

# GROUND WATER PROTECTION PLAN GUIDANCE DOCUMENT

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Developed by:

West Virginia Department of Environmental Protection  
Division of Water and Waste Management  
Ground Water Program

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## **SECTION 1.0**

### **APPLICABILITY OF INSTRUCTIONS**

These instructions are applicable to anyone who owns or operates an industrial facility or conducts activities which may impact ground water resources. Title 47 CSR58 (Series 58 Ground Water Protection Rule) requires each industrial facility to submit and implement a Ground Water Protection Plan (GPP). Examples of "Industrial Facilities or Establishments" include:

- Paper or Pulp Mills
- Factories or Tanneries
- Mines and Quarries
- Electric Power Generating Facilities

Any industry or operation that produces wastes and sewage is subject to the requirement to implement a GPP.

Facilities that also implement a Storm Water Pollution Prevention Plan (SWPPP) or Spill Prevention, Control & Countermeasures (SPCC) plan may combine the GPP with them as long as all elements required by the 47CSR58 are included.

## **SECTION 2.0**

### **INTENT OF INSTRUCTIONS**

The intent of these instructions is to assist in developing a GPP that provides the type of information most likely to merit approval from the West Virginia Department of Environmental Protection (WVDEP).

These instructions have been developed as guidance, not a rule. They may be altered to fit facility-specific conditions as needed. The WVDEP understands the importance of site-specific considerations and details in defining the content of the GPP, and has developed this guidance document as an outline of the suggested content to be addressed within the GPP. **Appendix A** includes a sample format for a GPP.

## SECTION 3.0

### GROUND WATER PROTECTION PLAN REQUIREMENTS

#### 3.1 Processes & Activities

The owner/operator should determine which operations, processes and materials present at the facility are expected to affect or contaminate ground water resources. Common examples include:

- Unlined Ponds
- Underground Storage Tanks (UST)
- Above Ground Storage Tanks (AST)
- Waste Piles
- Raw Material Piles
- Water Treatment Plant Chemicals
- Settling Basin Sludge

These should be listed and described in this section. A facility map should be submitted labeling the locations of the processes or activities that may influence ground water.

#### 3.2 Containment Facilities & Procedures

##### 3.2.1 Existing Processes

The owner/operator should list and describe containment facilities and procedures present to protect ground water resources from the potential contaminants listed above. These processes or facilities should be identified on the facility map if applicable. Section 4.11.b of series 58, The Ground Water Protection Rule, identifies a list of topics which need to be addressed:

- Manufacturing Facilities
- Materials Handling
- Equipment Cleaning
- Construction and Maintenance Activities
- Pipelines Carrying Contaminants
- Sumps and Tanks Containing Contaminants

Operating practices and physical installations which prevent ground water contamination for each of these categories should be included where applicable.

### **3.2.2 New Operations / Equipment**

The owner/operator should list procedures used when designing and adding new equipment and operations. New operations should be designed and constructed to protect ground water. Also include specific safety/environmental committees and training associated with the new operations or equipment.

Important considerations are included in the **Site Selection Criteria** (47CSR58, Section 4.10.) when a facility intends to construct new or expand existing operations. Adequate design of these operations should be considered in the GPP when making changes in areas of karst, wetlands, faults, subsidence, areas determined by the Bureau for Public Health to be delineated wellhead protection areas or other areas determined by the Director to be vulnerable based upon geologic or hydrogeologic information.

The facility should revise its existing GPP to address any newly delineated areas or other vulnerable areas upon notification by the Bureau for Public Health or the Director of West Virginia Division of Water and Waste Management (WVDWWM).

### **3.3 Activities Regulated for Ground Water Protection**

The owner/operator should summarize activities presently regulated for ground water protection. These may include: registration of underground storage tanks, required ground water monitoring or the construction and use of a landfill.

List any other permits, required spill prevention and response plans, registrations, certifications or approvals from agencies that regulate ground water protection measures at the facility. These may include but are not limited to:

- NPDES/NPDES – Stormwater
- WVDEP – Office of Waste Management (OWM) – Solid Waste Facility
- WVDEP – OWM – RCRA (Hazardous Waste TSD or Transporter)
- WVDEP – OWM – UST
- CERCLA – Superfund
- WV Voluntary Remediation – Brownsfields
- FIFRA – Federal Insecticide, Fungicide and Rodenticide Act
- Well Head Protection Program (WHPP)
- Underground Injection Control (UIC)
- Toxic Substances Control Act (TSCA)
- Best Management Plans
- Management of Used Oil

### **3.4 Ground Water Quality**

The owner/operator should include a discussion of all available ground water quality data that exists for the facility. Each water treatment plant may submit a copy of its ground water analyses if it uses wells as its source. Attach a summary table of data for the last year if sampling has been conducted for more than a year. This section should also contain any other information that is readily available such as soil type, geologic formation, depth to ground water or the results of any percolation tests for a septic system conducted by the county health department. Analyses of drinking water wells, springs or seeps should also be included if they have been sampled. Well locations or other sampling points should be identified on the facility map.

The installation of monitoring wells and/or ground water sampling may be required by the Director if the potential for ground water contamination exists. These actions are not automatically required with every GPP. Facilities with no existing ground water quality data should provide a statement documenting that no data has been collected.

### **3.5 Fill Material & Deicing**

A GPP should have a statement documenting that waste materials will not be used for deicing, fill, or any other use, unless that use is provided for in some other regulation or permit. A temporary construction demolition permit (D2) may allow waste to be used for fill. A power plant permit might allow the use of non-hazardous bottom or fly ash for snow and ice control on access roads and parking areas. Any use of waste for deicing, fill, or similar use should be detailed along with the permit, regulation, or use authorization.

### **3.6 Responsibility & Training**

Instruction and training given to employees concerning ground water protection should be summarized in this section. Job procedures associated with the protection measures should be detailed.

Education on recognizing potential ground water contaminants, spill notification and documentation should also be included in this section. The easiest way to manage a spill or contaminant is prevention. Ground water is a resource which, by law, must be protected.

### **3.7 Inspections**

A minimum of quarterly inspections of the GPP elements by facility personnel are required. Documentation of these inspections may help with WVDEP inspections or demonstrate the facility's efforts to protect ground water. This section should include a description of inspection procedures and how control structures and devices are managed. Attach a copy of the facility's inspection form if applicable.

## **SECTION 4.0**

### **IMPLEMENTATION & ENFORCEMENT**

#### **4.1 Implementation**

All existing industrial establishments should have completed and implemented a GPP by June 1, 1995 (One year after the effective date of 47CSR58). New facilities are required to complete a GPP prior to construction. Pre-construction GPP's will be reviewed by the Ground Water Program at the Division of Water and Waste Management.

The GPP should be available on site at all times for review by WVDEP personnel. The GPP should be submitted as part of a NPDES application, renewal or modification. The Director may require a modification to a GPP to ensure adequate protection of ground water. If a facility does not have adequate ground water protection practices in place they may submit a compliance schedule for implementation of necessary practices along with their permit renewal. If approved, this compliance schedule will allow time to implement the necessary practices.

#### **4.2 Enforcement**

- Failure to have a completed and implemented GPP is a violation.
- Failure to follow any practice set forth in the GPP is a violation of the Ground Water Protection Rule.
- Complying with a GPP does not relieve the facility of any obligation to comply with any other federal, state or local rule, regulations or statues.

#### **4.3 Other Resources**

Small business GPP's and sample GPP's for larger facilities are available from the West Virginia Department of Environmental Protection, Division of Water and Waste Management, Ground Water Program at 304-926-0499 Ext. 1052 or Jeffrey.S.Knepper@wv.gov.



WVDEP

# APPENDIX A

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Outline for Large Facilities

**West Virginia Department of Environmental Protection  
Division of Water and Waste Management  
Ground Water Protection Plan  
for  
Small Businesses**

A Ground Water Protection Plan (GPP) for your small business is required by WVDEP. The primary purpose of the GPP is to make the business operator aware that ground water, by law, must be protected. Other important factors are the inventory of all operations (processes, materials and containment devices) that may be expected to contaminate ground water. A description of procedures to prevent potential contamination from occurring should also be included.

The attached form will be your GPP after you:

1. Read and understand each GPP requirement section.
2. Fill in the information required below each GPP section. Add additional sheets if necessary.
3. Attach a location and facility site map showing the location of GPP elements.
4. Sign and date the GPP.

The attached form references sections from the GPP guidance document and regulations from 47CSR58 Ground Water Protection Rule.

**GPP Requirements**

**Required Information**

<b>Process &amp; Activities (4.11.a)</b>	
A list of all operations that may reasonably be expected to contaminate ground water.	A list of all processes, materials and other activities that could contaminate ground water. Examples include: unlined ponds, UST's, AST's, underground piping, waste piles and raw material piles.

<b>Containment Processes (4.11.b)</b>	
A description of procedures and facilities used to protect ground water quality from the list of contaminant sources in the previous section.	Secondary containment for AST's, underground piping and drum storage areas are examples. Specifically, Manufacturing Facilities, Materials Handling, Equipment Cleaning, Construction and Maintenance Activities, Pipelines Carrying Contaminants, Sumps and Tanks Containing Contaminants need to be addressed.

**GPP Requirements**

**Required Information**

<b>New Operations / Equipment (4.11.c)</b>	
List procedures to be used when designing and adding new equipment or operations.	Examples may be: the addition of loading docks for salt storage or fuel storage tanks at a facility. What structures and operating practices will be used to prevent ground water contamination from these.

<b>Activities Regulated for Ground Water Protection (4.11.d)</b>	
Summarize all activities at your facility that are already regulated for ground water protection.	Examples might be: registration of UST's and required ground water monitoring, or the construction and use of a landfill with required monitoring.

**GPP Requirements**

**Required Information**

<b>Ground Water Quality (4.11.e)</b>	
Discuss any existing ground water quality data for your facility or adjacent property.	Include the most recent year of sampling data (if available) or data for an adjacent facility. Many facilities will not have information for this section.

<b>Fill Material (4.11.f)</b>	
A statement that no waste material will be used for deicing or fill material on the site unless allowed by another rule.	Write an appropriate statement that this practice will not be used at your facility.

**GPP Requirements**

**Required Information**

**Responsibility & Training (4.11.g)**

Provisions for all employees to be instructed and trained on their responsibility to ensure ground water protection. Job procedures shall provide direction on how to prevent ground water contamination.

Summarize training for all employees to ensure familiarity with the GPP. Specific inspection, maintenance and cleanup procedures should be included.

**Inspections (4.11.h)**

Include provisions for inspections of all GPP requirements and equipment. Inspections must be made quarterly at a minimum.

Include inspection form (if used). Inspection records should be saved to verify GPP inspections.

Signature

Date

WVDEP

# APPENDIX B

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Outline for Large Facilities

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