The Freedom Industries Spill

Lessons Learned and Needed Reforms

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The vigor with which elected officials, agency heads, and members of the Legislature seek to protect human health and the environment underlies the findings of this report. In recent years, the tone of many of our state leaders has been clear—too much regulation and too much involvement by the United States Environmental Protection Agency. Any serious recognition of the link between protecting the environment and promoting a healthy, diversified economy is often lost.

Clean Water Act

Freedom Industries holds a West Virginia/National Pollutant Discharge Elimination System permit under the Clean Water Act—a registration under the state's general multi-sector industrial stormwater permit. WVDEP issues and enforces these permits. This permit includes many items related to spills. It also requires immediate reporting of noncompliance that may endanger health or the environment.

Recommendations:

- ***Elected officials, agency heads, and members of the Legislature should change their tone and expectations to hold the West Virginia Department of Environmental Protection accountable for fully and consistently enforcing its permits and all environmental laws.***
- ***The governor and Legislature should require that the West Virginia Department of Environmental Protection inspect all National Pollutant Discharge Elimination System-permitted sites, and should immediately inspect the most critical sites.***
- ***The governor and Legislature should prohibit coverage under the general multi-sector industrial stormwater permit for facilities that are located in zones of critical concern, upstream from public water supply intakes.***
- ***The governor and Legislature should require additional permit conditions for facilities such as the Freedom Industries site.***
- ***The governor and Legislature should increase funding and staffing for the West Virginia Department of Environmental Protection's National Pollutant Discharge Elimination System and environmental enforcement programs.***

Safe Drinking Water Act

The West Virginia Bureau for Public Health wrote a Source Water Assessment Report for West Virginia American Water's Charleston system in 2002. According to this report, the system is highly susceptible to contamination. The report delineates a zone of critical concern—a corridor along the Elk River and its tributaries that warrant more detailed management because spills that occur in this zone would reach the public water supply intake very quickly. Approximately 50 potential significant contaminant sources were identified in this zone, including the Freedom Industries site.

While the Source Water Assessment Report was an important first step, it simply presents information. A Protection Plan is needed to develop protective strategies in order to minimize the risk of contamination of the water supply. Such a plan should include contingency planning, alternative sources, and management planning. No Protection Plan for this facility appears to have been written.

Recommendations:

- ***WVBPH should update Charleston's Source Water Assessment Report, and all Source Water Assessment Reports across the state.***
- ***The governor and Legislature should mandate that the West Virginia Bureau for Public Health or other appropriate state or local entities write Protection Plans and should provide for funding.***
- ***The governor and Legislature should provide for state-specific protective standards for chemicals used in large quantities in West Virginia.***
- ***Local emergency planning committees should carefully review Source Water Assessment Reports and take all necessary actions.***

Emergency Planning and Community Right-To-Know Act

The Emergency Planning and Community Right-to-Know Act helps communities plan for emergencies involving hazardous substances. It requires hazardous chemical emergency planning by federal, state and local governments, Indian tribes, and industry. It also requires industry to report on the storage, use and releases of hazardous chemicals to federal, state, and local governments.

Freedom Industries filed Tier Two Emergency and Hazardous Chemical Industry forms in recent years, which specifically listed MCHM along with 16 other chemicals since 2007. These forms list MCHM as being an "immediate (acute) physical and health hazard" and note the quantity of MCHM stored onsite: between 100,000 and 999,999 pounds on an average daily and maximum daily basis.

Recommendations:

- ***The governor and Legislature should support local emergency planning committees and local governments in their planning efforts to manage and minimize risk.***
- ***Local emergency planning committees should utilize the information submitted on Tier Two forms to manage and minimize risk.***

1. INTRODUCTION

On January 9, 2014 at 8:16 AM, the West Virginia Department of Environmental Protection (WVDEP) received an odor complaint (WVDEP, 2014a) for the Freedom Industries Etowah River Terminal[1] site—a bulk storage distribution center holding thousands of gallons of chemicals along the Elk River, approximately 1.5 miles above the drinking water intake for West Virginia American Water's (WVAW's) treatment plant (See Figure 1) (WVDEP, 2014b and c). WVAW supplies drinking water to a nine-county area, including Charleston.

The site includes three above-ground storage tanks containing MCHM and 11 additional tanks that contain materials with the potential to cause harm to human health and the environment (WVDEP, 2014c). According to the most recent Tier Two Emergency and Hazardous Chemical Industry form filed for the site, MCHM was stored in two tanks at the facility. This form also lists nine additional chemicals that were stored onsite in reportable quantities in 2012 (Etowah River Terminal, 2013).

In responding to the odor complaint, WVDEP discovered that 4-methylcyclohexane methanol (4-MCHM) had leaked from above-ground storage tanks, breached the secondary containment, and entered the Elk River (WVDEP, 2014 a and b). In more recent communications, the term "crude MCHM" has been used to describe the chemical that has leaked. According to its Material Safety Data Sheet, crude MCHM is a mixture of water plus six chemicals:

- 4-MCHM,
- 4-(methoxymethyl)cyclohexanemethanol,
- methyl 4-methylcyclohexanecarboxylate,
- dimethyl 1,4-cyclohexanedicarboxylate,
- methanol, and
- 1,4-cyclohexanedimethanol (Eastman, 2011).[2]

This report summarizes key issues, information gaps, and policy remedies as they relate to three key environmental laws:

- Clean Water Act,
- Safe Drinking Water Act, and
- Emergency Planning and Community Right-to-Know Act.

Other laws and policies are also important. For example, the Comprehensive Environmental Response, Compensation, And Liability Act addresses the response to the release of hazardous substances that may endanger public health or the environment. The Toxics Substances Control Act provides USEPA with the authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemicals. The Oil Pollution Act helps prevent and respond to oil spills. Also, in response to incidents at chemical facilities in West Virginia, the Chemical Safety Board has offered recommendations.

While these laws and recommendations are important, this report focuses on three laws that provide the context for state and local governments to take forceful and immediate action to help prevent catastrophic spills from occurring and to plan effectively should they occur.

[1] Freedom Industries purchased this facility from Etowah River Terminal, LLC on December 9, 2013 (WVDEP, 2014b).

[2] This distinction between crude MCHM and 4-MCHM is important. If 4-MCHM were the only chemical to have leaked, then it would be appropriate to test for 4-MCHM and to establish a safe threshold for this single chemical. However, if crude MCHM leaked, then six different chemicals would have impacted the water supply. Safe thresholds would be required to be developed for all six chemicals, and testing would be needed for all six chemicals or their break-down products.

Figure 1: The Freedom Industries site and West Virginia American Water facility

Source: Zone of critical concern from WVBPH (2002).

2. STATE LEADERS' ATTITUDES TOWARD ENVIRONMENTAL REGULATIONS

In West Virginia, the vigor with which agencies seek to protect human health and the environment is impacted by actions and statements by state leaders. In recent years, their tone has been clear—too much regulation and too much involvement by the United States Environmental Protection Agency (USEPA). Any serious recognition of the link between protecting the environment and promoting a healthy, diversified economy appears lost in these statements.

Leaders have made numerous public statements to this effect. For example, in a 2012 press release announcing that the state is moving forward with its lawsuit against USEPA, Governor Tomblin is quoted as stating:

> This lawsuit is about the rights of our state to regulate itself within the scope of the existing federal and state laws. The EPA has overstepped its bounds, taken that right away and we're simply fighting to get it back. (Office of the Governor, 2012)

In 2013, the attorney general commented on West Virginia's lawsuit against USEPA for its enforcement of the Clean Water Act against a coal mine:

> At its essence, this lawsuit is about jobs in West Virginia and elsewhere…But this case is about more than coal mining. It's about the ability of states such as West Virginia to be able to engage and promote economic development, highway construction, and other needed investments without fearing a federal agency will step in years later and halt the project. That is why we strongly support Mingo Logan Coal Co.'s appeal to the U.S. Supreme Court. (Office of the Attorney General, 2013)

In 2009, before a subcommittee of the United States Senate Committee on Environment & Public Works, the WVDEP Cabinet Secretary turned the role of his agency upside-down, stating that the "greater concern" for WVDEP is not protecting human health and the environment, but limiting regulation:

> Coal production is the leading revenue generator for West Virginia, and many in the State are concerned about losing the opportunities for future economic development associated with mountaintop mining. The greater concern for the Department of Environmental Protection, however, as protector of the State's water resources, is the unintended consequences of the Environmental Protection Agency's recent actions that have the potential to significantly limit all types of mining. (Huffman, 2009)

When confronted by protestors asking Governor Tomblin to better prepare for a decline in coal production in West Virginia, he chose not to meet with the protestors and, instead, issued a statement via his communications director:

> Governor Tomblin has been clear, as have several federal judges, on the overreaching demands of the [U.S. Environmental Protection Agency] from this administration…Governor Tomblin's primary focus has always been job preservation and job creation…Governor Tomblin believes strongly that West Virginia coal and natural gas play a critical role in energy independence—and he will continue to fight for those industries and the jobs they create." (Ward, 2012)

It is within this context that the Freedom Industries spill must be understood—elected officials, agency heads, and members of the Legislature have made it clear that protecting human health and the environment will take a back seat to supporting lax regulation of industry.

3. CLEAN WATER ACT

Freedom Industries holds a West Virginia/National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act, which is a registration under the state's general multi-sector industrial stormwater permit: Permit WVG610920, issued to Etowah River Terminal, LLC on 11/17/2009. The general permit itself is Permit WV0111457 (WVDEP, 2009a), and is included in Appendix C. WVDEP issues and enforces these permits.

General NPDES permits are intended to be reserved for categories of activities with minimal environmental impact and are used to make permitting more efficient. This particular general permit is designed for establishments with discharges composed entirely of stormwater associated with industrial activity. While this permit includes "benchmark" discharge limitations for certain pollutants, which depend on the type of facility covered, it is largely based on the prevention or reduction of pollutant discharges through the implementation of best management practices.

In order to register under the general permit, WVDEP must approve two key documents submitted by the permittee: a stormwater pollution prevention plan (SWPPP) and groundwater protection plan (GPP). These plans are then enforceable aspects of the permit. The SWPPP and GPP provide details on the practices that the permittee will implement to ensure that discharges from the site limit potentially harmful discharges to the environment.

3.1 Stormwater pollution prevention plan

The SWPPP must contain many items that are related to spills:

> **Risk identification and Assessment/Material Inventory -** The stormwater pollution prevention plan shall assess the potential of various sources at the facility to contribute pollutants to stormwater discharges associated with industrial activity. The plan shall inventory the types of materials handled, the location of material management activities, and types of material management activities. Factors to consider when evaluating the pollution potential of runoff from various portions of an industrial plant include: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; dust or particulate generating processes; and waste disposal practices. Other factors to consider are the toxicity of chemicals; quantity of chemicals used, produced, or discharged; history of water quality violations; history of significant leaks or spills of toxic or hazardous pollutants; and nature and uses of the receiving waters. (WVDEP, 2009a, p. 32)
>
> **Spill Prevention and Response Procedures -** Areas where potential spills can occur, and their accompanying drainage points shall be identified clearly in the stormwater pollution prevention plan. Where appropriate, specifying material handling procedures and storage requirements in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a cleanup should be available to all personnel. (WVDEP, 2009a, p. 32)
>
> **Employee Training -** Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the stormwater pollution prevention plan. Training should address topics such as spill response, good housekeeping, and material management practices. A pollution prevention plan shall identify periodic dates for such training. (WVDEP, 2009a, p. 33)
>
> **Visual Inspections -** Qualified company personnel shall be identified to inspect designated equipment and plant or other appropriate areas. Material handling areas shall be inspected for evidence of, or the potential for pollutants entering the drainage system. A tracking or follow-up

procedure should be used to ensure that adequate response and corrective actions have been taken in response to the inspection. Records of inspections shall be maintained. (WVDEP, 2009a, p. 33)

Record keeping and Internal Reporting Procedures - Incidents such as spills, leaks, and improper dumping, along with other information describing the quality and quantity of stormwater discharges should be included in the records. Inspections and maintenance activities such as cleaning oil and grit separators or catch basins should be documented and recorded. (WVDEP, 2009a, p. 33)

Consistency with Other Plans and Programs - Stormwater management plans and programs may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the Clean Water Act (CWA) or Best Management Practices (BMP) plans otherwise required by a WV/NPDES permit, and may incorporate any part of such plans into the stormwater pollution prevention plan by reference. (WVDEP, 2009a, p. 34)

The paragraphs quoted above are included in WVDEP's general permit itself (WV0111457); WVDEP has not fulfilled a Freedom of Information Act Request filed by Downstream Strategies on January 13, seeking Freedom Industries' SWPPP.

3.2 Groundwater protection plan

The GPP also must include information specifically related to spills:

> A thorough and detailed summary of all activities carried out under other regulatory programs which have relevance to groundwater protection (for example: RCRA, CERCLA, Stormwater Permit, Spill Prevention Control and Countermeasures plans, Toxic Substances Control Act, DOT training requirements, Management of Used Oil, etc.) (WVDEP, 2009a, p. 34)

This paragraph is included in WVDEP's general permit itself (WV0111457); WVDEP has not fulfilled a Freedom of Information Act Request filed by Downstream Strategies on January 13, seeking Freedom Industries' GPP.

3.3 Immediate reporting of spills

In addition to the SWPPP and GPP, this permit clearly requires permittees to report spills immediately:

> **Immediate Reporting.** The permittee shall report any noncompliance which may endanger health or the environment immediately after becoming aware of the circumstances by using the Agency's designated spill alert telephone number. (WVDEP, 2009a, p. 43)

An odor complaint was filed with WVDEP at 8:16 AM on January 9, but Freedom did not report the spill until 12:05 PM that day—almost four hours later (WVDEP, 2014b). The complaint noted that "…there is something in the air at the [Interstate] 77-79 split ***each morning*** when he comes into work. He said it's coating his wife's throat." (WVDEP, 2014b) This suggests that, even though the complaint was filed on the morning of January 9, the spill had occurred before that date. Clearly, Freedom Industries did not immediately report this spill.

Press reports indicate that WVDEP did not recognize this permit requirement to immediately report noncompliance. According to a January 13 article from CNN, WVDEP Cabinet Secretary Randy Huffman stated: "'Basically they had to monitor the runoff from the rain and send us the results every quarter. Those were the only regulatory requirements,' Huffman said. 'The materials they were storing there is not a hazardous material.'" (Field et al., 2014)

3.4 Prohibition of discharges that violate water quality standards

The permit also clearly prohibits discharges that violate water quality standards:

> **Water Quality Standards.** The effluent or effluents covered by this permit are to be of such quality so as to not cause violations of applicable water quality standards. (WVDEP, 2009a, p. 28)

The most likely water quality standards that this spill may have violated include six of the state's narrative standards, which prohibit certain conditions in state waters:

> No sewage, industrial wastes, or other wastes present in any of the waters of the state shall cause therein or materially contribute to any of the following conditions thereof:
>
> - Distinctly visible floating or settleable solids, suspended solids, scum, foam, or oily slicks;
> - Odors in the vicinity of the waters;
> - Taste or odor that would adversely affect the designated uses of the affected waters;
> - Materials in concentrations which are harmful, hazardous or toxic to man, animal or aquatic life;
> - Requiring an unreasonable degree of treatment for the production of potable water by modern water treatment processes as commonly employed; and
> - Any other condition, including radiological exposure, which adversely alters the integrity of the waters of the State including wetlands; no significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems shall be allowed.[3]

The relevance of these narrative standards is acknowledged by WVDEP. In WVDEP's Order 8028, issued to Freedom Industries on January 10, 2014 after responding to an odor complaint and discovering the leak, WVDEP states:

> The release of this spilled material has caused conditions not allowable in the Elk River by creating odors in the vicinity of state waters, by requiring an unreasonable degree of treatment for the production of potable water, and by creating a sheen on the surface of the water, a violation of 47 CSR 2, Section 3. (WVDEP, 2014c, Section 3.c)

3.5 Permit enforcement

WVDEP issues and is the primary enforcement agency for all NPDES permits, including this one. USEPA maintains oversight of the state's NPDES program and can also play a role in enforcement.

Tools available to WVDEP for enforcement include inspections. According to numerous press accounts, WVDEP had not inspected this site since 2001 (See, for example, Mattise and Weiss, 2014 and Daily News, 2014).

However, WVDEP has released documentation of air inspections at this site in 2005, 2009, and 2012; no violations were noted in these inspections (WVDEP, 2005; 2009b; and 2012). WVDEP also performed Hazardous Waste Compliance Evaluation Inspections in 1990, 1991, 1999, and 2002 (WVDEP, 1990; 1991; 1999; and 2002a) and Voluntary Remediation Inspections in 2002 and 2003 (WVDEP, 2002b; 2002c; 2003).

None of these inspections, however, enforced the industrial stormwater NPDES permit.

WVDEP maintains discretion regarding how often to inspect facilities regulated under this permit. WVDEP's Memorandum of Understanding with USEPA documents how the agencies will work together to implement West Virginia's NPDES Program. According to this document, major facilities are to be inspected at least

[3] 47 CSR 2 §3.2.

annually, but for other facilities such as the Freedom Industries site, "The number and type of other inspections will be determined by [WVDEP], depending upon the need to assess permit compliance." (WVDEP and USEPA, 1982, p. 28)

WVDEP's power to inspect and enforce this permit is demonstrated by the actions the agency took after the spill was discovered. WVDEP issued two orders: 8027 and 8028 (WVDEP, 2014b and c). These orders specifically enforce the NPDES stormwater permit described in this section, and specifically mention violations of several of the state's narrative water quality standards described above.

Also, according to a recent compliance review of WVDEP's NPDES Program conducted by USEPA, WVDEP performed 2,136 inspections at storm water construction sites, which are permitted under a different general stormwater permit (USEPA, Undated). This confirms that WVDEP has the authority to perform inspections of its general NPDES permits.

3.6 State recommendations

Elected officials, agency heads, and members of the Legislature should change their tone and expectations to hold WVDEP accountable for fully and consistently enforcing its permits and all environmental laws. Funding and staffing at WVDEP is not enough to prevent such a spill from happening in the future. Our leaders must make it absolutely clear to agency employees that their expectation is to fully and consistently enforce all permits, including those directly or indirectly related to the coal industry.

The governor and Legislature should require that WVDEP inspect all NPDES-permitted sites, and should immediately inspect the most critical sites. Enforcement of NPDES permits requires inspections, whether permitted with an individual or general permit, whether located in a large city or rural area, and whether involving hazardous chemicals or sediment discharges. Given the large number of sites across the state, the most critical sites, such as the Freedom Industry facility, should be inspected immediately.

The governor and Legislature should prohibit coverage under the general multi-sector industrial stormwater permit for facilities that are located in zones of critical concern, upstream from public water supply intakes. General NPDES permits are intended to be reserved for categories of activities with minimal environmental impact and are used to make permitting more efficient. The multi-sector industrial stormwater permit lists certain exclusions, which would require the issuance of an individual permit. None of these existing exclusions appear to apply to the Freedom Industries site. If an individual permit had been required for this site, then the permit would have received an extra level of scrutiny and analysis because it would have been put out for public notice and comment and because WVDEP would be free to include site-specific requirements. For facilities located within zones of critical concern delineated in Source Water Assessment Reports, prohibiting coverage under general permits would ensure that this extra level of scrutiny is provided.

The governor and Legislature should require additional permit conditions for facilities such as the Freedom Industries site. Facilities that utilize, store, or otherwise handle large quantities of potentially toxic chemicals capable of adversely impacting public water supplies, and specifically those located within zones of critical concern, should receive additional permit conditions.

The governor and Legislature should increase funding and staffing for WVDEP's NPDES and environmental enforcement programs. More funding for WVDEP stormwater program is necessary to ensure that, when permit applications are submitted, WVDEP holds permittees accountable for submitting accurate and comprehensive SWPPPs and GPPs. WVDEP staff responsible for enforcement of these industrial stormwater permits also must have the resources available to perform inspections.

4. SAFE DRINKING WATER ACT

The Safe Drinking Water Act protects the quality of public drinking water supplies by setting enforceable standards to protect human health and by providing a planning process to ensure that drinking water sources, such as the Elk River, are not polluted.

4.1 Maximum contaminant levels and maximum contaminant level goals

Federal drinking water standards are set for a wide variety of pollutants, including numerous organic chemicals (USEPA, 2014a). While 4-MCHM is an organic chemical, no federal standards have been set for this chemical.

For many other organic chemicals, however, maximum contaminant level goals (MCLGs) have been established. MCLGs are non-enforceable levels set at a level at which no known or anticipated adverse effect on the health of persons would occur. MCLGs for many organic chemicals are zero.

Maximum contaminant levels (MCLs) are enforceable and may be less stringent than MCLGs. MCLs are the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. In other words, MCLs must be met at customers' taps. Many MCLs for organic chemicals are in the parts per billion, or micrograms per liter.

States can independently develop and mandate protective standards for chemicals within their borders when USEPA has not. Pennsylvania, for example, has developed medium-specific concentrations for organic and inorganic substances in groundwater (PADEP, 2014). California has developed MCLs (California Department of Public Health, 2008).

4.2 Source water assessment report

Because MCLs and MCLGs have not been set for 4-MCHM or many other chemicals that may harm human health, the Safe Drinking Water Act's source water protection processes are extremely important. West Virginia's Source Water Assessment and Wellhead Protection Program is coordinated by the Bureau for Public Health, Office of Environmental Health Services, within the Department of Health and Human Resources (WVBPH, 2014a).

According to WVBPH, the goal of this program is:

> …to assess, preserve, and protect the state's source waters which are used to supply water for the state's public drinking water supply systems (PWSS) and to provide a long term availability of an abundant supply of safe water in sufficient quantity for present and future citizens of West Virginia. Also, to enable the water supply owners, consumers, and others to initiate and promote actions to protect their drinking water supplies with the developed information. (WVBPH, 1999, p. 7)

The first step in this process, as mandated by the Safe Drinking Water Act, is to develop Source Water Assessment Reports (SWARs) for public water supplies. Preparation of SWARs was eligible to be funded via state Drinking Water State Revolving Fund set-asides (USEPA, 2014b).

This SWAR for WVAW's Charleston system was written in 2002 (WVBPH, 2002); a copy of this report is included in Appendix B.

This SWAR assigns a susceptibility ranking of "high" to WVAW's system. According to this report:

> Susceptibility is a measure of your intake's potential for contamination from land uses and activities within the SWPA at concentrations that pose a concern. The purpose of the susceptibility analysis is to provide a pointer to what action a public water system should take to further define and reduce susceptibility. (WVBPH, 2002, p. 2)

The report also delineates the Zone of Critical Concern (ZCC):

> The ZCC is a corridor along streams within the [watershed delineation area] that warrants a more detailed inventory and management due to its proximity to the surface intake and to the susceptibility to potential contaminants. (WVBPH, 2002, p. 2)

The ZCC for Charleston's public water supply is shaded green in Figure 1. It includes the land within 1,000 feet of the Elk River and within 500 feet of tributaries of the Elk River, upstream from the drinking water intake.

The SWAR then lists numerous potential significant contaminant sources (PSCSs) within the ZCC:

- 7 industrial,
- 39 commercial,
- 4 municipal, and
- 1 agricultural source.

Among the industrial PSCSs, it lists two by name: Allegheny Power Company and the Pennzoil Manufacturing Plant. Freedom Industries currently occupies the Pennzoil Manufacturing Plant site.

Therefore, it was known, at least as far back as 2002, that this chemical storage facility, which was then used to store petroleum products, was a PSCS within the ZCC.

This SWAR is 12 years old and is out of date. Since 2002, the Pennzoil site has changed ownership to Etowah River Terminal, LLC and then to Freedom Industries. The types of materials stored at the site have changed as well. Effective management of the risk of source water contamination requires accurate, up-to-date information about potential hazards.

4.3 Protection plan

While the 2002 SWAR was an important first step, it simply presents information. According to the SWAR:

> A detailed risk-assessment of the PSCSs was beyond the scope of this survey because of minimal data and resources. Local decision makers should do the detailed risk analysis because they are better suited to make the bridge from assessment work to protective strategies. The West Virginia SWAP program can provide guidance to the decision makers and help in prioritizing the PSCS sources. (WVBPH, 2002, p. 5)

It is therefore the responsibility of local decision makers to use the information presented in the SWAR to write a Protection Plan to actually protect the intake. The SWAR provides additional information on the contents of a Protection Plan:

> NEXT STEP – SWAP Protection Plan. The next step in source water protection planning is to prepare a SWAP protection plan. The SWAP protection plan incorporates this source water delineation assessment report and three additional sections: Contingency Planning, Alternative Sources, and Management Planning. (WVBPH, 2002, p. 7)
>
> Contingency Planning. A contingency plan documents the system's planned response to interruption of the source water supply. (WVBPH, 2002, p. 7)

> Alternative Sources. Information pertaining to alternative water sources focusing on long-term source replacement should the system be required to develop a new source of water due to contamination (or other reasons). This section outlines the most likely sources that can be used as an alternate water source. (WVBPH, 2002, p. 7)
>
> Management Planning. Management planning is the most important element of SWAP. The management plan identifies specific activities that will be pursued by the system to protect their water resources. The system will benefit by taking a proactive approach to source water protection in their watersheds. It is anticipated that most of the management effort will focus on coordination with government agencies and periodic surveys of the watersheds. It may be necessary to conduct a limited number of special studies to determine actual risk and consequences for selected contaminant sources. This information may be needed before decisions can be made on management activities. (WVBPH, 2002, p. 7)

No Protection Plan for this facility appears to have been written.

While the development of the SWAR was legally mandated and funded via the Drinking Water State Revolving Fund, the development of Protection Plans was not legally mandated nor funded.

4.4 State recommendations

WVBPH should update Charleston's SWAR, and all SWARs across the state. Many SWARS written in 2002 are likely to be outdated. In Charleston, since 2002, the Pennzoil site has changed ownership and the types of materials stored at the site have changed. Effective management of the risk of source water contamination requires accurate, up-to-date information about potential hazards.

The governor and Legislature should mandate that WVBPH or other appropriate state or local entities write Protection Plans and should provide for funding. SWARs simply describe the risks; Protection Plans are needed to manage and minimize those risks. These plans should include contingency planning, alternative sources, and management planning. These plans take time and effort and, to be most effective, require a community-wide process and buy-in. A good first step would be to mandate these plans for Class I and Class II cities: those with populations greater than 10,000 people. State matching funds would help local communities afford to pay for the development of these plans.

The governor and Legislature should provide for state-specific protective standards for chemicals used in large quantities in West Virginia. Other states have moved independently to develop and mandate protective standards for chemical within their borders when USEPA has not. Such efforts are particularly important for West Virginia, where a diversity of potentially toxic substances are generated or utilized by major economic engines in the state: the chemical manufacturing and carbon-based energy production industries.

4.5 Local recommendations

Local emergency planning committees should carefully review SWARs and take all necessary actions. While SWARs are only a first step, they do delineate ZCCs and inventory PSCSs within these zones. Sources of pollution that, if spilled, would drain quickly to public water supply intakes are known. Whether or not a formal Protection Plan has been developed, local emergency planning committees need to be aware of all sites and chemicals within these critical zones and must take all necessary actions to minimize the risk of spills and to be prepared in case such spills do take place.

5. EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

The Emergency Planning and Community Right-to-Know Act (EPCRA) helps communities plan for emergencies involving hazardous substances. EPCRA requires hazardous chemical emergency planning by federal, state and local governments, Indian tribes, and industry. It also requires industry to report on the storage, use and releases of hazardous chemicals to federal, state, and local governments. (USEPA, 2014c)

5.1 Tier Two Emergency and Hazardous Chemical Industry forms

EPCRA requires facilities that store hazardous chemicals to annually submit Tier Two Emergency and Hazardous Chemical Industry forms to local emergency planning committees, the state emergency response commission, and the local fire department (WVDHSEM, 2014). Reporting is required when 500 pounds of "Extremely Hazardous Substances" or 10,000 pounds of "all other hazardous chemicals" are present at the facility (WVDHSEM, 2014).

Etowah River Terminal (predecessor of Freedom Industries) has filed these Tier Two forms. Forms are now publicly available for reporting periods from 2007 through 2012 (Etowah River Terminal, 2008-13).

All six of these forms list MCHM as being an "immediate (acute) physical and health hazard." (Etowah River Terminal, 2008-13). The forms also note the quantity of MCHM stored onsite: between 100,000 and 999,999 pounds on an average daily and maximum daily basis.

MCHM is not the only chemical stored at the Freedom Industries site. As shown in Table 1, 16 other chemicals have been disclosed in Tier Two forms since 2007.

Table 1: Chemicals stored at the Freedom Industries site in reportable quantities, 2007-2012

Chemical	2007	2008	2009	2010	2011	2012
Ammonium lignosulfonate	✓	✓	✓	✓	✓	✓
Calcium chloride					✓	✓
Calcium chloride solution	✓	✓	✓	✓	✓	✓
FFC-10	✓	✓				
Glycerin		✓	✓			
Crude glycerin, recovered			✓	✓	✓	✓
Glycerin rework	✓					
Fatty acids, recovered			✓	✓	✓	
Magnafloc 156		✓	✓	✓	✓	✓
Magnafloc 368	✓	✓	✓	✓	✓	✓
Magnafloc 455						✓
Magnasol CN2	✓					
MCHM	✓	✓	✓	✓	✓	✓
PDO concentrate			✓			
RDC-777					✓	✓
Soda ash			✓	✓	✓	✓
Zetag 7645		✓	✓	✓	✓	

Source: Etowah River Terminal (2008-2013). Note: Freedom Industries lists "MCHM" in these forms and does not specify whether this chemical is crude MCHM or 4-MCHM. These listings include the CAS number for 4-MCHM.

5.2 State recommendations

The governor and Legislature should support local emergency planning committees and local governments in their planning efforts to manage and minimize risk. If funding is needed to allow these committees and local government entities to engage in proper planning, then the governor and Legislature should provide it.

5.3 Local recommendations

Local emergency planning committees should utilize the information submitted on Tier Two forms to manage and minimize risk. Tier Two forms provide critical information about the potential for environmental emergencies. Local emergency planning committees should use this information, together with information provided in Source Water Assessment Plans (and, in the future, Protection Plans), to identify, map, and manage potential risks.

6. CONCLUSIONS

The leak at the Freedom Industries site and contamination of the water supply for WVAW's customers in a nine-county area demonstrates failures at multiple levels of government, and within WVAW itself.

Federal, state, and local governments and agencies could have taken steps that would have significantly reduced the risk of this spill occurring or made it easier to effectively respond to the spill. This report focuses on recommendations for state and local governments in West Virginia.

Implementing the recommendations in this report will help ensure that facilities prevent the release of chemicals into waterways, especially immediately upstream from public drinking water supply intakes.

These recommendations will also help ensure that local governments create Protection Plans to perform contingency planning, identify alternative water sources, and perform management planning to address the most immediate and critical risks to public water supplies already identified in Source Water Assessment Reports.

This report focuses on three laws that provide the context for state and local governments to take forceful and immediate action to help prevent catastrophic spills from occurring and to plan effectively should they occur. As more information is brought to light regarding the spill and the response of government agencies, it is likely that additional and more comprehensive recommendations will be warranted.

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APPENDIX A: SOURCE WATER ASSESSMENT REPORTS COMPLETED IN WEST VIRGINIA

According to WVBPH's searchable online database, 342 SWARs have been completed in West Virginia. These SWARs are listed in Table 2.

Table 2: Source Water Assessment Reports completed in West Virginia

City	County	Code	System Name
Systems in ten largest cities			
Beckley	Raleigh	WV3304104	Beckley Water Company
Charleston	Kanawha	WV3302016	WVAWC-Kanawha Valley Dist
Clarksburg	Harrison	WV3301705	Clarksburg Water Board
Fairmont	Marion	WV3302502	Fairmont City of
Huntington	Cabell	WV3300608	WVAWC - Huntington Dist
Martinsburg	Berkeley	WV3300212	Martinsburg City of
Martinsburg	Berkeley	WV3300218	Berkeley County Pswd-Potomac River
Martinsburg	Berkeley	WV3300227	VA Medical Center
Martinsburg	Berkeley	WV3300230	Valley Water And Sewer-Deerwood
Martinsburg	Berkeley	WV3300231	Rocky Glen Manufactured Housing Communit
Martinsburg	Berkeley	WV3300236	Chestnut Ridge Water System
Martinsburg	Berkeley	WV3300238	Powells Patch
Morgantown	Monongalia	WV3303111	Morgantown Utility Board
Parkersburg	Wood	WV3305402	Claywood Park PSD
Parkersburg	Wood	WV3305407	Parkersburg Water Department
Weirton	Brooke	WV3300516	Weirton Area Water Board
Wheeling	Ohio	WV3303516	Wheeling
Other systems			
Albright	Preston	WV3303923	Preston County PSD 4
Alderson	Greenbrier	WV3301315	Alderson Water
Allen Junction	Wyoming	WV3305523	Welton Wtr- Logan Co PSD
Alum Creek	Lincoln	WV3302205	Lincoln PSD
Amherstdale	Logan	WV3302347	Buffalo Creek PSD
Anawalt	McDowell	WV3302416	Anawalt Municipal Water
Anawalt	McDowell	WV3302451	Otoole Water
Arthurdale	Preston	WV3303902	Arthurdale Water Assoc.
Ashland	McDowell	WV3302417	Ashland Community
Athens	Mercer	WV3302801	Athens Town of
Baker	Hardy	WV3301606	Ea Hawse Cont Care Center
Bakerton	Jefferson	WV3301947	Potomac Farms Water Co
Bartley	McDowell	WV3302434	McDowell County PSD- Bartley
Beech Bottom	Brooke	WV3300502	Beech Bottom Water Dept
Belington	Barbour	WV3300101	Belington Town of
Bellwood	Fayette	WV3301005	Bellwood Community Facil Imp
Belmont	Pleasants	WV3303701	Belmont
Benwood	Marshall	WV3302618	Benwood Water Department
Berkeley Springs	Morgan	WV3303301	Berkeley Springs City of
Berkeley Springs	Morgan	WV3303306	Waughs Community Home Park
Berkeley Springs	Morgan	WV3303310	Sky Line Village MHP
Berkeley Springs	Morgan	WV3303313	Berkeley Springs Rehab And Nursing-Upper
Berkeley Springs	Morgan	WV3303314	Apple Orchard Acres
Berkeley Springs	Morgan	WV3303315	Berkeley Springs Rehab And Nursing-Lower
Berkeley Springs	Morgan	WV3303317	Tri Lake Holdings, Inc.
Berwind	McDowell	WV3302435	McDowell County PSD-Berwind

City	County	Code	System Name
Beverly	Randolph	WV3304202	Beverly Town of
Big Sandy	McDowell	WV3302427	Hampton Roads Water System
Bluefield	Mercer	WV3302835	WVAWC-Bluefield District
Bluestone	Mercer	WV3302852	Pocahontas Water System
Bluewell	Mercer	WV3302804	Bluewell PSD
Bradshaw	McDowell	WV3302437	Bradshaw Water Works
Brandywine	Pendleton	WV3303613	Pendleton Co PSD (Brandywine)
Brenton	Wyoming	WV3305504	Brenton PSD
Brenton	Wyoming	WV3305532	Green Camp PSD
Bruceton Mills	Preston	WV3303903	Bruceton Mills Water Dept
Bruceton Mills	Preston	WV3303916	Big Sandy MHP
Buckhannon	Upshur	WV3304902	Buckhannon Water Board
Buckhannon	Upshur	WV3304910	Grand Badger Community Water System
Bud	Wyoming	WV3305502	Alpoca Water Works Inc
Burlington	Mineral	WV3302905	Burlington Methodist Home - C H
Burlington	Mineral	WV3302935	Burlington Meth Home - R H C
Burlington	Mineral	WV3302936	Burlington Meth Home - K C
Burnsville	Braxton	WV3300408	Burnsville Public Utility
Cameron	Marshall	WV3302603	Cameron Water
Canaan Valley	Tucker	WV3304711	Timberline Four Season Resort Management
Capon Bridge	Hampshire	WV3301402	Capon Bridge
Cass	Pocahontas	WV3303802	Cass Scenic Railroad
Cedar Grove	Kanawha	WV3302009	Cedar Grove, Community of
Chapmanville	Logan	WV3302317	Chapmanville Water Plant
Charles Town	Jefferson	WV3301904	Cave Quarter Estates
Charles Town	Jefferson	WV3301905	Charles Town Water Dept
Charles Town	Jefferson	WV3301919	Kratzs MHP
Charles Town	Jefferson	WV3301940	Charles Town-Tuscawilla-Locust Hills
Charles Town	Jefferson	WV3301942	Walnut Grove Utilities
Charles Town	Jefferson	WV3301943	Westridge Water Dept
Charles Town	Jefferson	WV3301966	Parkview Woodland MHP
Charles Town	Jefferson	WV3301979	Deerfield Village Subdivision
Chester	Hancock	WV3301504	Chester
Chester	Hancock	WV3301520	Mountaineer Park Inc
Clay	Clay	WV3300801	Clay Water Dept
Clendenin (RR Name Clendennin)	Kanawha	WV3302010	Clendenin Water Dept
Clifftop	Fayette	WV3301041	Clifftop Community Water
Coal City	Raleigh	WV3304123	Raleigh Co PSD-Coal City
Coal Mountain	Wyoming	WV3305527	Coal Mountain Water
Coalwood	McDowell	WV3302439	McDowell County PSD-Coalwood
Colcord	Raleigh	WV3304136	Ral Co PSD-Sycamore Dist
Cottageville	Jackson	WV3301804	Cottageville PSD
Covel	Wyoming	WV3305512	Covel Water Works
Cowen	Webster	WV3305103	Cowen PSD
Craigsville	Nicholas	WV3303402	Craigsville PSD
Crichton	Greenbrier	WV3301302	Greenbrier County PSD #2
Crumpler	McDowell	WV3302446	Upcc Indian Ridge
Crumpler	McDowell	WV3302448	Crumpler Community Water
Danese	Fayette	WV3301008	Danese PSD
Danville	Boone	WV3300326	Chambers MHP
Danville	Boone	WV3300339	Whispering Pines MHP
Davis	Tucker	WV3304701	Davis Water Works
Davy	McDowell	WV3302425	Davy Municipal Water Works
Deep Water	Fayette	WV3301009	Deepwater PSD
Durbin Fr Bart	Pocahontas	WV3303812	Pocahontas County PSD
Eckman	McDowell	WV3302405	McDowell County PSD - Eckman
Elkhorn	McDowell	WV3302464	McDowell County PSD - Ennis

City	County	Code	System Name
Elkins	Randolph	WV3304203	Elkins City of
Fairview	Marion	WV3302503	Fairview Town of
Falling Waters	Berkeley	WV3300214	Midway MHP
Falling Waters	Berkeley	WV3300241	Broad Lane MHP
Flatwoods	Braxton	WV3300402	Flatwoods Canoe Run PSD
Follansbee	Brooke	WV3300506	Follansbee Municipal
Follansbee	Brooke	WV3300512	Follansbee Hooverson Heights
Fort Ashby	Mineral	WV3302911	Fort Ashby PSD
Fort Gay (Cassville)	Wayne	WV3305004	Fort Gay Water Works
Frametown	Braxton	WV3300404	Sugar Creek PSD
Franklin	Pendleton	WV3303602	Municipality of Franklin
Franklin	Pendleton	WV3303607	Sherwood Forest Estates
Franklin	Pendleton	WV3303609	Pendleton Co PSD-Circleville
Friendly	Tyler	WV3304801	Friendly PSD
Gap Mills	Monroe	WV3303204	Gap Mills PSD
Garwood	Wyoming	WV3305519	Garwood Community Water
Gary	McDowell	WV3302420	Gary City of
Gassaway	Braxton	WV3300406	WVAWC- Gassaway
Gauley Bridge	Fayette	WV3301037	Kanawha Falls PSD
Gerrardstown	Berkeley	WV3300209	Berkeley Co PSWD-Glenwood Forest
Gilbert	Mingo	WV3303002	Gilbert Water Works
Gilbert	Mingo	WV3303024	Gilbert Heights Apartments
Glen Dale	Marshall	WV3302605	Glen Dale Water Works
Glen Rogers	Wyoming	WV3305508	Glen Rogers PSD
Glenville	Gilmer	WV3301104	Glenville Utility
Glover	Wyoming	WV3305528	Glover Community Wtr - Tn of Pineville
Grafton	Taylor	WV3304605	Taylor County PSD
Grantsville	Calhoun	WV3300701	Grantsville Municipal
Green Spring	Hampshire	WV3301407	Green Spring PSD (Springfield)
Green Spring	Hampshire	WV3301412	Green Spring Valley PSD
Greenville	Logan	WV3302357	Logan Co PSD-Greenville System
Greenville	Monroe	WV3303205	Greenville Water Co
Harman	Randolph	WV3304204	Harman Town of
Harpers Ferry	Jefferson	WV3301912	Harpers Ferry Water Works
Harpers Ferry	Jefferson	WV3301915	Harpers Ferry Job Corps
Harpers Ferry	Jefferson	WV3301918	Keyes Ferry Acres - South
Harpers Ferry	Jefferson	WV3301941	Valley View MHP
Harpers Ferry	Jefferson	WV3301949	Oak Hill Mobile Home Community LLC
Harpers Ferry	Jefferson	WV3301960	Harpers Ferry Campsite
Harpers Ferry	Jefferson	WV3301963	Harpers Ferry Campsites
Harpers Ferry	Jefferson	WV3301965	Keyes Ferry Acres-North Section
Harpers Ferry	Jefferson	WV3301974	Potomac Terrace Water HOA
Harpers Ferry	Jefferson	WV3301976	Keyes Ferry Acres - Central Section
Harpers Ferry	Jefferson	WV3301977	Allens Wonderland
Harpers Ferry	Jefferson	WV3301978	Meadow Brook Water System
Harrisville	Ritchie	WV3304307	Hughes River Water
Hartford City (Corporate Name	Mason	WV3302704	Hartford Town of
Hedgesville	Berkeley	WV3300204	Judy Lynn MHP
Hedgesville	Berkeley	WV3300223	Woods HOA, The
Hedgesville	Berkeley	WV3300229	Cherry Run MHP
Hedgesville	Berkeley	WV3300237	Woods Home Owners Assoc #2
Hedgesville	Berkeley	WV3300243	Springer Run Park LLC
Hedgesville	Berkeley	WV3300244	Austin Moble Home Court
Hedgesville	Morgan	WV3303334	Morgan Village MHP
Helen	Raleigh	WV3304113	Ral Co PSD-Helen District
Hendricks	Tucker	WV3304704	Hamrick PSD
Herndon	Wyoming	WV3305535	Herndon Community Water

City	County	Code	System Name
Herndon	Wyoming	WV3305539	Herndon Heights Community Water Assoc
Hiawatha	Mercer	WV3302814	Hiawatha Water
Hillsboro	Pocahontas	WV3303804	Denmar Correctional Center
Hillsboro	Pocahontas	WV3303815	Hillsboro Town of
Hinton	Summers	WV3304513	WVAWC-Bluestone Plant
Holden	Logan	WV3302339	Logan County PSD - Holden
Hundred	Wetzel	WV3305202	Hundred Littleton PSD
Hurricane	Putnam	WV3304005	Hurricane Town of
Huttonsville	Randolph	WV3304205	Huttonsville Correctional Center
Iaeger	McDowell	WV3302429	McDowell County PSD-Iaeger
Inwood	Berkeley	WV3300201	G & E MHP
Inwood	Berkeley	WV3300202	Berkeley Co Pswd-Bunker Hill
Inwood	Berkeley	WV3300239	Cardinal Ventures LLC
Itmann Division	Wyoming	WV3305513	Mullens Water Works-Itman
Jane Lew	Lewis	WV3302103	Jane Lew PSD
Jenkinjones	McDowell	WV3302476	Jenkinjones Community Water
Kanawha Falls	Fayette	WV3301040	Kanawha Falls Community Water
Kearneysville	Jefferson	WV3301908	Fox Glen Utilities
Kearneysville	Jefferson	WV3301911	Green Acres MHP
Kearneysville	Jefferson	WV3301920	Leights MHP
Kearneysville	Jefferson	WV3301929	Russells MHP
Kenova	Wayne	WV3305009	Kenova Municipal Water
Kermit	Mingo	WV3303003	Kermit Water Works
Keyser	Mineral	WV3302915	Keyser City of
Keyser	Mineral	WV3302942	Fountain PSD
Keystone	McDowell	WV3302430	Keystone Municipal Water
Kimball	McDowell	WV3302431	McDowell County PSD - Kimball
Kimberly	Fayette	WV3301004	Armstrong PSD
Kincaid	Fayette	WV3301036	Page Kincaid PSD
Kingwood	Preston	WV3303908	Kingwood Water Board
Lakin (Lakin State Hospital)	Mason	WV3302712	Mason Co PSD-Lakin Dist
Letart	Mason	WV3302713	Mason Co PSD-Letart
Lewisburg	Greenbrier	WV3301303	Davis Stuart Inc
Lewisburg	Greenbrier	WV3301307	Lewisburg
Lewisburg	Greenbrier	WV3301316	Cardinal MHP
Logan	Logan	WV3302331	Logan Water Board City of
Logan	Logan	WV3302364	Logan County PSD - Northern Regional
Lumberport	Harrison	WV3301714	Lumberport Town of
Maben	Wyoming	WV3305536	Pierpoint PSD
Man	Logan	WV3302336	Man Water Works
Mannington	Marion	WV3302513	Mannington City of
Marianna	Wyoming	WV3305529	Marianna Community Water
Marlinton	Pocahontas	WV3303803	Marlinton Town of
Mason (RR Name Mason City)	Mason	WV3302708	Mason Water Dept
Masontown	Preston	WV3303909	Masontown Water Works
Matewan	Mingo	WV3303005	Matewan Water Works
Matheny	Wyoming	WV3305511	Matheny PSD
Matoaka	Mercer	WV3302819	Matoaka Water System
Matoaka	Mercer	WV3302836	Piedmont Community Water Assoc.
Matoaka	Mercer	WV3302851	Weyanoke- Giatto Water System
Maybeury	McDowell	WV3302460	McDowell County PSD - Maybeury
Mccomas	Mercer	WV3302828	Pinnacle Water Association
Mcgraws	Wyoming	WV3305518	Ravencliff/Mcgraws/Saulsville PSD
Mcmechen	Marshall	WV3302610	Mcmechen Municipal Water
Meadow Bridge	Fayette	WV3301022	Meadow Bridge Town of
Middlebourne	Tyler	WV3304802	Middlebourne Water Works
Mill Creek	Randolph	WV3304209	Mill Creek Water Dept

City	County	Code	System Name
Millville	Jefferson	WV3301973	Shenandoah Mini Homes
Milton	Cabell	WV3300609	Milton Water
Minden	Fayette	WV3301003	Arbuckle PSD
Monongah	Marion	WV3302515	Monongah Town of
Montgomery	Fayette	WV3301029	WVAWC-Montgomery District
Moorefield	Hardy	WV3301601	Moorefield Municipal Water
Moundsville	Marshall	WV3302607	Marshall County PSD 2
Moundsville	Marshall	WV3302611	Moundsville
Moundsville	Marshall	WV3302617	Iskcon - New Vrindaban
Mount Hope	Fayette	WV3301024	Mount Hope Water
Mount Nebo	Nicholas	WV3303405	Wilderness PSD
Mt Storm	Grant	WV3301205	Mountain Top PSD
Mullens	Wyoming	WV3305505	Brookside-Otsego Community Water
Mullens	Wyoming	WV3305514	Eastern Wyoming PSD Mullens
Mullens	Wyoming	WV3305521	Eastern Wyoming PSD - Stephenson WTP
Mullens	Wyoming	WV3305538	Eastern Wyoming PSD Nuriva
Naugatuck	Mingo	WV3303029	Mingo County PSD - Naugatuck
Neola	Greenbrier	WV3301317	Anthony Correctional Center
Neola	Greenbrier	WV3301326	End of The Trail Central
Nettie	Nicholas	WV3303403	Nettie-Leivasy PSD
New Cumberland	Hancock	WV3301515	New Cumberland
New Cumberland	Hancock	WV3301517	Oakland PSD
New Haven	Mason	WV3302709	New Haven Water Dept
New Martinsville	Wetzel	WV3305203	New Martinsville
Newburg	Preston	WV3303920	Newburg Town of
Newell	Hancock	WV3301516	Newell Company
Newtown	Mingo	WV3303023	Creekwood Apartments-Newtown
Northfork (RR Name North Fork)	McDowell	WV3302413	Northfork Water Works
Northfork (RR Name North Fork)	McDowell	WV3302465	McDowell Count PSD - Greenbriar
Norton	Randolph	WV3304213	Norton Jimtown Harding PSD
Oak Hill	Fayette	WV3301046	WVAWC-New River Regional Wtr Trtmt Plt
Oceana	Wyoming	WV3305516	Oceana Community of
Paden City	Wetzel	WV3305204	Paden City
Parsons	Tucker	WV3304707	Parsons Town of
Paw Paw	Morgan	WV3303308	Paw Paw Water Works
Petersburg	Grant	WV3301204	Petersburg Town of
Philippi	Barbour	WV3300104	Philippi City of
Piedmont	Mineral	WV3302921	Piedmont Municipal Wtr Wks
Pine Grove	Wetzel	WV3305205	Pine Grove Water
Pineville	Wyoming	WV3305517	Pineville Municipal
Pineville	Wyoming	WV3305534	Ramey Addition
Point Pleasant	Mason	WV3302710	Point Pleasant Water Works
Point Pleasant	Mason	WV3302714	Mason Co PSD-Crab Creek
Pratt	Kanawha	WV3302024	Pratt Town of
Princeton	Mercer	WV3302849	Green Valley-Glenwood PSD(Glenwood)
Procious	Clay	WV3300806	Clay-Roane PSD (Procious District)
Proctor	Wetzel	WV3305206	Grandview - Doolin PSD
Rainelle	Greenbrier	WV3301309	Rainelle Water Dept
Rainelle	Greenbrier	WV3301312	Rainelle Water Treatment Plant #2
Ranson	Jefferson	WV3301909	Glen Haven Utilities - Jefferson Co PSD
Ravenswood	Jackson	WV3301810	Ravenswood Municipal Water Works
Ravenswood	Jackson	WV3301820	Wilding Acres MHP
Red Jacket	Mingo	WV3303012	Red Jacket PSD
Red Jacket	Mingo	WV3303021	Newtown H O A
Reedsville	Preston	WV3303912	Preston County PSD 1
Rhodell	Raleigh	WV3304119	Rhodell Water Works
Richwood	Nicholas	WV3303401	Richwood Water Dept

City	County	Code	System Name
Ridgeley (RR Name Ridgely)	Mineral	WV3302946	Mountain View Water System
Ridgeley (RR Name Ridgely)	Mineral	WV3302947	Carpendale Town of
Ripley	Jackson	WV3301811	Ripley City of
Rock	Mercer	WV3302848	Hoot Owl Hollow Comm Wtr Assoc
Rock	Mercer	WV3302853	Windmill Gap Water System
Roderfield	McDowell	WV3302481	Ciampanella Rental Property
Rolfe	McDowell	WV3302403	McDowell County PSD - Rolfe
Romney	Hampshire	WV3301405	Romney Water Dept
Ronceverte	Greenbrier	WV3301310	Ronceverte Water
Rowlesburg	Preston	WV3303914	Rowlesburg Water Works
Rupert	Greenbrier	WV3301304	Duo Water Works
Rupert	Greenbrier	WV3301311	Rupert Water
Salem	Harrison	WV3301720	Salem Water Board
Salem	Harrison	WV3301740	Miracle Meadows School
Scott Depot (RR Name Scott)	Putnam	WV3304011	Putnam PSD
Seneca Rocks	Pendleton	WV3303610	Woods Edge MHP
Seth	Boone	WV3300310	Prenter Water Company
Sharples	Logan	WV3302315	Logan County PSD - Sharples
Shenandoah Junction	Jefferson	WV3301931	Shenandoah Junction M H P
Shepherdstown	Jefferson	WV3301933	Shepherdstown Water
Shepherdstown	Jefferson	WV3301972	Cavaland Subdivision - Jefferson Co PSD
Shinnston	Harrison	WV3301721	Shinnston City of
Sistersville	Tyler	WV3304803	Sistersville Municipal Water
Slatyfork (RR Name Laurel Bank	Pocahontas	WV3303814	Alpine Brook MHP
Snowshoe Resort	Pocahontas	WV3303808	Snowshoe Water And Sewer
Sophia	Raleigh	WV3304124	Ral Co PSD-Stotesbury
Spencer	Roane	WV3304405	Spencer Water Dept
Springfield	Hampshire	WV3301401	Buffalo Hollow MHP
St. Albans	Kanawha	WV3302031	St Albans Water
St. Marys	Pleasants	WV3303704	Saint Marys
Sugar Grove	Pendleton	WV3303604	Navy Information Operations Comand/Mb
Summersville	Nicholas	WV3303404	Summersville Municipal Water
Summersville	Nicholas	WV3303407	Briarwood Acres
Talcott	Summers	WV3304507	Big Bend PSD
Terra Alta	Preston	WV3303917	Terra Alta Water Works
Terra Alta	Preston	WV3303921	Alpine Lake Public Utilities
Thomas	Tucker	WV3304709	Thomas City of
Tioga	Nicholas	WV3303409	Tioga Water Work Inc
Tunnelton	Preston	WV3303918	Tunnelton Town of
Union	Monroe	WV3303207	Union Town of
Upland	McDowell	WV3302404	McDowell County PSD - Upland
Upper Tract	Pendleton	WV3303611	Pendleton Co PSD-Upper Tract
Vienna	Wood	WV3305411	Vienna
Vivian	McDowell	WV3302407	McDowell County PSD - Tidewater
Walton	Roane	WV3304407	Walton PSD
War	McDowell	WV3302449	War Water Works-Excelsior
War	McDowell	WV3302472	War Water Works/City Realty
Wardensville	Hardy	WV3301603	Town of Wardensville
Washington	Wood	WV3305404	Lubeck PSD
Waverly	Wood	WV3305410	Union Williams PSD
Wayne	Wayne	WV3305007	Wayne Water Town of
Webster Springs (Corporate Nam	Webster	WV3305104	WVAWC - Webster Springs
Welch	McDowell	WV3302421	Welch City of
Welch	McDowell	WV3302471	McDowell Co PSD - Big Four
Wellsburg	Brooke	WV3300517	Wellsburg
West Hamlin	Lincoln	WV3302203	West Hamlin, City of
West Union	Doddridge	WV3300901	West Union

City	County	Code	System Name
Weston	Lewis	WV3302104	WVAWC- Weston
White Sulphur Springs	Greenbrier	WV3301305	CSX Hotels Inc
White Sulphur Springs	Greenbrier	WV3301314	White Sulphur Springs Water
Whitesville	Boone	WV3300315	Boone Raleigh PSD
Whitmer	Randolph	WV3304216	Whitmer Public Water System
Williamson	Mingo	WV3303009	Williamson Utility Board
Williamstown	Wood	WV3305412	Williamstown Water Dept
Windsor Heights	Brooke	WV3300508	Hammond PSD
Womelsdorf (Corporate Name For	Randolph	WV3304212	Coalton Water System
Wyco	Wyoming	WV3305525	Wyco Co Wtr - Logan Co PSD
Wyoming	Wyoming	WV3305530	Wyo Co Wtr - Tn of Pineville
	Kanawha	WV3302067	County Water #2
	Mercer	WV3302813	Green Valley-Glenwood PSD (Bulltail)
	Monroe	WV3303206	Red Sulphur PSD

Source: WVBPH (2014b).

APPENDIX B: THE SOURCE WATER ASSESSMENT REPORT FOR WEST VIRGINIA AMERICAN WATER – KANAWHA VALLEY, KANAWHA COUNTY

State of West Virginia
Source Water Assessment and Protection Program

Source Water Assessment Report

WVAWC - Kanawha Valley
Kanawha County
PWSID: WV3302016

Prepared by:

West Virginia Department of Health and Human Resources
Bureau for Public Health
Office of Environmental Health Services
Source Water Protection Unit

Date: April 2002

Surface Water Public Water Supply Systems
Source Water Assessment and Protection Program (SWAPP)
Susceptibility Report

Prepared by the West Virginia Bureau for Public Health, Source Water Assessment and Protection Unit

Date Prepared: Thursday, April 25, 2002

What is the Purpose of a Susceptibility Report?

A susceptibility report identifies the most significant potential contaminant sources that could threaten the quality of your public water supply. Your susceptibility ranking does not imply poor water quality. Regular water tests best reflect actual water quality. This report will be used by public water supply systems with a surface water source. In addition, this report will enhance West Virginia's existing watershed approach to water quality improvement and protection. Table 1 provides you information on your public water supply.

What is SWAPP?

The SWAPP, established under the Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supplies;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection of sources.

Table 1: Public Water Supply (PWS) Information

PWS Name	WVAWC-Kanawha Valley
PWS Address	P.O. Box 1906 Charleston WV 25301
PWS ID Number	WV3302016
County	Kanawha
System Type	Community

The West Virginia Bureau for Public Health (BPH) is undertaking this task. The rankings of susceptibility of your intake (s) to potential contamination are listed in Table 2.

Table 2: Intake Information

Facility Name	Source Name	Design Meets Regulations	Susceptibility Ranking
WVAWC-Kanawha Valley	Elk River	Yes	High

The BPH Central Office assessed the source, West Virginia American Water Company (WVAWC)-Kanawha Valley. A file review and field survey were used to conduct the assessment.

What is my Source Water Protection Area (SWPA)?

Unlike ground water aquifers, which have a natural protective layer above them, all surface waters are susceptible to contamination because they are exposed at the surface and lack a protective barrier from contamination. Accidental spills, releases, sudden precipitation events that result in overland runoff, or storm sewer discharges can allow pollutants to readily enter the source water and potentially contaminant the drinking water at the intake. Because of this, the SWPA consists of two types of delineations.

- **Watershed Delineation Area**

The first type of delineation is the Watershed Delineation Area (WSDA). Figure 1 shows the extent of the WSDA, which covers approximately 1,527 square miles in the Elk River Watershed. The WSDA includes the entire watershed area upstream of the intake up to the boundary of the West Virginia state border, or a topographic boundary. The perimeter of the catchment area provides the water to the water supply intake.

- **Zone of Critical Concern**

The second type of delineation is the Zone of Critical Concern (ZCC). Figure 2 shows the ZCC area, which covers approximately 5,969 acres. The ZCC is a corridor along streams within the WSDA area that warrants a more detailed inventory and management due to its proximity to the surface intake and to the susceptibility to potential contaminants. The ZCC is calculated using a mathematical model that accounts for stream flows, gradient, and area topography. The length of the ZCC is based on a five hour time of travel. The ZCC width is 1000 feet from each bank of the principal stream and 500 feet from each bank of the tributaries draining into the principal stream.

What is Susceptibility?

Susceptibility is a measure of your intake's potential for contamination from land uses and activities within the SWPA at concentrations that pose a concern. The purpose of the susceptibility analysis is to provide a pointer to what action a public water system should take to further define and reduce susceptibility. This may include recommendations for a more detailed inventory and assessment, monitoring work, or an indication of the type and intensity of source water and other protection activities needed.

The possibility of a release from potential contaminant sources is greatly reduced if best management practices (BMP's) are used. However, the susceptibility determination for your intake did not take into account whether BMP's are being used.

Susceptibility of a drinking water intake does not mean a customer will drink contaminated water. Water Suppliers protect drinking water by monitoring and treating water supplies, and using BMP's and source water protection measures to ensure that safe water is delivered to the tap.

How Was The Water Supply Susceptibility Determined?

Your intake (s) susceptibility is based on the following:

Resource Characterization

The purpose for conducting the Resource Characterization analysis of the delineated SWPA is to obtain an understanding of its physical, biological, chemical, and hydrological characteristics. Four resource characteristics were evaluated:

- The potential for surface runoff to occur;
- The ease that surface runoff transport material can be delivered into the stream;
- The movement through the SWAP area; and
- The biological and chemical health of the surface water resource in the SWAP area.

- **Potential for Surface Runoff to Occur**

The soil types present in the watershed area and the associated soil properties have a direct influence on the potential for surface runoff to occur. As infiltration rate of soil increases, (more precipitation soaking in rather than running off) the contaminant load associated with the reduced runoff should decrease. Table 3 provides a summary of the associated soil groups.

Table 3: Summary of Soil Associations in the WSDA

Soil Associations	Soil Drainage	Topographic Setting
Kanawha-Hackers	Well drained	Gently sloping
Gilpin-Upshur-Vandalia	Well drained	Gently sloping to very steep
Clymer-Gilpin-Dekalb	Well drained	Very steep
Buchanan-Chavies-Pope	Moderate to Well drained	Steep to nearly level
Gilpin-Upshur-Buchanan	Moderate to Well drained	Very steep
Gilpin-Dekalb-Buchanan	Moderate to Well drained	Very steep
Calvin-Belmont-Mecksville	Well drained	Gently sloping to very steep
Potomac-Tioga-Holly	Well and Poorly drained	Nearly level
Mandy-Snowdog-Gauley	Moderate to Well drained	Strongly sloping to very steep
Cateache-Shours-Belmont	Well drained	Gently sloping to very steep

- **Ease of movement of material into the Stream System (Rate of Overland Material Transport):**

The size, shape, and slope of the SWAP area have a direct influence on material transported by surface runoff. In general, the longer the overland travel distance and travel time that surface runoff has taken in order to reach a stream channel, the greater the chance it has to deposit and filtrate the contaminants that may occur. Table 4 provides an analysis of the size, shape, and slope.

Table 4: Hydrologic Setting

Size of WSDA Area (mi^2)	1,527
Shape of WSDA Area	Long & Narrow
Stream Length (Main Stem) (mi)	186
Average Watershed Slope	10 to 30 %

- **Movement of Water through the Watershed Area**

A number of physical and natural factors can influence the movement of water through the SWAP area. The pattern and development of the drainage network of the SWAP area directly influence the rate of water movement. Evaluation of the hydrologic cycle will provide an indication of the amount of annual rainfall that is absorbed into the ground or becomes runoff. Table 5 summarizes the total mileage of streams contained in the WSDA, average stream gradients of the main stem, average rainfall, the nearest relevant USGS stream gauge, distance to gauge, topographic position of gauge, annual mean discharge, high flow, and low flow.

Table 5: Movement of Water

Number of Stream Miles	2,051
Average Stream Gradient (Main Stem)	11.13 ft/mi
Average Rainfall	44
Nearest Relevant USGS Stream Gauge	031197000
Distance to Relevant USGS Stream Gauge (mi)	22
USGS Stream Gauge Topographic Position	Upstream
Annual Mean Discharge (cfs)	3,259
High Flow (cfs)	158,000
Low Flow (cfs)	595

- **Review of Water Quality Data**

In order to characterize the condition of the surface water within the watershed, the available chemical and biological water quality data was reviewed. This data was collected as part of the BPH and the West Virginia Department of Environmental Protection (DEP) implementation of the federal Safe Drinking Water Act and Clean Water Act. Water quality data was evaluated to help provide direct pointers to a source of contamination and to direct the focus for additional source evaluations. Additionally, immediate source water protection efforts will be identified by this review.

Available water quality data includes test results from treated drinking water, finished water, and untreated source water (raw water) conducted by the water supplier; ambient water chemistry; biological criteria and monitoring (bacteria, macroinvertibrates and fish); and habitat evaluation. The sampling requirements for public water systems vary depending on the type of system and the federal regulated testing requirements. Therefore, a lack of water quality impacts may indicate the lack of a certain type of sampling rather than a lack of contamination.

Summary of Raw and Finished Water Quality Results from Public Water System

Water sampling conducted by West Virginia American Water Company indicates that raw water turbidity maximums appear to have increased significantly over the past two years, based on the five years of data reviewed. The WVAWC-Kanawha Valley Plant takes a raw water bacteriological sample almost on a daily basis; which is not required by regulation. These tests indicate elevated levels during periods of high water.

There have been no occasions when the observed concentrations have been above the established MCLs for these parameters in the finished water. For additional information on the finished water quality, please review the consumer confidence report for a yearly summary of the water quality.

Summary of Chemical and Biological Water Quality Results from the West Virginia DEP

In 2000, the DEP conducted biological and chemical water quality monitoring on 153 streams totaling 832 miles in the Elk River watershed for the 305b report, as a requirement of the federal Clean Water Act. Two hundred and twenty miles (26%) were fully supporting their overall designated uses. Considering major and moderate/minor impacts, the principal causes of impairment in the watershed are metals, siltation, and habitat alteration (non-flow). Additional significant causes of impairment are pH and Fecal Coliform. Considering major and moderate/minor impacts, the principal sources of pollution in the watershed are unknown source, petroleum activities, and abandoned mining. During this reporting cycle, 460.41miles of stream in the Elk River watershed were monitored for toxics. Of these, 65.09 miles (14.1%) had elevated levels of toxics.

The DEP performed an ecological assessment of the Elk River and its tributaries in 1997. Assessments at each site included measurements of physical attributes of the stream and riparian zone, observations of activities and disturbances in the surrounding area, water quality analysis, and benthic macroinvertebrate collection. Of the 145 sites sampled, 26 were impaired, 14 were potentially impaired, 95 were unimpaired, and 10 were collected by incomparable methods and could not be scored.

Summary of Other Available Chemical and Biological Water Quality Data

Not Available

POTENTIAL SIGNIFICANT CONTAMINANT SOURCES (PSCS'S):

Inventory of Potential Significant Contaminant Sources

The purpose of providing an inventory of certain types of land uses, potential significant contaminant sources, and activities within the SWAP area is to aid in reducing the risk posed to the public drinking water supply. The following subsections provide information regarding the methodology used to generate the inventories.

The inventory portion of the SWAP consists of two steps:

- The first step is the broad inventory based primarily on regulated and existing databases. The inventory consists of a general land use analysis, the identification of regulated activities in the delineated WSDA areas, and an analysis of road and rail crossings adjacent to the streams in the WSDA area.

- The second step is the detailed inventory of PSCS's in the ZCC. The detailed source inventory is conducted to identify PSCS's that were not captured in the broad regulated source inventory and to field verify the PSCS's in the ZCC. PCS's located during the inventory are found on Figure 2.

A detailed risk-assessment of the PSCS's was beyond the scope of this survey because of minimal data and resources. Local decision makers should do the detailed risk analysis because they are better suited to make the bridge from assessment work to protective strategies. The West Virginia SWAP program can provide guidance to the decision makers and help in prioritizing the PSCS sources.

- **Existing (primarily regulated) Database Review**

Table 6 is a summary of existing PSCS's based on public information obtained from various federal, state, and local agencies that maintain environmental regulatory databases. These databases provide information about the regulatory status of a property and incidents involving use, storage, spilling or transportation of oil, and hazardous materials.

Table 6: Summary of existing (primarily regulated) PSCS's

	NUMBER	PERCENT
WSDA	53	100
ZCC	26	49

- **Summary of the Detailed Inventory**

Table 7: Summary of PSCS within the ZCC

Potential Contaminant Source	TOTAL PSCS'S	PERCENT
AGRICULTURE	1	2
RESIDENTIAL	0	0
MUNICIPAL	4	8
COMMERCIAL	39	76
INDUSTRIAL	7	14

Table 7 is a summary of the detailed inventory of potential contaminant sources in the ZCC. The detailed source inventory was conducted to identify PSCS's that were not identified in the existing database review and to verify the location of the PSCS within the ZCC. Additional potential significant contaminant sources that were identified in detailed inventories of the ZCC consist of commercial activities (Shell Gas Station, Sun Belt Rentals), municipal operations (City of Charleston Sewage Lift Station, Road Salt Storage), and industrial operations (Allegheny Power Company, Pennzoil Manufacturing Plant). Of these PSCS's, some of the industrial sources may have large volumes of potential contaminant stored.

- **Transportation Network**

A summary of the transportation network is shown in Table 8. This information can be used to aid in planning for transportation related accidents that could result in contamination of the source water in the delineated WSDA. Table 9 is a summary of the transportation network stream crossings in the WSDA. Please note that miles of train tracks could be less due to decommissioning of tracks.

Table 8: Transportation Network Summary for WSDA

	Within 100 feet of stream	Total
Miles of Interstate	0.08	83
Miles of Primary	0.05	71

Miles of Secondary	1.4	379
Miles of Train Tracks	21	212

Table 9: Transportation Network Stream Crossings in the WSDA

	Train Tracks	**Interstate**	**Primary Roads**	**Secondary Roads**
Number of Stream Crossings	180	47	44	224

- **General Land Use**

The general land use analysis will provide an indication of which land uses predominate throughout the SWAP area, near the intake, or adjacent to the rivers, streams, lakes, and reservoirs. The land use in the SWAP area is shown in Table 10.

Table 10: General Land Use

LAND USE	**WSDA Area (Acres)**	**WSDA % of Total**	**ZCC Area (Acres)**	**ZCC % of Total**
Shrub Land	11,343	1.00	102	2.00
Woodland	888,568	91.00	2,754	46.00
Water	10,314	1.00	797	13.00
Roads	1,201	0.10	133	2.00
Power lines	2,312	0.20	16	0.30
Urban	11,633	1.00	1,745	29.00
Agriculture	46,476	5.00	406	7.00
Barren	5,250	0.50	15	0.30
Wetland	401	0.04	1	0.02

SWAPP Area Assessment and Protection Activities

Analysis of the Resource Characterization and potential significant contaminant sources of the SWAP area for the WVAWC-Kanawha Valley indicates that the water supply is susceptible to possible future contamination based on the following:

- ✓ The long narrow shape, steep topographic setting, and the large size of the WSDA present an increased potential for contamination. An important flood control/recreational impoundment is located on the Elk River at Sutton in Braxton County approximately 100 miles upstream of the intake. In addition, the large number of stream crossings (495 total) provides the opportunity for an accidental release/spill of material to easily get directly into the stream drainage network. Source water protection efforts should be directed toward the establishment of an effective and efficient emergency response plan if one does not currently exist.
- ✓ Current land use practices appear to be having an adverse impact on the ecological health of the Elk River Watershed. Coal, oil, gas, timbering, and sandstone quarries are among the industries present. Agriculture is dominated by livestock and related products. This is evidenced by of the 832.41 miles assessed in the DEP 303b report; only 26.5% were fully supporting the overall designated use. Higher bacteria levels are generally concentrated around populations centers, caused by regulated or unregulated discharges. In addition, the health of the Elk River may be impacted by a number of regulated and unregulated point and non-point sources in the ZCC and WSDA.

Recommendations:

- ✓ Protection efforts should focus on the collection of additional information on the point and non-point sources present to evaluate the risk;
- ✓ Work with the Department of Health and Human Resources, other state agencies and local officials to make sure your intake is included in local regulations and inspections efforts;
- ✓ Restrict access to the intake area and post the area with Drinking Water Protection Area signs;
- ✓ Address any biological contaminant issues; and
- ✓ Protection options need to be actively considered to further evaluate and manage all potential contaminant sources and the WVAWC-Kanawha Valley public water supply should place a high priority on protecting its supply source.

NEXT STEP – SWAP Protection Plan

The next step in source water protection planning is to prepare a SWAP protection plan. The SWAP protection plan incorporates this source water delineation assessment report and three additional sections: Contingency Planning, Alternative Sources, and Management Planning.

Contingency Planning

A contingency plan documents the system's planned response to interruption of the source water supply.

Alternative Sources

Information pertaining to alternative water sources focusing on long-term source replacement should the system be required to develop a new source of water due to contamination (or other reasons). This section outlines the most likely sources that can be used as an alternate water source.

Management Planning

Management planning is the most important element of SWAP. The management plan identifies specific activities that will be pursued by the system to protect their water resources. The system will benefit by taking a proactive approach to source water protection in their watersheds. It is anticipated that most of the management effort will focus on coordination with government agencies and periodic surveys of the watersheds. It may be necessary to conduct a limited number of special studies to determine actual risk and consequences for selected contaminant sources. This information may be needed before decisions can be made on management activities.

Need additional information?

Additional information or sources of information can be obtained by calling or visiting the BPH web site at www.wvdhhr.org/bph/swap or phoning 304-558-2981.

Glossary:

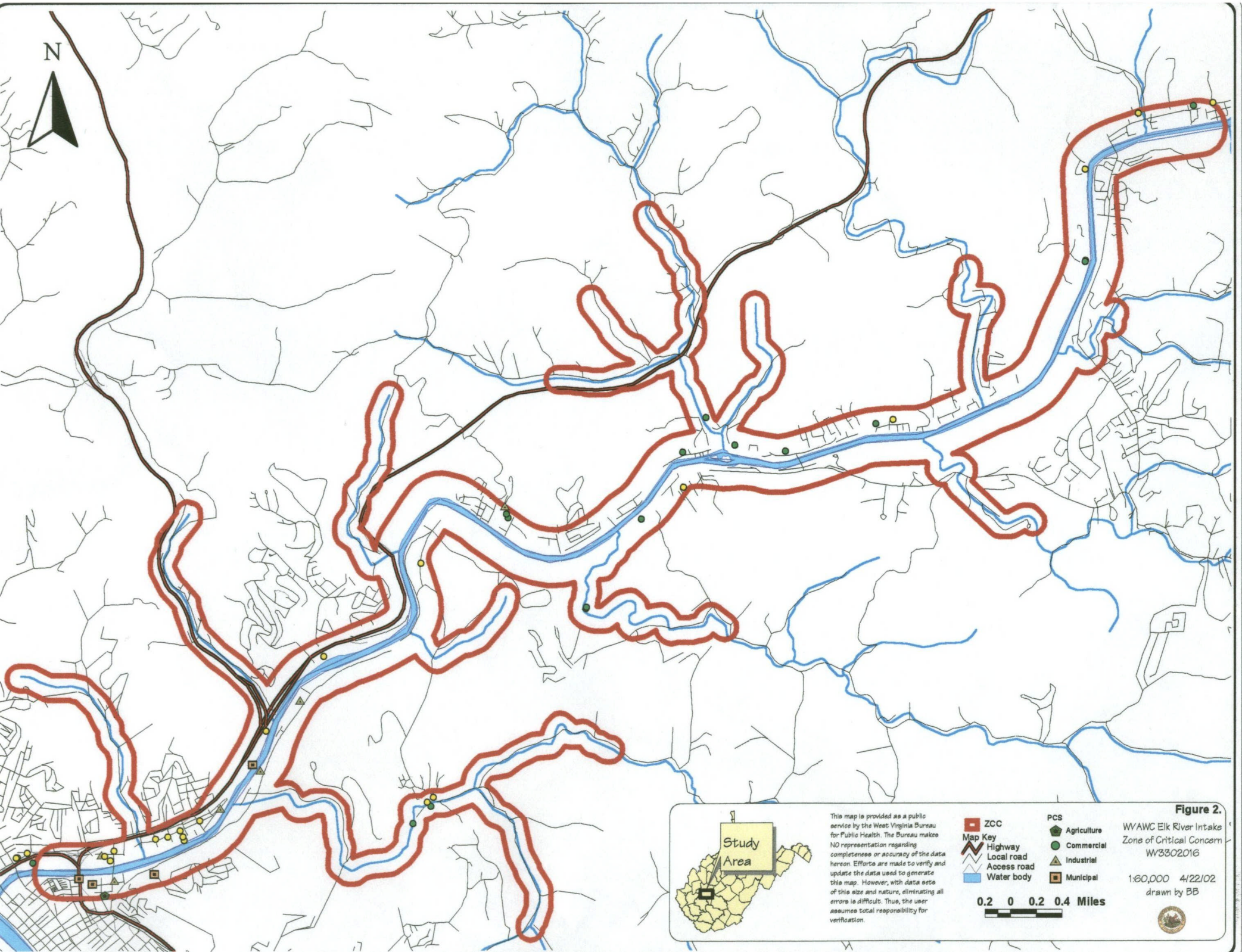
Best Management Practices (BMP's) are operational procedures used to prevent or reduce pollution.

Public Water System (PWS) is a system for the provision to the public of pipe water for human consumption, if such system has at least 15 service or regularly serves an average of at least 25 individuals daily at least 60 days of the year.

Water Quality Data is used to help assess both the potential pathogen contamination and other compliance monitoring (Nitrates) parameters associated with public water supply wells.

Potential Significant Contaminant Source (PSCS) is a facility or activity that stores, uses, or produces chemicals or elements, and has the potential to release contaminants identified in the state program within a source water protection area in an amount, which could contribute significantly to the contaminants of the source waters of the public water supply.

Disclaimer - The coverage's presented in this program are under constant revision as new sites or facilities are added. They may not contain all the potential or existing sites or facilities. The West Virginia Bureau for Public Health is not responsible for the use or interpretation of this information. Please report any inaccuracies on either the map or inventory by phoning 304-558-2981.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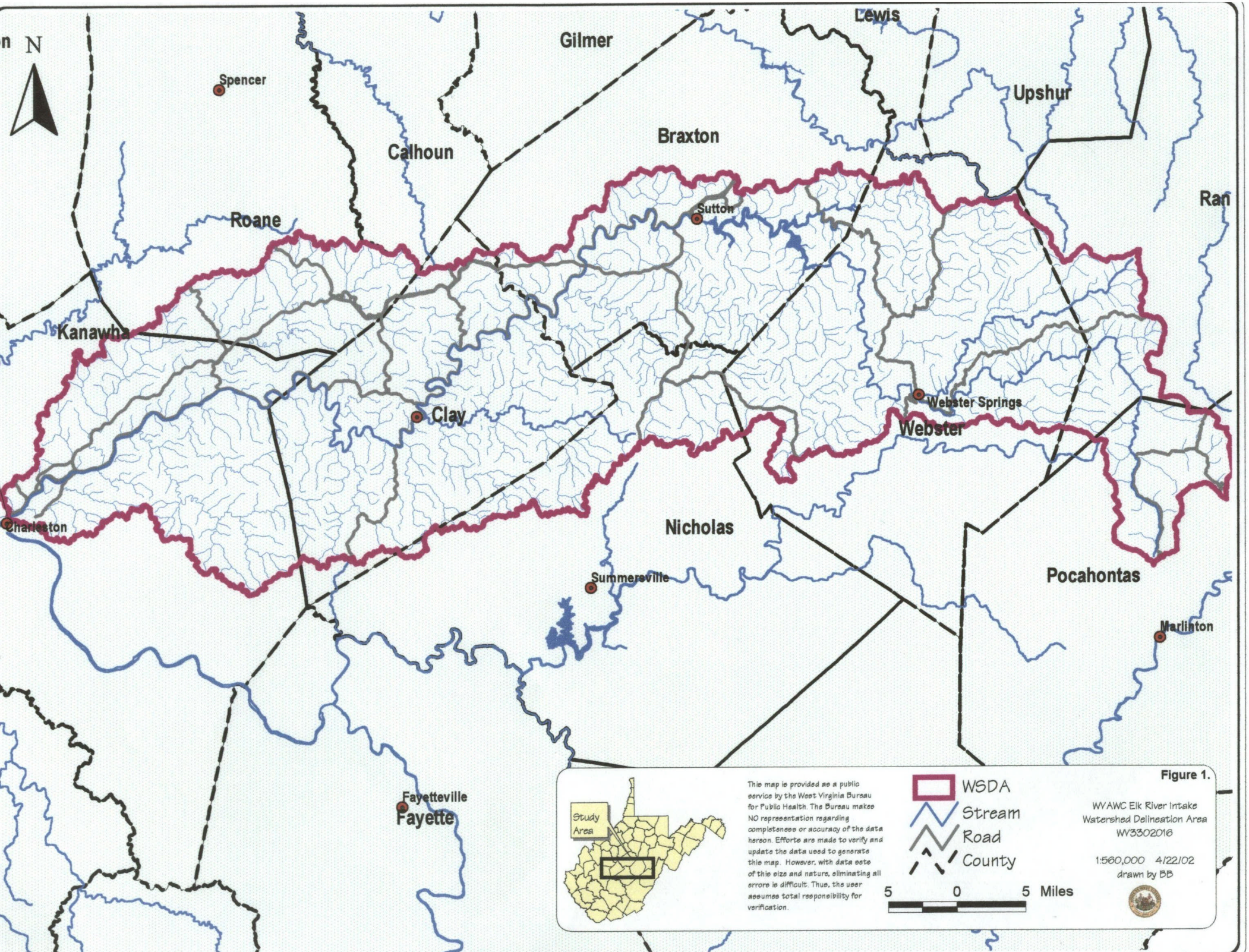
Study Area
This map is provided as a public service by the West Virginia Bureau for Public Health. The Bureau makes NO representation regarding completeness or accuracy of the data hereon. Efforts are made to verify and update the data used to generate this map. However, with data sets of this size and nature, eliminating all errors is difficult. Thus, the user assumes total responsibility for verification.
Map Key
ZCC
Highway
Local road
Access road
Water body
PCS
Agriculture
Commercial
Industrial
Municipal
0.2 0 0.2 0.4 Miles
Figure 2.
WVAWC Elk River Intake
Zone of Critical Concern
WV3302016
1:60,000 4/22/02
drawn by BB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Spencer
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Calhoun
Roane
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Ran
Kanawha
Clay
Webster Springs
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Charleston
Nicholas
Summerville
Pocahontas
Marlinton
Fayetteville
Fayette
Study Area
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WSDA
Stream
Road
County
5 0 5 Miles
Figure 1.
WVAWC Elk River Intake
Watershed Delineation Area
WV3302016
1:560,000 4/22/02
drawn by BB

APPENDIX C: THE GENERAL MULTI-SECTOR INDUSTRIAL STORMWATER PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT
601 57th STREET SE
CHARLESTON, WV 25304

WEST VIRGINIA/NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MULTI-SECTOR GENERAL WATER POLLUTION CONTROL PERMIT

Permit No. WV0111457

Issue Date: April 1, 2009
Effective Date: May 1, 2009
Expiration Date: March 31, 2014

Supersedes WV/NPDES General Water Pollution Control Permit Issued April 1, 2004

Subject: Stormwater Associated With Industrial Activity

This is to certify that any establishment with discharges composed entirely of stormwater associated with industrial activity, and who has satisfied the registration requirements, and agreeing to be regulated under the terms of this general permit except for:

1. Stormwater discharges associated with industrial activity from facilities with existing effluent guideline limitations for stormwater, as listed herein.

   Cement Manufacturing (40 CFR 411)
   Feedlots (40 CFR 412)
   Fertilizer Manufacturing (40 CFR 418)
   Petroleum Refining (40 CFR 419)
   Phosphate Manufacturing (40 CFR 422)
   Steam Electric (40 CFR 423)
   Coal Mining (40 CFR 434)
   Mineral Mining and Processing (40 CFR 436)
   Ore Mining and Dressing (40 CFR 440)
   Asphalt Emulsion (40 CFR 443)
   Oil and Gas Extraction (SIC Major Group 13)

2. Stormwater discharges associated with the following activities.

Wood Preserving Facilities (SIC 2491)
Publicly Owned Treatment Works (SIC 33)
Landfills
Land Application Sites
Hazardous Waste Treatment, Storage, or Disposal Facilities
Leather Tanning and Finishing
Water Transportation Facilities (SIC 4412-4499)
Ship and Boat Building or Repairing Yards (SIC 3731, 3732)
*Primary Metals

*Primary Metals facilities are eligible for coverage under this general permit, if the facility is providing pretreatment for the industrial wastes, in accordance with the regulations and is transferring the wastes to a POTW which has been granted the proper permit or authority to accept such wastes and the facility has a discharge composed entirely of stormwater.

3. Stormwater discharges associated with industrial activity from facilities with an existing individual NPDES permit which covers the stormwater discharges or which are issued a permit in accordance with Section B.1. of this permit.

4. Stormwater discharges associated with industrial activity that the Director has shown to be or may reasonably be expected to be contributing to a violation of a water quality standard.

5. Stormwater discharges associated with construction activities.

6. Registrations issued on or after September 1, 2008 are hereby granted coverage under this permit.

is hereby granted coverage under the General WV/NPDES Water Pollution Control Permit to allow stormwater discharges into the waters of the State.

This permit is subject to the following terms and conditions:

The information submitted on and with the Site Registration Application Form or any information presently incorporated in the permittee's previous WV/NPDES permits is hereby incorporated with like effect as if all such information was set forth herein, and other conditions set forth in Sections A, B, Appendix A and the site approval letter.

The validity of this permit is contingent upon the payment of the applicable annual permit fee, as required by Chapter 22, Article 11, Section 10 of the Code of West Virginia.

Continuation of this general permit

If this general permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 47 CSR 10 and remain in force and effect. If you were authorized to discharge under this general permit prior to the expiration date, any

discharges authorized under this permit will automatically remain covered by this general permit until the earliest of:

- Your authorization for coverage under a reissued general permit or a replacement of this general permit following your timely and appropriate submittal of a complete application requesting authorization to discharge under the new general permit and compliance with the requirements of the new permit; or
- Your submittal of notification that the facility has ceased operations; or
- Issuance or denial of an individual permit for the facility's discharge; or
- A formal permit decision by DWWM not to reissue this general permit, at which time DWWM will identify a reasonable time period of covered dischargers to seek coverage under an alternative general permit or individual permit. Coverage under this permit will cease at the end of this time period.

SECTION A

This portion of the General Permit identifies industrial activity eligible for coverage and associated monitoring requirements.

Sector A. Stormwater Discharges Associated With Industrial Activity From Timber Products Facilities

1. Discharges Covered Under this Sector. The requirements listed under this section shall apply to stormwater discharges from the following activities: establishments [generally classified under Standard Industrial Classification (SIC) Major Group 24] that are engaged in merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged manufacturing finished articles made entirely of wood or related materials, except for wood preserving facilities (SIC code 2491), wood kitchen cabinet manufacturers (SIC Code 2434), and timber cutting operations.

2. Monitoring Requirements

Table A-1
Monitoring Requirements for General Sawmills and Planing Mills Facilities

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Chemical Oxygen Demand	120.0 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months

Biochemical Oxygen Demand	30 mg/l	1/6 Months
Iron, Total	1.0 mg/l	1/6 Months

Table A-2
Monitoring for Log Storage and Handling Facilities

Pollutants of Concern	**Monitoring Cut-Off Concentration**	**Measurement Frequency**
Total Suspended Solids	100 mg/l	1/6 Months

Table A-3
Monitoring Requirements for
Hardwood Dimensions and Flooring Mills; Special Products Sawmills, not elsewhere classified; Millwork, Veneer, Plywood and Structural Wood; Wood Containers; Wood Buildings and Mobile Homes; Reconstituted Wood Products; and Wood Products Facilities not elsewhere classified

Pollutants of Concern	**Monitoring Cut-Off Concentration**	**Measurement Frequency**
Chemical Oxygen Demand	120 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months

Sector B. Stormwater Discharges Associated With Industrial Activity From Paper and Allied Products Manufacturing Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges from the following activities: facilities engaged in the manufacture of pulps from wood and other cellulose fibers and from rags; the manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes and envelopes; and establishments primarily engaged in manufacturing bags of plastic film and sheet. These facilities are commonly identified by Standard Industrial Classification (SIC) Major Group 26.

2. Monitoring Requirements

Table B-1
Monitoring Requirements for Paper and Allied Products Mfg. Facilities

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Chemical Oxygen Demand	120 mg/l	1/6 Months

Sector C. Stormwater Discharges Associated With Industrial Activity From Chemical and Allied Products Manufacturing Facilities

1. Discharges Covered Under this Section. The requirements listed under this section shall apply to stormwater discharges associated with industrial activity from a facility engaged in manufacturing the following products and generally described by the SIC code shown:

a) Basic industrial inorganic chemicals (including SIC 281).

b) Plastic materials and synthetic resins, synthetic rubbers, and cellulosic and other human made fibers, except glass (including SIC 282).

c) Soap and other detergents and in producing glycerin from vegetable and animal fats and oils; specialty cleaning, polishing, and sanitation preparations; surface active preparations used as emulsifiers; wetting agents, and finishing agents, including sulfonated oils; and perfumes, cosmetics, and other toilet preparations (including SIC 284).

d) Paints (in paste and ready-mixed form); varnishes; lacquers; enamels and shellac; putties, wood fillers, and sealers; paint and varnish removers; paint brush cleaners; and allied paint products (including SIC 285).

e) Industrial organic chemicals (including SIC 286).

f) Nitrogenous and phosphatic basic fertilizers, mixed fertilizer, pesticides, and other agricultural chemicals (including SIC 287).

g) Industrial and household adhesives, glues, caulking compounds, sealants, and linoleum, tile, and rubber cements from vegetable, animal, or synthetic plastics materials; explosives; printing ink, including gravure ink, screen process ink, and lithographic; miscellaneous chemical preparations, such as fatty acids, essential oils, gelatin (except vegetable)., sizes, bluing, laundry sours, writing and stamp pad ink, industrial compounds, such as boiler and heat insulating compounds, and chemical supplies for foundries (including facilities with SIC 289).

h) Ink and paints, including china painting enamels, india ink, drawing ink, platinum paints fro burnt wood or leather work, paints for china painting, artists' paints and artist's water colors (SIC 3952, limited to those listed).

2. Monitoring Requirements

Table C-1A
Agricultural Chemicals Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Nitrate plus Nitrite Nitrogen	0.68 mg/l	1/6 Months
Total Recoverable Lead	0.0816 mg/l	1/6 Months
Total Recoverable Iron	1.0 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Phosphorus	2.0 mg/l	1/6 Months

Table C-1B
Agricultural Chemicals Effluent Limits Based on Effluent Limitations Guidelines

Industrial Activity	Parameter	Effluent Limit	Monitoring Frequency
Discharges from phosphate fertilizer manufacturing facilities (SIC 2874)	Fluoride	75.0 mg/l daily maximum	1/year
		25.0 mg/l average monthly	

Table C-2
Industrial Inorganic Chemicals Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Rec. Aluminum	0.75 mg/l	1/6 Months
Total Recoverable Iron	1.0 mg/l	1/6 Months
Nitrate plus Nitrite Nitrogen	0.68 mg/l	1/6 Months

Table C-3
Soaps, Detergents, Cosmetics, and Perfumes Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Nitrate plus Nitrite Nitrogen	0.68 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Surfactants	Monitor Only	1/6 Months

Table C-4
Plastics, Synthetics, and Resins Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Recoverable Zinc	0.117 mg/l	1/6 Months

Sector D. Stormwater Discharges Associated With Industrial Activity From Asphalt Paving and Roofing Materials and Lubricant Manufacturers

1. Discharges Covered Under This Section

a) The requirements listed under this section shall apply to stormwater discharges from facilities engages in manufacturing asphalt paving and roofing materials, including those facilities commonly identified by Standard Industrial Classification (SIC) codes 2951 and 2952.
b) The requirements listed under this section shall apply to stormwater discharges from portable asphalt plant facilities (also commonly identified by SIC Code 2951).
c) The requirements listed under this section shall apply to stormwater discharges from facilities engaged in manufacturing lubricating oils and greases, including those facilities classified as SIC Code 2992.
d) Limitations on Coverage. The following stormwater discharges associated with industrial activity are not authorized by this section of the permit.
(1) Stormwater discharges from petroleum refining facilities, including those that manufacture asphalt or asphalt products and that are classified as SIC Code 2911.
(2) Stormwater discharges from oil recycling facilities, and

(3) Stormwater discharges associated with fats and oils rendering.

2. Monitoring Requirements

Table D-1A
Monitoring Requirements for Asphalt Paving and
Roofing Materials Mfg. Facilities

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months

Table D-2B
Asphalt Paving and Roofing Materials Mfg. Facilities
Effluent Limits Based on Effluent Limitations Guidelines

Industrial Activity	Parameter	Effluent Limit	Monitoring Frequency
Discharges from asphalt emulsion facilities	TSS	23 mg/l max daily	1/year
		15 mg/l average monthly	
	pH	6.0 – 9.0 s.u.	
	Oil and Grease	15 mg/ max daily	
		10 mg/l average monthly	

Sector E. Stormwater Discharges Associated With Industrial Activity From Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges from the following activities: manufacturing flat, pressed, or blown glass or glass containers, manufacturing hydraulic cement; manufacturing clay products including tile and brick; manufacturing of pottery and porcelain electrical supplies; manufacturing concrete products; manufacturing gypsum products; nonclay refractories; and grinding or otherwise treating minerals and earths. This section generally includes the following types of manufacturing operators: flat glass, (SIC Code 3211); glass containers, (SIC Code 3221); pressed and blown glass, not elsewhere classified, (SIC Code 3229); hydraulic cement, (SIC Code 3241); brick and structural clay tile, (SIC Code 3251); ceramic wall and floor tile, (SIC Code 3253); clay refractories, (SIC Code 3255); structural clay products not elsewhere classified (SIC Code 3259); vitreous china table and kitchen articles (SIC Code 3262); fine earthenware table and kitchen articles (SIC Code 3263); porcelain electrical supplies, (SIC Code 3264); pottery products, (SIC Code 3269); concrete block and brick, (SIC Code 3271); concrete products, except block and brick (SIC Code 3272); gypsum products, (SIC Code 3275); minerals and earths, ground or otherwise treated, (SIC Code 3295); mineral wool and mineral wool insulation products (SIC 3296). and nonclay refractories, (SIC Code 3297).

Facilities engaged in the following activities are not eligible for coverage under this section; lime manufacturing (SIC 3274); cut stone and stone products (SIC 3281); abrasive products (SIC 3291); asbestos products (SIC 3292).

2. Monitoring Requirements

Table E-1
Monitoring Requirements for Clay Product Manufacturers

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Rec. Aluminum	0.75 mg/l	1/6 Months
PH	6.0 to 9.0 s.u.	1/6 Months

Table E-2
Monitoring Requirements for Concrete and Gypsum Product Manufacturers

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Total Recoverable Iron	1 mg/l	1/6 Months
PH	6.0 to 9.0 s.u.	1/6 Months

Table E-3
Material Storage Piles at Cement Manufacturing Facilities
Effluent Limits Based on Effluent Limitations Guidelines

Industrial Activity	Parameter	Effluent Limit	Monitoring Frequency
Discharges from material storage piles at cement manufacturing facilities	TSS	50 mg/l max daily	1/year
	pH	6.0 – 9.0 s.u.	

Sector F. Stormwater Discharges Associated With Industrial Activity From Automobile Salvage Yards

1. Discharges Covered Under This Section

The requirements listed under this section shall apply to stormwater associated with industrial activity from facilities engaged in dismantling or wrecking used motor vehicles for parts recycling or resale and for scrap (SIC Code 5015).

2. Monitoring Requirements

Table F-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Total Rec. Aluminum	0.75 mg/l	1/6 Months
Total Recoverable Iron	1 mg/l	1/6 Months
Total Recoverable Lead	0.0816 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months

Sector G. Stormwater Discharges Associated With Industrial Activity From Scrap Recycling and Waste Recycling Facilities

1. Discharges Covered Under this Section. The requirements listed under this section are applicable to stormwater discharges from the following activities: facilities that are engaged in the processing, reclaiming and wholesale distribution of scrap and waste materials such as ferrous and nonferrous metals, paper, plastic, cardboard, glass, animal hides (these types of activities are typically identified as SIC Code 5093). Facilities that are engaged in reclaiming and recycling liquid wastes such as used oil, antifreeze, mineral spirits, and industrial solvents (also identified as SIC Code 5093) are also covered under this section.

2. Monitoring Requirements

Table G-1
Industry Monitoring Requirements for Scrap Recycling and Waste Recycling Facilities (non-source separated only)

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Chemical Oxygen Demand	120 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months
Total Rec. Aluminum	0.75 mg/l	1/6 Months
Total Recoverable Copper	0.0636 mg/l	1/6 Months
Total Recoverable Iron	1 mg/l	1/6 Months
Total Recoverable Lead	0.0816 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months

Sector H. Stormwater Discharges Associated With Industrial Activity From Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges from establishments and/or facilities including airports, air terminals, air carriers, flying fields, and establishments engaged in servicing or maintaining airports and/or aircraft (generally classified under SIC Code 45) which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport and/or aircraft deicing/anti-icing operations. For the purpose of this permit, the term

"deicing" is defined as the process to remove frost, snow, or ice and "anti-icing" is the process which prevents the accumulation of frost, snow, or ice.

2. Monitoring Requirements

Table H-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Biochemical Oxygen Demand	30 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months
Ammonia	4 mg/l	1/6 Months
pH	6.0 to 9 s.u.	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months

Sector I. Stormwater Discharges Associated With Industrial Activity From Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities, and United States Postal Service Transportation Facilities

1. Discharges Covered Under This Section. Stormwater discharges from ground transportation facilities and rail transportation facilities (generally identified by SIC Codes 40, 41, 42, 43, and 5171), that have vehicle and equipment maintenance shops vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication) and/or equipment cleaning operations are eligible for coverage under this section.

Table I-1
Monitoring Requirements for Motor Freight Transportation Facilities, Passenger Transportation Facilities, Petroleum Bulk Oil Stations and Terminals, Rail Transportation Facilities and Untied States Postal Service Transportation Facilities.

Table I-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months

Chemical Oxygen Demand	120 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months

Sector J. Stormwater Discharges Associated With Industrial Activity From Food and Kindred Products Facilities

1. Discharges Covered Under This Section. This section covers all stormwater discharges from food and kindred products processing facilities (commonly identified by SIC Code 20), including: meat products; dairy products; canned, frozen and preserved fruits, vegetables, and food specialties; grain mill products; bakery products; sugar and confectionery products; fats and oils; beverages; and miscellaneous food preparations and kindred products and tobacco products manufacturing (SIC Code 21), where industrial plant yards; material handling sites; refuse sites; sites used for application or disposal of process wastewater; sites used for storage, or disposal; shipping and receiving areas; manufacturing buildings; and storage areas for raw material and intermediate and finished products are exposed to stormwater and areas where industrial activity has taken place in the past and significant materials remain. For the purpose of this paragraph, material handling activities include the storage, loading, and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product.

2. Monitoring Requirements

Table J-1
Grain Mill Products

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months

Table J-2
Fats and Oils Products Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Biochemical Oxygen Demand	30 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months
Nitrate Plus Nitrite Nitrogen	0.68 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months

Sector K. Stormwater Discharges Associated With Industrial Activity From Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges from the following activities: textile mill products, of and regarding facilities and establishments engaged in the preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage, the manufacturing of broad woven fabrics, narrow woven fabrics, knit fabrics, and carpets and rugs from yarn; processes involved in the dyeing and finishing of fibers, yarn fabrics, and knit apparel; the integrated manufacturing of knit apparel and other finished articles of yarn; the manufacturing of felt goods (wool), lace goods, nonwoven fabrics, miscellaneous textiles, and other apparel products (generally described by SIC Code 22 and 23).

2. Monitoring Requirements. There are no chemical analysis to be performed for this industry sector.

Sector L. Stormwater Discharges Associated With Industrial Activity From Wood and Metal Furniture and Fixture Manufacturing Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges associated with industrial activities from facilities involved in the manufacturing of: wood kitchen cabinets(generally described by SIC Code 2434); household furniture (generally described by SIC Code 251); office furniture (generally described by SIC Code 252); public buildings and related furniture (generally described by SIC Code 253); partitions, shelving, lockers, and office and store fixtures (generally described by SIC Code 254); and miscellaneous furniture and fixtures (generally described by SIC Code 259) If waste wood products are exposed to stormwater.

2. Monitoring Requirements.

Table L-1
Monitoring Requirements for furniture and cabinet manufactures

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months

Sector M. Stormwater Discharges Associated With Industrial Activity From Printing and Plate making Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges associated with industrial activity from the following types of facilities: book printing (SIC Code 2732); commercial printing, lithographic (SIC Code 2752); commercial printing, gravure (SIC Code 2754); commercial printing, not elsewhere classified (SIC Code 2759); and platemaking and related services (SIC Code 2796).

2. Monitoring Requirements. There are no chemical analysis to be performed for this industry sector.

Sector N. Stormwater Discharges Associated With Industrial Activity From Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to all stormwater discharges associated with industrial activity from rubber and miscellaneous plastic products manufacturing facilities (SIC major group 30) and miscellaneous manufacturing industries, except jewelry, silverware, and plated ware (SIC major group 39, except 391).

2. Monitoring Requirements

Table N-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Recoverable Zinc	0.117 mg/l	1/6 Months

Sector O. Stormwater Discharges Associated With Industrial Activity From Fabricated Metal Products Industry

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges associated with industrial activity from the fabricated metals industry listed below, except for electrical related industries: fabricated metal products, except machinery & transportation equipment, SIC 34 (3429, 3441, 3442, 3443, 3444, 3451, 3452, 3462, 3471, 3479, 3494, 3496, 3499); and jewelry, silverware, and plated ware (SIC Code 391).

2. Monitoring Requirements

Table O-1
Monitoring Requirements for Fabricated Metal Products Except Coating

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Rec. Aluminum	0.75 mg/l	1/6 Months
Total Recoverable Iron	1 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Nitrate plus Nitrite Nitrogen	0.68 mg/l	1/6 Months

Table O-2
Monitoring Requirements for Fabricated Metal Coating and Engraving

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Nitrate plus Nitrite Nitrogen	0.68 mg/l	1/6 Months

Sector P. Stormwater Discharges Associated With Industrial Activity From Facilities That Manufacture Transportation Equipment, Industrial, or Commercial Machinery

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges associated with transportation equipment, industrial or commercial machinery manufacturing facilities (commonly described by SIC Major Group 35 except SIC 357. And SIC Major Group 37, except SIC 373). Common activities include: industrial plant yards; material handling sites; refuse sites, sites used for application or disposal of process wastewater; sites used for storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas for raw material and intermediate and finished products; and area where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater.

Table P-1
Monitoring Requirements for Transportation Equipment, Industrial, or Commercial Machinery Manufacturing facilities.

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months

Sector Q. Stormwater Discharges Associated With Industrial Activity From Facilities That Manufacture Electronic and Electrical Equipment and Components, Photographic and Optical Goods

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to all stormwater discharges associated with industrial activity from facilities that manufacture: electronic and other electrical equipment and components, except computer equipment (SIC major group 36); measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks (SIC Major Group 38) and computer and office equipment (SIC Code 357).

2. Monitoring Requirements. There are no chemical analysis to be performed for this industry sector.

Sector R. Stormwater Discharges Associated With Industrial Activity From Primary Metals Facilities

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to all stormwater discharges from the primary industry, which includes the following types of facilities:

a) Steel works, blast furnaces, and rolling and finishing mills including: steel wiredrawing and steel nails and spikes, cold-rolled steel sheet, strip, and bars; and steel pipes and tubes (SIC code 331).
b) Iron and steel foundries, including: gray and ductile iron, malleable iron, steel investment, and steel foundries not elsewhere classified (SIC code 332).
c) Primary smelting and refining of nonferrous metals, including; primary smelting and refining of copper, and primary production of aluminum (SIC code 333).
d) Secondary smelting and refining of nonferrous metals (SIC code 334).
e) Rolling, drawing, and extruding of nonferrous metals, including: rolling, drawing, and extruding of copper; rolling, drawing, and extruding of nonferrous metals, except copper and aluminum; and drawing and insulating of nonferrous wire (SIC code 335).
f) Nonferrous foundries (Castings, including: aluminum die-castings, nonferrous die-castings, except aluminum, aluminum foundries, and nonferrous foundries, except copper and aluminum (SIC code 336).
g) Miscellaneous primary metal products, not elsewhere classified, including: metal heat treating, and primary metal products, not elsewhere classified (SIC code 339).

Activities covered include, but are not limited to, stormwater discharges associated with coking operations, sintering plants, blast furnaces, smelting operations, rolling mills, casting operations, heat treating, extruding, drawing, or forging of all types of ferrous and nonferrous metals.

2. Monitoring Requirements.

Table R-1
Steel Works, Blast Furnaces, and Rolling and Finishing Mills (SIC 331)
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Rec. Aluminum	0.75 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months

Table R-2
Iron and Steel Foundries (SIC 332) Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Rec. Aluminum	0.75 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months
Total Recoverable Copper	0.0636 mg/l	1/6 Months
Total Recoverable Iron	1 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
Lead, Total	0.0816 mg/l	1/6 Months

Table R-3
Rolling, Drawing, and Extruding of Non-Ferrous Metals (SIC 335) Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Recoverable Copper	0.0636 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months

Table R-4
Non-Ferrous Foundries (SIC 336) Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Recoverable Copper	0.0636 mg/l	1/6 Months
Total Recoverable Zinc	0.117 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
Lead, Total	0.0816 mg/l	1/6 Months

Sector S. Stormwater Discharges Associated With Industrial Activity From Facilities engaged in Motorsports including Motorcycles, All Terrain Vehicles and Automobiles

1. Discharges Covered Under this Section Stormwater discharges from Motorsport complexes that involve the racing of Motorcycles, All Terrain Vehicles, Automobiles or other motorized vehicle (generally identified by SIC Code 7948).

Automobile, Motorcycle, ATV and all other Motorsports Complexes

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Oil and Grease	15 mg/l	1/6 Months
Total Suspend Solids	100 mg/l	1/6 Months

Sector T. Stormwater Discharges Associated With Industrial Activity From Facilities engaged in the Mining of Shale for NON MANUFACTURING PURPOSES.

1. Discharges Covered Under This Section. Stormwater discharges from facilities engaged in the mining of shale for NON MANUFACTURING PURPOSES ONLY (generally identified by SIC Code 1459)

2. Monitoring Requirements

Table T-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Total Iron	1.0 mg/l	1/6 Months

Sector U. Stormwater Discharges Associated With Industrial Activity From Facilities engaged in the Storage of Salt (Less than 50,000 tons only)

1. Discharges Covered Under This Section. Stormwater discharges from facilities engaged in the storage of salt (generally identified by SIC Code 5169)

2. Monitoring Requirements

Table U-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100mg/l	1/6 Months
Chloride	860mg/l	1/6 Months
Cyanide	Monitor Only	1/6 Months
Total Iron	1.0mg/l	1/6 Months

The Following special conditions apply to Sector U.

Salt piles must be covered at all times by an impervious cover. The only time this cover may be removed is when product is being added or removed. All salt must be entirely stored on an impervious pad. All ponds and diversion ditches must have an impervious liner with a minimum imperviousness of 10 to the negative 7.

Sector V. Stormwater Discharges Associated With Industrial Activity From Facilities engaged in the transloading of Ammonia Nitrate.

1. Discharges Covered Under This Section. Stormwater discharges from facilities engaged in the transloading of ammonia nitrate between trucks, barges, and rail cars. (generally identified by SIC Code 5169)

2. Monitoring Requirements

Table V-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Total Suspended Solids	100 mg/l	1/6 Months
Ammonia Nitrogen	4 mg/l	1/6 Months
Nitrite Plus Nitrate Nitrogen	0.68 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
pH	6.0-9.0 s.u.	1/6 Months

Sector W. Stormwater Discharges Associated With Industrial Activity From Facilities That Are Not Covered Under Sectors A Thru V.

1. Discharges Covered Under This Section. The requirements listed under this section shall apply to stormwater discharges associated with industrial activity from those facilities that are not covered for such discharges under Sectors A thru V. It is the intent of the Division that this sector include those stormwater discharges which Stormwater are not covered under Sectors A thru V as well as those facilities which had no previous stormwater permit that are applying for the first time and will not be covered under Sectors A thru V.

2. Monitoring Requirements

Table W-1
Monitoring Requirements

Pollutants of Concern	Monitoring Cut-Off Concentration	Measurement Frequency
Biochemical Oxygen Demand	30 mg/l	1/6 Months
Chemical Oxygen Demand	120 mg/l	1/6 Months
Total Suspended Solids	100 mg/l	1/6 Months
Ammonia Nitrogen	4 mg/l	1/6 Months
Oil and Grease	15 mg/l	1/6 Months
pH	6.0-9.0 s.u.	1/6 Months

SECTION B. OTHER REQUIREMENTS

1. Requiring an individual permit.

The Director may require any person authorized by this permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph. The Director may require any owner or operator authorized to discharge under this permit to apply for an individual NPDES permit only if the owner or operator has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the owner or operator to file the application, and a statement that on the effective date of the individual NPDES permit, coverage under this general permit shall automatically terminate. The Director may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit in a timely manner an individual NPDES permit application required by the Director under this paragraph, then the applicability of this permit to the individual NPDES permittee is automatically terminated at the end of the day specified for application submittal.

2. Prohibition on non-stormwater discharges.

All discharges covered by this permit shall be composed entirely of stormwater except for the following listed below.

The following non – stormwater discharges that are mixed with stormwater are allowed.

a. Mist discharges which originate from cooling towers and which are deposited at an industrial facility.

Mist discharges must meet the following requirements: 1. The permittee has evaluated the potential for the discharges to be contaminated by chemicals used in the cooling tower and determined that the levels of such chemicals in the discharges would not cause or contribute to a violation of an applicable water quality standard and 2. The permittee has addressed this source of pollutants with appropriate BMPs in the SWPPP.

b. Discharges from fire fighting activities
c. Fire hydrant flushings
d. Potable water sources including waterline flushings
e. Irrigation drainage
f. Lawn watering
g. Routine external building washdown without detergents
h. Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used
i. Air conditioning condensate
j. Compressor condensate
k. Uncontaminated ground water or spring water and foundation and footing drains where flows are not contaminated with process materials

These other sources of non – stormwater must be identified in the facility's Stormwater pollution prevention plan.

3. Releases in excess of Reportable Quantities.

This permit does not relieve the permittee of the reporting requirements of 40 CFR 117 and 40 CFR 302. The discharge of hazardous substances in the stormwater discharge(s) from a facility shall be minimized in accordance with the applicable stormwater pollution prevention plan for the facility, and in no case, during any 24-hour period, shall the discharge(s) contain a hazardous substance equal to or in excess of reporting quantities.

4. Low Concentration Waiver.

When the average concentration for a pollutant calculated from all monitoring data, with a minimum of four(4) consecutive samples, is less than the corresponding listed cut-off concentration for that pollutant, additional monitoring for that pollutant in Section A, is not required. The facility must submit each year, to the Division of Water and Waste Management in lieu of the monitoring data, a certification (form provided) that there has not been a significant change in the industrial activity or the pollution prevention measures in the area of facility that drains to the outlet for which sampling was waived.

The waiver is valid only for the term of the facilities current registration. If a facility would like to continue its waiver after this date it must reapply at the time of reissuance. The sampling required for a waiver extension consists of one(1) sample of each pollutant. If the sample is less than the corresponding listed cut-off concentration, then the waiver may be extended for the term of the facilities next registration.

5. Natural Background Pollutant Levels

Following the first two semi-annual benchmark monitoring, if the average concentration of a pollutant exceeds a benchmark value, and the permittee determines that exceedence of the benchmark is attributable solely to the presence of that pollutant in the natural background, the permittee is not required to perform corrective action or additional benchmark monitoring provided that:

- The average concentration of your benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background;
- The permittee documents and maintains with the SWPPP the supporting rationale for concluding that benchmark exceedences are in fact attributable solely to natural background pollutant levels. You must include in your supporting rationale any data previously collected by you or others (including literature studies) that describe the levels of natural background pollutants in your stormwater discharge; and
- The permittee notifies the DWWM on its final (second) semi-annual benchmark monitoring report that the benchmark exceedences are attributable solely to natural background pollutant levels.

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity at the facility, or pollutants in run-on from neighboring sources which are not naturally occurring.

6. Benchmark Monitoring

All monitoring in this permit is benchmark monitoring. The "benchmarks" are the pollutant concentrations above which the DWWM determined represents a level of concern. The level of concern is a concentration at which a stormwater discharge could potentially impair, or contribute to impairing water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed by the DWWM as a level, that if below, a facility represents little potential for water quality concern. As such, the benchmarks also provide an appropriate level to determine whether a facility's stormwater pollution prevention measures are successfully implemented. The benchmark concentrations are not effluent limitations and should not be interpreted or construed as such. These values are merely levels which the DWWM is using to determine if a stormwater discharge from any given facility merits further monitoring to insure that the facility has been successful in implementing a stormwater pollution prevention plan. As such, these levels represent a target concentration for a facility to achieve through implementation of pollution prevention measures at the facility.

The United States Environmental Protection Agency's NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity subjects Sectors C, D, and E to effluent limitation guidelines. These Sectors must monitor once per year at each outfall the parameters specified in the sector specific section of Section A.

7. Stormwater Pollution Prevention Plan practice review

Permittee shall review its stormwater pollution prevention practices each year and revise the plan (required in Section B-17), if this average concentration for any indicator pollutant in the previous year's sampling was greater than the corresponding cut-off value for that pollutant. This plan must be revised within thirty (30) days of finding the previous year's sampling results being over the cut-off value.

8. Alternative Certification

A discharge is not subject to the monitoring requirements of Section "A" provided the discharger makes a certification (form provided) for a given outlet, or on a pollutant-by-pollutant basis in lieu of monitoring reports, under penalty of law, signed in accordance with Signatory Requirements as specified in the Appendix; that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial, machinery or operations, or significant materials from past industrial activity, that are located in areas of the facility within the drainage area of the outlet are not presently exposed to stormwater and are not expected to be exposed to stormwater for the certification period.

9. No Exposure Certification

A facility that has a SIC code listed in section A requiring them to be covered under this permit is exempt from permitting requirements if they meet the following requirements consistent with the Code of Federal Regulations Section 122.26(g).

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snowmelt, and/or runoff. Industrial materials include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-

products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

-- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;

-- adequately maintained vehicles used in material handling; and

-- final products, other than products that would be mobilized in stormwater discharges (e.g. rock salt).

A No Exposure Certification must be provided for each facility qualifying for the no exposure exclusion. In addition, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion. The certification must be submitted once every five years along with the required fee determined by the Division of Water and Waste Management (DWWM).

If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and / or runoff. The conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement and / or un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

Notwithstanding the provisions of this paragraph, the DWWM retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard including designated uses.

10. Representative Discharge.

When a facility has two or more outlets that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outlet, the permittee reasonably believes discharges substantially identical effluents, the permittee may test the effluent of one of such outlets and report that the quantitative data also applies to the substantially identical outlet(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outlets and explains in detail why the outlets are expected to discharge substantially identical effluents. In addition, for each outlet that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g. low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan. The permittee shall include the description of the location of the outlets, explanation of why outlets are expected to discharge substantially identical effluents, and estimate of the size of the drainage area and runoff coefficient with the Stormwater Monitoring Report.

11. Visual Examination of Stormwater Quality

Permittee shall perform and document a visual examination of a stormwater discharge associated with industrial activity for each outlet during each monitoring period. Examination shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not exceed one hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. Visual examination reports must be maintained onsite in the stormwater pollution prevention plan.

12. Water Quality Standards.

The effluent or effluents covered by this permit are to be of such quality so as to not cause violations of applicable water quality standards.

13. TMDL and 303D Impaired Waters Requirements.

Permittees discharging pollutants of concern to waters for which there is a total maximum daily load (TMDL) established or approved by EPA are not eligible for coverage under this general permit, unless the permit conditions of this general permit are consistent with the assumptions and requirements of such TMDL. The permittee should consult with the State or EPA TMDL authority to confirm if his/her facility is subject to an approved TMDL. If you discharge to an impaired water body without an approved TMDL you must meet all applicable water quality standards for that receiving waterbody. You must also monitor for all pollutants for which the waterbody is impaired. If the pollutant for which the water is impaired is not present and not expected to be present in your discharge, or is present but you have determined that its presence is caused solely by natural background sources, you should include a notification to this effect in your first monitoring report, after which you may discontinue annual monitoring. To support a determination that the pollutant's presence is caused solely by natural background sources, you must keep the following documentation with your SWPPP records.

1. An explanation of why you believe that the presence of the pollutant causing the impairment in your discharge is not related to the activities at your facility; and

2. Data and/or studies that tie the presence of the pollutant causing the impairment in your discharge to natural background sources in the watershed.

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources which are not naturally occurring.

If you are a new discharger you must also meet the following requirements to discharge into a 303D impaired water.

1. Prevent all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and retain documentation of procedures taken to prevent exposure onsite with your SWPPP; or

2. Document that the pollutant(s) for which the waterbody is impaired is not present at your site, and retain documentation of this finding with your SWPPP; or

3. In advance of submitting your application, provide to DWWM data to support a showing that the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retain such data with your SWPPP. This data must demonstrate that the discharge of the pollutant for which the water is impaired will meet instream water quality criteria at the point of discharge.

14. Endangered and Threatened Species Requirements.

If a site discharges to a stream where a Federally endangered or threatened species or its habitat are present, the applicant should contact the US Fish and Wildlife Service to insure that requirements of the Federal Endangered Species Act are met.

15. Reopener Clause

If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with industrial activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit in accordance with Section B.1. of this permit or the permit may be modified to include different limitations and/or requirements.

16. Other Statutes or Regulations

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

17. Stormwater Pollution Prevention Plans (SWPPP) and Groundwater Protection Plan (GPP).

Each facility covered by this permit shall have a stormwater pollution plan and a groundwater protection plan. These two plans may be combined into one plan so long as all requirements for both plans are met. Alternatively, they may be developed and maintained as separate stand-alone documents. Stormwater pollution prevention plan shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. In addition the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in stormwater discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.. The SWPPP and the GPP shall be signed in accordance with Section I.6, Appendix A of this permit and shall be retained on site. Plans shall provide for compliance with the terms of the plan prior to submitting a registration form to be covered under this permit. The permittee shall make plan(s) available, upon request, to the Director or authorized representative. All facilities wishing to be covered by this permit for the first time must submit a copy of the SWPPP and GPP with the application for review.

If the plan(s) are reviewed by the Director or authorized representative, that individual

may notify the permittee at any time that either the SWPPP and/or the GPP does not meet one or more of the minimum requirements of this section. After such notification, the permittee shall make changes to the plan in accordance with the time frames established below, and shall submit to the Director, a written certification that the requested changes have been made. The permittee shall have 30 days after such notification to make the changes necessary.

All SWPPPs and GPPs required under this permit are considered reports that shall be available to the public under Section 308 (b) of the CWA. The owner or operator of a facility with stormwater discharges covered by this permit shall make plans available to members of the public upon request by the public. However, the permittee may claim any portion of a stormwater pollution plan as confidential in accordance with 46 CSR 2-12.7.

If representative organization of a significant number of facilities in a particular SIC code can develop and demonstrate an acceptable stormwater pollution prevention plan, and/or groundwater protection plan, the DWWM will review this approach for considering those facilities for coverage under this general permit and in compliance with this section.

A. Stormwater Pollution Prevention Plan Requirements

a) Contents of Plan. The plan shall include, at a minimum, the following items:

(1) Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may be reasonably expected to add significant amounts of pollutants to stormwater discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Plans shall identify all activities which may potentially be significant pollutant sources, including: 1) loading or unloading of dry bulk materials or liquids, 2) outdoor storage of raw materials, intermediary products or products, 3) outdoor process activities, 4) dust or particulate generating processes, 5) illicit connections or management practices, and 6) waste disposal practices. To facilitate this process, each plan, shall at a minimum, include:

(A) A site map indicating, at a minimum: each drainage and discharge structure; an outline of the drainage area of each discharge point, each past or present area used for outdoor storage or disposal of significant materials; each existing structural control measure to reduce pollutants in stormwater runoff; materials loading and access area; each hazardous waste storage or disposal facility (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; sinkholes; springs; and other surface water bodies;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) relative to the total area drained by each outlet;

(C) A topographic map (or other map if a topographic map is unavailable), extending one mile beyond the property boundaries of the facility, depicting the facility and each of its intake and discharge structures, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area. The requirements of this paragraph may be included in the site map required under Section G.5.d) (1) (A).

(D) A narrative description of significant materials that have been treated, stored or disposed in a manner to allow exposure to stormwater between the time of three years prior to the date of the coverage under this permit and the present; method of on-site storage of disposal; materials management practices employed to minimize contact of these materials with stormwater runoff between the time of three years prior to the date of issuance of this permit and the present; materials loading and access areas; the location and a description of existing structural and nonstructural control measures to reduce pollutants in stormwater runoff; and description of any treatment the stormwater receives.

(E) A list of significant spills and leaks of toxic or hazardous pollutant that occurred at the facility after the date of three (3) years prior to coverage under this permit and the present. Such list shall be updated when a significant spill or leak of toxic or hazardous pollutants occurs and shall include a description of the materials released, an estimate of the volume of the release, the location of the release, and a description of any remediation or cleanup measures taken;

(F) For each area of the plant that generates stormwater discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a

prediction of the direction of flow, and an estimate of the types of pollutants which could be present in stormwater discharges associated with industrial activity; and

(G) A summary of existing sampling data describing pollutants in stormwater discharges.

(2) Stormwater Management Controls

Each facility covered by this permit shall develop a description of stormwater pollution controls appropriate for the facility, and implement such controls. Priorities developed in a plan for implementing controls shall reflect the nature of identified potential sources of pollutants at the facility. The description of stormwater pollution controls shall address the following minimum components, including a schedule for implementing such controls:

(A) Pollution Prevention Committee - The description of the stormwater Pollution Prevention Committee shall identify specific individuals within the organization who are responsible for developing the stormwater pollution prevention plan and assisting the manager in its implementation, maintenance, and revision. The activities and responsibilities of the committee should address all aspects of the facility's stormwater pollution prevention plan.

(B) Risk identification and Assessment/Material Inventory - The stormwater pollution prevention plan shall assess the potential of various sources at the facility to contribute pollutants to stormwater discharges associated with industrial activity. The plan shall inventory the types of materials handled, the location of material management activities, and types of material management activities. Factors to consider when evaluating the pollution potential of runoff from various portions of an industrial plant include: loading and unloading operations, outdoor storage activities; outdoor manufacturing or processing activities; dust or particulate generating processes; and waste disposal practices. Other factors to consider are the toxicity of chemicals; quantity of chemicals used, produced, or discharged; history of water quality violations; history of significant leaks or spills of toxic or hazardous pollutants; and nature and uses of the receiving waters.

(C) Preventive Maintenance - A preventive maintenance program shall involve inspection and maintenance of stormwater pollution prevention devices (e.g., cleaning oil/water separators, catch basins, etc.) as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

(D) Good Housekeeping - Good housekeeping requires the maintenance of a clean, orderly facility.

(E) Spill Prevention and Response Procedures - Areas where potential spills can occur, and their accompanying drainage points shall be identified clearly in the stormwater pollution prevention plan. Where appropriate, specifying material handling procedures and storage requirements in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a cleanup should be available to all personnel.

(F) Stormwater pollution prevention - After measures have been taken to minimize pollutant sources to stormwater, traditional stormwater pollution prevention practices should be considered.

(G) Sediment and Erosion Prevention - The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for soil erosion, and identify measures to limit erosion. Some sectors may be required to submit a sediment and erosion control plan.

(H) Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the stormwater pollution prevention plan. Training should address topics such as spill response, good housekeeping, and material management practices. A pollution prevention plan shall identify periodic dates for such training.

(I) Visual Inspections - Qualified company personnel shall be identified to inspect designated equipment and plant or other appropriate areas. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. A tracking or follow-up procedure should be used to ensure that adequate response and corrective actions have been taken in response to the inspection. Records of inspections shall be maintained.

(J) Record keeping and Internal Reporting Procedures - Incidents such as spills, leaks, and improper dumping, along with other information describing the quality and quantity of stormwater discharges should be included in the records. Inspections and maintenance activities such as cleaning oil and grit separators or catch basins should be documented and recorded.

(K) Non-Stormwater Discharges - A certification that the discharge has been tested for the presence of non-stormwater discharges. The certification shall include a description of the results of any test for the presence of non-stormwater discharges, the method used, the date of any testing, and the on-site drainage points that were directly observed during the test. Such certification may not be feasible if the facility operating the stormwater discharge associated with industrial activity does not have access to an outlet, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the stormwater pollution plan shall indicate why the certification required by this section was not feasible.

b) Site Inspection

A site inspection shall be conducted annually by appropriate personnel named in the stormwater pollution prevention plan to verify that the description of potential pollutant sources required under Section B.11.A.a)(1) is accurate; the drainage map has been updated or otherwise modified to reflect current conditions; and the controls to reduce pollutants in stormwater discharges associated with industrial activity identified in the stormwater pollution prevention plan are being implemented and are adequate. Records documenting significant observations made during the site inspection shall be retained as part of the stormwater pollution prevention plan for three years.

c) A facility which has experienced one or more releases of a hazardous substance in excess of reporting quantities established at 40 CFR 117.3 or 40 CFR 302.4 within twelve months prior to the effective date of this permit, or after the effective date of this permit, shall include as part of the stormwater pollution prevention plan for the facility a written

description of each release, corrective actions taken and measures taken to prevent recurrence. (Note: Section B.3. if this permit prohibits stormwater discharges which, during any 24-hour period, contain a hazardous substance equal to or in excess of the reporting quantities of 40 CFR 117 and 40 CFR 302.)

d) Consistency with Other Plans and Programs

Stormwater management plans and programs may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the Clean Water Act (CWA) or Best Management Practices (BMP) plans otherwise required by a WV/NPDES permit, and may incorporate any part of such plans into the stormwater pollution prevention plan by reference.

B. Groundwater Protection Plan Requirements

Groundwater Protection Plans (GPPs) shall be prepared in accordance with this Section and the requirements of Title 47, Series 58, Section 4.11., et. seq. (Groundwater Protection Regulations). If the GPP is combined with the SWPPP into a single plan it may not be necessary to repeat some of the information required by the following subsections. However, stand alone GPPs must contain the following information at a minimum:

(1) The GPP shall include an inventory of all operations which may reasonably be expected to contaminate the groundwater resources with an indication of the potential for soil and groundwater contamination from those operations. The following potential sources must be considered: Outside materials storage areas; Disposal areas; Loading and unloading areas; Bulk storage and distribution areas; Drums; Sumps; Pumps; Tanks; Impoundments; Ditches; and Underground Pipelines. In addition the GPP shall provide a thorough and detailed description of procedures designed to protect groundwater from the identified potential contamination sources. Specific attention must be given to manufacturing facilities, materials handling, equipment cleaning, construction activities, maintenance activities, pipelines, sumps, and tanks containing contaminants.

(2) Facilities which have areas that require remedial action to install, implement, or develop procedures or control equipment to protect groundwater shall include in their GPP a schedule of compliance listing such areas, the remedial actions necessary, and the projected date such remedial actions will be completed. The schedule of compliance is a part of the GPP and enforceable under Title 47, Series 58, Section 4.12.e.1.

(3) A thorough and detailed list of groundwater protection procedures to be employed in the design of new equipment or operations.

(4) A thorough and detailed summary of all activities carried out under other regulatory programs which have relevance to groundwater protection (for example: RCRA, CERCLA, Stormwater Permit, Spill Prevention Control and Countermeasures plans, Toxic Substances Control Act, DOT training requirements, Management of Used Oil, etc.)

(5) All reasonably available information groundwater quality at the site. This should include any known sampling in the area, other potential sources of contamination, depth to groundwater, and any other information available.

(6) A statement that no wastes will be used for deicing, fills, or for other uses on the site unless provided for in existing rule.

(7) Provisions for training all employees and contractor personnel on their responsibility to ensure groundwater protection. Job procedures shall provide direction on prevention of groundwater contamination.

(8) Provisions for quarterly inspections of the facility to ensure that all elements and equipment of the groundwater protection programs are in place, functioning properly, and are appropriately managed.

The herein described activity is to be constructed or installed, and operated, used and maintained strictly in accordance with the terms and conditions of this permit; with all plans and specifications previously submitted with the individual site registration application form or individual permit application; with a plan of maintenance and method of operation thereof; and with any applicable rules and regulations promulgated by the State Environmental Quality Board.

Failure to comply with the terms and conditions of this permit, with the plans and specifications previously submitted with individual site registration application form or individual permit application, and with a plan of maintenance and method of operation thereof shall constitute grounds for the revocation or suspension of this permit and for the invocation of all the enforcement procedures set forth in Chapter 22, Article 11 of the Code of West Virginia.

This permit is issued in accordance with the provisions of Chapter 22, Article 11 of the Code of West Virginia

BY: 

Director

WV/NPDES Permit No. WV0111457

Appendix A

I. MANAGEMENT CONDITIONS:

1. **Duty to Comply**
   a) The permittee must comply with all conditions of this permit. Permit noncompliance constitutes a violation of the CWA and State Act and is grounds for enforcement action; for permit modification, revocation and reissuance, suspension or revocation; or for denial of a permit renewal application.
   b) The permittee shall comply with all effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
2. **Duty to Reapply**
   If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Division of Water and Waste Management will provide the permittee with an application package at such time as they will need to reapply. Applicants will have 30 days from when they receive the application to reapply.
3. **Duty to Mitigate**
   The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.
4. **Permit Actions**
   This permit may be modified, revoked and reissued, suspended, or revoked for cause. The filing of a request by the permittee for permit modification, revocation and reissuance, or revocation, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
5. **Property Rights**
   This permit does not convey any property rights of any sort or any exclusive privilege.
6. **Signatory Requirements**
   All applications, reports, or information submitted to the Director shall be signed and certified as required in Title 47, Series 10 , Section 4.6 of the West Virginia Legislative Rules.
7. **Transfers**
   This permit coverage is not transferrable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary. .
8. **Duty to Provide Information**
   The permittee shall furnish to the Director, within a reasonable specified time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, suspending, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
9. **Other Information**
   Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.
10. **Inspection and Entry**
    The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
    a) Enter upon the permittee's premises in which an effluent source or activity is located, or where records must be kept under the conditions of this permit;
    b) Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
    c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the State Act, any substances or parameters at any location.
11. **Permit Modification**
    This permit may be modified, suspended, or revoked in whole or in part during its term in accordance with the provisions of Chapter 22-11-12 (of the Code of West Virginia).
12. **Water Quality**
    The effluent or effluents covered by this permit are to be of such quality so as not to cause violation of applicable water quality standards adopted by the Environmental Quality Board.
13. **Outlet Markers**
    A permanent marker at the establishment shall be posted in accordance with Title 47, Series 11, Section 9 of the West Virginia Legislative Rules.

14. Liabilities

a) Any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

b) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

c) Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

d) Nothing in C.14 a), b), and c) shall be construed to limit or prohibit any other authority the Director may have under the State Water Pollution Control Act, Chapter 22, Article 11.

15. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

II. OPERATION AND MAINTENANCE:

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. Unless otherwise required by Federal or State law, this provision requires the operation of back-up auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

3. Bypass

a) Definitions
- (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility; and
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of II.3.c) and II.3.d) of this permit.

c)
- (1) If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass;
- (2) If the permittee does not know in advance of the need for bypass, notice shall be submitted as required in IV.2.b) of this permit.

d) Prohibition of bypass
- (1) Bypass is permitted only under the following conditions, and the Director may take enforcement action against a permittee for a bypass, unless;
  - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
  - (C) The permittee submitted notices as required under II.3.c) of this permit.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in II.3.d.(1) of this permit.

4. Upset

a) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitation if the requirements of II.4.c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated;
- (3) The permittee submitted notice of the upset as required in IV.2.b) of this permit.
- (4) The permittee complied with any remedial measures required under I.3. of this permit.

d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Removed Substances

Where removed substances are not otherwise covered by the terms and conditions of this permit or other existing permit by the Director, any solids, sludge, filter backwash or other pollutants (removed in the course of treatment or control of wastewater) and which are intended for disposal within the State, shall be disposed of only in a manner and at a site subject to the approval by the Director. If such substances are intended for disposal outside the State or for reuse, i.e., as a material used for making another product, which in turn has another use, the permittee shall notify the Director in writing of the proposed disposal or use of such substances, the identity of the prospective disposer or users, and the intended place of disposal or use, as appropriate.

III. MONITORING AND REPORTING

1. Representative Sampling, Sample Type and Sampling Period

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. For discharges from holding ponds or other impoundments with a retention period greater than 24 hours, (estimated by dividing the volume of the retention pond by the estimated volume of water discharged during the 24 hours previous to the time that the sample is collected) a grab sample may be taken at any time within 24 hours from the beginning of rainfall. For all other discharges, samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where once per six(6) month sampling is required, the samples for each six(6) month period shall be collected at least three(3) months apart. The grab sample shall be taken during the first thirty minutes of the discharge. If the collection of a grab sample during the first thirty minutes is impractical, a sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first thirty minutes was impractical

Permittee shall monitor samples collected during the sampling period of January through June and July through December.

2. Reporting

a) Permittee shall submit each year, according to the enclosed format, a Discharge Monitoring Report (DMR) indicating in terms of concentration, the values of the constituents listed in Part A analytically determined to be in the effluent(s).

b) The required DMRs should be mailed no later than 20 days following the end of the reporting period and be addressed to:

Director
Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304
Attention: Permitting Section

and Supervisor Environmental Enforcement
(General Permit Registration shall contain Regional address)

3. Test Procedures

Samples shall be taken, preserved and analyzed in accordance with the latest edition of 40 CFR Part 136, unless other test procedures have been specified elsewhere in this permit.

4. Recording of Results

For each measurement or sample taken pursuant to the permit, the permittee shall record the following information.

a) The date, exact place, and time of sampling or measurement;
b) The date(s) analyses were performed;
c) The individual(s) who performed the sampling or measurement;
d) The individual(s) who performed the analyses; if a commercial laboratory is used, the name and address of the laboratory;
e) The analytical techniques or methods used, and
f) The results of such analyses. Information not required by the DMR form is not to be submitted to this agency, but is to be retained as required in III.6.

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant at any monitoring point specified in this permit more frequently than required by this permit, using approved test procedures or others as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

6. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

7. Definitions

a) "Daily discharge" means the discharge of a pollutant measured during a calendar day or within any specified period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
b) "Average monthly discharge limitation" means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
c) "Maximum daily discharge limitation" means the highest allowable daily discharge.
d) "Composite Sample" is a combination of individual samples obtained at regular intervals over a time period. Either the volume of each individual sample is proportional to discharge flow rates or the sampling interval (for constant volume samples) is proportional to the flow rates over the time period used to produce the composite. The maximum time period between individual samples shall be two hours.
e) "Grab Sample" is an individual sample collected in less than 15 minutes.
f) "is" = immersion stabilization - a calibrated device is immersed in the effluent stream until the reading is stabilized.

III. MONITORING AND REPORTING CONTD.

g) The "daily average temperature" means the arithmetic average of temperature measurements made on an hourly basis, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar month, or during the operating month if flows are of shorter duration.

h) The "daily maximum temperature" means the highest arithmetic average of the temperatures observed for any two (2) consecutive hours during a 24 hour day, or during the operating day if flows are of shorter duration.

i) The "daily average fecal coliform" bacteria is the geometric average of all samples collected during the month.

j) "Measured Flow" means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or which a relationship to absolute volume has been obtained.

k) "Estimate" means to be based on a technical evaluation of the sources contributing to the discharge including, but not limited to pump capabilities, water meters and batch discharge volumes.

l) "Non-contact cooling water" means the water that is contained in a leak-free system, i.e., no contact with any gas, liquid, or solid other than the container for transport; the water shall have no net poundage addition of any pollutant over intake water levels, exclusive of approved anti-fouling agents.

m) "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

n) "CWA" means Clean Water Act or the Federal Water Pollution Control Act.

o) "Director" means the Director of the Division of Water and Waste Management, Department of Environmental Protection or their designated representative.

p) "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

q) "Salt Piles" means the commercial storage of common salt (sodium chloride).

r) "Section 313 water priority chemicals" means a chemical or chemical categories which are:

(1) Are listed at 40 CFR 372.65 pursuant to section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

(2) Are present at or above threshold levels at a facility subject to SARA Title III, section 313 reporting requirements; and

(3) That meet at least one of the following criteria: (1) Area listed to appendix D of 40 CFR part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) Are listed as a hazardous substance pursuant to Section 311 (b)(2)(A) of the CWA at 40 CFR 116.; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

s) "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

t) "Site Registration Application Form" means the form(s) designed by the Director for the purpose of making application for coverage under a general permit.

u) "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the CWA (see 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4).

v) "Stormwater" means stormwater runoff, snow melt runoff and surface runoff and drainage.

w) "Stormwater Associated with Industrial Activity" means the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified below in (I) through xi), the terms includes, but is not limited to stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites, refuse sites, sites used for the application or disposal of process wastewater (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the categories of-industries identified below in (xi) the term includes only stormwater discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products or industrial machinery are exposed to stormwater. For the purposes of the stormwater regulations (40 CFR Part 122.26), material handling activities include the storage, loading and uploading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities (including industrial facilities that are Federally or municipally owned or operated that meet the description of the facilities listed in the paragraph (I)-(xi)) include those facilities designated under 122.26(a)(I)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of these regulations

(i) Facilities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (Xi);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28, 29, 30, 311, 32, 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11 (1)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge stormwater contaminated by contact with or that-has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfill and land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42, 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, paining, fueling and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified in (I)-(vii) or (ix)-(x) are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with the design flow of 1.0 MGD or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR Part 503;

(x) Construction activities, including clearing, grading and excavation activities except: operations that result in the disturbance of less than three acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 26, 27 (except 373), 38, 39, 4221-25), (and which are not otherwise included within categories (I)-(xi)).

(x) "Trout Streams" means any waters which meet the definition of Section 2.18 of 46 CSR1.

(y) "Waste pile" means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage.

(z) "25-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 25 years. This information is available from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

(aa) "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

IV. OTHER REPORTING

1. Reporting Spills and Accidental Discharges

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to Title 47, Series 11, Section 2 of the West Virginia Legislative Rules promulgated pursuant to Chapter 22, Article 11.

Attached is a copy of the West Virginia Spill Alert System for use in complying with Title 47, Series 11, Section 2 of the Legislative rules as they pertain to the reporting of spills and accidental discharges.

2. Immediate Reporting

a) The permittee shall report any noncompliance which may endanger health or the environment immediately after becoming aware of the circumstances by using the Agency's designated spill alert telephone number. A written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

b) The following shall also be reported immediately:
   (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
   (2) Any upset which exceeds any effluent limitation in the permit; and
   (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported immediately. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

c) The Director may waive the written report on a case-by-case basis if the oral report has been received in accordance with the above.

d) Compliance with the requirements of IV.2 of this section, shall not relieve a person of compliance with Title 47, Series 11, Section 2.

3. Reporting Requirements

a) Planned changes. The permittee shall give notice to the Director of any planned physical alterations or additions to the permitted facility which may affect the nature or quantity of the discharge.

b) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

4. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under the above paragraphs at the time monitoring reports are submitted. The reports shall contain the information listed in IV.2.a).