Standards.

9.2.a.1. Risk-Based Concentrations (RBCs)for human health for residential or industrial site uses that consider direct contact exposures (ingestion, dermal, and inhalation). When such risk-based concentrations exceed soil saturation concentrations (CSAT), soil saturation concentrations shall be considered as alternatives to RBCs. All RBCs are presented in Table 60-3B;

9.2.a.2. ~~Risk-based concentrations for human health for residential or industrial site uses that consider other exposure pathways are as follows:~~ Natural background levels for each constituent as determined by sampling and statistical analyses completed using secretary approved methods and/or data sources.

9.2.a.3. De Minimis Soil Standards for the migration of each constituent from soil to groundwater presented in Table 60-3B.9.2.a.2.A. [Reserved]

9.2.b. De Minimis Standards for Groundwater. The De Minimis standards for groundwater shall be ~~the highest numerical value of the following~~ determined as follows:

9.2.b.1. Groundwater contaminant concentration limits established in Title 46-Series 12 of the Code of State Rules (46CSR12);

9.2.b.2. For those contaminants where a concentration limit has not been established in 46CSR12, The Risk-Based Concentrations (RBCs) for human health for residential site uses will be used as presented in Table 60-3B; or

9.2.b.3. Natural background levels for each constituent as determined by sampling and statistical analyses completed using secretary approved methods and/or data sources.

9.2.c. Carcinogens. For individual known or suspected carcinogens, remediation standards derived under subdivisions 9.2.a and 9.2.b of this rule shall be established at levels which represent an excess upper-bound lifetime cancer risk of one in one million ($1x10^{-6}$) for residential land uses and one in one hundred thousand (1×10^{-5}) for industrial land uses.

9.2.d. Systemic toxicants. For individual systemic toxicants, remediation standards shall represent levels to which the human population could be exposed without appreciable risk of deleterious effect, where the hazard quotient shall not exceed 1.

9.2.e. If a contaminant exhibits both carcinogenic and noncarcinogenic effects, then the more ~~conservative~~ protective risk-based standard (i.e., the lower of the two values) shall be used as the remediation standard.

9.2.f. Should soil or groundwater concentrations meet De Minimis levels, and no exposure pathways exist in addition to those considered in the De Minimis Table 60-3B, then no further action shall be required and the Certificate of Completion can be issued.

9.3. Human Health-Uniform Risk-Based Standard. This Standard sets forth uniform, approved methodologies, exposure factors, and other input variables needed to calculate site risks for residential or nonresidential land uses. The secretary recognizes that there may be instances where the pre-established input variables may not be applicable to a site, and thus will allow for site-specific variables to replace the default variables with adequate technical justification. Typical parameters that may require site-specific input include soil attenuation factors, site-specific hydrogeologic properties, and institutional controls used to manage potential exposure to site contamination.

9.3.a. Uniform Risk-Based Standards for Surface Soils/Sediments. Surface soil remediation standards for residential or industrial land uses shall be derived by applying site-specific information to the equations and constants from the secretary's Uniform Risk-Based Guidance or other equations and constants approved by the secretary considering reasonably anticipated future land and water use.

9.3.b. Uniform Risk-Based Standards for Subsurface Soils. Subsurface soil remediation values shall be derived based on:

9.3.b.1. Migration potentials;

9.3.b.2. Leaching potentials; and

9.3.b.3. Soil saturation concentrations. The equations and constants described in the secretary's Uniform Risk-Based Guidance or other equations and constants approved by the secretary shall be applied.

9.3.c. Uniform Risk-Based Standard for Groundwater. Groundwater remediation values shall be derived based on:

9.3.c.1. Current or reasonably anticipated future land and water use;

9.3.c.2. The potential for the groundwater to serve as a source of drinking water. Groundwater that has a background total dissolved solids content greater than 2500 milligrams per liter (mg/l), or where the applicant can demonstrate to the secretary's satisfaction that the aquifer is not being used, cannot be used for future drinking water sources, and is not hydrologically connected to an aquifer being used for drinking water shall not be considered a current or potential source of drinking water; and

9.3.c.3. Migration potentials. The equations and constants described in the secretary's uniform Risk Based Guidance shall be applied.

9.3.d. Carcinogens. For individual known or suspected carcinogens, remedial standards derived under subdivisions 9.3.a, 9.3.b, and 9.3.c of this rule shall be established at levels which represent an excess upper-bound lifetime risk of between one in ten thousand to one in one million ($1x10^{-4}$ to $1x10^{-6}$). If carcinogenic risk greater than $1x10^{-6}$ is considered for development of residential remediation goals or greater than 1×10^{-5}, for development of industrial remediation goals, public notification shall be required as specified in subsection 7.12 of this rule.

9.3.e. Systemic Toxicants. For individual systemic toxicants, remedial standards derived under subdivisions 9.3.a, 9.3.b, and 9.3.c of this rule shall represent levels to which the human population could be exposed without appreciable risk of deleterious effect, where the hazard quotient shall not exceed one.

9.3.f. If a contaminant exhibits both carcinogenic and noncarcinogenic effects, then the more conservative risk-based standard (i.e., the lower of the two values) shall be used as the remediation standard.

9.3.g. Cumulative Site Risk. Cumulative upper-bound estimate of site risk per receptor from exposure to known or suspected carcinogens shall not exceed one in ten thousand ($1x10^{-4}$); and where multiple systemic toxicants affect the same target organ or act by the same method of toxicity, the upper-bound estimate of hazard index shall not exceed 1, or 10 where it is not determined whether multiple systemic toxicants affect the same organ.

9.3.h. Should Uniform Risk-Based soil or groundwater concentrations be met, no further action shall be required with regard to ~~that~~those media.

9.4. Human Health-Site-Specific Risk-Based Standard. Site-Specific Risk-Based Standards will be determined using one or a combination of a BHHRA as described in subsection 8.4 of this rule or a RRA as described in subsection 8.6 of this rule. In establishing the remediation standard under this section, the potential for exposure to site contaminants under current and reasonably anticipated future land and water use and the application of institutional and engineering controls shall be considered.

9.4.a. Carcinogens. For individual known or suspected carcinogens, remedial standards derived under subsection 9.4 shall be established at levels which represent an excess upper-bound lifetime risk of between one in ten thousand to one million ($1x10^{-4}$ to $1x10^{-6}$). If carcinogenic risk greater than $1x10^{-6}$ for individual carcinogens is considered for development of residential remediation goals, or greater than 1×10^{-5} for development of industrial remediation goals, public notification shall be required as specified in subsection 7.12 of this rule.

9.4.b. Systemic toxicants. For individual systemic toxicants, remedial standards shall represent levels to which the human population could be exposed without appreciable risk of deleterious effect, where the hazard quotient shall not exceed one. Where multiple systemic toxicants affect the same target organ or act by the same method of toxicity, the hazard index shall not exceed 1, or 10 where it is not determined whether multiple systemic toxicants affect the same organ.

9.4.c. If a contaminant exhibits both carcinogenic and noncarcinogenic effects, then the more ~~conservative~~ <u>protective</u> risk-based standard (i.e., the lower of the two values) shall be used as the remediation standard.

9.4.d. If probabilistic risk assessment methods are used in establishing the remedial standards or demonstrating the acceptability of the proposed remedial alternative, exposure levels shall approximate the 90th percentile of the exposure distribution.

9.4.e. Groundwater. Remedial standards for groundwater shall be established using the following considerations:

9.4.e.1. Potential receptors based on the current and reasonably anticipated future use of groundwater;

9.4.e.2. The potential for groundwater to serve as a drinking water source, as defined in paragraph 9.3.c.2 of this rule;

9.4.e.3. Site-specific sources of contaminants;

9.4.e.4. Natural environmental conditions affecting the fate and transport of contaminants, such as natural attenuation processes, as determined by appropriate scientific methods; and

9.4.e.5. Institutional and engineering controls.

9.4.f. Soil. Remedial standards for soil/sediments shall be established using the following considerations:

9.4.f.1. Potential receptors based on the current and reasonably anticipated use of the site;

9.4.f.2. Site-specific sources of contaminants;

9.4.f.3. Natural environmental conditions affecting the fate and transport of contaminants, such as natural attenuation processes, as determined by approved scientific methods; and

9.4.f.4. Institutional and engineering controls.

9.4.g. The secretary shall incorporate the equations and constants for risk-based standards into a guidance document, along with other relevant information for establishing and applying such standards to specific sites. The guidance document shall be revised from time to time as needed to incorporate scientific advancements and new or alternative risk assessment and methods. The guidance document, any subsequent revisions, and any alternative risk assessment methods proposed by an applicant will be reviewed by independent scientists recognized as experts in relevant risk assessment disciplines. The secretary shall incorporate as appropriate the comments of scientific reviewers into the guidance document or decisions regarding risk-based standards or methods. These services will be contracted through arrangements made by the secretary with a nonprofit organization governed by a board of directors representing the diverse interests of West Virginia.

9.5. Ecological -- De Minimis Screening Evaluation. This standard sets forth uniform, pre-approved methodologies, exposure assumptions, and other input variables needed to evaluate whether complete exposure pathways exist for aquatic and terrestrial ecological receptors of concern. The secretary recognizes that there may be instances where the pre-established input variables may not be applicable to a site, and thus will allow for site-specific variables to indicate whether an ecological risk assessment is needed.

9.5.a. Typical parameters that shall be considered when evaluating whether or not to perform an ecological risk assessment include but are not limited to the following:

9.5.a.1. Evaluate whether a complete exposure pathway exists. If no complete exposure pathway exists because either the contamination is restricted in movement or there are no ecological receptors of concern, then no ecological risk exists (e.g., if the majority of the site is paved with roads and buildings, no pathway exists);

9.5.a.2. Some sites may be screened out and not require evaluation given their size, estimated risk to ecological receptors, <u>or</u> lack of valued ecological receptors, including threatened or endangered species;

9.5.a.3. Local conditions should be considered for assessing whether a site is degrading an aquatic environment. In cases where the site does not present an ecological risk over and above "local conditions" and further release of contaminants into the aquatic environment has been stopped, there will not be a need for further evaluation;

9.5.a.4. Define what level of ecological resource is considered valued; and

9.5.a.5. If for each contaminated media, harm is readily apparent and a condition of no significant risk of harm to the site biota and habitats clearly does not exist, further ecological risk characterization would be redundant and is not required. The applicant can then proceed directly to the remedy evaluation.

9.5.b. The following are conditions which may be considered indicators of the need for an ecological risk assessment:

9.5.b.1. Stressors have migrated off-site and become widely distributed in the environment;

9.5.b.2. Wildlife or ecological resources of concern are exposed or have potential for significant exposure to stressors from a site, either on or off-site;

9.5.b.3. Remediation of stressors at a site has the potential to expose ecological resources of concern to impacts;

9.5.b.4. A potential exists for indirect or cumulative impacts to ecosystems of concern;

9.5.b.5. Rare or sensitive species of concern are potentially impacted;

9.5.b.6. Adverse ecological effects have been observed in an otherwise high quality habitat; and

9.5.b.7. Projected land use involves sensitive ecosystems.

9.5.c. Should the ecological screening evaluation indicate no complete exposure pathways exist or other conditions specified in subdivision 9.5.a. of this rule or the Screening Ecological Evaluation Guidance are met, no further action shall be required and the Certificate of Completion can be issued.

9.6. Ecological-Uniform Ecological Evaluation. The Uniform Ecological Evaluation establishes benchmark levels that do not present a significant risk to potential ecological receptors. If during initial screening, these standards are found to be met, no remedial action or further characterization is required and the site is eligible for issuance of a Certificate of Completion by the secretary or by a Licensed Remediation Specialist. If at any time during characterization or remedial action the site is shown to meet the Uniform Ecological Evaluation, no further action is required and the Certificate of Completion can be issued. If site contaminants exceed benchmark criteria, the applicant can propose remediation goals protective of ecological receptors of concern. If the applicant chooses to remediate to benchmark levels, the following shall be used:

9.6.a. Uniform Standards for Soils/Sediments. The Uniform Standards for surface (<~~2~~ 4 ft. depth) soils shall be the ~~highest~~ higher of the following numerical values:

9.6.a.1. Benchmarks for relevant ecological receptors that consider direct contact exposures, as presented in division guidance documents; or

9.6.a.2. Natural or a~~A~~nthropogenic background levels for each constituent as determined by sampling and statistical analyses completed using secretary approved methods and/or data sources.

9.6.b. Uniform Standards for Surface Water. The Uniform standards for surface water shall be the highest of the following numerical value:

9.6.b.1. Federal Ambient or State Water Quality Criteria;

9.6.b.2. For those contaminants where a Federal or State Water Quality Criteria has not been established, applicable NOAEL (No Observable Adverse Effect Level) or LOAEL (Lowest Observable Adverse Effect Level) values will be used, as presented in division guidance documents; or

9.6.b.3. Natural or a~~A~~nthropogenic background levels for each constituent as determined by sampling and statistical analyses completed using secretary-approved methods and/or data sources.

9.6.c. Uniform Standards for Groundwater. Where groundwater is expected to impact surface water bodies of concern, the Uniform standards for groundwater shall be the highest of the following numerical value:

9.6.c.1. Federal Ambient or State Water Quality Criteria;

9.6.c.2. For those contaminants where a Federal or State Water Quality Criteria has not been established, applicable

NOAEL (No Observable Adverse Effect Level) or LOAEL (Lowest Observable Adverse Effect Level) values will be used, as presented in division guidance documents; or

9.6.c.3. Anthropogenic background levels for each constituent as determined by sampling and statistical analyses completed using secretary-approved methods and/or data sources.

9.7. Ecological-Site-Specific Risk-Based Standard. Site-Specific Risk-Based Standards shall be developed using the procedures and factors established by this section.

9.7.a. In establishing the remediation standard under this section, the potential for exposure of ecological receptors of concern to site contaminants under current and reasonably anticipated future land and water use and the application of institutional and engineering controls shall be considered.

9.7.b. For individual toxicants, remedial standards shall represent levels to which sensitive (i.e., threatened or endangered) ecological population(s) could be exposed without appreciable risk of deleterious effect, where the hazard index shall not exceed one. For non-sensitive ecological receptors, a weight-of-evidence approach shall be used to establish acceptable remedial standards.

9.7.c. If probabilistic risk assessment methods are used in establishing the remedial standards or demonstrating the acceptability of the proposed remedial alternative, exposure levels shall approximate the 90th percentile of the exposure distribution.

9.7.d. Remedial standards for soil, sediment, surface water, or groundwater shall be established using the following considerations:

9.7.d.1. Potential receptors of concern based on the current and reasonably anticipated use of the site;

9.7.d.2. Site-specific sources of contaminants;

9.7.d.3. Natural environmental conditions affecting the fate and transport of contaminants, such as natural attenuation processes, as determined by approved scientific methods; and

9.7.d.4. Institutional and engineering controls.

9.7.e. The secretary shall incorporate the equations and constants into a guidance document, along with other relevant information for establishing and applying such standards to specific sites. The guidance document shall be revised from time to time as needed to incorporate scientific advancements and new or alternative risk assessment methods. The guidance document, any subsequent revisions, and any alternative risk assessment methods proposed by an applicant will be reviewed by independent scientists recognized as experts in relevant risk assessment disciplines. The department shall incorporate as appropriate the comments of scientific reviewers into the guidance document. These services will be contracted through arrangements made by the secretary with a nonprofit organization governed by a board of secretaries representing diverse interests of West Virginia.

9.8. Remediation measures. Any of the remediation standards may be attained through one or more remediation activities that can include treatment, removal, engineering or institutional controls, and natural attenuation and including, but not limited to, innovative or other demonstrated measures.

9.8.a. Remedy evaluation. In selecting a remedial action from among alternatives that achieve the goal of cost effective protection of human health and the environment, the following factors shall be balanced ensuring that no single factor predominates over the others. The remedy that protects human health and the environment shall be selected using the following criteria:

9.8.a.1. The effectiveness of the remedy in protecting human health and the environment;

9.8.a.2. The reliability of the remedial action in achieving the standards over the long term;

9.8.a.3. Short-term risks to the affected community, those engaged in the remedial action effort, and to the environment posed by the implementation of the remedial action;

9.8.a.4. The acceptability of the remedial action to the affected community;

9.8.a.5. The implementability and technical practicability of the remedial action from an engineering perspective;

9.8.a.6. Meets protectiveness goal at lowest cost; and

9.8.a.7. Considers net environmental benefits of the remedial action.

9.9. Natural Attenuation. Any person may request that the secretary approve a remediation plan based upon natural processes of degradation and attenuation of contaminants. A request submitted to the secretary under this paragraph shall include a description of site-specific conditions, including written documentation of projected groundwater use in the contaminated area based on current state or local government planning efforts; the technical basis for the request; and any other information requested by the secretary to thoroughly evaluate the request. In addition, the person making the request must demonstrate to the satisfaction of the secretary:

9.9.a. That the contaminant has the capacity to degrade or attenuate under the site-specific conditions;

9.9.b. That the contaminant area, such as a groundwater plume or soil volume, is not increasing in size; or, because of natural attenuation processes, that the rate of contaminant degradation is demonstrably more rapid than the rate of contaminant migration; and that all sources of contamination and free product have been controlled or removed where practicable;

9.9.c. That the time and direction of contaminant travel can be predicted with reasonable certainty;

9.9.d. That contaminant migration will not result in any violation of applicable groundwater standards at any existing or reasonably foreseeable receptor;

9.9.e. If the contaminants have migrated onto adjacent properties, the owner must demonstrate that:

9.9.e.1. Such properties are served by an existing public water supply system dependent on surface waters or hydraulically isolated groundwater, or

9.9.e.2. The owners of such properties have consented in writing to allow contaminant migration onto their property.

9.9.f. That, if the contaminant plume is expected to intercept surface waters, the groundwater discharge beyond the sediment/water interface will not possess contaminant concentrations that would result in violations of standards for surface waters contained in 46 CSR 1;

9.9.g. That the person making the request will put in place a groundwater monitoring program sufficient to track the degradation and attenuation of contaminants and contaminant by-products within and down-gradient of the plume and to detect contaminants and contaminant by-products prior to their reaching any existing or foreseeable receptor. Such monitoring program shall provide for placing one or more monitoring wells at least one year's time of travel upgradient of the receptor, and at least one monitoring well shall be placed at a location no farther away from the leading edge of the contaminated groundwater at the site than such contamination is likely to travel in five years;

9.9.h. That all necessary access agreements needed to monitor groundwater quality pursuant to subdivision 9.9.g. of this section have been or can be obtained; and

9.9.i. That the proposed corrective action plan would be consistent with all other environmental laws.

§60-3-10. Work Plan.

10.1. Submittal of Work Plans. The applicant, or the applicant's licensed remediation specialist or contractor, shall submit to the secretary the appropriate work plans and reports as required by the parties' voluntary remediation agreement.

10.2. Action on Work Plans.

10.2.a. The secretary may, based upon accuracy, quality, and completeness, either approve or disapprove a work plan or report submitted from the applicant or the applicant's licensed remediation specialist or contractor.

10.2.b. If the secretary disapproves a work plan or report, the secretary must, within 5 days of its disapproval, notify the applicant in writing that its work plan or report has been disapproved. Such written notice shall include a list specifying the reasons that the work plan or report was disapproved, and shall specify all additional information needed for the work plan or report to obtain approval.

10.2.c. If the secretary disapproves a work plan or report as submitted, the applicant must resubmit the work plan or report or terminate the agreement pursuant to W. Va. Code §22-22-9.

10.3. Timing of Submittal and Review.

10.3.a. The secretary shall

either approve or disapprove all work plans and reports within 30 days of receipt or within a shorter period if specified in the parties' voluntary remediation agreement. Any such action taken on a work plan or report must be confirmed in writing and received by the applicant within the 30-day period or within such shorter period specified in the parties' voluntary remediation agreement. An extension of time for approval or disapproval of work plans or report may be mutually agreed to between the applicant and the secretary. If an extension of time is mutually agreed to by the secretary and applicant, it must be confirmed in writing.

10.3.b. If work plans or reports are resubmitted, the secretary shall approve or disapprove the resubmitted work plans or reports within 30 days of receipt or within such shorter period specified in the parties' voluntary remediation agreement. Any action taken on resubmitted work plans or reports must be confirmed in writing and received by the applicant within the 30-day period for acting on a resubmitted application, or within such shorter time specified in the parties' voluntary remediation agreement. An extension of time or action on resubmitted work plans or reports may be mutually agreed to between the applicant and the secretary. If an extension of time is mutually agreed to by the secretary and applicant, it must be confirmed in writing. If resubmitted work plans or reports are not approved by the secretary, then the secretary and the applicant may mutually agree, in writing, to a schedule for additional review of the resubmitted work plans or reports.

10.3.c. If work plans or reports are not approved or disapproved within 30 days of receipt by the secretary or within such shorter time specified in the parties' voluntary remediation agreement, or if resubmitted work plans or reports are not approved or disapproved within 30 days of receipt by the secretary or within such shorter time specified in the parties' voluntary remediation agreement, then the work plans or reports will be deemed approved unless such work plans or reports are determined to be materially inaccurate.

10.4. Notice. Any notice required to be given under the provisions of this section must be in writing and sent via United States certified mail, or as specified in the parties' voluntary remediation agreement. Notice is complete upon receipt.

10.5. Completeness and Quality of Work Plans. In reviewing work plans for quality and completeness, the secretary may require such work plans to include each of the following:

10.5.a. Documentation of the investigation conducted by the applicant in preparing the work plan;

10.5.b. A description of assessments and other work, if any, to be performed by the applicant to further determine the nature and extent of the actual or threatened release;

10.5.c. A description of risk assessments, if any, to be conducted to show the appropriateness of the proposed remedy for the site;

10.5.d. A statement of work to be conducted to accomplish the proposed remediation in accordance with the risk protocol and remediation standards established under sections 8 and 9 of this rule, and a schedule for the implementation of all tasks set forth in the proposed statement of work;

10.5.e. The applicant's verification sampling plan to determine the adequacy of the remediation; and

10.5.f. Other necessary supporting plans or information as deemed appropriate by the party conducting the remediation.

§60-3-11. Final Report.

11.1. This rule sets forth the requirements for the submittal and contents of the Final Report for a voluntary remediation program. The Final Report may be prepared and submitted when all applicable standards developed for the site have been met.

11.2. Sites may be subdivided for the purpose of preparing Final Reports.

11.3. The Final Report shall include all data and information needed to document and verify that all applicable standards have been met and that all activities specified in the Voluntary Remediation Agreement have been completed. Supporting documentation, such as sample collection records, field monitoring data, laboratory reports, relevant correspondence, and permits, should be placed in one or more appendices to the Final Report. The use of maps, drawings, photographs, tables, and other aids to visualization and data presentation is encouraged.

11.4. Earlier reports, plans, and/or other relevant documents may be incorporated into the Final Report by reference if these items previously have been submitted to the Division. In such cases a complete bibliographic reference shall be provided for each document being incorporated by reference.

11.5. The names, addresses, telephone numbers, and facsimile transmission numbers shall be provided for the current owners and operators of the site, the owners and/or operators conducting the remediation (if different), and the licensed remediation specialist. Individual names and titles for management contacts for each listed firm or organization also shall be provided.

11.6. The site location shall be clearly identified by providing the street address, legal description (including lot and block numbers), and a site location map.

11.7. Ongoing work, such as site cover or treatment system operation and maintenance or groundwater or surface water monitoring, shall be described. This shall include descriptions of planned activities and schedules.

11.8. If institutional controls, such as deed restrictions or Land Use Covenants, are part of the remediation program, copies of appropriate documents to be recorded shall be appended to the Final Report. A site map showing the area(s) subject to institutional controls shall be provided.

11.9. The completeness and accuracy of the Final Report shall be certified, in writing, by an authorized agent of the applicant and by the licensed remediation specialist. The form of this certification shall be as follows:

I hereby certify that the information presented in this report is, to the best of my knowledge and belief, true, accurate, and complete having been prepared under a system and organization designed to produce true, accurate, and complete information.

If the authorized agent and the licensed remediation specialist are the same, a single signature will be sufficient.

§60-3-12. Certificate of Completion.

12.1. Completion of Remediation.

12.1.a. A voluntary remediation is complete when a site meets applicable standards and all work has been completed as contemplated in the voluntary remediation agreement.

12.1.b. When a site meets applicable standards and all work required by the voluntary remediation agreement to meet applicable standards has been completed, the licensed remediation specialist shall issue a final report to the applicant. Such report shall explain how the compliance with the requirements of the voluntary remediation agreement has been demonstrated.

12.1.c. The applicant to whom a final report has been issued may do either of the following:

12.1.c.1. Request a certificate of completion from the secretary, as provided in subsection 12.2 of this rule; or

12.1.c.2. Request a certificate of completion from the licensed remediation specialist, when applicable, as provided in subsection 12.4 of this rule.

12.2. Issuance of Certificate of Completion by the secretary.

12.2.a. Upon receiving the request provided in paragraph 12.1.c.1 of this rule, the secretary must evaluate the final report provided by the applicant, and determine, within sixty days, whether the final report was properly issued by the licensed remediation specialist. When reviewing a final report, the secretary shall only consider whether:

12.2.a.1. The site meets applicable standards for those areas of the site and for those contaminants identified in the voluntary remediation agreement; and

12.2.a.2. The applicant has complied with the voluntary remediation agreement and any approved work plans for the site.

12.2.b. If the secretary agrees that the final report was properly issued, a certificate of completion shall be issued by the secretary within 60 days of receipt of a request for a certificate of completion from the applicant.

12.2.c. If the secretary does not agree that the final report was properly issued, he must promptly provide written notification to the applicant stating in detail the reasons why the report was not deemed properly issued and indicating the further action that must be taken to allow the certificate to be issued. Upon receipt of such notification, the applicant may:

12.2.c.1. Instruct the licensed remediation specialist to take the further action identified by the secretary;

12.2.c.2. Appeal the secretary's decision to the Environmental Quality Board in accordance with the provisions of W. Va. Code §22B-1-7; or

12.2.c.3. Terminate the voluntary remediation agreement.

12.3. Contents of the Certificate of Completion.

12.3.a. The certificate of completion shall attach or incorporate the following:

12.3.a.1. A description of the site to which the certificate of completion pertains;

12.3.a.2. A description of the contaminants for which applicable standards are met at the site;

12.3.a.3. The voluntary remediation agreement under which the site was remediated and/or evaluated;

12.3.a.4. The final report of the licensed remediation specialist; and

12.3.a.5. Any Land Use or deed restriction imposed for purposes of meeting applicable standards including, where applicable, a description of any institutional or engineering controls employed at the site for purposes of meeting applicable standards.

12.3.b. The certificate of completion shall provide that:

12.3.b.1. The site that is described in the certificate of completion meets the applicable standards as provided in section 6 of this rule;

12.3.b.2. The applicant and the persons identified in section 18 of the Act (1) are relieved of liability to the state for the release that caused the contamination that was the subject of the voluntary remediation, and the state shall not institute any civil, criminal or administrative action arising from the release and resulting contamination, as long as the site continues to meet applicable standards in effect at the time the certificate was issued; and (2) shall not be subject to citizen suits or contribution actions with regard to the contamination that was the subject of the voluntary remediation agreement;

12.3.b.3. Where the agreement imposes an obligation that continues beyond the effective date of the certificate and such obligations are no longer satisfied with the result that the applicable standards approved for the site are no longer being met, or continued compliance with the applicable standard is threatened, the secretary shall initiate action to insure the site is brought into compliance in accordance with section 14 of this rule to rescind the covenant contained in this certificate as it would apply to the then current owner or operators of the site and their successors and assigns;

12.3.b.4. Except as provided in paragraph 12.3.b.3 of this rule, a certificate of completion may be revoked or, in lieu thereof, further remediation may be required of any site described in the certificate of completion only where the secretary has determined that a reopener has been triggered in accordance with section 16. Where a certificate is revoked under this provision, it shall be revoked only as to the then current owner or operator of the site, their successors and assigns except in the case where fraud was committed in demonstrating attainment at the site as provided in subdivision 16.1.a of this rule. In this latter case, the certificate is revoked as it would apply to any person; and

12.3.b.5. The duties and benefits of the certificate of completion are transferable to successors and assigns of the applicant, subject to the obligations of any land use covenant referred to in the certificate of completion.

12.3.c. The certificate of completion contained in Appendix 60-3C ~~60-4C~~ meets the requirements of this section. Additional provisions and modifications which differ from the form in Appendix 60-3C~~60-4C~~ but which are consistent with this rule may be agreed to by the applicant and the secretary.

12.4. Certificates of Completion Issued by Licensed Remediation Specialists.

12.4.a. A licensed remediation specialist may issue a certificate of completion for any site that complies with the de minimus standards set forth in subsections 9.2 and 9.5 of this rule, provided that a final report is issued and the secretary is given notice of the licensed remediation specialist's intention to issue a certificate of completion for the site.

12.4.b. A certificate of completion issued by a licensed remediation specialist shall comply with subsection 12.3 of this rule.

12.4.c. The secretary may object to the issuance of a certificate of completion by a licensed remediation specialist within 30 days of receipt of notice of the certificate's issuance, as provided in subdivision 12.4.a. of this rule. If the secretary objects to issuance of the certificate, the applicant may take any of the actions allowed under subdivision 12.2.c. of this rule. If the secretary fails to object within the 30 day period, the licensed remediation specialist may issue the certificate of completion.

12.5. Effective Date.

12.5.a. A certificate of completion issued by the secretary shall become effective when signed by the secretary or, where applicable, upon the filing of any land use covenant required by the certificate, whichever shall last occur.

12.5.b. A certificate of completion issued by a licensed remediation specialist shall become effective when signed by the licensed remediation specialist after notice to the secretary in accordance with subsection 12.4 of this rule, or, where applicable, upon the filing of any land use covenant required by the certificate, whichever shall last occur.

~~**§60-3-13. Land Use Covenants.**~~

~~13.1. Any limitation on the use of a property that is required in order to meet applicable standards shall be contained in a land use covenant. Such use restrictions may include prohibiting residential development of some or all of the site, or requiring maintenance of engineering or institutional controls.~~

~~13.2. Each land use covenant shall contain the following:~~

~~13.2.a. A reference to the voluntary remediation agreement;~~

~~13.2.b. A provision that the applicant, and his assigns and successors, are relieved of all civil liability to the state for the release of contaminants and remediation activities, as long as the property meets applicable standards in effect at the time the covenant was issued;~~

~~13.2.c. Directions to the Clerk of the County Commission to return the covenant to the secretary with evidence that it has been recorded;~~

~~13.2.d. A statement indicating whether residential or non-residential exposure assumptions were used to comply with a site-specific remediation standard;~~

~~13.2.e. A provision which allows the secretary to enforce the restrictions contained in the land use covenant; and~~

~~13.2.f. A provision which states that the restrictions and other requirements described in the land use covenant shall run with the land and shall be binding upon any future owners and their grantees, lessees, authorized agents, employees or persons acting under their direction or control.~~

~~13.3. Land use covenants shall not contain any requirements or obligations other than those necessary to allow the site to meet applicable standards.~~

~~13.4. The secretary shall cause the land use covenant to be recorded in the deed book of the county in which the site is located. A copy of the recorded land use covenant shall be forwarded by the secretary to the applicant and, where the applicant is not the owner of the property, to the owner who executed the land use covenant.~~

~~13.5. Land use covenants may be modified or released if the modification or release is in writing, signed by the secretary and the owner at the time of such modification or release, and filed in the office of the Clerk of the County Commission in the county in which the property is located. Circumstances which would justify the modification or release of a land use covenant may include, but are not limited to, the following:~~

~~13.5.a. Environmental conditions at the site change in such a manner that the restrictions imposed by the land use covenant are no longer required in order to meet applicable standards;~~

~~13.5.b. Further remediation has occurred at the site to such an extent that the exposure assumptions used for the site are no longer applicable; or~~

~~13.5.c. The applicable standard changes in such a manner that the restrictions imposed by the land use covenant are no longer required.~~

~~13.6. The land use covenants contained in Appendix 60-3D and 60-3E meet the requirements of this section. Additional provisions and modifications consistent with this rule may be agreed to by the applicant and the secretary.~~

§60-3-13. Land Use Covenants.

13.1. Any limitation on the use of a property that is required in order to meet applicable environmental standards shall be contained in a land use covenant. Such use restrictions may include prohibiting residential development of some or all of the site, or requiring maintenance of engineering or institutional controls.

13.2. A land use covenant shall:

(1) State that the instrument is an environmental covenant executed pursuant to the Uniform Environmental Covenants Act, W. Va. Code § 22-22B-1 et seq.;

(2) Contain a legally sufficient description of the real property subject to the covenant;

(3) Describe the activity and use limitations on the real property;

(4) Identify every owner of record of a fee interest in the property;

(5) Identify every holder of the land use covenant within the meaning of W. Va. Code § 22-22B-2;

(6) Provide a brief narrative description of the contamination and remedy; including the contaminants of concern, the pathways of exposure, limits on exposure and the location and extent of the contamination and state whether residential or non-residential exposure assumptions were used to comply with a site-specific remediation standard;

(7) Provide requirements for notice within 10 days following transfer of a specified interest in, or concerning proposed changes in use of, applications for building permits for, or proposals for any site work affecting the contamination on, the property subject to the covenant;

(8) Contain a provision that the applicant, and his assigns and successors, are relieved of all civil liability to the state for the release of contaminants and remediation activities, as long as the property meets applicable standards in effect at the time the covenant was issued;

(9) Identify the name and location of any administrative record for the work performed under the Act at the real property subject to the covenant;

(10) Grant access to the property for purposes of implementation or enforcement of the covenant;

(11) Contain the notarized signature(s) of the agency, every holder and, unless waived by the agency, every owner of the fee simple of the real property subject to the covenant;

13.3. The applicant for participation in the remediation program shall cause the land use covenant to be recorded in the deed book of each county in which any portion of the site is located and shall provide a certified copy of the recorded covenant to the Secretary and to each of the parties named in section 3-5 of this rule.

13.4. The land use covenant form contained in Appendix 60-3D meets the requirements of this section. Additional provisions or modifications that are not inconsistent with this rule, the Voluntary Remediation and Redevelopment Act or the Uniform Environmental Covenants Act may be agreed to by the holders and the secretary.

13.5. A copy of a land use covenant shall be provided by the persons required, and in the manner required, by the agency to:

(1) Each person that signed the covenant;

(2) Each person holding a recorded interest in the real property subject to the covenant;

(3) Each person in possession of the real property subject to the covenant;

(4) Each municipality or other unit of local government in which real property subject to the covenant is located; and

(5) Any other person the agency requires.

13.6. The validity of a covenant is not affected by failure to provide a copy of the covenant as required under section 13.5 if this rule.

13.7 The duration, amendment and termination of a land use covenant shall be governed by the provisions regarding environmental covenants set forth in the Uniform Environmental Covenants Act, W. Va. Code § 22-22B-1 et seq.

§60-3-14 Procedure where Certificate of Completion or Land Use Covenant is Violated.

14.1. If at any time the secretary determines that an obligation imposed by the certificate of completion or by any land use covenant issued pursuant to the Act is not being satisfied with the result that the remediation standard approved for the site is no longer being met, or continued compliance with the remediation standard is threatened, the secretary shall issue notice of such determination by providing written notice through certified/registered mail to the current owner or operator of the site. Such notice shall identify the obligations that are not being satisfied and the appropriate corrective action that must be taken.

14.2. Any person aggrieved by the secretary's determination under subsection 14.1 of this rule may appeal such ruling to the Environmental Quality Board in accordance with the provisions of W. Va. Code §22B-1-7.

14.3. The covenant set forth in the certificate of completion and the provisions regarding relief from liability in any land use covenant shall no longer apply to the current owner or operator of the site and their successors and assigns upon the expiration of 60 days from the date of issuance of notice as provided in subsection 14.1 of this rule, or 60 days from issuance of a final order of the Environmental Quality Board affirming the action of the secretary where an appeal is taken as provided in subsection 14.2 of this rule, unless prior to such time the current owner or operator takes action to assure that all obligations imposed by the Certificate are satisfied.

§60-3-15 Loans from Brownfields Revolving Fund.

15.1. Loan Applications.

15.1.a. Any person who satisfies the criteria set forth in subsection 3.2 of this rule may apply, after conferring with the secretary as provided in W. Va. Code §22-22-5(a), to the secretary for a loan to perform a site assessment at a brownfield site. The application shall be on a form prescribed by the secretary which, at a minimum, shall require the following information:

15.1.a.1. Name of applicant and business;

15.1.a.2. Name of current owner(s) of record of the property;

15.1.a.3. Size and location of property;

15.1.a.4. Description of past and current uses of property;

15.1.a.5. Nature of contamination; and

15.1.a.6. Financial capability of applicant.

15.1.b. The secretary shall act upon a completed application within 60 days of receiving it. The secretary may approve the application, reject the application, or accept the application subject to correction. The applicant shall be given a reasonable amount of time to make corrections specified by the secretary.

15.1.c. Each loan shall be memorialized in a written document that identifies the amount of the loan, the interest rate, and the repayment schedule.

15.2. Qualifying Activities:

15.2.a. Money may be loaned to an applicant from the Revolving Fund for the site assessment of a brownfield property; or

15.2.b. Money may be loaned to an applicant from the Revolving Fund for activities at brownfield sites other than site assessments to the extent monies are appropriated to, or received by, the Revolving Fund for purposes other than site assessments.

15.3. Loan Conditions.

15.3.a. The secretary shall require periodic reports from each applicant of all expenditures of funds loaned to the applicant from the Brownfield Revolving Fund;

15.3.b. Where the applicant is the owner of the property upon which the site assessment is to be performed, the secretary shall require a deed of trust to be executed or any other collateral of equal or greater value to secure the loan; and

15.3.c. Where the applicant is not the owner of the property upon which the site assessment is to be performed, the secretary shall require appropriate collateral to secure the loan, except where the applicant is a development authority or other public entity.

15.4. Repayment.

15.4.a Loans shall be repaid at a rate of interest determined by the secretary at the time the application is approved. The loans shall be low interest. For a public entity, the interest rate shall be from 0% to 3%. For a private entity the interest rate shall be the prime rate less three percent; and

15.4.b. Loans shall be repaid in equal installments over a period of no longer than 10 years, as allowed by the secretary.

§60-3-16. Reopener Provisions.

16.1. A voluntary remediation agreement shall be reopened in accordance with the procedures set forth in this section upon a determination by the secretary that one or more of the following conditions has occurred:

16.1.a. Fraud was committed in demonstrating attainment at the site with regard to a standard set forth in the voluntary remediation agreement or in these rules that resulted in avoiding the need for further remediation at the site;

16.1.b. New information confirms the existence of an area of previously unknown contamination which contains contaminants that have been shown to exceed the standards applied to the previous remediation at the site;

16.1.c. The level of risk is increased significantly beyond the established level of protection at the site due to substantial changes in exposure conditions, such as, a change in land use, or new information is obtained about a contaminant associated with the site which revises exposure assumptions beyond the acceptable range:

16.1.c.1. This condition applies only where the level of risk is increased by a factor of at least five or the hazard index exceeds 1, or 10 where it is not determined whether multiple systemic toxicants affect the same organ.

16.1.d. The release that is addressed by the voluntary remediation agreement occurred after July 1, 1996, on a site not used for industrial activity prior to that date and (1) the remedy relied, in whole or in part, upon institutional or engineering controls instead of treatment or removal of contamination; and (2) treatment, removal or destruction has become technically and economically practicable; or

16.1.e. The remediation method failed to meet the remediation standard or combination of standards identified in the voluntary remediation agreement or these rules.

16.2. If at any time the secretary determines that one of the reopener conditions in subsection 16.1 has been triggered, the secretary shall issue notice of such determination by providing written notice through certified/registered mail to the initial remediator and the current occupant, and any other person who has asked to be notified of any actions regarding the site.

16.3. Any person aggrieved by the secretary's determination under subsection 16.2, may appeal such ruling to the Environmental Quality Board in accordance with the provisions of W. Va. Code §22B-1-7.

16.4. The Certificate of Completion previously issued for the site shall become null and void upon the expiration of 60 days from the date of issuance of notice as provided in subsection 16.1 or 60 days from issuance of a final order of the Environmental Quality Board where an appeal is taken as provided in subsection 16.2, unless prior to such time at least one of the following occurs:

16.4.a. Where the initial remediator seeks to maintain the certificate of completion then in effect, the initial remediator shall:

16.4.a.1. Enter into an agreement with the secretary to reopen and revise the voluntary agreement to the extent necessary to return the site to its previously agreed to state of remediation; or

16.4.a.2. Agree to reopen and revise the voluntary agreement to the extent necessary to achieve an alternative appropriate standard as determined by the secretary;

16.4.b. Where some person other than the initial remediator seeks to maintain the certificate of completion then in effect, such person shall:

16.4.b.1. Enter into a voluntary agreement with the secretary in accordance with the requirements of these rules which contains such provisions as are necessary to assure that the property meets the state of remediation previously agreed to or another appropriate standard as determined by the secretary.

§60-3-17. Appeals of Rulings of the Secretary.

17.1. If at any time the secretary determines that an obligation imposed by the certificate of completion or by any land use covenant issued pursuant to the Act is not being satisfied, with the result that the remediation standard approved for the site is no longer being met, or continued compliance with the remediation standard is threatened, the secretary shall issue notice of such determination by providing written notice through certified/registered mail to the current owner or operator of the site. Such notice shall identify the obligations that are not being satisfied and the appropriate corrective action that must be taken.

17.2. Any person aggrieved by the secretary's determination under subsection 17.1 of this rule may appeal such ruling to the Environmental Quality Board in accordance with the provisions of W. Va. Code §22B-1-7.

17.3. The covenant set forth in the certificate of completion and the provisions regarding relief from liability in any land use covenant shall no longer apply to the current owner or operator of the site and their successors and assigns upon the expiration of 60 days from the date of issuance of notice as provided in subsection 17.1 of this rule, or 60 days from issuance of a final order of the Environmental Quality Board affirming the action of the secretary where an appeal is taken as provided in subsection 17.2 of this rule, unless prior to such time the current owner or operator takes action to assure that all obligations imposed by the Certificate are satisfied.

APPENDIX 60-3A

WEST VIRGINIA VOLUNTARY REMEDIATION AGREEMENT FOR NO FURTHER ACTION INVESTIGATION ACTIVITIES

[For Brownfields and Non-Brownfields Sites]

I. INTRODUCTION

1. The West Virginia Department of Environmental Protection (WVDEP), by its Secretary ~~secretary~~, and ____________________ ("applicant") hereby enter into this Voluntary Remediation Agreement ("Agreement"), pursuant to the Voluntary Remediation and Redevelopment Act, W.Va. Code §22-22-1 et seq. (the "Act"), for the purpose of investigating and, if warranted, remediating the property that is the subject of this Agreement ("the site").

II. JURISDICTION

2. This Agreement is entered into by and between the WVDEP, by its Secretary ~~secretary~~, and ________________, applicant, pursuant to W.Va. Code §22-22-7.

3. The Parties agree to the following terms and conditions as satisfying the requirements of the Act for the investigation and remediation of the site. The applicant reserves all rights it may have under common law, the West Virginia Code and federal statutes to seek contribution or indemnity. The WVDEP reserves all rights it may have under common law, the West Virginia Code and federal statutes to seek contribution or indemnity from persons other than the applicant and those persons identified in W. Va. Code §22-22-18.

4. By entering into this Agreement, the applicant neither admits nor denies liability.

III. STATEMENT OF ELIGIBILITY

5. The Secretary ~~secretary~~ has determined that the application submitted by applicant is complete and that applicant is eligible to participate in the voluntary remediation program [Add for brownfields locations: and that the site qualifies as a brownfields site]. However, neither the Secretary's ~~secretary's~~ determination of eligibility nor the entry into this Agreement precludes any finding by the Secretary ~~secretary~~ at a later date that the site poses an imminent and substantial threat to human health or the environment within the meaning of W.Va. Code §22-22-7(d). In addition, if it is determined that applicant withheld or misrepresented information that would be relevant to the applicant's eligibility, the Secretary ~~secretary~~ may withdraw from this Agreement.

IV. PARTIES BOUND

6. This Agreement shall apply to and be binding upon the applicant, its officers, secretaries, principals, employees, agents, successors, subsidiaries and assigns and upon WVDEP, its employees, agents and successors. The signatories to this Agreement certify that they are fully authorized to execute and legally bind the parties they represent.

7. The applicant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred.

V. DEFINITIONS

8. "Day" or "calendar day" means the 24-hour period between 12:00 A.M. - 12:00 A.M.

9. "No further action" means a site is eligible to receive a Certificate of Completion on the basis of site assessment sampling or sampling data developed under a Voluntary Remediation Agreement which demonstrates that the site meets applicable standards.

10. "Rules" means those rules adopted by the Secretary ~~secretary~~ of the Department of Environmental Protection pursuant to the Voluntary Remediation and Redevelopment Act, W. Va. Code §22-22-1 through 22-22-21.

11. "Site" shall be used in the manner as defined by W.Va. Code §22-22-2 and for purposes of this Agreement means the property located in ________________, West Virginia, and is more particularly described in the Application for Participating in the Voluntary Remediation Program attached and incorporated herein as Exhibit "A". [OPTIONAL LANGUAGE – Submitted to WVDEP and accepted by letter dated ____________, 200 .]

12. All other terms contained in this Agreement shall be used in the manner as defined by W.Va. Code §22-22-2 or the rules.

VI. STATEMENT OF PURPOSE

13. This Agreement sets forth necessary terms and conditions to satisfy the requirements of the Act for the investigation and, if warranted, the remediation of the site.

14. The activities conducted by the applicant under this Agreement are subject to approval by WVDEP as provided herein. applicant shall provide all necessary information for the site. The activities conducted by the applicant shall be consistent with this Agreement, all applicable laws and regulations and any appropriate guidance documents.

VII. EVALUATION OF SITE ASSESSMENT

15. Applicant has submitted a site assessment as a part of the application. The site assessment was accompanied by a final report prepared by __________, a licensed remediation specialist, which states that the site meets the applicable standard described in paragraph 16 ~~15~~ of this Agreement.

16. The parties agree that the applicable standard for this site, consistent with [insert cite to rule relating to remediation standards] is as follows:

[Insert appropriate standard and, where applicable, a description of any engineering or institutional controls for this site, as agreed upon by the Parties.]

17. The statutes and regulations for which compliance is mandated in connection with the investigation or remediation of this site are as follows:

[Insert appropriate list of statutes and rules.]

[OPTIONAL LANGUAGE-If applicable]

(a) Air Pollution Control Act, W.Va. Code §§ 22-5-1 et seq.;
(b) Water Pollution Control Act, W. Va. Code §§ 22-11-1 et seq.;
(c) Groundwater Protection Act, W. Va. Code §§ 22-12-1 et seq.;
(d) Hazardous Waste Management Act, W. Va. Code §§ 22-18-1 et seq;
(e) Section 103(a) of Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C.A. §§ 9603(a)
(f) Section 304 of Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C.A. §§ 11001 to 11050;
(g) Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 to 678;
(h) Resource Conservation and Recovery Act, as amended, et. seq., 42 U.S.C.A. §§ 6901, et seq.; and
(i) Toxic Substances Control Act, 15 U.S.C.A. §§ 2601, et seq.;
and any applicable regulation promulgated thereunder.

18. The WVDEP has reviewed the final report and the site assessment submitted as a part of the application to participate in the Voluntary Remediation Program and has concluded that the site meets the applicable standard described in paragraph 16 of this Agreement. [If applicable - include a description of the technical standards applied in evaluating the site assessment with reference to proposed future land uses.]

19. Nothing herein shall be construed as restricting the inspection or access authority of DEP under any law or regulation.

VIII. RECORD PRESERVATION

20. The applicant agrees to preserve, for a minimum of three years from the effective date of this Agreement, all documents required by this Agreement and any other documents generated or used to prepare the documents required by this Agreement. Upon request by WVDEP, the applicant shall make available to WVDEP such records, or copies of any such records.

IX. RESERVATION OF RIGHTS

21. WVDEP and applicant reserve all rights and defenses they may have pursuant to any available legal authority unless expressly waived herein.

22. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of action or demands in law or equity which the parties may have against any person, firm, partnership or corporation, not a party to this Agreement, for any liability it may have arising out of or relating in any way to, the generation, storage, treatment, handling, transportation, release or disposal of any materials, hazardous substances, hazardous waste, contaminants, or pollutants at, to, or from the site. The parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not parties to this Agreement, and as to each other for matters not covered hereby.

23. The applicant reserves the right to seek contribution, indemnity, or any other available remedy against any person found to be responsible or liable for contributions, indemnity, or otherwise for any amounts which have been or will be expended by the applicant in connection with the site.

24. WVDEP acknowledges that, pursuant to W.Va. Code §22-22-18, applicant, upon receipt of the Certificate of Completion, is not liable for claims for contribution concerning matters addressed in the Voluntary Remediation Work Plan.

X. PUBLIC NOTIFICATION/INVOLVEMENT

25. [For brownfield applicants, insert provision requiring compliance with approved-public involvement plan, where appropriate]

XI. ADMINISTRATIVE COSTS

26. Applicant agrees to reimburse WVDEP for all of its reasonable administrative costs associated with this Agreement in the amount of $____________________ within 30 days of the effective date of this Agreement with a check made payable to the Voluntary Remediation Fund and be mailed along with a transmittal letter stating the site name and address to the West Virginia Department of Environmental Protection; Attention: ____________________, ____________, West Virginia. Reimbursable costs under this provision shall be those costs for which reimbursement is required under the rules.

XII. [IF APPLICABLE] LAND USE COVENANTS

27. [Insert provisions describing restrictions on future use of property and attach copy of land use covenant that is to be recorded for the site.]

XIII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

28. The effective date of this Agreement shall be the date on which the applicant receives notice that this Agreement has been signed by the Secretary ~~secretary~~ of WVDEP.

29. This Agreement may be amended by mutual agreement of WVDEP and the applicant. Amendments shall be in writing and shall be effective when the applicant receives notice that the amendment has been signed by the Secretary ~~secretary~~ of WVDEP.

30. If the Secretary ~~secretary~~ determines that there is an imminent threat to the public, he or she may unilaterally modify or amend this Agreement.

XIV. TERMINATION AND SATISFACTION

31. Upon completion of the final report prepared by the licensed remediation specialist, the applicant may seek a Certificate of Completion from the Secretary ~~secretary~~. Upon receipt of a request for a Certificate of Completion, the Secretary ~~secretary~~ shall determine that the site meets applicable standards for those areas of the site and for those contaminants identified in the voluntary remediation agreement and that the applicant has complied with the voluntary remediation agreement and any approved work plans for the site. Upon making this determination, the Secretary ~~secretary~~ shall issue a Certificate of Completion which conforms substantially to Appendix 60-3C of the rule. Where a land use covenant is required by this Agreement, such Certificate of Completion shall not become effective until it is properly filed with the Clerk of the County Commission of the county in which the property is located.

If the Secretary ~~secretary~~ determines that the certificate should not be issued because the work required by this Agreement and any approved work plans has not been completed or because the site does not meet applicable standards the Secretary ~~secretary~~ shall initiate the procedures relating to denial of a certificate as provided in the rules.

32. The provisions of this Agreement shall be satisfied and this Agreement shall end when the Secretary ~~secretary~~ issues the Certificate of Completion.

XV. REOPENER

33. This Agreement may be reopened upon agreement of the parties or upon occurrence of one or more of the conditions of W.Va. Code §22-22-15 and the rules implementing that section.

XVI. GOVERNING LAW

34. This Agreement will be governed by the laws of the State of West Virginia.

____ APPLICANT

Printed Name:____________________________

Title: _________________________________

Date: _________________________________

WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

By: _________________________________

Title: _________________________________

Date: _________________________________

[Include if applicant is not owner of the site and agreement calls for land use covenant:

______________________________, as owner of the site referenced in the above Agreement hereby acknowledges that said Agreement requires the imposition of a land use covenant and, in consideration of the benefits accruing to the site from said Agreement, I hereby agree to the imposition of such land use covenant and agree to cooperate in the execution and filing of such land use covenant.

________________________________ ________________________________

Owner Date

APPENDIX 60-3B

WEST VIRGINIA VOLUNTARY REMEDIATION AGREEMENT FOR INVESTIGATION AND REMEDIATION ACTIVITIES

[For Brownfields and Non-Brownfields Sites]

I. INTRODUCTION

1. The West Virginia Department of Environmental Protection (WVDEP), by its Secretary ~~secretary~~, and __________________ ("applicant") hereby enter into this Voluntary Remediation Agreement ("Agreement"), pursuant to the Voluntary Remediation and Redevelopment Act, W.Va. Code §22-22-1 et seq. ("the Act"), for the purpose of investigating and remediating the property that is the subject of this Agreement ("the Site ~~site~~").

II. JURISDICTION

2. This Agreement is entered into by and between the WVDEP, by its Secretary ~~secretary~~, and _______________, applicant, pursuant to W.Va. Code §22-22-7.

3. The Parties agree to the following terms and conditions as satisfying the requirements of the Act for the investigation and remediation of the site. The applicant reserves all rights ~~it may have~~ under common law, the West Virginia Code and federal statutes to seek contribution or indemnity. The WVDEP reserves all rights it may have under common law, the West Virginia Code and federal statutes to seek contribution or indemnity from persons other than the applicant and those persons identified in W. Va. Code §22-22-18.

4. By entering into this Agreement, the applicant neither admits nor denies liability.

III. STATEMENT OF ELIGIBILITY

5. The Secretary ~~secretary~~ has determined that the application submitted by the applicant is complete and that applicant is eligible to participate in the voluntary remediation program. However, neither the Secretary's ~~secretary's~~ determination of eligibility nor the entry into this Agreement precludes any finding by the Secretary ~~secretary~~ at a later date that the site poses an imminent and substantial threat to human health or the environment within the meaning of W.Va. Code §22-22-7(d). In addition, if it is determined that applicant withheld or misrepresented information that would be relevant to the applicant's eligibility, the Secretary ~~secretary~~ may withdraw from this Agreement.

IV. PARTIES BOUND

6. This Agreement shall apply to and be binding upon the applicant, its officers, secretaries, principals, employees, agents, successors, subsidiaries, and assigns and upon

WVDEP, its employees, agents and successors. The signatories to this Agreement certify that they are fully authorized to execute and legally bind the parties they represent. No change in ownership, corporate, or partnership status of the applicant shall in any way alter its status or responsibilities under this Agreement unless the applicant or WVDEP withdraws from this Program as provide herein.

7. The applicant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred. The applicant shall provide a copy of this Agreement to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Agreement, within fourteen (14) ~~14~~ days after the effective date of this Agreement or within fourteen (14) ~~14~~ days of the date of retaining their services.

V. DEFINITIONS

8. "Day" or "calendar day" means the 24-hour period between 12:00 A.M. - 12:00 A.M.

9. "No further action" means a site is eligible to receive a Certificate of Completion on the basis of site assessment sampling or sampling data developed under a Voluntary Remediation Agreement which demonstrates that the site meets applicable standards.

10. "Rules" mean those rules adopted by the Secretary ~~secretary~~ of the Department of Environmental Protection pursuant to the Voluntary Remediation and Redevelopment Act, and promulgated at 60 CSR 3 as the Voluntary Remediation and Redevelopment Rule. ~~W. Va. Code §22-22-1.~~

11. "Site" shall be used in the manner as defined by W.Va. Code §22-22-2(dd) ~~§22-22-1~~ and for purposes of this Agreement means the property located in ________________, West Virginia, and is more particularly described in the Application for Participating in the Voluntary Remediation Program attached and incorporated herein as Exhibit "A". [OPTIONAL LANGUAGE – Submitted to WVDEP and accepted by letter dated ________________, 200 .]

12. All other terms contained in this Agreement shall be used in the manner as defined by W.Va. Code §22-22-2 or the Rules ~~rules~~.

VI. STATEMENT OF PURPOSE

13. This Agreement sets forth necessary terms and conditions to satisfy the requirements of the Act for the investigation and remediation of the Site ~~site~~.

14. The activities conducted by the applicant under this Agreement are subject to approval by WVDEP as provided herein. Applicant shall provide all necessary information for the Site ~~site~~. The activities conducted by the applicant shall be consistent with this Agreement, all applicable laws and regulations and any appropriate guidance documents.

VII. WORK TO BE PERFORMED

15. All work to be performed by the applicant pursuant to this Agreement shall be under the direction and supervision of a licensed remediation specialist. The licensed remediation specialist may be designated by applicant as applicant's project manager pursuant to Paragraph 33 ~~34~~. Prior to the initiation of Site ~~site~~ work, the applicant shall notify WVDEP, in writing, regarding the name and title of the licensed remediation specialist, if different from the licensed remediation specialist designated in the application, and of any contractors and/or subcontractors to be used in carrying out the terms of this Agreement.

16. Applicant shall submit a Voluntary Remediation Work Plan which when implemented provides for the attainment of the applicable standard specified in Paragraph 18 of this Agreement.

(OPTIONAL LANGUAGE-If applicable)

Prior to the filing of the application and prior to the execution of this Agreement, applicant has undertaken work at the site. The following documents have been accepted and approved by the licensed remediation specialist in support of the requirements of the Act for the investigation and remediation of the site:

[List of documents and reports submitted]

(OPTIONAL LANGUAGE-If applicable)

For the purposes of remediation and preparing Final Reports the Site may be divided into separate areas, and different human health and ecological remediation standards; e.g., De Minimis, Uniform Risk-Based, Site-Specific Risk-Based, may be utilized for these individual areas. Applicant currently contemplates that the Site will be subdivided into the following areas:

[Description of the subdivided areas]

17. The Voluntary Remediation Work Plans submitted with this Agreement includes ~~Plan submittal shall include~~ the following:

[List by Site or Subdivided Areas, if applicable]
~~[To be developed on a site-by-site basis]~~

18. The parties agree that the applicable standard for this Site ~~site~~, consistent with Section 9 of the rule, is as follows:

[Insert applicable standard and, where applicable, engineering or institutional controls for this site, as agreed upon by the Parties.]

[List by Site or Subdivided Areas, if applicable]

[OPTIONAL LANGUAGE-If applicable]

The parties agree that the applicable standard(s) for this Site will be determined upon approval of the work plan(s) and report(s) described in Paragraph 20 of this Agreement. The parties agree that the future determination of standard(s) will be described in a modification to the Agreement.

19. The statutes and regulations for which compliance is mandated in connection with the investigation or remediation of this Site ~~site~~ are as follows:

[Insert appropriate list of statutes and rules.]

[OPTIONAL LANGUAGE-If applicable]

(a) Air Pollution Control Act, W.Va. Code §§ 22-5-1 et seq.;
(b) Water Pollution Control Act, W. Va. Code §§ 22-11-1 et seq.;
(c) Groundwater Protection Act, W. Va. Code §§ 22-12-1 et seq.;
(d) Hazardous Waste Management Act, W. Va. Code §§ 22-18-1 et seq;
(e) Section 103(a) of Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C.A. §§ 9603(a)
(f) Section 304 of Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C.A. §§ 11001 to 11050;
(g) Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 to 678;
(h) Resource Conservation and Recovery Act, as amended, et. seq., 42 U.S.C.A. §§ 6901, et seq.; and
(i) Toxic Substances Control Act, 15 U.S.C.A. §§ 2601, et seq.;
and any applicable regulation promulgated thereunder.

VIII. SUBMITTAL AND APPROVAL OF WORK PLANS OR REPORTS

20. The applicant shall submit the following work plans or reports in accordance with the schedule provided in this Agreement:

[List of work plans and/or reports to be submitted]

[OPTIONAL LANGUAGE - If Applicable]

When additional work plans or reports are planned as a follow-up to initial activities, the applicant shall submit the subsequent work plans, reports (including final reports), and schedules in accordance with a modification to this Agreement.

21. The Secretary ~~secretary~~ may, based upon accuracy, quality, and completeness, either approve or disapprove a work plan or report submitted by applicant.

22. If the Secretary ~~secretary~~ disapproves a work plan or report, the Secretary ~~secretary~~ must, within 5 days of its disapproval, notify the applicant in writing that its work plan or report has been disapproved. Such written notice shall include a list specifying the reasons that the work plan or report was disapproved, and shall specify all additional information needed for the work plan or report to obtain approval.

23. If the Secretary ~~secretary~~ disapproves a work plan or report as submitted, the applicant must resubmit the work plan or report or terminate this Agreement as provided in Paragraph 74 ~~22~~.

24. The Secretary ~~secretary~~ shall either approve or disapprove all work plans and reports within 30 days of receipt [shorter period may be specified]. Any such action taken on a work plan or report must be confirmed in writing and received by the applicant within the 30-day period [may be shorter period specified]. An extension of time for approval or disapproval of work plans or reports ~~report~~ may be mutually agreed to by and between the applicant and the Secretary ~~secretary~~. If an extension of time is mutually agreed to by the Secretary ~~secretary~~ and applicant, it must be confirmed in writing.

25. After work plans or reports are submitted, the Secretary ~~secretary~~ shall approve or disapprove the resubmitted work plans or reports within thirty (30) ~~30~~ days of receipt, or within such shorter period specified in the party's ~~partie's~~ voluntary remediation agreement. Any action taken on resubmitted work plans or reports must be confirmed in writing and received by the applicant within the thirty (30)-day period for acting on a resubmitted application, or within such shorter time specified in the party's ~~partie's~~ voluntary remediation agreement. An extension of time or action on resubmitted work plans or reports may be mutually agreed to between the applicant and the Secretary ~~secretary~~. If an extension of time is mutually agreed to by the Secretary ~~secretary~~ and the applicant, it must be confirmed in writing. If resubmitted work plans or reports are not approved by the Secretary ~~secretary~~, then the Secretary ~~secretary~~ and the applicant may mutually agree, in writing, to a schedule for additional review of the resubmitted work plans or reports.

26. If work plans or reports are not approved or disapproved within 30 days of receipt by the Secretary ~~secretary~~ [shorter time may be specified], or if resubmitted work plans or reports are not approved or disapproved within 30 days of receipt by the Secretary ~~secretary~~ [shorter time may be specified], then the work plans or reports will be deemed approved unless such work plans or reports are determined to be materially inaccurate.

27. Notice. Any notice required to be given under the provisions of this section must be in writing and sent via United States certified mail [alternate method may be specified]. Notice is complete upon receipt.

28. If the applicant desires to proceed with the implementation of the approved work plan, the applicant must notify the Secretary ~~secretary~~ in writing not more than 90 days after the work plan is approved. After providing such notice, the applicant shall initiate the work detailed

in the Voluntary Remediation Work Plan according to the schedule as set forth in the Secretary's ~~secretary's~~ Notice of Approval. Upon the Secretary's ~~secretary's~~ receipt of notice that the applicant intends to proceed, the fully approved Voluntary Remediation Work Plan shall be deemed incorporated into and made an enforceable part of this Agreement.

29. Upon completion of the work contemplated by all work plans ~~the work plan~~, the applicant shall submit to the Secretary ~~secretary~~ the final report prepared by the licensed remediation specialist. The final report shall include all information necessary to verify that all work contemplated by the work plan has been completed and all information required by the rules.

[OPTIONAL SECTION - IX. PUBLIC NOTIFICATION/INVOLVEMENT]

30. [For brownfield applicants, insert provision requiring compliance with approved Public Involvement Plan, where appropriate].

IX. ADDRESSES FOR ALL CORRESPONDENCE

31. Documents, including reports, approvals, notifications, disapprovals, and other correspondence, to be submitted under this Agreement, may be sent by certified U. S. mail, return receipt requested, hand delivery, overnight mail or by courier service to the following addresses or to such addresses as the applicant or WVDEP may designate in writing.

Documents to be submitted to WVDEP should be sent to:
[Insert name of Project Manager]

West Virginia Department of Environmental Protection
Division of Land Restoration
~~Division of Waste Management~~
601 57th Street
~~1356 Hansford Street~~
Charleston, WV 25304
~~Charleston, West Virginia 25301~~

Phone No. (304) 926-0455
~~Phone No. (304) 558-5929~~

Documents to be submitted to the applicant should be sent to:

____

____

____

Attn:______________________________

Phone No. ______________________

XI. COMPLIANCE WITH APPLICABLE LAWS

32. All work undertaken by the applicant pursuant to this Agreement shall be performed in compliance with all applicable federal, state and local laws, ordinances and regulations, including, but not limited to, all Occupational Safety and Health Administration, Department of Transportation and Resource Conservation and Recovery Act regulations. The applicant shall be responsible for obtaining all permits which are necessary for the performance of any work hereunder.

33. Completion of the work performed in accordance with this Agreement shall satisfy all applicable remediation requirements of Chapter 22 of the West Virginia Code, including the following: the Surface Coal Mining and Reclamation Act, W. Va. Code <u>§22-3-1</u> ~~§22-10-1~~ et seq.; the Air Pollution Control Act, W. Va. Code §22-5-1 et seq.; the Water Pollution Control Act, W. Va. Code §22-11-1 et seq.; the Groundwater Protection Act, W. Va. Code §22-12-1 et seq.; the Solid Waste Management Act, W. Va. Code §22-15-1 et seq.; the Underground Storage Tank Act, W. Va. Code §22-17-1 et seq.; and the Hazardous Waste Management Act, W. Va. Code §22-18-1 et seq.

XII. PROJECT MANAGER/LICENSED REMEDIATION SPECIALIST

34. <u>The WVDEP Project Manager for the Site is identified in Paragraph 30 of this Agreement. The applicant has designated (insert name of LRS) as the applicant's Licensed Remediation Specialist (LRS) and [OPTIONAL – Insert name as] Project Manager for the Site.</u> ~~On or before the effective date of this Agreement, WVDEP shall designate a project manager. The applicant shall designate a licensed remediation specialist and a project manager. The licensed remediation specialist may be the project manager.~~ The licensed remediation specialist shall be responsible for the supervision of all activities under this Agreement. The WVDEP project manager will be the WVDEP designated representative at the <u>Site</u> ~~site~~. To the maximum extent possible, communications between the applicant and WVDEP and all documents (including reports, approvals, and other correspondence) concerning the activities performed pursuant to the terms and conditions of this Agreement shall be directed through the project managers. During the implementation of this Agreement, the project managers shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Each party has the right to change its respective project manager or licensed remediation specialist and shall notify the other party of such change within seventy-two (72) hours.

35. The absence of the applicant's or WVDEP's project manager or licensed remediation specialist from the <u>Site</u> ~~site~~ shall not be cause for the stoppage of work. The applicant's project manager or <u>licensed remediation specialist or</u> his supervisor or licensed remediation specialists shall reasonably be available by telephone while work is being performed. The applicant shall

designate a person to be in charge who will be available on-site when field work is being performed.

XIII. QUALITY ASSURANCE

36. The applicant shall use quality assurance, quality control, and chain of custody procedures in accordance with the Quality Assurance Project Plan approved for use by WVDEP throughout any work plan sample collection and analysis activities under this Agreement, unless WVDEP agrees otherwise.

37. Applicant shall provide the WVDEP project manager with reasonable advance notice of all sampling and analysis as detailed in the work plan. To provide quality assurance and maintain quality control, the applicant shall:

a) Use laboratories certified by WVDEP;

b) Ensure that all sampling and analyses are performed according to US EPA methods, the approved Quality Assurance Project Plan, or other methods deemed satisfactory by WVDEP; and

c) Ensure that any laboratories used by the applicant for analyses participate in a documented Quality Assurance/Quality Control program that complies with US EPA guidance documents. As part of such a program, and upon request by WVDEP, such laboratories shall perform analyses of samples provided by WVDEP to demonstrate the quality of analytical data for each such laboratory.

[OPTIONAL LANGUAGE - If applicable]

The applicant may use a mobile laboratory (if it is certified by WVDEP) with the advance written approval of the WVDEP Project Manager.

38. In the event any laboratory fails to perform the activities required above, WVDEP reserves the right to reject any data not gathered pursuant to the requirements listed above, and to require that the applicant utilize a different laboratory.

XIV. SAMPLING AND DATA/DOCUMENT AVAILABILITY

39. The applicant shall, upon request, make the results of all sampling, including raw data and/or tests or other data generated by the applicant, or on the applicant's behalf, available to WVDEP. WVDEP shall make available to the applicant the quality-assured results of sampling and/or tests or other data similarly generated by WVDEP.

40. At the request of WVDEP, the applicant shall permit an authorized representative of

WVDEP to take samples of wastes, soils, air surface water and groundwater at the Site ~~site~~. For each sample taken, the authorized representative shall provide the applicant a receipt describing the sample obtained and, if requested, a portion of each sample equal in weight or volume to the portion retained.

XV. ACCESS

41. To the extent that the Site ~~site~~ or other areas where work is performed hereunder is presently owned or controlled by parties other than those bound by this Agreement, the applicant shall obtain, or use its best efforts to obtain, access agreements from the present owners. Best efforts shall include, at a minimum, a certified letter from the applicant to the present owner of such property requesting access agreements to permit the applicant or any authorized representative of the WVDEP access to such property. Such agreement shall provide access for authorized representatives of the WVDEP as specified below. In the event such access agreements are not obtained, the applicant shall so notify the WVDEP, which may then, at its discretion, assist the applicant in gaining access.

42. Upon presentation of proper credentials, authorized representatives of the WVDEP shall be provided access by the applicant to the Site ~~site~~ and other areas where work is to be performed under this Agreement at all reasonable times. Such access shall be related solely to the work being performed on the Site ~~site~~ and shall include, but not be limited to: inspecting records, operating logs and contracts related to the Site ~~site~~; reviewing the progress of the applicant in carrying out the terms of this Agreement; conducting such tests, inspections and sampling as WVDEP may deem necessary consistent with ~~paragraphs XII and XIII of~~ this Agreement. The applicant shall permit WVDEP's authorized representatives to inspect and copy all records, files, photographs, documents and other writings, including all sampling and monitoring data, which pertain to this Agreement over which the applicant exercises control. All persons with access to the Site ~~site~~ pursuant to this Agreement shall comply with any applicable the health and safety plans.

43. Nothing herein shall be construed as restricting the inspection or access authority of WVDEP under any law or regulation.

XVI. RECORD PRESERVATION

44. The applicant agrees to preserve, during the pendency of this Agreement, and for a minimum of three years after its termination, all documents required by this Agreement and any other documents generated or used to prepare the documents required by this Agreement. Upon request by WVDEP, the applicant shall make available to WVDEP such records, or copies of any such records.

45. The applicant ~~Applicant~~ may assert a confidentiality claim for any information submitted pursuant to this Agreement on the grounds that such information, or parts thereof, if made public would divulge methods, processes, or activities entitled to protection as trade

secrets. If no such confidentiality claim accompanies the information when it is submitted to the WVDEP, it may be made available to the public by WVDEP without further notice to the applicant. The applicant ~~Applicant~~ agrees not to assert any confidentiality claim with regard to any physical or analytical data regarding environmental conditions at the Site ~~site~~.

XVII. DISPUTE RESOLUTION

46. The parties shall use their best efforts to, in good faith, resolve all disputes or differences of opinion informally. The period of informal resolution shall not exceed thirty (30) days from the time that either party commences informal resolution, unless the parties agree otherwise in writing. If, however, the parties are unable to resolve the dispute informally, ~~disputes arise concerning this Agreement which the parties are unable to resolve informally,~~ the applicant may present written notices of such dispute to WVDEP and set forth specific points of dispute and the position of the applicant. This written notice shall be submitted no later than 10 ~~5~~ calendar days after the expiration of the informal dispute resolution period. ~~applicant discovers the project managers are unable to resolve the dispute.~~ The applicant's project manager will notify the WVDEP project manager immediately by phone or other appropriate methods of communication, prior to written notice, when she/he believes that the parties are unable to resolve a dispute. If either party requests, within 14 days receipt of written notice of the dispute by WVDEP, ~~If both parties agree,~~ disputes will ~~may~~ be submitted to a mutually-approved ~~an~~ impartial third party for non-binding mediation.

47. After the parties have attempted in good faith to resolve disputes pursuant to the terms of Paragraph 45, any ~~Any~~ unresolved disputes arising out of or relating to this agreement ~~contract~~, or the breach thereof, shall be settled by binding arbitration and judgment on the arbitrator's decision may be entered in any court having jurisdiction. The applicant shall notify WVDEP in writing of any unresolved disputes which they believe require ~~it believes requires~~ arbitration. Within 5 days, the parties shall agree to an arbitrator. If the parties fail to agree to an arbitrator, the arbitration shall be administered by the American Arbitration Association. In selecting a mediator or arbitrator, the parties shall attempt to select persons with experience in environmental matters, including but not limited to a licensed remediation specialist ~~specialists~~.

48. The applicant shall make a written submission in support of its position to the agreed arbitrator within 10 days of the arbitrator's selection, and the other party may make a written response in support of its position within 7 days thereafter. Upon notice to the parties, the arbitrator may request additional information or make specific inquiry of either party. Within 30 days of the ~~initial~~ written response ~~submission~~ under this paragraph, the arbitrator shall render a decision on the dispute and notify each of the parties of the decision. The applicant agrees to pay for the services of any mediator and arbitrator used by the parties in attempting to resolve disputes arising out of or relating to this agreement. Each party shall pay its own legal fees in conducting mediation or arbitration.

49. Until the dispute is resolved, any actions concerning that element of work in dispute shall be halted. The resolution of the dispute shall be incorporated into the work plan and made an enforceable part thereof. The time schedule for the work in dispute shall be extended by the

amount of time needed for resolution. Elements of work and/or obligations not affected by the dispute shall be completed in accordance with the schedule contained in the work plan.

50. Elements of work and any actions required as a result of such dispute resolution shall immediately be incorporated, if necessary, into the appropriate plan or procedure, and into this Agreement. The applicant shall proceed with all remaining work according to the modified plan or procedure.

XVIII. FORCE MAJEURE

51. The applicant shall cause all work or required reporting to be performed within the time limits set forth herein, unless performance is delayed by events which constitute a force majeure. "Force Majeure" shall mean conditions or circumstances beyond the reasonable control of applicant which could not have been overcome by due diligence and shall include, without limitation, acts of God, action or inaction of other governmental agencies, or administrative or judicial tribunals or other third parties, or strikes or labor disputes (provided, however, applicant shall not be required to concede to any labor demands), which prevent or delay applicant from complying with the work plan.

52. The applicant shall notify WVDEP by telephone within three (3) working ~~by calling with 3 calendar~~ days and by writing no later than seven (7) working ~~7 calendar~~ days after any event, which the applicant contends is a Force Majeure ~~force majeure~~. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken or to be taken by the applicant to minimize the delay, and the timetable by which these measures will be implemented. The applicant shall have the burden of demonstrating that the event is a Force Majeure ~~force majeure~~. The decision of whether an event is a Force Majeure ~~force majeure~~ shall be made by the Secretary ~~secretary~~, or the Secretary's ~~secretary's~~ designate. The decision shall be immediately communicated to the applicant.

53. If a delay is attributable to a Force Majeure ~~force majeure~~, the time period for performance under this Agreement shall be extended, in writing, by the amount of time that is attributable to the event constituting the Force Majeure ~~force majeure~~.

XIX. RESERVATION OF RIGHTS

54. WVDEP and applicant reserve all rights and defenses they may have pursuant to any available authority unless expressly waived herein.

55. Nothing herein is intended to release, discharge, or in any way affect any claims, causes of actions or demands in law or equity which the parties may have against any person, firm, partnership or corporation, not a party to this Agreement for any liability it may have arising out of or relating in any way to, the generation, storage, treatment, handling, transportation, release or disposal of any materials, hazardous substances, hazardous waste, contaminants, or pollutants at, to, or from the Site ~~site~~. The parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not parties to this Agreement, and as to each other for matters not covered hereby.

56. The applicant reserves the right to seek contribution, indemnity, or any other available remedy against any persons ~~person~~ found to be responsible or liable for contributions, indemnity, or otherwise for any amounts which have been or will be expended by the applicant in connection with the Site ~~site~~.

57. The WVDEP reserves the right to bring an action, including an administrative action, against the applicant for any violation ~~violations~~ of statutes or regulations except for the specific violations or releases that are being remediated in the work plan.

58. The WVDEP reserves the right to withdraw its approval of the work plan at any time during the implementation of the work plan if:

a) WVDEP determines that the applicant has failed to substantially comply with the terms and conditions of this Agreement or the work plan;

b) The applicant declines to implement the work plan after being notified of its approval by the WVDEP; or

c) WVDEP determines that a hazardous substance or petroleum has become an imminent or substantial threat to human health or the environment.

Upon WVDEP's withdrawal of its approval, this Agreement shall be terminated and WVDEP reserves the right to bring any action to enforce any statute or regulation under Chapter 22 of the West Virginia Code, including an action regarding the violations or releases that were the subject of this Agreement.

59. The WVDEP acknowledges that, pursuant to W. Va. Code §22-22-18, applicant, upon receipt of the Certificate of Completion, is not liable for claims for contribution concerning matters addressed in the Voluntary Remediation Agreement or any related work plan ~~Work Plan~~.

XX. ADMINISTRATIVE COSTS

60. Applicant agrees to reimburse WVDEP for all of its reasonable administrative costs associated with implementation of this Agreement at the rate of 2.5 times the hourly rate of the primary employee assigned to the site plus the actual and direct expenses of such employee. Within 60 calendar days of the approval of the work plan, WVDEP shall send the applicant an itemized list of estimated in-house costs that WVDEP expects to incur under this Agreement. The applicant agrees that a reasonable estimate of WVDEP contractor costs will be provided as described in the following paragraph. Itemization will be in standard WVDEP format~~, an example of which is attached~~. The estimated costs may include the preparation of the itemized list of administrative costs. Upon request, the applicant shall have the right to examine any documentation in WVDEP's possession used to develop the itemized list of costs. Requests for such documentation shall be made in writing and must be received by WVDEP within two (2)

weeks from the date the applicant receives the estimate of costs.

61. WVDEP agrees to allow the applicant to review and comment on the scope of work and associated cost estimates for outside contractors prior to WVDEP's authorization of the said contractor to proceed with the associated work. WVDEP will strive where possible to use cost effective and qualified outside contractor(s). "Outside contractors" are defined as individuals, partnerships or corporations paid by WVDEP to assist in the oversight of the activities under this agreement (e.g., risk assessment), but shall not include WVDEP employees. Cost estimates and invoices from outside contractors shall be submitted to the applicant within two (2) weeks from the date the WVDEP receives the cost estimate or invoice. The applicant shall raise any and all objections regarding cost estimates or invoiced work to the WVDEP within two (2) weeks from the date the applicant receives the forwarded estimates/invoice(s) from the WVDEP or within two (2) weeks of the receipt by the applicant of any back-up documentation of the said cost estimates/invoices which is contained in WVDEP files and requested by the applicant, whichever shall last occur. Notwithstanding any other provision of this Agreement, the process for the review of and objection to any cost estimates pursuant to this paragraph may extend the period otherwise provided in this Agreement for the WVDEP review of the submitted work plan or report by no more than an additional 30 days.

62. Applicant shall pay these costs in accordance with the following provisions. The $______ application fee ~~Applicant shall pay these costs on the following schedule. Applicant shall pay to WVDEP $________, within 30 days of the effective date of this Agreement. Said amount~~ shall be credited against the first accounting. WVDEP shall periodically send an accounting of contractor, subcontractor and laboratory costs to applicant. Said accounting shall itemize all costs incurred by WVDEP for the previous calendar quarter. Applicant shall pay said amount within _____ days of receipt of the accounting. WVDEP shall also periodically send an accounting of WVDEP's primary employee time charged to this site to applicant. Applicant shall pay said amount within ____ days of receipt of the accounting.

63. Checks should be made payable to the Voluntary Remediation Fund and mailed along with a transmittal letter stating the site name and address to the West Virginia Department of Environmental Protection: Attention: Director, Division of Land Restoration, Charleston, West Virginia. In addition, a copy of the check and transmittal letter should be mailed to the WVDEP project manager.

XXI. NOTICE OF BANKRUPTCY

64. As soon as applicant has knowledge of its intention to file bankruptcy or no later than 7 days prior to the actual filing of a voluntary or involuntary bankruptcy petition, applicant shall notify WVDEP of its intention to file a bankruptcy petition.

XII. INDEMNIFICATION

65. The applicant agrees to indemnify and save and hold the State of West Virginia, its agencies, departments, agents, and employees, harmless from and all claims or causes of action

arising from, or on account of, acts or omissions of the applicant, its officers, employees, receivers, trustees, agents, or assigns, in carrying out the activities pursuant to this Agreement.

XXIII. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

66. The effective date of this Agreement shall be the date on which the applicant receives the notice that this Agreement has been signed by the Secretary ~~secretary~~ of WVDEP.

67. This Agreement may be amended by mutual agreement of WVDEP and the applicant. Amendments shall be in writing and shall be effective when the applicant receives notice that the amendment has been signed by the Secretary ~~secretary~~ of WVDEP.

68. If the Secretary ~~secretary~~ determines that there is an imminent threat to the public, he or she may unilaterally modify or amend this Agreement.

XXIV. EXTENSIONS OF TIME PERIODS

69. Any written response shall be deemed timely performed if hand delivered or postmarked by the last day of any time period prescribed herein. Whenever a party has the right or is required to do some act or make some response within a prescribed period after the service of a notice or other paper on him and the notice or paper is served upon him by United States mail, three (3) ~~3~~ days shall be added to the prescribed period.

70. Whenever any party is called upon to respond or otherwise act in a certain number of days, and if the final day occurs on a Saturday, Sunday or legal holiday (whether state or national), such time limitation shall automatically extend to the next business day after such Saturday, Sunday, or holiday.

71. Any time periods specified in this Agreement may be extended only by agreement of the parties.

XXV. TERMINATION AND SATISFACTION

72. Upon completion of the final report prepared by the LRS ~~licensed remediation specialist~~, the applicant may seek a Certificate of Completion from the Secretary ~~secretary~~. Upon receipt of a request for a Certificate of Completion, the Secretary ~~secretary~~ shall determine that the site meets applicable standards for those areas of the site and for those contaminants identified in the voluntary remediation agreement and that the applicant has complied with the voluntary remediation agreement and any approved work plans for the site. Upon making this determination, the Secretary ~~secretary~~ shall issue a Certificate of Completion which conforms substantially to Appendix 60-3C of the rules. Where a land use covenant is required by this Agreement, such Certificate of Completion shall not become effective until it is properly filed with the Clerk of the County Commission of the county in which the property is located.

If the Secretary ~~secretary~~ determines that the certificate should not be issued because work required by this Agreement and any approved work plans has not been completed or because the site does not meet applicable standards, the Secretary ~~secretary~~ shall initiate the procedures relating to denial of a certificate as provided in the rules.

73. The provisions of this Agreement shall be satisfied and this Agreement shall terminate when the Secretary ~~secretary~~ issues the Certificate of Completion.

74. Nothing in this Agreement shall restrict the State of West Virginia from seeking other appropriate relief to protect human health or the environment from pollution or contamination at or from this Site ~~site~~ not remediated in accordance with this Agreement.

75. ~~The~~ Applicant ~~applicant~~ may, in its sole discretion, terminate this Agreement by providing to the Secretary fifteen (15) ~~giving 15~~ days advance written notice of termination. Only those costs incurred or obligated by the Secretary ~~secretary~~ before the notice of termination is received are recoverable if the Agreement is terminated. If the applicant terminates this Agreement, then the applicant shall pay WVDEP's costs associated with the voluntary remediation within 31 days after receiving notice that the costs are due and owing.

XXVI. [IF APPLICABLE] LAND USE COVENANTS

76. [Insert provisions describing restrictions on future use of property and attach copy of land use covenant that is to be recorded for the site].

XXVII. REOPENER

77. Upon agreement of the parties or upon occurrence of one or more ~~of the~~ conditions of W. Va. Code §22-22-15, this Agreement may be reopened in accordance with W. Va. Code §22-22-15 and the rules implementing that section.

XXVIII. PRECEDENCE OF AGREEMENT

78. In the event that conflict arises among the terms and conditions of this Agreement, the State of Work, or the approved work plan, this Agreement shall govern and the terms and conditions hereunder shall determine the parties' rights and responsibilities.

XXIX. GOVERNING LAW

79. This Agreement will be governed by the laws of the State of West Virginia.

______________________________ (Applicant)

Printed Name:______________________

Title: ______________________

Date: ______________________________

WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

By: ________________________________

Title: ________________________________

Date: ________________________________

[Include if applicant is not owner of the site and Agreement calls for a land use covenant:

______________________________, as owner of the site referenced in the above Agreement hereby acknowledges that said Agreement requires the imposition of a land use covenant and, in consideration of the benefits accruing to the site from said Agreement, I hereby agree to the imposition of such land use covenant and agree to cooperate in the execution and filing of such land use covenant.

______________________________ ________________
Owner Date

APPENDIX <u>60-3C</u> ~~60-4C~~

STATE OF WEST VIRGINIA
VOLUNTARY REMEDIATION PROGRAM
CERTIFICATE OF COMPLETION AND COVENANT

[Applicant] entered into a Voluntary Remediation Agreement with the <u>Secretary</u> ~~secretary~~ of the Department of Environmental Protection, dated _________ ("Agreement"). The Agreement was entered into to address the release of any contaminants at __________("Site") located at _________________, in __________________ District, ______________ County, West Virginia. The following documents are incorporated as a part of this Certificate and Covenant:

- The application dated _______________________ and the site assessment submitted with the application
- The Agreement dated ________________________
- A map depicting the site (See Exhibit A)
- A list of the contaminants for which the remediation standards specified in the Agreement have been met (See Exhibit B)
- The final report submitted for the site dated _______________________, issued by a licensed remediation specialist.
- [If applicable] A description of any institutional or engineering controls that were used to achieve a remediation standard (See Exhibit C)
- [If applicable] The land use covenant that is to be recorded for this site (See Exhibit D).

This Certificate of Completion is issued pursuant to W.Va. Code §22-22-13 to [Applicant] in recognition of the completion of the work required under the Agreement.

Pursuant to W. Va. Code §22-22-7(f), 22-22-13, 22-22-14, and 22-22-18, the Secretary ~~secretary~~ of the West Virginia Department of Environmental Protection (hereinafter, "WVDEP"), in the name of and ~~in the name of and~~ on behalf of the State of West Virginia, now covenants not to bring any civil, criminal or administrative action or claim, resulting from or based upon the release or threatened release of contaminants that were the subject of the Voluntary Remediation Agreement. This covenant shall bar actions against [applicant], [applicant]=s successors and assigns, and those persons identified in W. Va. Code §22-22-18, from all public and private claims arising under Chapter 22 of the West Virginia Code or rules adopted thereunder in connection with the release or threatened release that was the subject of the Voluntary Remediation Agreement. This covenant shall not apply to [applicant]'s predecessors in title.

CONDITIONS

This Certificate and the covenant it contains are subject to the terms and conditions set forth below: 1. The following conditions, contained in W.Va. Code §22-22-15, which may cause the Voluntary Remediation Agreement to be reopened:

a) fraud was committed in demonstrating attainment of a standard at the site that resulted in avoiding the need for further remediation of the site;

b) new information confirms the existence of an area of previously unknown contamination which contains contaminants that have been shown to exceed the standards applied to the previous remediation at the site;

c) the level of risk is increased significantly beyond the established level of protection at the site due to substantial changes in exposure conditions, such as, a change in land use, or new information is obtained about a contaminant associated with the site which revises exposure assumptions beyond the acceptable range. This condition applies only where the level of risk is increased by a factor of at least five or the hazard index exceeds 1, or 10 where multiple systemic toxicants do not affect the same organ;

d) the release occurred after the effective date of this Article on a site not used for industrial activity prior to the effective date of this Article; the remedy relied, in whole or in part, upon institutional or engineering controls instead of treatment or removal of contamination; and treatment, removal or destruction has become technically and economically practicable; or

e) the remediation method failed to meet the remediation standard or combination of standards.

For purposes of this paragraph, "new information" means any information obtained directly or indirectly by the department from any person after issuance of a Certificate of Completion, but does not include information the department ~~division~~ has received in the application for participation in the voluntary remediation program, including any site assessment, [optional: during the execution of the voluntary remediation agreement or any work plan developed under such an agreement] or other information available to the department under the voluntary remediation program prior to the execution of the Certificate of Completion. Information that does not qualify as new information may be considered by the Secretary ~~secretary~~ along with new information if necessary, to determine whether any of the conditions for reopening set out in section 16 of this rule, have occurred.

Where one of the foregoing conditions is found to exist for a portion but not all of the site, this certificate and covenant shall continue to apply to all portions of the site that were unaffected by the occurrence of that condition.

2. To the extent that the Agreement or any of the documents referenced in this certificate impose obligations that continue after the execution of this certificate, there shall be continued compliance with such obligations.

3. This certificate and covenant do not preclude the State of West Virginia from taking any unilateral action at the site, under any existing or future statutory authority, to protect human health and the environment; provided however, in no event shall the State have a right of recovery against [applicant] or any other person to whom the covenant herein applies to the extent that such right of recovery arises under Chapter 22 of the West Virginia Code, and relates to matters covered by the Agreement.

4. This certificate and covenant do not preclude the State from seeking recovery of such sums as the [applicant] has agreed to pay the WVDEP under the Agreement.

WHEREFORE, the <u>Secretary</u> ~~secretary~~ of the Department of Environmental Protection, on behalf of the State of West Virginia, issues this certificate and covenant, with all aforementioned privileges, responsibilities, conditions and reservations, this date of ____________________, to [applicant].

Secretary, Department of Environmental Protection

APPENDIX 60-3D

LAND USE COVENANT

This is an environmental covenant executed pursuant to the Voluntary Remediation and Redevelopment Act, West Virginia Code Chapter 22, Article22, and the Uniform Environmental Covenants Act, West Virginia Code Chapter 22, Article 22B, to restrict the activities on, and uses of, the following described property:

[Insert legally sufficient description of the real property subject to the covenant. If the description is longer than one page, it may be included as an attachment.]

Activities on and uses of the above describe property that may result in excessive human exposure or in the release of a contaminant that was contained as part of the remedial action related to this covenant are prohibited. Those activities and uses include, but are not limited to:

[Insert list of prohibited activities]

The current owners of record of the property, and their contact information, are:

[Insert identity and address of all owners of record]

Any person, including a person that owns an interest in the real property, the state or federal agency determining or approving the environmental response project pursuant to which an environmental covenant is created, or a municipality or other unit of local government may be a holder of an environmental covenant. The following are all of the holders of this covenant:

[Insert identity and address of all holders]

The facts regarding the remediation response project at this property are: *[Provide a brief narrative description of the contamination and remedy, including the contaminants of concern, the pathways of exposure, limits on exposure and the location and extent of the contamination and state whether residential or non-residential exposure assumptions were used to comply with a site-specific remediation standard.]*

The owner(s) of the property shall provide written notice to the Secretary of the Department of Environmental Protection within 10 days following transfer of a specified interest in the property subject to this covenant, changes in use of the property, application for building permits regarding the property, or proposals for any site work affecting the contamination on the property.

This covenant relieves the applicant and subsequent successors and assigns from all civil liability to the state as provided under West Virginia Code Article 22 of Chapter 22 and shall remain in effect so long as the property complies with the applicable standards in effect at the time this covenant was issued.

The administrative record for the environmental response project reflected in this covenant is maintained in the *[insert the name and address of the appropriate agency office]* and is entitled *[insert title of administrative record]*.

The West Virginia Department of Environmental Protection is granted full right of access to the property for the purpose of implementation or enforcement of this covenant.

All restrictions and other requirements described in this covenant shall run with the land and shall be binding upon all holders and their grantees, lessees, authorized agents, employees or persons acting under their direction or control.

IN WITNESS WHEREOF, the following holders have executed this covenant on the dates indicated.

SIGNED: ______________________________ Date:

____

I, ______________________________, a Notary Public in and for the County of ______________, State of ______________________________, do hereby certify that the holder(s) whose (name is) (names are) signed above, this day executed this document in my presence or this day acknowledged same to be the true act and deed of said holder(s).

Given under my hand this the _____ day of ______________, 20____.

Notary Public

[The document must contain the notarized signature(s) of the agency, every holder and, unless waived by the agency, every owner of the fee simple of the real property subject to the covenant.]
[Repeat the Signature and Notary materials as many times as needed. If several holders sign before the same Notary, their signatures may be listed together and only one Notarization, referring to all such holders, will be needed for those signatures.]
[This covenant, and any amendment or termination of this covenant, must be recorded in every county in which any portion of the real property subject to the covenant is located. For purposes of indexing, a holder shall be treated as a grantee.]

~~APPENDIX 60-3D~~

~~LAND USE COVENANT~~

~~[To be used where applicant is not the owner of the property covered by the Voluntary Remediation Agreement]~~

~~[Applicant] has entered into a Voluntary Remediation Agreement (hereinafter referred to as "the Agreement") with the Department of Environmental Protection for the State of West Virginia pursuant to the Voluntary Remediation and Redevelopment Act, W.Va. Code §22-22-1 through 22-22-21 (hereinafter referred to as "the Act"), for certain property, located at [address of facility] in ____________ District, __________ County, West Virginia and more particularly described in a deed of record, Deed Book _____ Page _____, in the office of the Clerk of the County Commission of ___________ County, West Virginia. In the Agreement, the current owner of this property, [insert name], hereinafter referred to as "Owner", has agreed to the imposition of the restrictions on this property, as required by the Agreement. The Agreement allows certain levels of contamination to remain on the property and requires a land use covenant be recorded in the office of the Clerk of the ________ County Commission for the purposes of protecting public health and the environment and to prevent interference with the performance, operation and maintenance of any remedial actions required by the Agreement.~~

~~**NOW THEREFORE,** the following restrictions shall apply to this property:~~

~~1. The Owner shall prohibit all activities on the property which may interfere with the remedial action required by the Agreement.~~

~~2. The Owner shall prohibit all activities that may result in human exposures above those specified by the Agreement or that would result in the release of a contaminant that was contained as part of the remedial action. These activities include, but are not limited to:~~

~~[Insert list of prohibited activities]~~

~~3. The Owner shall restrict the uses of the property to:~~

~~[Description of how property will be used, consistent with the uses described in the Agreement]~~

~~4. The Owner shall provide written notice to the~~ <u>Secretary</u> ~~secretary of the Department of Environmental Protection of the intent to transfer any interest in the property.~~

~~5. The Owner shall not convey any title, easement, or other interest in the property without adequate and complete provision for the continued implementation, operation and maintenance of any remedial action that has been implemented on the property pursuant to the Agreement and without assuring prevention of the releases and exposures described in the provisions of paragraph 2, above.~~

~~6. The Owner shall grant the West Virginia Department of Environmental Protection and its designated representatives the right to enter the property at reasonable times for the purpose of monitoring compliance with the Agreement, and the Certificate of Completion, including the right to take samples, inspect the operation to evaluate the effectiveness of remedial activities, and inspect records all as provided in the Agreement.~~

~~7. The Department of Environmental Protection may enforce the restrictions set forth in this Land Use Covenant by legal action in a court of appropriate jurisdiction.~~

~~8. In accordance with the provisions of the Act regarding land use covenants, W. Va. Code §22-22-15, and in addition to any rights or duties contained in the Certificate of Completion, this Land Use Covenant relieves the applicant, its successors and assigns, the Owner and any subsequent successors and assigns of the Owner, and any person identified in W. Va. Code §22-22-18 from all civil liability to the state as provided under the Act so long as the property complies with the applicable standards identified in the Agreement.~~

~~9. The restrictions and other requirements described in this Land Use Covenant shall run with the land and shall be binding upon any future owners, successors or assigns and their authorized agents, employees or persons acting under their direction or control. Subject to subsequent written modification or release signed by the~~ Secretary ~~secretary and the owner at the time of such modification or release, and filed in the office of the Clerk of the County Commission of the county where these covenants have been recorded, this Land Use Covenant shall continue in perpetuity.~~

~~10. If any provision of this Land Use Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof. All such other provisions shall continue unimpaired and in full force and effect.~~

~~11. This Land Use Covenant shall not be amended, modified or terminated except by written instrument executed by and between the Owner at the time of the proposed amendment,~~

~~modification or termination, and the~~ Secretary ~~secretary of the West Virginia Department of Environmental Protection, or his successor in accordance with regulations promulgated by the~~ Secretary ~~secretary or his successor. Within 5 days of executing an amendment, modification or termination of this Land Use Covenant, the Owner shall record such amendment, modification or termination with the Clerk of the [County] Commission, and within 5 days thereafter, the Owner shall provide a true copy of the recorded amendment, modification or termination to the~~ Secretary ~~secretary of the Department of Environmental Protection.~~

~~[Optional] The undersigned persons executing this Land Use Covenant on behalf of the Owner represent and certify that they are duly authorized and have been fully empowered to execute and deliver this Land Use Covenant.~~

~~IN WITNESS WHEREOF, the said Owner of the above-described property and the~~ Secretary ~~secretary of the Department of Environmental Protection have caused this Land Use Covenant to be executed this ________ day of ______________________, 20____.~~

~~SIGNED: ______________________________~~

____

~~Property Owner~~ ~~Secretary~~

~~Department of Environmental Protection~~

~~I, _________________________, a Notary Public in and for the State and County aforesaid, do hereby certify that ______________________, whose name is signed to the writing above, bearing date the ______ day of _________________, 20___, has this day acknowledged same to be his true act and deed.~~

~~Given under my hand this the ______ day of ______________, 20~~

~~My commission expires ______________________~~

____

____ ~~Notary Public~~

______

~~I, ______________________, a Notary Public in and for the State and County aforesaid, do hereby certify that ______________, whose name is signed to the writing above, bearing date the ______ day of ______________, 20___, has this day acknowledged same to be his true act and deed.~~

~~Given under my hand this the ______ day of ______________, 20~~

~~My commission expires~~

____

____ ~~Notary Public~~

~~[Include instructions to the Clerk directing that the recorded document be returned to the Secretary secretary of the DEP.]~~

~~APPENDIX 60-3E~~

~~LAND USE COVENANT~~

~~[To be used where applicant is the owner of the property covered by the Voluntary Remediation Agreement].~~

~~[Applicant] has entered into a Voluntary Remediation Agreement (hereinafter referred to as "the Agreement") with the Department of Environmental Protection for the State of West Virginia pursuant to the Voluntary Remediation and Redevelopment Act, W.Va. Code §22-22-1 through 22-22-2 (hereinafter referred to as "the Act"), for certain property, located at [address of facility] in ________________ District, ____________________ County, West Virginia and more particularly described in a deed of record, Deed Book ______ Page _____, in the office of the Clerk of the County Commission of _____________________ County, West Virginia.~~

~~Paragraph _______ of the Agreement requires [applicant], as the owner of said property, to file a Land Use Covenant with the Clerk of the [County] Commission. The Agreement allows certain levels of contamination to remain on the property and requires a land use covenant be recorded in the office of the Clerk of the ________________________ County Commission for the purposes of protecting public health and the environment and to prevent interference with the performance, operation and maintenance of any remedial actions required by the Agreement.~~

~~**NOW THEREFORE**, as [applicant], hereinafter referred to as AOwner, and the Secretary secretary have provided in the Agreement, the following restrictions shall apply to this property:~~

~~1. The Owner shall prohibit all activities on the property which may interfere with the remedial action required by the Agreement.~~

~~2. The Owner shall prohibit all activities that may result in human exposures above those specified by the Agreement or that would result in the release of a contaminant that was contained as part of the remedial action. These activities include, but are not limited to:~~

~~[Insert list of prohibited activities]~~

~~3. The Owner shall restrict the uses of the property to:~~

~~[Description of how property will be used, consistent with the uses described in the Agreement]~~

~~4. The Owner shall provide written notice to the Secretary secretary of the Department of Environmental Protection of the intent to transfer any interest in the property.~~

~~5. The Owner shall not convey any title, easement, or other interest in the property without adequate and complete provision for the continued implementation, operation and maintenance of any remedial action that has been implemented on the property pursuant to the Agreement and without assuring prevention of the releases and exposures described in the provisions of paragraph 2, above.~~

~~6. The Owner shall grant the West Virginia Department of Environmental Protection and its~~

~~designated representatives the right to enter the property at reasonable times for the purpose of monitoring compliance with the Agreement, and the Certificate of Completion, including the right to take samples, inspect the operation to evaluate the effectiveness of remedial activities, and inspect records all as provided in the Agreement.~~

~~7. The Department of Environmental Protection may enforce the restrictions set forth in this Land Use Covenant by legal action in a court of appropriate jurisdiction.~~

~~8. In accordance with the provisions of the Act regarding land use covenants, W. Va. Code §22-22-15 and in addition to any rights or duties contained in the Certificate of Completion, this Land Use Covenant relieves the Owner and any subsequent successors and assigns of the Owner any person identified in W. Va. Code §22-22-18 from all civil liability to the state as provided under the Act so long as the property complies with the applicable standards identified in the Agreement.~~

~~9. The restrictions and other requirements described in this Land Use Covenant shall run with the land and shall be binding upon any future owners, successors or assigns and their authorized agents, employees or persons acting under their direction or control. Subject to subsequent written modification or release signed by the~~ Secretary ~~secretary and the owner at the time of such modification or release, and filed in the office of the Clerk of the County Commission of the county where these covenants have been recorded, this Land Use Covenant shall continue in perpetuity.~~

~~10. If any provision of this Land Use Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof. All such other provisions shall continue unimpaired and in full force and effect.~~

~~11. This Land Use Covenant shall not be amended, modified or terminated except by written instrument executed by and between the Owner at the time of the proposed amendment, modification or termination, and the Secretary secretary of the West Virginia Department of Environmental Protection, or his successor in accordance with regulations promulgated by the Secretary secretary or his successor. Within 5 days of executing an amendment, modification or termination of this Land Use Covenant, the Owner shall record such amendment, modification or termination with the Clerk of the [County] Commission, and within 5 days thereafter, the Owner shall provide a true copy of the recorded amendment, modification or termination to the Secretary secretary of the Department of Environmental Protection.~~

~~[Optional] The undersigned persons executing this Land Use Covenant on behalf of the Owner represent and certify that they are duly authorized and have been fully empowered to execute and deliver this Land Use Covenant.~~

~~IN WITNESS WHEREOF, the said Owner of the above described property and the Secretary secretary of the Department of Environmental Protection have caused this Land Use Covenant to be executed this __________ day of ____________________, 20________.~~

~~SIGNED: ______________________________.~~

____

~~Property Owner ______________________________ Secretary~~

~~______________________________ Department of Environmental Protection~~

~~I, ________________________, a Notary Public in and for the State and County aforesaid, do hereby certify that ____________________, whose name is signed to the writing above, bearing date the ______ day of ________________, 20________, has this day acknowledged same to be his true act and deed.~~

~~Given under my hand this the _____ day of ______________, 20_____.~~

~~My commission expires~~

____

~~______________________________ Notary Public~~

~~I, ________________________, a Notary Public in and for the State and County aforesaid, do hereby certify that ________________, whose name is signed to the writing above, bearing date the ______ day of ________________, 20 _____, has this day acknowledged same to be his true act and deed.~~

~~Given under my hand this the _____ day of ______________, 20_____.~~

~~My commission expires~~

____

~~______________________________ Notary Public~~

~~[Include instructions to the Clerk directing that the recorded document be returned to the Secretary secretary of the DEP.]~~

TABLE 60-3A

LICENSED REMEDIATION SPECIALIST FEES

APPLICATION FEE -	**$300.00**
BIENNIAL RENEWAL FEE -	**$200.00**
EXAMINATION FEE -	**$250.00**

TABLE 60-3B

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.		Residential Soil [1,4] (mg/kg)				Industrial Soil [1,4] (mg/kg)				Ground Water [2,4] (ug/L)				Migration to Groundwater [3,4] (mg/kg)		
Acetaldehyde	~~75070~~	75-07-0	1.1E+01		c		1.6E+02		nc		1.7E+00		c		8.2E-03		~~c~~
Acetochlor	~~34256821~~	34256-82-1	1.2E+03		nc		1.8E+04		nc		7.3E+02		nc			8.1E+00	
Acetone	~~67641~~	67-64-1	~~1.6E+03~~	1.4E+04	nc		~~6.2E+03~~	5.6E+04	nc		~~6.1E+02~~	5.5E+03	nc		~~2.4E+00~~	2.2E+01	~~nc~~
Acetonitrile	~~75058~~	75-05-8	~~2.7E+02~~	6.2E+02	nc		~~1.7E+03~~	2.0E+03	nc		~~7.9E+01~~	1.2E+02	nc		~~3.7E-01~~	5.7E-01	~~nc~~
Acetophenone	~~98862~~	98-86-2	~~5.0E-01~~	4.1E+03	nc		~~1.6E+00~~	2.5E+04	nc		~~4.2E-02~~	6.1E+02	nc		~~2.2E-04~~	3.2E+00	~~nc~~
Acrolein	~~107028~~	107-02-8	1.0E-01		nc		3.4E-01	3.4E-01	nc		4.2E-02		nc		2.0E-04		~~nc~~
Acrylamide	~~79061~~	79-06-1	1.1E-01		c		~~5.4E+00~~	5.5E+00	c		1.5E-02		c		~~7.3E-05~~	7.4E-05	~~c~~
Acrylonitrile	~~107131~~	107-13-1	2.1E-01		c		5.2E+00		c		3.8E-02		c		1.5E-04		~~c~~
Alachlor	~~15972608~~	15972-60-8	6.0E+00		c		3.1E+02		c		2.0E+00		gws		1.7E-02		gws
Alar	~~1596845~~	1596-84-5	9.2E+03		nc		1.3E+05		nc		5.5E+03		nc			2.4E+01	
Aldicarb	~~116063~~	116-06-3	6.1E+01		nc		8.8E+02		nc		~~3.7E+01~~	3.0E+00	~~nc~~	gws	~~2.1E-01~~	1.7E-02	~~nc~~
Aldicarb sulfone	~~1646884~~	1646-88-4	6.1E+01		nc		8.8E+02		nc		~~3.7E+01~~	3.0E+00	~~nc~~	gws	~~1.5E-01~~	1.2E-02	~~nc~~
Aldrin	~~309002~~	309-00-2	2.9E-02		c		1.5E+00		c		3.9E-03		c		3.8E-01		~~c~~
Aluminum	~~7429905~~	7429-90-5	7.6E+04		nc		1.0E+06		max		3.7E+04		nc			1.1E+06	
4-Aminopyridine	~~504245~~	504-24-5	1.2E+00		nc		1.8E+01		nc		7.3E-01		nc			4.2E-03	
Aniline	~~62533~~	62-53-3	8.5E+01		c		4.3E+03		c		1.2E+01		c		1.4E-01		~~c~~
Antimony and compounds	~~7440360~~	7440-36-0	3.1E+01		nc		8.2E+02		nc		~~1.5E+01~~	6.0E+00	~~nc~~	gws	~~1.3E+01~~	5.4E+00	~~nc~~
Antimony trioxide	~~1309644~~	1309-64-4	3.1E+01		nc		8.2E+02		nc		1.5E+01		nc				
Arsenic	~~7440382~~	7440-38-2	3.9E-01		c		2.7E+01		c		~~5.0E+01~~	1.0E+01	gws		~~2.9E+01~~	5.8E-01	gws
Assure	~~76578126~~	76578-14-8	5.5E+02		nc		7.9E+03		nc		3.3E+02		nc			7.3E+01	
Atrazine	~~1912249~~	1912-24-9	2.2E+00		c		1.1E+02		c		3.0E+00		gws		8.6E-02		gws
Azobenzene	~~103333~~	103-33-3	~~4.4E+00~~	3.7E+00	c		~~2.2E+02~~	1.5E+02	c		~~6.0E-01~~	1.0E-01	c		~~3.5E-02~~	5.9E-03	~~c~~
Barium and compounds	~~7440393~~	7440-39-3	~~5.4E+03~~	1.5E+04	nc		~~1.3E+05~~	2.9E+05	nc		~~2.6E+03~~	2.0E+03	~~nc~~	gws	~~2.1E+03~~	1.6E+03	~~nc~~
Baygon	~~114261~~	114-26-1	2.4E+02		nc		3.5E+03		nc		1.5E+02		nc			8.4E-01	
Baythroid	~~68359375~~	68359-37-5	1.5E+03		nc		2.2E+04		nc		9.1E+02		nc			6.5E+03	
Bentazon	~~25057890~~	25057-89-0	1.8E+03		nc		2.6E+04		nc		1.1E+03		nc			6.0E+00	
Benzaldehyde	~~100527~~	100-52-7	~~6.1E+03~~	1.7E+03	~~nc~~	csat	~~8.8E+04~~	1.7E+03	~~nc~~	csat	~~3.7E+03~~	6.1E+02	nc			3.2E+00	
Benzene	~~71432~~	71-43-2	6.5E-01		c		1.5E+01		c		5.0E+00		gws		3.4E-02		gws
Benzidine	~~92875~~	92-87-5	2.1E-03		c		1.1E-01		c		2.9E-04		c			3.3E-05	
Benzoic acid	~~65850~~	65-85-0	2.4E+05		nc		1.0E+06		max		1.5E+05		nc		5.9E+02		~~nc~~
Benzyl alcohol	~~100516~~	100-51-6	~~1.8E+04~~	3.1E+04	nc		~~2.6E+05~~	4.4E+05	nc		~~1.1E+04~~	1.8E+04	nc		~~8.8E+01~~	1.5E+02	~~nc~~
Benzyl chloride	~~100447~~	100-44-7	8.8E-01		c		2.3E+01		c		6.5E-02		c		3.9E-04		~~c~~
Beryllium and compounds	~~7440417~~	7440-41-7	1.5E+02		nc		3.7E+03		nc		~~7.3E+01~~	4.0E+00	~~nc~~	gws	~~1.2E+03~~	6.3E+01	~~nc~~
1,1-Biphenyl	~~92524~~	92-52-4	3.0E+03		nc		3.0E+04		nc		3.0E+02		nc		9.6E+01		~~nc~~
Bis(2-chloroethyl)ether	~~111444~~	111-44-4	~~2.1E-01~~	2.0E-01	c		~~6.2E+00~~	6.0E+00	c		~~9.7E-03~~	8.0E+01	~~c~~	gws	~~6.8E-05~~	5.6E-01	~~c~~
Bis(2-chloroisopropyl)ether	~~108601~~	108-60-1	2.9E+00		c		8.1E+01		c		2.7E-01		c		1.7E-03		~~c~~
Bis(chloromethyl)ether	~~542881~~	542-88-1	1.9E-04		c		4.4E-03		c		5.1E-05		c		2.1E-07		~~c~~
Bis(2-ethylhexyl)phthalate (DEHP)	~~117817~~	117-81-7	3.5E+01		c		1.8E+03		c		6.0E+00		gws		3.6E+03		gws
Bromodichloromethane	~~75274~~	75-27-4	1.0E+00		c		2.4E+01		c		1.8E-01		c		1.4E-03		~~c~~
Bromoform (tribromomethane)	~~75252~~	75-25-2	6.2E+01		c		3.1E+03		c		~~8.4E+00~~	8.0E+01	~~c~~	gws	~~6.3E-02~~	6.0E-01	~~c~~
Bromomethane	~~74839~~	74-83-9	3.9E+00		nc		1.3E+01		nc		8.7E+00		nc		4.2E-02		~~nc~~
Bromophos	~~2104963~~	2104-96-3	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc			1.5E+01	
1,3-Butadiene	~~106990~~	106-99-0	~~3.5E-03~~	5.8E-02	c		~~7.6E-02~~	1.3E+00	c		~~6.1E-03~~	1.2E-01	c		~~1.3E-04~~	2.6E-03	~~c~~
1-Butanol	~~71363~~	71-36-3	6.1E+03		nc		8.8E+04		nc		3.7E+03		nc		1.6E+01		~~nc~~
Butylate	~~2008415~~	2008-41-5	3.1E+03		nc		4.4E+04		nc		1.8E+03		nc			5.2E+01	
n-Butylbenzene	~~104518~~	104-51-8	~~1.4E+02~~	8.2E+01	~~nc~~	csat	~~5.6E+02~~	8.2E+01	~~nc~~	csat	~~6.1E+01~~	2.4E+02	nc		~~7.2E+00~~	2.9E+01	~~nc~~

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.		Residential Soil [1,4] (mg/kg)				Industrial Soil [1,4] (mg/kg)				Ground Water [2,4] (ug/L)				Migration to Groundwater [3,4] (mg/kg)		
sec-Butylbenzene	~~135988~~	135-9-88	~~1.1E+02~~	7.9E+01	~~nc~~	csat	~~4.2E+02~~	7.9E+01	~~nc~~	csat	~~6.1E+01~~	2.4E+02	nc		~~5.6E+00~~	2.2E+01	~~nc~~
tert-Butylbenzene	~~98066~~	98-06-6	~~1.3E+02~~	1.4E+02	~~nc~~	csat	~~5.0E+02~~	1.4E+02	~~nc~~	csat	~~6.1E+01~~	2.4E+02	nc		~~5.5E+00~~	2.2E+01	~~nc~~
Butyl benzyl phthalate	~~85687~~	85-68-7	1.2E+04		nc		1.8E+05		nc		7.3E+03		nc		1.7E+04		~~nc~~
Cadmium and compounds	~~7440439~~	7440-43-9	3.7E+01		nc		8.1E+02		nc		~~1.8E+01~~	5.0E+00	~~nc~~	gws	~~2.7E+01~~	7.5E+00	~~nc~~
Caprolactam	~~105602~~	105-60-2	3.1E+04		nc		4.4E+05		nc		1.8E+04		nc			1.1E+02	
Carbaryl	~~63252~~	63-25-2	6.1E+03		nc		8.8E+04		nc		3.7E+03		nc		3.0E+01		~~nc~~
Carbazole	~~86748~~	86-74-8	2.4E+01		c		1.2E+03		c		3.3E+00		c		4.6E-01		~~c~~
Carbon disulfide	~~75150~~	75-15-0	3.6E+02		nc		1.2E+03	6.4E+02	~~nc~~	csat	1.0E+03		nc		8.3E+00		~~nc~~
Carbon tetrachloride	~~56235~~	56-23-5	2.4E-01		c		5.3E+00		c		5.0E+00		gws		6.1E-02		~~gws~~
Carbosulfan	~~55285148~~	55285-14-8	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			2.2E+02	
Chloranil	~~118752~~	118-75-2	1.2E+00		c		6.1E+01		c		1.6E-01		c			7.3E-04	
~~Chlordane~~ Chlordane (Technical)	~~12789036~~	12789-03-6	1.6E+00		c		1.1E+02		c		2.0E+00		gws		9.6E+00		~~gws~~
Chloroacetic acid	~~79118~~	79-11-8	1.2E+02		nc		1.8E+03		nc		~~7.3E+01~~	6.0E+01	~~nc~~	gws		2.4E-01	
4-Chloroaniline	~~106478~~	106-47-8	2.4E+02		nc		3.5E+03		nc		1.5E+02		nc		9.7E-01		~~nc~~
Chlorobenzene	~~108907~~	108-90-7	~~1.5E+02~~	1.3E+02	nc		~~5.4E+02~~	3.2E+02	~~nc~~	csat	~~1.1E+02~~	1.0E+02	~~nc~~	gws	~~1.4E+00~~	1.3E+00	~~nc~~
Chlorobenzilate	~~510156~~	510-15-6	1.8E+00		c		9.1E+01		c		2.5E-01		c		2.7E-02		~~c~~
p-Chlorobenzoic acid	~~74113~~	74-11-3	1.2E+04		nc		1.8E+05		nc		7.3E+03		nc			3.6E+01	
2-Chloro-1,3-butadiene	~~126998~~	126-99-8	3.6E+00		nc		1.2E+01		nc		1.4E+01		nc		1.2E-01		~~nc~~
1-Chlorobutane	~~109693~~	109-69-3	7.1E+02	4.2E+02	csat		~~2.4E+03~~	4.2E+02	~~nc~~	csat	2.4E+03		nc		2.0E+01		~~nc~~
Chloroethane	~~75003~~	75-00-3	3.0E+00		c		6.5E+01		c		3.8E+00		c		2.0E-02		~~c~~
Chloroform	~~67663~~	67-66-3	2.4E-01		c		~~1.3E+00~~	5.2E+00	~~nc~~	c	~~1.6E-01~~	8.0E+01	~~c~~	gws	~~1.0E-03~~	5.1E-01	~~c~~
Chloromethane	~~74873~~	74-87-3	~~1.2E+00~~	4.7E+01	~~c~~	nc	~~2.7E+01~~	1.6E+02	~~c~~	nc	~~1.5E+00~~	1.6E+02	~~c~~	nc	~~1.1E-02~~	1.1E+00	~~c~~
4-Chloro-2-methylaniline	~~95692~~	95-69-2	8.4E-01		c		4.3E+01		c		1.1E-01		c			1.0E-03	
beta-Chloronaphthalene	~~91587~~	91-58-7	3.9E+03		nc		2.7E+04		nc		4.9E+02		nc		3.2E+01		~~nc~~
o-Chloronitrobenzene	~~88733~~	88-73-3	~~8.1E+00~~	1.4E+00	~~c~~	nc	~~2.3E+02~~	4.5E+00	~~c~~	nc	~~4.4E-01~~	1.5E-01	~~c~~	nc	~~2.9E-03~~	9.6E-04	~~c~~
p-Chloronitrobenzene	~~100005~~	100-00-5	~~1.1E+01~~	1.0E+01	~~c~~	nc	~~3.2E+02~~	3.8E+01	~~c~~	nc	~~6.1E-01~~	1.2E+00	~~c~~	nc	~~4.0E-03~~	7.9E-03	~~c~~
2-Chlorophenol	~~95578~~	95-57-8	6.4E+01		nc		2.4E+02		nc		3.0E+01		nc		6.1E-01		~~nc~~
2-Chloropropane	~~75296~~	75-29-6	1.7E+02		nc		6.0E+02		nc		1.7E+02		nc		1.1E+00		~~nc~~
o-Chlorotoluene	~~95498~~	95-49-8	1.6E+02		nc		~~5.7E+02~~	2.6E+02	~~nc~~	csat	1.2E+02		nc		1.3E+00		~~nc~~
Chlorpyrifos	~~2921882~~	2921-88-2	1.8E+02		nc		2.6E+03		nc		1.1E+02		nc		6.3E+01		~~nc~~
Chlorpyrifos-methyl	~~5598130~~	5598-13-0	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			3.1E+01	
Chromium III	~~16065831~~	16065-83-1	1.2E+05		nc		1.0E+06		max		5.5E+04		nc		2.0E+09		~~nc~~
Chromium VI	~~18540299~~	18540-29-9	~~3.1E+01~~	2.1E+02	c		~~6.6E+02~~	4.6E+03	c		~~1.1E+02~~	1.0E+02	~~nc~~	gws	~~4.2E+01~~	3.8E+01	~~nc~~
Cobalt	~~7440484~~	7440-48-4	~~4.7E+03~~	9.2E+02	~~nc~~	c	~~1.2E+05~~	2.0E+04	~~nc~~	c	~~2.2E+03~~	7.3E+02	nc			6.6E+02	
Copper and compounds	~~7440508~~	7440-50-8	~~2.9E+03~~	3.1E+03	nc		~~7.6E+04~~	8.2E+04	nc		~~1.4E+03~~	1.5E+03	nc			1.0E+03	
Crotonaldehyde	~~123739~~	123-73-9	5.2E-03		c		1.1E-01		c		5.8E-03		c		3.2E-04		~~c~~
Cyanazine	~~21725462~~	21725-46-2	5.8E-01		c		2.9E+01		c		7.9E-02		c		5.2E-04		~~c~~
Cyanide and compounds	~~74908~~	74-90-8	1.1E+01		nc		3.5E+01		nc		2.0E+02		gws		4.0E+01		~~gws~~
Cyanogen	~~460195~~	460-19-5	1.3E+02		nc		4.3E+02		nc		2.4E+02		nc		1.3E+00		~~nc~~
Cyanogen bromide	~~506683~~	506-68-3	2.9E+02		nc		9.7E+02		nc		5.5E+02		nc		3.0E+00		~~nc~~
Cyclohexane	~~110827~~	110-82-7	~~9.5E+03~~	1.2E+02	~~nc~~	csat	~~3.2E+04~~	1.2E+02	~~nc~~	csat	~~3.5E+04~~	1.2E+04	nc		~~8.5E+02~~	3.1E+02	~~nc~~
Cyclohexanone	~~108941~~	108-94-1	3.1E+05		nc		1.0E+06		max		1.8E+05		nc		1.2E+03		~~nc~~
Cyhalothrin/Karate	~~68085858~~	68085-85-8	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc			3.5E+03	
Cypermethrin	~~52315078~~	52315-07-8	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			1.6E+03	
Dacthal	~~1861321~~	1861-32-1	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			5.6E+00	
Dalapon	~~75990~~	75-99-0	1.8E+03		nc		2.6E+04		nc		~~1.1E+03~~	2.0E+02	~~nc~~	gws	~~7.1E+00~~	1.3E+00	~~nc~~

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.		Residential Soil [1,4] (mg/kg)				Industrial Soil [1,4] (mg/kg)				Ground Water [2,4] (ug/L)				Migration to Groundwater [3,4] (mg/kg)		
DDD	~~72548~~	72-54-8	2.4E+00		c		1.7E+02		c		2.8E-01		c		1.1E+01		~~c~~
DDE	~~72559~~	72-55-9	1.7E+00		c		1.2E+02		c		2.0E-01		c		3.5E+01		~~c~~
DDT	~~50293~~	50-29-3	1.7E+00		c		1.2E+02		c		2.0E-01		c		2.1E+01		~~c~~
Diazinon	~~333415~~	333-41-5	5.5E+01		nc		7.9E+02		nc		3.3E+01		nc		4.3E-01		~~nc~~
Dibenzofuran	~~132649~~	132-64-9	~~2.9E+02~~	1.5E+02	nc		~~5.1E+03~~	2.5E+03	nc		~~2.4E+01~~	1.2E+01	nc		~~7.7E+00~~	3.8E+00	~~nc~~
1,4-Dibromobenzene	~~106376~~	106-37-6	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			7.8E+00	
Dibromochloromethane	~~124481~~	124-48-1	~~1.1E+00~~	7.6E+00	c		~~2.7E+01~~	6.8E+02	c		~~1.3E-01~~	8.0E+01	~~c~~	gws	~~3.0E-03~~	1.8E+00	~~c~~
1,2-Dibromo-3-chloropropane	~~96128~~	96-12-8	~~4.5E-01~~	4.6E-01	c		~~6.9E+00~~	4.1E+01	~~nc~~	c	2.0E-01		gws		1.0E-03		~~gws~~
1,2-Dibromoethane	~~106934~~	106-93-4	~~6.9E-03~~	2.7E-02	c		~~4.8E-01~~	6.2E-01	c		5.0E-02		gws		2.6E-04		~~gws~~
Dibutyl phthalate	~~84742~~	84-74-2	6.1E+03		nc		8.8E+04		nc		3.7E+03		nc		5.0E+03		~~nc~~
Dicamba	~~1918009~~	1918-00-9	1.8E+03		nc		2.6E+04		nc		1.1E+03		nc		4.5E+00		~~nc~~
1,2-Dichlorobenzene	~~95501~~	95-50-1	~~9.0E+02~~	1.5E+02	~~nc~~	csat	~~3.3E+03~~	1.5E+02	~~nc~~	csat	6.0E+02		gws		1.2E+01		~~gws~~
1,3-Dichlorobenzene	~~541731~~	541-73-1	~~1.3E+01~~	4.4E+01	nc		~~5.2E+01~~	1.5E+02	~~nc~~	csat	6.0E+02		gws		1.2E+01		~~gws~~
1,4-Dichlorobenzene	~~106467~~	106-46-7	3.4E+00		c		8.1E+01		c		7.0E+01		gws		2.0E+00		~~gws~~
3,3-Dichlorobenzidine	~~91941~~	91-94-1	1.1E+00		c		5.5E+01		c		1.5E-01		c		4.9E-03		~~c~~
1,4-Dichloro-2-butene	~~764410~~	764-41-0	7.8E-03		c		1.8E-01		c		1.2E-03		c		7.1E-06		~~c~~
Dichlorodifluoromethane	~~75718~~	75-71-8	9.4E+01		nc		3.1E+02		nc		3.9E+02		nc		5.3E+00		~~nc~~
1,1-Dichloroethane	~~75343~~	75-34-3	~~5.9E+02~~	6.1E+02	nc		~~2.1E+03~~	1.8E+03	~~nc~~	csat	~~8.1E+02~~	9.1E+02	nc		~~5.3E+00~~	5.9E+00	~~nc~~
1,2-Dichloroethane	~~107062~~	107-06-2	3.4E-01		c		7.7E+00		c		5.0E+00		gws		2.8E-02		~~gws~~
1,1-Dichloroethylene	~~75354~~	75-35-4	~~5.3E-02~~	1.3E+02	~~c~~	nc	~~1.2E+00~~	4.3E+02	~~c~~	nc	7.0E+00		gws		5.9E-02		~~gws~~
1,2-Dichloroethylene (cis)	~~156592~~	156-59-2	4.3E+01		nc		1.5E+02		nc		7.0E+01		gws		4.0E-01		~~gws~~
1,2-Dichloroethylene (trans)	~~156605~~	156-60-5	6.3E+01		nc		2.1E+02		nc		~~1.2E+02~~	1.0E+02	~~nc~~	gws	~~7.5E-01~~	6.2E-01	~~nc~~
2,4-Dichlorophenol	~~120832~~	120-83-2	1.8E+02		nc		2.6E+03		nc		1.1E+02		nc		1.1E+00		~~nc~~
4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	~~94826~~	94-82-6	4.9E+02		nc		7.0E+03		nc		2.9E+02		nc			2.3E+00	
2,4-Dichlorophenoxyacetic Acid (2,4-D)	~~94757~~	94-75-7	6.9E+02		nc		1.2E+04		nc		~~3.7E+02~~	7.0E+01	~~nc~~	gws	~~9.0E+00~~	1.7E+00	~~nc~~
1,2-Dichloropropane	~~78875~~	78-87-5	3.5E-01		c		7.7E+00		c		5.0E+00		gws		3.0E-02		~~gws~~
1,3-Dichloropropene	~~542756~~	542-75-6	6.9E-01		c		1.6E+01		c		3.9E-01		c		2.5E-03		~~c~~
2,3-Dichloropropanol	~~616239~~	616-23-9	1.8E+02		nc		2.6E+03		nc		1.1E+02		nc			4.6E-01	
Dichlorvos	~~62737~~	62-73-7	1.7E+00		c		8.5E+01		c		2.3E-01		c		1.1E-03		~~c~~
Dicofol	~~115322~~	115-32-2	1.1E+00		c		5.6E+01		c		1.5E-01		c		~~1.8E-02~~	1.8E-02	~~c~~
Dicyclopentadiene	~~77736~~	77-73-6	5.5E-01		nc		1.8E+00		nc		4.2E-01		nc		1.1E-02		~~nc~~
Dieldrin	~~60571~~	60-57-1	3.0E-02		c		1.5E+00		c		4.1E-03		c		3.6E-03		~~c~~
Diethylene glycol, monobutyl ether	~~112345~~	112-34-5	~~3.5E+02~~	6.1E+02	nc		~~5.0E+03~~	8.8E+03	nc		~~2.1E+02~~	3.7E+02	nc			1.6E+00	
Diethylene glycol, monoethyl ether	~~111900~~	111-90-0	~~1.2E+05~~	3.7E+03	nc		~~1.0E+06~~	5.2E+04	~~max~~	nc	~~7.3E+04~~	2.2E+03	nc			8.8E+00	
Di(2-ethylhexyl)adipate	~~103231~~	103-23-1	4.1E+02		c		2.1E+04	2.1E+04	c		4.0E+02		gws			7.8E+02	
Diethyl phthalate	~~84662~~	84-66-2	4.9E+04		nc		7.0E+05	7.0E+05	nc		2.9E+04		nc		4.5E+02		~~nc~~
Diethylstilbestrol	~~56531~~	56-53-1	1.0E-04		c		5.2E-03	5.2E-03	c		1.4E-05		c			3.2E-04	
Difenzoquat (Avenge)	~~43222486~~	43222-48-6	4.9E+03		nc		7.0E+04	7.0E+04	nc		2.9E+03		nc			1.4E+04	
1,1-Difluoroethane	~~75376~~	75-37-6		1.4E+03		csat		1.4E+03		csat	~~6.9E+04~~	8.3E+04	nc			5.7E+02	
Diisopropyl methylphosphonate	~~1445756~~	1445-75-6	4.9E+03	3.9E+02	~~nc~~	csat	~~7.0E+04~~	3.9E+02	~~nc~~	csat	2.9E+03		nc			1.5E+01	
3,3'-Dimethoxybenzidine	~~119904~~	119-90-4	3.5E+01		c		1.8E+03		c		4.7E+00		c			2.9E-01	
Dimethylamine	~~124403~~	124-40-3	~~6.7E-02~~	7.9E-02	nc		~~2.5E-01~~	2.6E-01	nc		~~3.5E-02~~	4.2E-02	nc		~~1.4E-04~~	1.7E-04	~~nc~~
N-N-Dimethylaniline	~~121697~~	121-69-7	~~1.2E+02~~	4.4E+01	nc		~~1.8E+03~~	2.0E+02	nc		~~7.3E+01~~	1.2E+01	nc			8.6E-02	
2,4-Dimethylaniline	~~95681~~	95-68-1	6.5E-01		c		3.3E+01		c		8.8E-02		c			7.8E-04	
2,4-Dimethylaniline hydrochloride	~~21436964~~	21436-96-4	8.4E-01		c		4.3E+01		c		1.1E-01		c			1.0E-03	
3,3'-Dimethylbenzidine	~~119937~~	119-93-7	~~5.3E-02~~	2.1E-01	c		~~2.7E+00~~	1.1E+01	c		~~7.2E-03~~	2.9E-02	c			8.8E-03	

Table 60-3B
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CONTAMINANT	CAS No.	Residential Soil [1,4] (mg/kg)		Industrial Soil [1,4] (mg/kg)		Ground Water [2,4] (ug/L)		Migration to Groundwater [3,4] (mg/kg)	
1,2-Dimethylhydrazine	~~540738~~ 540-73-8	1.3E-02	c	6.7E-01	c	1.8E-03	c	8.9E-06	
2,4-Dimethylphenol	~~105679~~ 105-67-9	1.2E+03	nc	1.8E+04	nc	7.3E+02	nc	9.0E+00	~~nc~~
2,6-Dimethylphenol	~~576261~~ 576-26-1	3.7E+01	nc	5.3E+02	nc	2.2E+01	nc	7.3E-01	
3,4-Dimethylphenol	~~95658~~ 95-65-8	6.1E+01	nc	8.8E+02	nc	3.7E+01	nc	1.2E+00	
Dimethyl phthalate	~~131113~~ 131-11-3	6.1E+05	nc	1.0E+06	max	3.7E+05	nc	2.0E+03	
4,6-Dinitro-o-cyclohexyl phenol	~~131895~~ 131-89-5	1.2E+02	nc	1.8E+03	nc	7.3E+01	nc	4.1E+01	
1,2-Dinitrobenzene	~~528290~~ 528-29-0	2.4E+01	nc	3.5E+02	nc	1.5E+01	nc	1.9E-01	
1,3-Dinitrobenzene	~~99650~~ 99-65-0	6.1E+00	nc	8.8E+01	nc	3.7E+00	nc	3.7E-02	~~nc~~
1,4-Dinitrobenzene	~~100254~~ 100-25-4	~~2.4E+01~~ 6.1E+00	nc	~~3.5E+02~~ 8.8E+01	nc	~~1.5E+01~~ 3.7E+00	nc	4.7E-02	
2,4-Dinitrophenol	~~51285~~ 51-28-5	1.2E+02	nc	1.8E+03	nc	7.3E+01	nc	2.9E-01	~~nc~~
Dinitrotoluene mixture	~~25321146~~ 25321-14-6	7.2E-01	c	3.6E+01	c	9.8E-02	c	1.8E-03	
2,4-Dinitrotoluene	~~121142~~ 121-14-2	1.2E+02	nc	~~1.8E+03~~ 1.6E+03	nc	7.3E+01	nc	5.7E-01	~~nc~~
2,6-Dinitrotoluene	~~606202~~ 606-20-2	6.1E+01	nc	~~8.8E+02~~ 8.9E+02	nc	3.7E+01	nc	2.5E-01	~~nc~~
Dinoseb	~~88857~~ 88-85-7	6.1E+01	nc	8.8E+02	nc	~~3.7E+01~~ 7.0E+00	~~nc~~ gws	~~1.7E-01~~ 3.3E-02	~~nc~~
di-n-Octyl phthalate	~~117840~~ 117-84-0	~~1.2E+03~~ 2.4E+03	nc	~~1.8E+04~~ 3.5E+04	nc	~~7.3E+02~~ 1.5E+03	nc	~~2.4E+06~~ 4.9E+06	~~nc~~
1,4-Dioxane	~~123911~~ 123-91-1	4.4E+01	c	2.2E+03	c	6.0E+00	c	2.6E-02	~~c~~
Diphenylamine	~~122394~~ 122-39-4	1.5E+03	nc	2.2E+04	nc	9.1E+02	nc	2.5E+01	~~nc~~
1,2-Diphenylhydrazine	~~122667~~ 122-66-7	6.1E-01	c	3.1E+01	c	8.3E-02	c	2.5E-03	~~c~~
Diquat	~~85007~~ 85-00-7	1.3E+02	nc	1.9E+03	nc	~~8.0E+01~~ 2.0E+01	~~nc~~ gws	~~3.3E-01~~ 8.2E-02	~~nc~~
Disulfoton	~~298044~~ 298-04-4	2.4E+00	nc	3.5E+01	nc	1.5E+00	nc	6.4E-02	~~nc~~
1,4-Dithiane	~~505293~~ 505-29-3	6.1E+02	nc	8.8E+03	nc	3.7E+02	nc	3.9E+00	
Diuron	~~330541~~ 330-54-1	1.2E+02	nc	1.8E+03	nc	7.3E+01	nc	1.2E+00	~~nc~~
Endosulfan	~~115297~~ 115-29-7	3.7E+02	nc	5.3E+03	nc	2.2E+02	nc	2.0E+01	~~nc~~
Endothall	~~145733~~ 145-73-3	1.2E+03	nc	1.8E+04	nc	~~7.3E+02~~ 1.0E+02	~~nc~~ gws	4.4E-01	
Endrin	~~72208~~ 72-20-8	1.8E+01	nc	2.6E+02	nc	~~1.1E+01~~ 2.0E+00	~~nc~~ gws	~~5.4E+00~~ 9.9E-01	~~nc~~
Epichlorohydrin	~~106898~~ 106-89-8	7.6E+00	nc	2.6E+01	nc	2.0E+00	nc	8.4E-03	~~nc~~
Ethion	~~563122~~ 563-12-2	3.1E+01	nc	4.4E+02	nc	1.8E+01	nc	6.4E+00	~~nc~~
2-Ethoxyethanol	~~110805~~ 110-80-5	2.4E+04	nc	3.5E+05	nc	1.5E+04	nc	6.5E+01	~~nc~~
Ethyl acetate	~~141786~~ 141-78-6	1.9E+04	nc	~~8.0E+04~~ 2.6E+04	~~nc~~ csat	5.5E+03	nc	3.5E+01	~~nc~~
Ethylbenzene	~~100414~~ 100-41-4	~~1.5E+03~~ 1.1E+02	~~nc~~ csat	~~6.0E+03~~ 1.1E+02	~~nc~~ csat	~~1.3E+03~~ 7.0E+02	~~nc~~ gws	~~1.7E+01~~ 8.9E+00	~~nc~~
Ethylene diamine	~~107153~~ 107-15-3	~~1.2E+03~~ 5.5E+03	nc	~~1.8E+04~~ 7.9E+04	nc	~~7.3E+02~~ 3.3E+03	nc	1.6E+01	
Ethylene glycol	~~107211~~ 107-21-1	1.2E+05	nc	1.0E+06	max	7.3E+04	nc	3.0E+02	~~nc~~
Ethylene glycol, monobutyl ether	~~111762~~ 111-76-2	3.1E+04	nc	4.4E+05	nc	1.8E+04	nc	7.4E+01	
Ethylene thiourea (ETU)	~~96457~~ 96-45-7	4.4E+00	c	7.0E+01	nc	6.0E-01	c	2.6E-03	
Ethyl ether	~~60297~~ 60-29-7	~~6.8E+03~~ 2.3E+03	~~nc~~ csat	~~3.6E+04~~ 2.3E+03	~~nc~~ csat	1.2E+03	nc	5.5E+00	~~nc~~
Ethyl methacrylate	~~97632~~ 97-63-2	~~2.1E+02~~ 7.7E+01	~~nc~~ csat	~~7.0E+02~~ 7.7E+01	~~nc~~ csat	5.5E+02	nc	3.0E+01	~~nc~~
Fenamiphos	~~22224926~~ 22224-92-6	1.5E+01	nc	2.2E+02	nc	9.1E+00	nc	1.6E-01	~~nc~~
Fluometuron	~~2164172~~ 2164-17-2	7.9E+02	nc	1.1E+04	nc	4.7E+02	nc	8.8E+00	
Fluoride	~~16984488~~ 7782-41-4	3.7E+03	nc	5.3E+04	nc	4.0E+03	gws	1.2E+04	
Fomesafen	~~72178020~~ 72178-02-0	2.6E+00	c	1.3E+02	c	3.5E-01	c	1.6E-01	
Fonofos	~~944229~~ 944-22-9	1.2E+02	nc	1.8E+03	nc	7.3E+01	nc	3.5E+00	~~nc~~
Formaldehyde	~~50000~~ 50-00-0	~~9.2E+03~~ 1.2E+04	nc	~~1.3E+05~~ 1.8E+05	nc	~~6.5E+03~~ 7.3E+03	nc	~~2.3E+01~~ 3.0E+01	~~nc~~
Formic Acid	~~64186~~ 64-18-6	~~1.2E+05~~ 1.1E+05	nc	1.0E+06	max	7.3E+04	nc	2.9E+02	
Furan	~~110009~~ 110-00-9	2.5E+00	nc	8.6E+00	nc	6.1E+00	nc	3.0E-02	~~nc~~
Furazolidone	~~67458~~ 67-45-8	1.3E-01	c	6.5E+00	c	1.7E-02	c	6.5E-04	
Furfural	~~98011~~ 98-01-1	1.8E+02	nc	2.6E+03	nc	1.1E+02	nc	4.6E-01	~~nc~~

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.	Residential Soil [1,4] (mg/kg)		Industrial Soil [1,4] (mg/kg)		Ground Water [2,4] (ug/L)		Migration to Groundwater [3,4] (mg/kg)	
Glycidaldehyde	~~765344~~ 765-34-4	2.4E+01	nc	3.5E+02	nc	1.5E+01	nc	5.9E-02	
Glyphosate	~~1071836~~ 1071-83-6	6.1E+03	nc	8.8E+04	nc	~~3.7E+03~~ 7.0E+02	~~nc~~ gws	~~5.3E+02~~ 1.0E+02	~~nc~~
Heptachlor	~~76448~~ 76-44-8	1.1E-01	c	5.5E+00	c	4.0E-01	gws	2.3E+01	~~gws~~
Heptachlor epoxide	~~1024573~~ 1024-57-3	5.3E-02	c	2.7E+00	c	2.0E-01	gws	6.7E-01	~~gws~~
Hexabromobenzene	~~87821~~ 87-82-1	1.2E+02	nc	1.8E+03	nc	7.3E+01	nc	1.0E+01	
Hexachlorobenzene	~~118741~~ 118-74-1	3.0E-01	c	1.5E+01	c	1.0E+00	gws	2.2E+00	~~gws~~
Hexachlorobutadiene	~~87683~~ 87-68-3	6.2E+00	c	~~2.6E+02~~ 1.8E+02	nc	8.5E-01	c	1.8E+00	~~c~~
HCH (alpha)	~~319846~~ 319-84-6	9.0E-02	c	5.9E+00	c	1.1E-02	c	5.6E-04	~~c~~
HCH (beta)	~~319857~~ 319-85-7	3.2E-01	c	2.1E+01	c	3.7E-02	c	2.0E-03	~~c~~
HCH (gamma) Lindane	~~58899~~ 58-89-9	4.4E-01	c	2.9E+01	c	2.0E-01	gws	9.4E-03	~~gws~~
HCH-technical	~~608731~~ 608-73-1	3.2E-01	c	2.1E+01	c	3.7E-02	c	5.1E-03	
Hexachlorocyclopentadiene	~~77474~~ 77-47-4	~~4.2E+02~~ 3.7E+02	nc	~~5.9E+03~~ 5.2E+03	nc	~~2.6E+02~~ 5.0E+01	~~nc~~ gws	~~2.0E+03~~ 4.0E+02	~~nc~~
Hexachlorodibenzo-p-dioxin mixture (HxCDD)	~~19408743~~ 19408-74-3	7.8E-05	c	4.0E-03	c	1.1E-05	c	1.8E-04	
Hexachloroethane	~~67721~~ 67-72-1	3.5E+01	c	8.8E+02	nc	4.7E+00	c	3.6E-01	~~c~~
Hexachlorophene	~~70304~~ 70-30-4	1.8E+01	nc	2.6E+02	nc	1.1E+01	nc	2.0E+03	~~nc~~
1,6-Hexamethylene diisocyanate	~~822060~~ 822-06-0	1.7E-01	nc	~~2.5E+00~~ 5.5E+00	nc	~~1.0E-01~~ 2.1E-02	nc	5.0E-03	
n-Hexane	~~110543~~ 110-54-3	~~1.2E+02~~ 5.4E+01	~~nc~~ csat	~~4.0E+02~~ 5.4E+01	~~nc~~ csat	~~3.5E+02~~ 1.5E+03	nc	~~1.7E+01~~ 7.0E+01	~~nc~~
Hexazinone	~~51235042~~ 51235-04-2	2.0E+03	nc	2.9E+04	nc	1.2E+03	nc	3.4E+01	
HMX	~~2691410~~ 2691-41-0	~~3.1E+03~~ 3.8E+03	nc	~~4.4E+04~~ 9.5E+04	nc	1.8E+03	nc	1.4E+02	
Hydrazine, monomethyl	~~60344~~ 60-34-4	1.6E-01	c	8.2E+00	c	2.2E-02	c	1.0E-04	
Hydrazine, dimethyl	~~57147~~ 57-14-7	1.6E-01	c	8.2E+00	c	2.2E-02	c	1.1E-04	
Hydrogen sulfide	~~7783064~~ 7783-06-4	2.3E+02	nc	6.1E+03	nc	1.1E+02	nc		
p-Hydroquinone	~~123319~~ 123-31-9	~~2.4E+03~~ 8.7E+00	~~nc~~ c	~~3.5E+04~~ 4.4E+02	~~nc~~ c	~~1.5E+03~~ 1.2E+00	~~nc~~ c	2.5E-02	
Iron	~~7439896~~ 7439-89-6	2.3E+04	nc	6.1E+05	nc	1.1E+04	nc	5.5E+03	
Isobutanol	~~78834~~ 78-83-1	1.3E+04	nc	~~7.7E+04~~ 2.7E+04	~~nc~~ csat	1.8E+03	nc	1.2E+01	~~nc~~
Isophorone	~~78591~~ 78-59-1	5.1E+02	c	2.6E+04	c	7.0E+01	c	4.1E-01	~~c~~
Isopropalin	~~33820530~~ 33820-53-0	9.2E+02	nc	1.3E+04	nc	5.5E+02	nc	1.5E+02	
Isopropyl methyl phosphonic acid	~~1832548~~ 1832-54-8	6.1E+03	nc	8.8E+04	nc	3.7E+03	nc	1.5E+01	
Lead*	~~7439921~~ 7439-92-1	4.0E+02	nc	1.0E+03	nc	1.5E+01	gws	2.7E+02	
Lead (tetraethyl)	~~78002~~ 78-00-2	6.1E-03	nc	8.8E-02	nc	3.7E-03	nc	9.2E-04	~~nc~~
Lithium	~~7439932~~ 7439-93-2	1.6E+03	nc	4.1E+04	nc	7.3E+02	nc	4.4E+03	
Malathion	~~121755~~ 121-75-5	1.2E+03	nc	1.8E+04	nc	7.3E+02	nc	8.1E+00	~~nc~~
Maleic anhydride	~~108316~~ 108-31-6	6.1E+03	nc	8.8E+04	nc	3.7E+03	nc	1.5E+01	
Manganese (non-food)	~~7439965~~ 7439-96-5	1.8E+03	nc	3.3E+04	nc	8.8E+02	nc	1.1E+03	
Mephosfolan	~~950107~~ 950-10-7	5.5E+00	nc	7.9E+01	nc	3.3E+00	nc	7.9E-02	
Mepiquat	~~24307264~~ 24307-26-4	1.8E+03	nc	2.6E+04	nc	1.1E+03	nc	1.2E+01	
Mercury and compounds	~~7487947~~ 7487-94-7	2.3E+01	nc	6.1E+02	nc	~~1.1E+01~~ 2.0E+00	~~nc~~ gws		
Mercury (methyl)	~~22967926~~ 22967-92-6	6.1E+00	nc	8.8E+01	nc	3.7E+00	nc		
Methacrylonitrile	~~126987~~ 126-98-7	2.1E+00	nc	8.8E+00	nc	1.0E+00	nc	4.2E-03	~~nc~~
Methanol	~~67561~~ 67-56-1	3.1E+04	nc	4.4E+05	nc	1.8E+04	nc	7.5E+01	~~nc~~
Methidathion	~~950378~~ 950-37-8	6.1E+01	nc	8.8E+02	nc	3.7E+01	nc	1.6E-01	
Methoxychlor	~~72435~~ 72-43-5	3.1E+02	nc	4.4E+03	nc	~~1.8E+02~~ 4.0E+01	~~nc~~ gws	~~7.1E+02~~ 1.6E+02	~~nc~~
Methyl acetate	~~79209~~ 79-20-9	2.2E+04	nc	9.6E+04	nc	6.1E+03	nc	2.5E+01	~~nc~~
Methyl acrylate	~~96333~~ 96-33-3	7.0E+01	nc	2.3E+02	nc	1.8E+02	nc	1.0E+01	~~nc~~
2-Methylaniline (o-toluidine)	~~95534~~ 95-53-4	2.0E+00	c	1.0E+02	c	2.8E-01	c	5.6E-03	~~c~~
2-Methylaniline hydrochloride	~~636215~~ 636-21-5	2.7E+00	c	1.4E+02	c	3.7E-01	c	2.6E-03	

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.		Residential Soil [1,4] (mg/kg)				Industrial Soil [1,4] (mg/kg)				Ground Water [2,4] (ug/L)				Migration to Groundwater [3,4] (mg/kg)		
2-Methyl-4-chlorophenoxyacetic acid	~~94746~~	94-74-6	3.1E+01		nc		4.4E+02		nc		1.8E+01		nc			9.4E-02	
4-(2-Methyl-4-chlorophenoxy) butyric acid	~~94815~~	94-81-5	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			2.9E+00	
2-(2-Methyl-4-chlorophenoxy) propionic acid	~~93652~~	93-65-2	6.1E+01		nc		8.8E+02		nc		3.7E+01		nc			2.2E-01	
Methylcyclohexane	~~108872~~	108-87-2	~~2.6E+03~~	1.1E+02	~~nc~~	csat	~~8.8E+03~~	1.1E+02	~~nc~~	csat	5.2E+03		nc		6.4E+02		~~nc~~
4,4'-Methylenebisbenzeneamine	~~101779~~	101-77-9	1.9E+00		c		9.9E+01		c		2.7E-01		c			5.4E-02	
4,4'-Methylene bis(2-chloroaniline)	~~101144~~	101-14-4	3.7E+00		c		1.9E+02		c		5.1E-01		c			2.8E-01	
4,4'-Methylene bis(N,N'-dimethyl)aniline	~~101611~~	101-61-1	1.1E+01		c		5.4E+02		c		1.4E+00		c			8.5E-01	
Methylene bromide	~~74953~~	74-95-3	6.7E+01		nc		2.4E+02		nc		6.1E+01		nc		3.1E-01		~~nc~~
Methylene chloride	~~75092~~	75-09-2	8.8E+00		c		2.1E+02		c		5.0E+00		gws		2.3E-02		~~gws~~
4,4'-Methylenediphenyl isocyanate	~~101688~~	101-68-8	~~1.0E+01~~	3.6E+05	nc		~~1.5E+02~~	1.0E+06	~~nc~~	max	~~6.2E+00~~		~~nc~~				
Methyl ethyl ketone	~~78933~~	78-93-3	~~7.3E+03~~	2.2E+04	nc		~~2.8E+04~~	5.6E+04	~~nc~~	csat	~~1.9E+03~~	7.0E+03	nc		~~8.0E+00~~	2.9E+01	~~nc~~
Methyl isobutyl ketone	~~108101~~	108-10-1	~~7.9E+02~~	8.9E+03	~~nc~~	csat	~~2.9E+03~~	8.9E+03	~~nc~~	csat	~~1.6E+02~~	6.3E+03	nc		~~1.5E+00~~	5.9E+01	~~nc~~
Methyl methacrylate	~~80626~~	80-62-6	2.2E+03		nc		~~7.3E+03~~	3.4E+03	~~nc~~	csat	1.4E+03		nc		6.5E+00		~~nc~~
2-Methyl-5-nitroaniline	~~99558~~	99-55-8	1.5E+01		c		7.5E+02		c		2.0E+00		c			1.5E-02	
Methyl parathion	~~298000~~	298-00-0	1.5E+01		nc		2.2E+02		nc		9.1E+00		nc		8.5E-02		~~nc~~
2-Methylphenol	~~95487~~	95-48-7	3.1E+03		nc		4.4E+04		nc		1.8E+03		nc		1.4E+01	1.4E+01	~~nc~~
3-Methylphenol	~~108394~~	108-39-4	3.1E+03		nc		4.4E+04		nc		1.8E+03		nc			3.9E+01	
4-Methylphenol	~~106445~~	106-44-5	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc			3.9E+00	
Methyl styrene (mixture)	~~25013154~~	25013-15-4	1.3E+02		nc		~~5.6E+02~~	2.8E+02	~~nc~~	csat	6.0E+01		nc		1.1E+00		~~nc~~
Methyl styrene (alpha)	~~98839~~	98-83-9	~~9.2E+02~~	2.8E+02	~~nc~~	csat	~~3.5E+03~~	2.8E+02	~~nc~~	csat	4.3E+02		nc		7.9E+00		~~nc~~
Metolaclor (Dual)	~~51218452~~	51218-45-2	9.2E+03		nc		1.3E+05		nc		5.5E+03		nc			8.6E+01	
Metribuzin	~~21087649~~	21087-64-9	1.5E+03		nc		2.2E+04		nc		9.1E+02		nc			4.7E+01	
Mirex	~~2385855~~	2385-85-5	2.7E-01		c		1.4E+01		c		3.7E-02		c			7.0E-01	
Molybdenum	~~7439987~~	7439-98-7	3.9E+02		nc		1.0E+04		nc		1.8E+02		nc			7.4E+01	
Monochloramine	~~10599903~~	10599-90-3	7.8E+03		nc		2.0E+05		nc		~~3.7E+03~~	4.0E+03	~~nc~~	gws			
Naled	~~300765~~	300-76-5	1.2E+02		nc		1.8E+03		nc		7.3E+01		nc			5.7E-01	
Nickel and compounds	~~7440020~~	7440-02-0	1.6E+03		nc		4.1E+04		nc		~~7.3E+02~~	1.0E+02	~~nc~~	gws	~~9.5E+02~~	1.3E+02	~~nc~~
Nitrate	~~14797558~~	14797-55-8	1.3E+05		nc		1.0E+06		max		~~5.8E+04~~	1.0E+04	~~nc~~	gws			
Nitrite	~~14797650~~	14797-65-0	7.8E+03		nc		2.0E+05		nc		~~3.7E+03~~	1.0E+03	~~nc~~	gws			
2-Nitroaniline	~~88744~~	88-74-4	~~3.5E+00~~	1.8E+02	nc		~~5.0E+01~~	2.6E+03	nc		~~2.1E+00~~	1.1E+02	nc		~~1.1E-02~~	5.6E-01	~~nc~~
Nitrobenzene	~~98953~~	98-95-3	2.0E+01		nc		1.1E+02		nc		3.4E+00		nc		2.2E-02		~~nc~~
Nitrofurantoin	~~67209~~	67-20-9	4.3E+03		nc		6.2E+04		nc		2.6E+03		nc			3.7E+01	
Nitrofurazone	~~59870~~	59-87-0	3.2E-01		c		1.6E+01		c		4.4E-02		c			8.4E-04	
Nitroglycerin	~~55630~~	55-63-0	3.5E+01		c		1.8E+03		c		4.7E+00		c			4.4E-02	
4-Nitrophenol	~~100027~~	100-02-7	4.9E+02		nc		7.0E+03		nc		2.9E+02		nc		1.7E+00		~~nc~~
2-Nitropropane	~~79469~~	79-46-9		7.5E-03		c		1.8E-01		c	1.2E-03		c		5.7E-06		~~c~~
N-Nitrosodi-n-butylamine	~~924163~~	924-16-3	2.4E-02		c		6.2E-01		c		2.0E-03		c		2.8E-05		~~c~~
N-Nitrosodiethanolamine	~~1116547~~	1116-54-7	1.7E-01		c		8.8E+00		c		2.4E-02		c			9.6E-05	
N-Nitrosodiethylamine	~~55185~~	55-18-5	3.2E-03		c		1.6E-01		c		4.4E-04		c		2.2E-06		~~c~~
N-Nitrosodimethylamine	~~62759~~	62-75-9	9.5E-03		c		4.8E-01		c		1.3E-03		c		5.6E-06		~~c~~
N-Nitrosodiphenylamine	~~86306~~	86-30-6	9.9E+01		c		5.0E+03		c		1.4E+01		c		7.5E-01		~~c~~
N-Nitroso di-n-propylamine	~~621647~~	621-64-7	6.9E-02		c		3.5E+00		c		9.5E-03		c		4.7E-05		~~c~~
N-Nitroso-N-methylethylamine	~~10595956~~	10595-95-6	2.2E-02		c		1.1E+00		c		3.0E-03		c			2.1E-05	
N-Nitrosopyrrolidine	~~930552~~	930-55-2	2.3E-01		c		1.2E+01		c		3.2E-02		c			3.3E-04	
m-Nitrotoluene	~~99081~~	99-08-1	~~3.7E+02~~	6.9E+02	~~nc~~	csat	~~2.0E+03~~	6.9E+02	~~nc~~	csat	~~6.1E+01~~	1.2E+02	nc		~~4.0E-01~~	8.0E-01	~~nc~~
o-Nitrotoluene	~~88722~~	88-72-2	3.7E+02		nc		~~2.0E+03~~	6.9E+02	~~nc~~	csat	6.1E+01		nc		4.0E-01		~~nc~~

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.		Residential Soil [1,4] (mg/kg)				Industrial Soil [1,4] (mg/kg)				Ground Water [2,4] (ug/L)				Migration to Groundwater [3,4] (mg/kg)		
p-Nitrotoluene	~~99990~~	99-99-0	~~3.7E+02~~	1.2E+01	~~nc~~	c	~~2.0E+03~~	3.4E+02	~~nc~~	c	~~6.1E+01~~	6.5E-01	~~nc~~	c	~~4.0E-01~~	4.3E-03	~~nc~~
NuStar	~~85509199~~	85509-19-9	4.3E+01		nc		6.2E+02		nc		2.6E+01		nc			1.8E+03	
Oryzalin	~~19044883~~	19044-88-3	3.1E+03		nc		4.4E+04		nc		1.8E+03		nc			9.6E+01	
Oxadiazon	~~19666309~~	19666-30-9	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc			2.6E+01	
Oxamyl	~~23135220~~	23135-22-0	1.5E+03		nc		2.2E+04		nc		~~9.1E+02~~	2.0E+02	~~nc~~	gws	~~3.8E+00~~	8.4E-01	~~nc~~
Oxyfluorfen	~~42874033~~	42874-03-3	1.8E+02		nc		2.6E+03		nc		1.1E+02		nc			2.1E+02	
Paraquat Dichloride	~~4685147~~	1910-42-5	2.7E+02		nc		4.0E+03		nc		1.6E+02		nc			9.9E+00	
Parathion	~~56382~~	56-38-2	3.7E+02		nc		5.3E+03		nc		2.2E+02		nc		1.0E+01		~~nc~~
Pentachlorobenzene	~~608935~~	608-93-5	4.9E+01		nc		7.0E+02		nc		2.9E+01		nc		2.0E+01		~~nc~~
Pentachloronitrobenzene	~~82688~~	82-68-8	1.9E+00		c		9.5E+01		c		2.6E-01		c		8.2E-02		~~c~~
Pentachlorophenol	~~87865~~	87-86-5	3.0E+00		c		1.1E+02		c		1.0E+00		gws		2.8E-02		gws
Perchlorate	~~7601903~~	7790-98-9	~~3.9E+01~~	5.5E+01	nc		~~1.0E+03~~	1.4E+03	nc		~~1.8E+01~~	2.6E+01	nc				
Permethrin	~~52645531~~	52645-53-1	3.1E+03		nc		4.4E+04		nc		1.8E+03		nc		2.4E+03		~~nc~~
Phenol	~~108952~~	108-95-2	~~3.7E+04~~	1.8E+04	nc		~~5.3E+05~~	2.6E+05	nc		~~2.2E+04~~	1.1E+04	nc		~~1.1E+02~~	5.6E+01	~~nc~~
m-Phenylenediamine	~~108452~~	108-45-2	3.7E+02		nc		5.3E+03		nc		2.2E+02		nc		~~9.8E-01~~	1.5E+00	~~nc~~
p-Phenylenediamine	~~106503~~	106-50-3	1.2E+04		nc		1.7E+05		nc		6.9E+03		nc			4.8E+01	
2-Phenylphenol	~~90437~~	90-43-7	2.5E+02		c		1.3E+04		c		3.4E+01		c			1.4E+01	
Phosphine	~~7803512~~	7803-51-2	1.8E+01		nc		2.6E+02		nc		1.1E+01		nc				
Phosphorus (white)	~~7723140~~	7723-14-0	1.6E+00		nc		4.1E+01		nc		7.3E-01		nc				
p-Phthalic acid	~~100210~~	100-21-0	6.1E+04		nc		8.8E+05		nc		3.7E+04		nc			2.5E+02	
Phthalic anhydride	~~85449~~	85-44-9	1.2E+05		nc		1.0E+06		max		7.3E+04		nc		5.2E+02		~~nc~~
Polybrominated biphenyls			5.5E-02		c		2.8E+00		c		7.5E-03		c				
Polychlorinated biphenyls (PCBs)	~~1336363~~	1336-36-3	2.2E-01		c		1.0E+01		c		5.0E-01		gws			9.0E-01	
Aroclor 1016	~~12674112~~	12674-11-2	3.9E+00		nc		5.0E+01		nc		9.5E-01		c		1.3E+00		~~c~~
Aroclor 1221	~~11104282~~	11104-28-2	2.2E-01		c		1.0E+01		c		~~3.3E-02~~	5.5E-03	c			2.3E-03	
Aroclor 1232	~~11141165~~	11141-16-5	2.2E-01		c		1.0E+01		c		~~3.3E-02~~	5.5E-03	c			2.3E-03	
Aroclor 1242	~~53469219~~	53469-21-9	2.2E-01		c		1.0E+01		c		3.3E-02		c		4.4E-02		~~c~~
Aroclor 1248	~~12672296~~	12672-29-6	2.2E-01		c		1.0E+01		c		3.3E-02		c			5.8E-02	
Aroclor 1254	~~11097691~~	11097-69-1	2.2E-01		c		1.0E+01		c		3.3E-02		c		2.7E-01		~~c~~
Aroclor 1260	~~11096825~~	11096-82-5	2.2E-01		c		1.0E+01		c		3.3E-02		c		3.9E-01		~~c~~
Polynuclear aromatic hydrocarbons																	
Acenaphthene	~~83329~~	83-32-9	~~3.7E+03~~	2.9E+03	nc		~~3.8E+04~~	2.5E+04	nc		3.7E+02		nc		7.3E+01		~~nc~~
Anthracene	~~120127~~	120-12-7	~~2.2E+04~~	1.6E+04	nc		~~3.9E+05~~	1.9E+05	nc		1.8E+03		nc		1.7E+03		~~nc~~
Benz[a]anthracene	~~56553~~	56-55-3	6.2E-01		c		2.9E+01		c		9.1E-02		c		1.4E+00		~~c~~
Benzo[b]fluoranthene	~~205992~~	205-99-2	6.2E-01		c		2.9E+01		c		9.1E-02		c		4.5E+00		~~c~~
Benzo[k]fluoranthene	~~207089~~	207-08-9	6.2E+00		c		2.9E+02		c		9.1E-01		c		4.5E+01		~~c~~
Benzo[a]pyrene	~~50328~~	50-32-8	6.2E-02		c		2.9E+00		c		2.0E-01		gws		8.2E+00		gws
Chrysene	~~218019~~	218-01-9	6.2E+01		c		2.9E+03		c		9.1E+00		c		1.4E+02		~~c~~
Dibenz[ah]anthracene	~~53703~~	53-70-3	6.2E-02		c		2.9E+00		c		9.1E-03		c		1.4E+00		~~c~~
Fluoranthene	~~206440~~	206-44-0	2.3E+03		nc		3.0E+04		nc		1.5E+03		nc		6.3E+03		~~nc~~
Fluorene	~~86737~~	86-73-7	~~2.6E+03~~	2.0E+03	nc		~~3.3E+04~~	2.0E+04	nc		2.4E+02		nc		7.8E+01		~~nc~~
Indeno[1,2,3-cd]pyrene	~~193395~~	193-39-5	6.2E-01		c		2.9E+01		c		9.1E-02		c		1.3E+01		~~c~~
Naphthalene	~~91203~~	91-20-3	~~5.6E+01~~	5.5E+01	nc		1.9E+02		nc		6.2E+00		nc		3.2E-01		~~nc~~
Pyrene	~~129000~~	129-00-0	~~2.3E+03~~	1.7E+03	nc		~~5.4E+04~~	2.3E+04	nc		~~1.8E+02~~	1.1E+03	nc		~~5.0E+02~~	3.0E+03	~~nc~~
Prometon	~~1610180~~	1610-18-0	9.2E+02		nc		1.3E+04		nc		5.5E+02		nc			5.6E+00	
Prometryn	~~7287196~~	7287-19-6	2.4E+02		nc		3.5E+03		nc		1.5E+02		nc			4.6E+00	

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.		Residential Soil [1,4] (mg/kg)				Industrial Soil [1,4] (mg/kg)				Ground Water [2,4] (ug/L)				Migration to Groundwater [3,4] (mg/kg)		
Propachlor	~~1918167~~	1918-16-7	7.9E+02		nc		1.1E+04		nc		4.7E+02		nc			7.3E+00	
Propanil	~~709988~~	709-98-8	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc			2.2E+00	
Propargite	~~2312358~~	2312-35-8	1.2E+03		nc		1.8E+04		nc		7.3E+02		nc			4.0E+03	
iso-Propylbenzene (Cumene)	~~98828~~	98-82-8	1.6E+02		nc		5.2E+02		nc		6.6E+02		nc		6.3E+01		~~nc~~
n-Propylbenzene	~~103651~~	103-65-1	~~1.4E+02~~	3.1E+03	nc		~~5.6E+02~~	8.2E+04	nc		~~6.1E+01~~	1.5E+03	nc		~~7.2E+00~~	1.7E+02	~~nc~~
Propylene glycol	~~57556~~	57-55-6	~~1.0E+06~~	3.0E+04	~~max~~	nc	~~1.0E+06~~	4.1E+05	~~max~~	nc	~~7.3E+05~~	1.8E+04	nc			7.4E+01	
Propylene glycol, monoethyl ether	~~111353~~	111-35-3	4.3E+04		nc		6.2E+05		nc		2.6E+04		nc				
Propylene glycol, monomethyl ether	~~107982~~	107-98-2	4.3E+04		nc		6.2E+05		nc		2.6E+04		nc			1.0E+02	
Pursuit	~~81335775~~	81335-77-5	1.5E+04		nc		2.2E+05		nc		9.1E+03		nc			5.4E+02	
Pyridine	~~110861~~	110-86-1	6.1E+01		nc		8.8E+02		nc		3.7E+01		nc			1.9E-01	
Quinoline	~~91225~~	91-22-5	~~4.1E-02~~	1.6E-01	c		~~2.1E+00~~	8.2E+00	c		~~5.5E-03~~	2.2E-02	c			1.7E-03	
RDX (Cyclonite)	~~121824~~	121-82-4	4.4E+00		c		2.2E+02		c		6.0E-01		c			7.1E-03	
Resmethrin	~~10453868~~	10453-86-8	1.8E+03		nc		2.6E+04		nc		1.1E+03		nc			1.9E+04	
Ronnel	~~299843~~	299-84-3	3.1E+03		nc		4.4E+04		nc		1.8E+03		nc			1.5E+02	
Rotenone	~~83794~~	83-79-4	2.4E+02		nc		3.5E+03		nc		1.5E+02		nc			2.0E+03	
Selenious Acid	~~7783008~~	7783-00-8	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc				
Selenium	~~7782492~~	7782-49-2	3.9E+02		nc		1.0E+04		nc		~~1.8E+02~~	5.0E+01	~~nc~~	gws	~~1.9E+01~~	5.2E+00	~~nc~~
Silver and compounds	~~7440224~~	7440-22-4	3.9E+02		nc		1.0E+04		nc		1.8E+02		nc		3.1E+01		~~nc~~
Simazine	~~122349~~	122-34-9	4.1E+00		c		2.1E+02		c		4.0E+00		gws		2.4E-02		~~gws~~
Sodium azide	~~26628228~~	26628-22-8	3.1E+02		nc		8.2E+03		nc		1.5E+02		nc				
Sodium diethyldithiocarbamate	~~148185~~	148-18-5	1.8E+00		c		9.1E+01		c		2.5E-01		c			1.2E-03	
Strontium, stable	~~7440246~~	7440-24-6	4.7E+04		nc		1.0E+06		max		2.2E+04		nc		1.5E+04		~~nc~~
Strychnine	~~57249~~	57-24-9	1.8E+01		nc		2.6E+02		nc		1.1E+01		nc		1.7E-01		~~nc~~
Styrene	~~100425~~	100-42-5	~~4.6E+03~~	6.3E+02	~~nc~~	csat	~~2.0E+04~~	6.3E+02	~~nc~~	csat	~~1.6E+03~~	1.0E+02	~~nc~~	gws	~~6.7E+01~~	4.1E+00	~~nc~~
2,3,7,8-Tetrachlorodibenzodioxin (TCDD/dioxin)	~~1746016~~	1746-01-6	3.9E-06		c		2.7E-04		c		5.0E-06		gws		9.6E-05		~~gws~~
1,2,4,5-Tetrachlorobenzene	~~95943~~	95-94-3	1.8E+01		nc		2.6E+02		nc		1.1E+01		nc		6.6E-01		~~nc~~
1,1,1,2-Tetrachloroethane	~~630206~~	630-20-6	3.0E+00		c		7.0E+01		c		4.3E-01		c		3.1E-03		~~c~~
1,1,2,2-Tetrachloroethane	~~79345~~	79-34-5	3.8E-01		c		9.0E+00		c		5.5E-02		c		3.9E-04		~~c~~
Tetrachloroethylene (PCE)	~~127184~~	127-18-4	~~5.7E+00~~	5.6E-01	c		~~1.9E+02~~	1.9E+01	c		5.0E+00		gws		8.0E-02		~~gws~~
2,3,4,6-Tetrachlorophenol	~~58902~~	58-90-2	1.8E+03		nc		2.6E+04		nc		1.1E+03		nc			9.2E+01	
p,a,a,a-Tetrachlorotoluene	~~5216251~~	5216-25-1	2.4E-02		c		1.2E+00		c		3.3E-03		c			2.7E-04	
Tetrahydrofuran	~~109999~~	109-99-9	6.4E+01		c		3.2E+03		c		8.7E+00		c				
Thallium and compounds	~~7446186~~	7440-28-0	~~5.2E+00~~	6.3E+00	nc		~~1.3E+02~~	1.6E+02	nc		~~2.4E+00~~	2.0E+00	~~nc~~	gws	~~3.4E+00~~	2.8E+00	~~nc~~
Thiobencarb	~~28249776~~	28249-77-6	6.1E+02		nc		8.8E+03		nc		3.7E+02		nc			4.1E+01	
Thiocyanate		463-56-9	6.1E+03		nc		8.8E+04	9.2E+03	~~nc~~	csat	~~3.7E+03~~	6.1E+02	nc			2.5E+00	
Tin and compounds		7440-31-5	4.7E+04		nc		1.0E+06		max		2.2E+04		nc			1.1E+05	
Toluene	~~108883~~	108-88-3	~~5.9E+02~~	2.8E+02	~~nc~~	csat	~~2.0E+03~~	2.8E+02	~~nc~~	csat	1.0E+03		gws		1.0E+01		~~gws~~
Toluene-2,4-diamine	~~95807~~	95-80-7	1.5E-01		c		7.7E+00		c		2.1E-02		c			1.8E-04	
Toluene-2,5-diamine	~~95705~~	95-70-5	3.7E+04		nc		5.3E+05		nc		2.2E+04		nc			1.9E+02	
Toluene-2,6-diamine	~~823405~~	823-40-5	~~1.2E+04~~	1.8E+03	nc		~~1.8E+05~~	2.6E+04	nc		~~7.3E+03~~	1.1E+03	nc			9.7E+00	
p-Toluidine	~~106490~~	106-49-0	2.6E+00		c		1.3E+02		c		3.5E-01		c		5.9E-03		~~c~~
Toxaphene	~~8001352~~	8001-35-2	4.4E-01		c		2.2E+01		c		3.0E+00		gws		3.1E+01		~~gws~~
1,2,4-Tribromobenzene	~~615543~~	615-54-3	3.1E+02		nc		4.4E+03		nc		1.8E+02		nc			6.0E+00	
Tributyltin oxide (TBTO)	~~56359~~	56-35-9	1.8E+01		nc		2.6E+02		nc		1.1E+01		nc			1.6E+04	
2,4,6-Trichloroaniline	~~634935~~	634-93-5	1.4E+01		c		7.3E+02		c		2.0E+00		c			2.3E-02	
1,2,4-Trichlorobenzene	~~120821~~	120-82-1	~~6.5E+02~~	6.0E+01	nc		~~7.6E+03~~	2.1E+02	nc		~~1.9E+02~~	7.0E+01	~~nc~~	gws	~~1.4E+01~~	4.9E+00	~~nc~~

Table 60-3B
(Revised July 2006)

CONTAMINANT	CAS No.	Residential Soil 1,4 (mg/kg)		Industrial Soil 1,4 (mg/kg)		Ground Water 2,4 (ug/L)		Migration to Groundwater 3,4 (mg/kg)	
1,1,1-Trichloroethane	~~71556~~ 71-55-6	~~6.4E+02~~ 8.1E+02	~~nc~~ csat	~~3.2E+03~~ 8.1E+02	~~nc~~ csat	~~5.4E+02~~ 2.0E+02	~~nc~~ gws	~~5.7E+00~~ 2.1E+00	~~nc~~
1,1,2-Trichloroethane	~~79005~~ 79-00-5	8.3E-01	c	1.9E+01	c	5.0E+00	gws	3.5E-02	~~gws~~
Trichloroethylene (TCE)	~~79016~~ 79-01-6	~~2.7E+00~~ 4.2E-02	c	~~6.1E+01~~ 9.2E-01	c	5.0E+00	gws	4.3E-02	~~gws~~
Trichlorofluoromethane	~~75694~~ 75-69-4	3.9E+02	nc	1.3E+03	nc	1.3E+03	nc	2.2E+01	~~nc~~
2,4,5-Trichlorophenol	~~95954~~ 95-95-4	6.1E+03	nc	8.8E+04	nc	3.7E+03	nc	2.5E+02	~~nc~~
2,4,6-Trichlorophenol	~~88062~~ 88-06-2	4.4E+01	c	2.2E+03	c	6.0E+00	c	1.2E-01	~~c~~
2,4,5-Trichlorophenoxyacetic Acid	~~93765~~ 93-76-5	6.1E+02	nc	8.8E+03	nc	3.7E+02	nc	2.0E+00	~~nc~~
2-(2,4,5-Trichlorophenoxy) propionic acid	~~93721~~ 93-72-1	4.9E+02	nc	7.0E+03	nc	~~2.9E+02~~ 5.0E+01	~~nc~~ gws	~~2.1E+01~~ 3.6E+00	~~nc~~
1,1,2-Trichloropropane	~~598776~~ 598-77-6	1.5E+01	nc	5.1E+01	nc	3.0E+01	nc	2.5E-01	~~nc~~
1,2,3-Trichloropropane	~~96184~~ 96-18-4	~~1.4E-03~~ 5.0E-03	c	~~3.1E-02~~ 1.1E-01	c	~~1.6E-03~~ 5.5E-03	c	~~1.3E-05~~ 4.4E-05	~~c~~
1,2,3-Trichloropropene	~~96195~~ 96-19-5	~~1.2E+01~~ 7.1E-01	nc	~~3.9E+01~~ 2.3E+00	nc	~~3.0E+01~~ 2.2E+00	nc	~~2.4E-01~~ 1.7E-02	~~nc~~
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	~~76131~~ 76-13-1	~~2.1E+04~~ 5.3E+03	~~nc~~ csat	~~6.9E+04~~ 5.3E+03	~~nc~~ csat	5.9E+04	nc	2.8E+03	~~nc~~
1,2,4-Trimethylbenzene	~~95636~~ 95-63-6	5.2E+01	nc	1.7E+02	nc	1.2E+01	nc	1.9E+00	~~nc~~
1,3,5-Trimethylbenzene	~~108678~~ 108-67-8	2.1E+01	nc	7.0E+01	nc	1.2E+01	nc	4.6E-01	~~nc~~
Trimethyl phosphate	~~512561~~ 512-56-1	1.3E+01	c	6.7E+02	c	1.8E+00	c	7.7E-03	
1,3,5-Trinitrobenzene	~~99354~~ 99-35-4	~~1.8E+03~~ 2.2E+03	nc	~~2.6E+04~~ 4.9E+04	nc	1.1E+03	nc	5.2E+01	
Trinitrophenylmethylnitramine (Tetryl)	~~479458~~ 479-45-8	~~6.1E+02~~ 3.1E+02	nc	~~8.8E+03~~ 8.1E+03	nc	~~3.7E+02~~ 1.5E+02	nc	1.3E+01	
2,4,6-Trinitrotoluene	~~118967~~ 118-96-7	~~1.6E+01~~ 2.1E+01	c	~~4.4E+02~~ 9.8E+02	nc	2.2E+00	c	1.7E-01	
Uranium (chemical toxicity only)	~~7440610~~ 7440-61-1	1.6E+01	nc	4.1E+02	nc	7.3E+00	nc		
Vanadium and compounds	~~7440622~~ 7440-62-2	~~5.5E+02~~ 7.8E+01	nc	~~1.4E+04~~ 2.0E+03	nc	~~2.6E+02~~ 3.7E+01	nc	~~5.1E+03~~ 7.3E+02	~~nc~~
Vinclozolin	~~50471448~~ 50471-44-8	1.5E+03	nc	2.2E+04	nc	9.1E+02	nc	1.4E+01	
Vinyl acetate	~~108054~~ 108-05-4	4.3E+02	nc	1.4E+03	nc	4.1E+02	nc	1.8E+00	~~nc~~
Vinyl bromide	~~593602~~ 593-60-2	1.9E-01	c	4.2E+00	c	1.0E-01	c	9.5E-04	~~c~~
Vinyl chloride (lifetime)	~~75014~~ 75-01-4	1.5E-01	c			2.0E+00	gws	1.3E-02	~~gws~~
Vinyl chloride (adult)	~~75014~~ 75-01-4			~~8.3E+00~~ 8.8E+00	c	2.0E+00	gws	1.3E-02	~~gws~~
Warfarin	~~81812~~ 81-81-2	1.8E+01	nc	2.6E+02	nc	1.1E+01	nc	4.4E-01	~~nc~~
Xylenes	~~1330207~~ 1330-20-7	~~1.4E+03~~ 1.1E+02	~~nc~~ csat	~~4.5E+03~~ 1.1E+02	~~nc~~ csat	1.0E+04	gws	1.2E+02	~~gws~~
Zinc	~~7440666~~ 7440-66-6	2.3E+04	nc	6.1E+05	nc	1.1E+04	nc	1.4E+04	~~nc~~
Zinc phosphide	~~1314847~~ 1314-84-7	2.3E+01	nc	6.1E+02	nc	1.1E+01	nc		
Zineb	~~12122677~~ 12122-67-7	3.1E+03	nc	4.4E+04	nc	1.8E+03	nc	8.0E+00	

1 - The residential and industrial soil values consider ingestion and dermal exposure to soil and inhalation exposure to contaminants moving from soil to ambient air.

2- Risk-based groundwater values consider ingestion and inhalation exposure arising from the domestic use of groundwater. Where ~~the~~ a groundwater standard exists in at 46CSR12 ~~is greater than the risk-based concentration~~, the groundwater standard is listed instead of the risk-based concentration.

3 - The migration from soil to groundwater values shall be applied unless it is shown to the satisfaction of the Secretary that migration of soil contaminants to groundwater will not result in an exceedance of the DeMinimis Groundwater Standards.

4 - The concentrations in this table shall be applied where the exposure pathways described in footnotes 1,2, and 3 are the major contributors to risks identified in the site assessment. If other exposure pathways are identified, the acceptable concentrations shall be determined only in consultation with the Secretary, considering all exposure pathways, and all other requirements of the regulations.

(*) Lead - Residential soil based on Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Faclilities (July 1994), USEPA OSWER Directive 9355.4-12. Industrial soil based on the USEPA documents Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soils (December 1996) and Frequently Asked Questions (FAQs) on the Adult Lead Model (April 1999).