



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Water Management

# Utilization of AMD in Well Development for Natural Gas Extraction

January 25, 2012



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# AGENDA

1. Welcome
2. PowerPoint Presentation
3. Questions & Comments

**Note:** WebEx Technical Support is available at  
866-229-3239



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- 5,000 + miles of Pa. streams impaired by acid mine drainage.
- Water used for natural gas extraction does not need to be pristine.
- Win-win situation. Readily available water supply for industry. The clean-up of mine-influenced sources.

# White Paper Process

- Review Team consisting of cross-deputate DEP staff tasked with developing a draft White Paper.
- White Paper published on Nov. 18, 2011.
- Conducted internal & external discussions for feedback.
- Approvals to use AMD during review.
- Final White Paper due February 2012.

# Goals of White Paper

- Define the roles of various department programs.
- Establish process for the oil & gas industry to integrate the use of AMD.
- Establish process for DEP to facilitate review, evaluate, and approve proposals for use of AMD.

# Process for DEP to Review Proposals for use of AMD

- Review Team developed a draft process for use by the oil & gas industry to submit proposals to utilize AMD.
- Review team will refine the process based on DEP and stakeholder feedback and Executive Team review.

# Applicant Preliminary Assessment

- Oil & gas industry will initiate process by reviewing databases of AMD sites with water quality and flow data provided on DEP's website to identify an AMD source.
- AMD sources the commonwealth has identified as receiving adequate treatment will be targeted to the extent possible. (Contact DEP's Bureau of Abandoned Mine Reclamation Office for list)
- Oil & gas industry encouraged to meet with DEP's Bureau of Abandoned Mine Reclamation, District Mining Offices and Oil and Gas staff at prospective AMD and active mining sites.

# Applicant Preliminary Assessment

## *Continued*

- The end use of the AMD water will determine the treatment requirements of the AMD or mine drainage, if necessary, at each AMD and active mining site.
- This information will be provided to the oil & gas industry representative.



# Applicant Preliminary Assessment

## *Continued*

- Secondary treatment, if necessary and specified by oil & gas industry, is reviewed for consistency with the Bureau of Abandoned Mine Reclamation or District Mining Operations standards.
- Oil & gas industry to conduct sampling and testing of AMD at prospective sites for independent review prior to treatment process selection.

# Applicant Proposal Submittal

- Complete Proposals will include information such as:
  - Oil & gas company name(s)
  - Name of watershed group and/or other non-profit, if applicable.
  - AMD site location (point(s) of use and/or withdrawal)
  - Total amount of AMD discharge(s) and/or total volume of mine pool(s) at site.
  - Characterization (chemistry) of the AMD discharge(s) and/or mine pool(s).

# Applicant Proposal Submittal

## *Continued*

- Complete Proposals will include answers to questions such as:
  - Is the AMD source from an existing AMD discharge treatment facility?
  - What is the timeframe for the use of the AMD?
  - What is the classification of the watershed(s) where the water will be stored/utilized?
  - How will on-site and off-site storage requirements be met based on level of treatment?
  - If withdrawal from a mine pool is being proposed, what is the potential for mine subsidence or impacts to individual water supplies?
  - Have impacts to receiving streams been evaluated?

# DEP Proposal Review

- The proposal for use of AMD would be submitted to DEP Oil & Gas.
- The proposal would then be shared with a DEP review team determined by DEP Oil & Gas Management.
- That team would consist of one Oil & Gas staff member and at least two additional staff (from the Bureau of Abandoned Mine Reclamation, Water Management, a District Mining Office and Waste Management) as well as a representative from Chief Counsel.
- The team would provide feedback to the requestor (oil & gas company representative) within 15 days of receipt of a completed proposal package.
- That feedback would include guidance on the type of permits needed, if any, and means of addressing issues concerning potential long-term liability for treatment of the AMD source proposed for use by the requestor.

# DEP Proposal Review

## *Continued*

- Solutions to Long Term Liability Issues
  - Option #1 - Environmental Good Samaritan
  - Option #2 - Consent Order and Agreement
- Team develop recommendations
  - Ongoing
  - Short-Term (0-1 year)
  - Long-Term (1+ years)



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## Next Steps

- Update White Paper based on feedback.
- Send comments to Duke Adams by February 3<sup>rd</sup>  
– [ranadams@pa.gov](mailto:ranadams@pa.gov)
- Accept AMD proposals and encourage use.
- Complete a final Position Paper February 2012.



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# QUESTIONS?