Water Management Plan Update:
Oil and Gas Workshop, 02/06/2013

Presented by:
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[DEP Logo]
WMP Program Status

WMP Improvements on the horizon
- Partial Record Stations
- Entrainment and Impingement BMPs
- New WMP portal in development

Q&A
WMP Approvals by Month
Ongoing/Future Projects

- Partial Record Stations
- Entrainment & Impingement BMPs
- Web Portal
Partial Record Station Overview

Little Wheeling Creek, Ohio County

Fish Creek, Marshall County
Partial Record Station Overview

N. and S. Fk. Fishing Creek, Wetzel County

McElroy Creek and Middle Island Creek, Doddridge County
Partial Record Station Overview

• What the PRS Project means for you:
  – Withdrawal limits will be set on real-world data rather than by purely theoretical method
  – More field presence at withdrawal sites

• More locations will be added strategically
  – West Fork / Tygart Watersheds
§22-6A-7

(6) For all surface water withdrawals, a water management plan that includes ... the following:

(A) Identification of the current designated and existing water uses, including any public water intakes within one mile downstream of the withdrawal location;

(B) For surface waters, a demonstration, using methods acceptable to the secretary, that sufficient in-stream flow will be available immediately downstream of the point of withdrawal...; and

(C) Methods to be used for surface water withdrawal to minimize adverse impact to aquatic life
Impacts to aquatic life

Entrainment
• The unwanted passage of fish through a water diversion

Caused by:
• Large pore or missing intake screen
• High intake velocity

Impingement
• Physical contact of fish with a structure which occurs when the fish is not able to avoid contact with a screen surface, trashrack or debris at an intake

Caused by:
• High intake velocity
Entrainment and Impingement Prevention

Considerations:

Fish population
- Species
- Exclusion Size
- Swimming mode

Pump rate
- Approach velocity
- Sweeping velocity
- Intake placement

Barriers
- % Open Area
- Construction
- Cleaning methods
Entrainment and Impingement Prevention

• What the new E&I BMPs mean for you:
  – Suggestions will be made for:
    • Minimum screen pore size
    • Maximum approach velocity for water into the intake
    • Intake placement
    • Routine maintenance
**WMP Web Portal**

### Phase 1 (prototype complete)

- **Online WMP builder (print only)**
- **Full integration with Frac Water Reporting database**

### Phase 2

- **Online WMP Management (modification, activation)**


**WMP Web Portal**

- What the WMP Web Portal will mean for you:
  - Simplification of both WMP application submission and Frac Water Use reporting
  - Simplification of the WMP modification process
  - Simplification of WMP activation requirements
• Contact

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