UNDERGROUND INJECTION CONTROL PROGRAM

May 15, 2014

Gene Smith, Assistant Chief – Permitting
Office of Oil and Gas
SDWA/Primacy

• Requires EPA to promulgate regulations to protect drinking water sources from contamination through underground injection
• Fall under EPA or apply for primacy
• WV Division of Water Resources applied in 1982
• WV Division of Water Resources obtained primacy approval 1983
UIC Permit Classes

- **Class I** - Inject hazardous wastes, industrial liquids, or municipal wastewater beneath the lowermost USDW
- **Class II** - Inject brines and other fluids associated with oil and gas production, and hydrocarbons for storage.
- **Class III** - Inject fluids associated with solution mining of minerals beneath the lowermost USDW.
- **Class IV** - Inject hazardous or radioactive wastes into or above USDWs. These wells are banned unless authorized under a federal or state ground water remediation project.
- **Class V** - All injection wells not included in Classes I-IV. In general, Class V wells inject non-hazardous fluids into or above USDWs and are typically shallow, on-site disposal systems. However, there are some deep Class V wells that inject below USDWs
- **Class VI** - Inject Carbon Dioxide (CO2) for long term storage, also known as Geologic Sequestration of CO2
UIC CODE AND RULE REFERENCES

- W. Va. Code § 22-6
- 35CSR4
- W. Va. Code § 22-11
- 47CSR13
- 40CFR144-146
- 47CFR58
- 47CFR9
- 35CSR1
- 47CSR32
CURRENT INVENTORY

- Private Brine Disposal = 52
- Commercial Brine Disposal = 17
- Secondary Recovery Wells = 502
- Solution Mining Wells = 21
NEW UIC APPLICATION PACKAGE

• Began application overhaul – late February, 2014
• Draft completed – April 17, 2014
• Training – April 23, 2014
• Final Completed – May 2, 2014
• Final put on line under “Forms” May 5, 2014
  • http://www.dep.wv.gov/oil-and-gas/GI/Forms/Pages/default.aspx
CHECKLIST FOR FILING A UIC PERMIT APPLICATION

Please utilize this checklist to ensure you have prepared, completed, and enclosed all required documentation and payment to ensure a timely review of your submittal.

<table>
<thead>
<tr>
<th>Operator</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing UIC Permit ID Number</td>
<td>UIC Well API Number</td>
</tr>
</tbody>
</table>

Please check the fees and payment included.

<table>
<thead>
<tr>
<th>Fees</th>
<th>Payment Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>UIC Permit Fee: $500</td>
<td>Check</td>
</tr>
<tr>
<td>Groundwater Protection Plan (GPP) Fee: $50.00</td>
<td>Electronic Other</td>
</tr>
</tbody>
</table>

Please check the items completed and enclosed.

- Checklist
- UIC-1
  - Section 1 – Facility Information
  - Section 2 – Operator Information
  - Section 3 – Application Information
  - Section 4 – Applicant/Activity Request and Type
  - Section 5 – Brief description of the Nature of the Business
  - CERTIFICATION
  - Section 6 – Construction
    - Appendix A Injection Well Form
    - Appendix B Storage Tank Inventory
  - Section 7 – Area of Review
    - Appendix C Wells Within the Area of Review

Office of Oil and Gas Office Use Only

- Permit Reviewer
- Date Received
- Administratively Complete Date
- Approved Date
- Permit Issued
Appendix D Public Service District Affidavit
Appendix E Water Sources
Appendix F Area Permit Wells
Section 8 – Geological Data on Injection and Confining Zones
Section 9 – Operating Requirements / Data
Appendix G Wells Serviced by Injection Well
Section 10 – Monitoring
Section 11 – Groundwater Protection Plan (GPP)
Appendix H Groundwater Protection Plan (GPP)
Section 12 – Plugging and Abandonment
Section 13 – Additional Bonding
Section 14 – Financial Responsibility
Appendix I Financial Responsibility
Section 15 – Site Security Plan
Appendix J Site Security for Commercial Wells
Section 16 – Additional Information
Appendix K Other Permit Approvals

*NOTE: For all 2D wells an additional bond in the amount of $5,000 is required.

Reviewed by (Print Name): ________________________________

Reviewed by (Sign): ________________________________

Date Reviewed: __________

Page 2 of 2 Promoting a healthy environment
PERMIT COMPLIANCE

• Read Permit
• Permit effective for 5 years
• 180 days prior to expiration for a reissuance
• Major/Minor Modifications
  – Major: alterations or additions to the permit are considered major
  – Minor: typos, change compliance dates, require more monitoring, change in ownership, quantities of fluid types, etc.
• Appeal Process
• Notice to Chief of significant alterations or changes
• Notice to Chief of any permit non compliance
• Monitoring results (WR-40’s monthly)
• All records to be retained by the operator for (3) three years
MECHANICAL INTEGRITY

• Internal - No significant leak in the casing, tubing or packer
  • Pressure test
  • Monitoring of annulus pressures

• External – No significant fluid movement into a USDW through vertical channels
  • Logs – Bond, temperature, noise, etc.
  • Cement Records

• Retest every five years and submit results on WR-37 for approval