**January 18, 2012**

Attn: Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

**RE: DRN Comments to FERC's Upland Erosion Control, Revegetation and Maintenance Plan (Plan) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures), Docket Number AD12-2-000.**

On behalf of the Delaware Riverkeeper Network and the undersigned groups, please consider the following comments on the Federal Energy Regulatory Commission's [FERC] update to the Upland Erosion Control and Revegetation and Maintenance Plan [Plan], and the Wetland and Waterbody Construction and Mitigation Procedures [Procedures], Docket Number AD12-2-000. The Plan and Procedures are referred to at 18 C.F.R. § 380.12(i)(5) and § 380.12(d)(2), respectively, as well as 18 CFR 157.206(b)(3)(iv). The notice indicates that FERC is asking for public input and suggestions for modifications to the Plan and Procedures from a wide spectrum of public and private participants.

The Delaware Riverkeeper Network [DRN] has concluded that FERC's Plan and Procedures, in their current form, provide inadequate guidance for the effective protection of human health and the environment from the detrimental impacts of pipeline construction activity. DRN has identified three broad categories of deficiencies that should be addressed in FERC's new draft regulations, including: insufficient regulatory standards, compliance failures, and enforcement issues.

## I.) INSUFFICIENT REGULATORY STANDARDS

In this section, we highlight a number of ways in which the Plan and Procedures should be strengthened to ensure better protection of human health and the environment from the deleterious effects of pipeline expansion and construction activity. These suggestions have been informed by the problems that have been caused by recent large scale pipeline construction activities, including the Tennessee 300 Line Extension Project (Docket number CP09-444), and the Columbia 1278 Replacement Project (CP10-492).

### Compliance Level Designations

The Plan and Procedures should clarify what language should be used in the bi-weekly construction activity reports for compliance level designations. In order to assure the proper classifications of potential pollution events, the Plan and Procedures should identify objective standards to be used for

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compliance level designations. The ambiguous language that is currently permitted provides enormous discretion to inspectors, and can result in confusion and the misapplication of regulatory standards. The current permitted language from a bi-weekly construction report from the Tennessee 300 Line Extension is provided below:

> *"Acceptable* – an inspected area or activity that is in compliance with Project specifications, mitigation measures, and applicable FERC-approved Project plans.
> *Communication* – documentation of relevant meetings between the FERC Compliance Monitor and landowners, agencies, TGP representatives, Environmental Inspectors, or contractors.
> *Problem Area* – record of an observation where an area or activity does not meet the definition of acceptable but is not considered a noncompliance.
> *Noncompliance* – activity or area that is not in compliance with Project specifications, which results in damage to resources or places sensitive resources at unnecessary risk.
> *Serious Violation* - activity or area that is not in compliance with Project specifications, which results in substantial harm to resources or poses serious risk to sensitive resources." (*See* Exhibit 1 as an example, "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period September 26 Through October 1, 2011")

For example, ambiguous classifications such as "Problem Area," should be eliminated. An area that is inspected is either in compliance with project specifications or it is in noncompliance; there is no need for an intermediary designation that contains unclear standards within its definition. How much "damage to resources" is needed to elevate the inspection issue from "Problem Area" to "Noncompliance"? A narrow *force majeure* exception could be drafted for unforeseeable events that lead to noncompliance.

**Inter and Intra Agency Communication**

Within the associated sections defining the inspectors' responsibilities, the Plan and Procedures should be modified to require improved communication between FERC, local conservation districts, and state departments of environmental protection. Environmental regulatory authority at the state level is often delegated from states to local conservation districts. This can result in confusion at the federal level as to who has delegated authority and what information is needed at the state and regional level for effective monitoring and enforcement. For example, in Pennsylvania some county conservation districts have inspection authority in some parts of the state, while in other parts of the state this responsibility remains with the Pennsylvania Department of Environmental Protection's regional office.

Specifically, section III(F) of the Plan and section IV(B) of the Procedures should be modified to require FERC to provide both conservation districts and state departments of environmental protection with the all of the environmental compliance communications that the FERC generates (inspection reports, variance notices, construction reports, violation memos etc.) within 10 days of being issued. This would encourage better channels of communication and prevent information gaps between agencies. During the Tennessee 300 Line Upgrade Project, local county conservation district personnel were unaware of several approved variances and were consistently confused as to who had enforcement authority for potential environmental permit violations. (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

In section II(B) of the Plan there should be a provision encouraging continued and substantive communication between FERC environmental inspectors who are concurrently working on relatively similar projects in a similar region. (For example, formal and informal channels of communication

should have been open between environmental inspectors working on the 300 Line Extension and inspectors working on Columbia's 1278 Replacement Project). Encouraging these avenues of communication would help facilitate the uniform classification of potential pollution events, violations and noncompliance events, and lead to better application of enforcement standards.

**Variances**

A section should be included in the Plan and Procedures that articulates a clear process for FERC to obtain input from local conservation districts as well as the state environmental protection agency before approving significant, level three, variances. In this section, FERC should also limit the number and scope of variances allowed on a per-project basis. When numerous significant variances are approved, the environmental impact becomes increasingly removed from what was represented in the initial Environmental Assessment. Local and state agencies are best situated to provide useful comments on the environmental ramifications of significant variances, and these variances should not be able to move forward without this well-informed input.

The Plan and Procedures should also outline a process for receiving public input and comments for significant, level three, variances. The current regulations do not require, or even provide the opportunity for, any public input on such variances.

**Experience Requirements for Inspectors**

The Plan and Procedures should require a higher level of training, experience, and credentials for their inspectors. This would reduce the likelihood of improper or inconsistent application of the regulations. Currently, section II(A)(1) of the Plan and section III(A) of the Procedures, state that "[t]the number and experience of Environmental Inspectors assigned to each construction spread should be *appropriate* for the length of the construction spread and the number/significance of resources affected." The word "appropriate" does not provide adequate guidance for the requisite experience level of an inspector. There should be objective standards (i.e. specific licenses, years of experience, education level, environmental training programs, local knowledge, etc.) outlined in the Plan and Procedures as a baseline for inspector approval.

**Right of Way**

The Plan and Procedures should introduce sequencing limits of no more than 1,000 feet for the clear cutting of the right-of-way (ROW) for pipeline construction and expansion activities. Currently, during construction activities, long stretches of land are unnecessarily cleared and left unstabilized for significant periods of time leading to significant erosion and sedimentation issues. This problem was identified numerous times by the Pike County Conservation District during the 300 Line Extension an Columbia 1278 Replacement as a significant contributor to erosion and sediment control failures: "Typical construction techniques referenced in the EA result in miles of right of way being cleared and graded early in the project and remaining in an unstabilized state for long periods of time. Activities focus on getting the pipe in the ground and in service quickly while stabilization and restoration activities are relegated to the very end of the project." (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

The Plan and Procedures should further be modified to reflect the EPA model ordinance's suggestion that soil stabilization along right of way be completed within 5 days of clearing or inactivity in

construction, which would be an improvement from the current requirements. (*See* Exhibit 3, Model Ordinance to Protect Local Resources, EPA)

The Plan and Procedures should include a section that requires project sponsors to gather data and assess the revegentation potential for the project's ROW. This would help facilitate better restoration activities post-construction and minimize permanent negative environmental impacts.

Additionally, a provision should be included in the Plan and Procedures to require that all areas of forested habitat affected by the project be restored as soon as possible. (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

**Temporary Work Spaces**

The Plan and Procedures should articulate that temporary work spaces should not, under any circumstances, be located in steep slope areas adjacent to special protection waters and wetlands because of their potential to contribute to significant sediment loads during rainfall events. The Plan and Procedures should also provide special guidance and more strict regulation of temporary work spaces to ensure that they are quickly and properly revegetated. Temporary work spaces are susceptible to sediment discharges because of the significant soil compaction that takes place in those areas, and the associated difficulty in properly revegetating the site post-construction. (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

**Steep Slopes**

Steep Slopes, with a grade exceeding roughly 8%, should require special attention for revegetation by the Plan and Procedures by requiring immediate permanent stabilization once the trench is backfilled, instead of the 10-day time period which is currently the requirement. The Pike County Conservation District found that steep slopes were a *"significant contributor to the erosion and sediment control violations documented for the TGP 300 Line and Columbia Gas 1278 line construction."* (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011)

Additionally, the Plan and Procedures should include a provision that construction approaches to water body crossings be gradual, rather than steep, in order to avoid erosion and sedimentation into the water body. Previous TGP pipeline construction activity was approved on the steep slopes of Hamburg Mountain State Wildlife Management Area and Bearfort Mountain in Wawayanda State Park, which caused massive erosion, mudslides, siltation and degradation of public and private properties, including Category One waterways, lakes and ponds. (*See* Exhibit 12, The Environmental Law Clinic, Comments on Environmental Assessment of the Northeast Upgrade Project (Dec. 21 2011))

**Waterbody Crossings**

The Plan and Procedures should state that "wet cut" construction methods for pipeline water body crossings should NOT be allowed for any waters that have received special protection status by a regional or state department of environmental protection. "The method ["wet cut"] involves laying utility cable or pipe across a stream by digging a ditch from one side of the stream to the other. A backhoe is used to dig a ditch across the stream while the stream is flowing, and the ditch is not covered during construction. Wet open trench construction occurs without any isolation or diversion of flow away from the work area, and typically results in the elevation of downstream sediment loads during and shortly after the period of construction. Levels of suspended sediment increase rapidly at the onset of

instream activity and are followed by peaks of even higher suspended sediment concentrations during activities such as blasting, trench excavation, and backfilling. Alternate stream crossing techniques, such as directional boring and isolation (dry) methods such as dam–and-pump or flume, produce substantially lower amounts of sediment than wet open trench construction." (*See* Exhibit 4, Utility Stream Crossing Policy, ETOWA Aquatic Habitat Conservation Plan (2006)). Instead, Horizontal Directional Drilling methods should be encouraged in any situation where a moderate crossing, 50 feet or larger, is required. For a more thorough analysis of the detrimental effects of "wet cut" construction methods please refer to Lucie Levesque's article titled, "Review of the effects of in-stream pipeline crossing." (*See* Exhibit 7)

The Plan and Procedures should also articulate more stringent requirements for filtration systems used in "dry cut" crossing construction Plan. The only way in which "dry cut" methods can be successful is if there is a specific plan implemented for handling "dirty water" in the trench during excavation. The Pike County Conservation District has identified instances where filtration systems that were installed for this kind of construction failed resulting in high turbidity and discharges into the waterway. (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

Section V(B)(1) of the Procedures should provide a clear requirement that would prevent, under any circumstances, construction activity in or near water bodies during sensitive seasonal time periods, thus reducing the impact of a discharge of sediment into a water body during construction activity.

In V(B)(6)(d) of the Procedures there should be a requirement that a specific contingency plan for the high-risk operation of Horizontal Directional Drilling be in place at the time of drilling. (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

Additionally, in V(B)(6)(d) of the Procedures there should be a provision that requires project sponsors to disclose the chemical composition of their drilling muds. The provision should also include incentives for project sponsors to use non-toxic drilling muds. In July and August 2011 three separate spills muddied a high value stream in Susquehanna County, where at least At least 1,400 gallons drilling mud spilled into the waterway. Kevin Marion, director of pipeline engineering at Laser, stated that Susquehanna County geology has led to inadvertent returns *"more often than any other place I've ever worked."* And Furthermore, that *"[t]here's really hardly anything we can do to design this or build it differently."* The requisite disclosure of the drilling muds would help facilitate appropriate responses to such accidents. (*See* Exhibit 11, Laura Legere, Third Spill at Pipeline Sullies Susquehanna County Creek (2011).

**Access Roads**

The Plan and Procedures should include a provision stating that all access roads constructed with crushed rock for a pipeline projects require a complete and separate erosion and sediment control plan. The construction of Gas Exploration and Extraction facilities and associated construction and/or improvement of roads can negatively impact water quality, and these facilities have the same potential as other construction activities to degrade water quality. (*See* Exhibit 5, Michelle Adams, Evaluation of Erosion and Sediment Control and Stormwater Management for Gas Exploration and Extraction Facilities in Pennsylvania under Existing Pennsylvania Regulations and Policies to Determine if Existing Safeguards Protect Water Quality in Special Protection Waters of the Delaware Basin for the Delaware River Basin Commission (DRBC)) Some states, such as Pennsylvania, do not apply the same standards of performance, or regulatory oversight, to oil and gas exploration and extraction facilities as is applied to other construction activities. Therefore, it is necessary for uniform federal oversight over these activities to minimize erosion and sedimentation harms. In Pennsylvania, roads constructed of

crushed rock are considered to be a "best management practice" adequate for protection of special protection waters. In virtually all other construction projects the construction of roads – including crushed rock roads – is considered earth disturbance that requires its own erosion and sediment control measures.

For further guidance on access road construction issues, FERC should reference Yen Hoang's article titled, "Stormwater Management in the Rural New York Headwater Areas of the Chesapeake Bay Watershed." (*See* Exhibit 6)

**Set-Backs**

The Plan and Procedures should include specific requirements and procedures that insure operators properly identify all streams, springs, or other water bodies so that proper setbacks can be observed. Some regional and state departments of environmental protection, such as PADEP in Pennsylvania, rely on 7-1/2 minute USGS quads to define the locations of streams, springs, or other bodies of water; however, many surface waters do not appear as blue lines on 7-1/2 minute USGS quads because they are not scientific representations of surface waters or even perennial or intermittent streams. (*See* Exhibit 5, Michelle Adams, Evaluation of Erosion and Sediment Control and Stormwater Management for Gas Exploration and Extraction Facilities in Pennsylvania under Existing Pennsylvania Regulations and Policies to Determine if Existing Safeguards Protect Water Quality in Special Protection Waters of the Delaware Basin for the Delaware River Basin Commission (DRBC))

**Cumulative Impacts**

The Plan and Procedures should include a section detailing the process for a review of the cumulative impacts of stream crossing construction activity. This review should not only examine the streams impacted by the current project, but also evaluate the impact of other stream crossing construction activities that recently took place on those same water bodies. Construction of multiple crossings on a stream or river within a relatively short period of time has the potential for cumulative effects on that water system, even in instances where a single crossing may not. Recurrent stresses on fish, such as those that originate from elevated suspended sediment concentrations, may have cumulative effects on fish health, survival and reproduction. The capacity of the system to recover from an impact may be exceeded, and the detrimental effects of crossing construction may become permanent. (*See* Exhibit 7, Lucie Levesque et al., Review of the Effects of In-Stream Pipeline Crossing (2007))

For a more comprehensive analysis of the different development scenarios for pipeline construction in the Marcellus Shale Region, and the resulting cumulative impacts of that construction activity, FERC should review a report provided by the Nature Conservancy titled, "Natural Gas Pipelines: An Excerpt From Report 2 of the Pennsylvania Impacts Assessment." (*See* Exhibit 8)

## II.) COMPLIANCE ISSUES

In this section, we demonstrate the frequency compliance issues that arose in relation to two large scale pipeline construction projects. The pervasive compliance failures listed below suggest that changes need to be made to the regulatory framework to assure better construction compliance performance. In both of these projects FERC was one of the primary agencies tasked with monitoring the construction activity, these projects include: the Tennessee 300 Line Extension Project and the Columbia 1278 Replacement Project.

**Tennessee 300 Line Extension Project**

During the 300 Line Extension Project, in 28 out of 38 "Environmental Compliance Monitoring Program Weekly Summary Reports" that were provided on FERC's website there was at least one recorded incident where an activity did not come into "compliance with Project specifications, mitigation measures, and applicable FERC-approved Project plans." This 73% failure rate demonstrates that there were systemic and continued failures in TGP's compliance with regulatory controls, which suggests improper oversight, and or, inadequate regulatory enforcement.

Multiple violations were reported by the Pike County Conservation District during the 300 Line Extension including, but not limited to: 17 instances of dirt and sediment being discharged into water bodies, 7 violations for worksite conditions, and 21 instances of failure to properly institute Best Management Practices for erosion and sediment control. (*See* Exhibit 9, Tennessee Pipeline Construction Racks up 45 Violations in 3 Months) This high frequency of violations, within a three month time period, demonstrates that there were systemic and continued failures in TGP's compliance with regulatory controls, which suggests improper oversight, and or, inadequate enforcement.

Out of 16 inspections conducted by the Wayne County Conservation District during the 300 Line Extension Project, 15 violations were found. (*See* Exhibit 9, Tennessee Pipeline Construction Racks up 45 Violations in 3 Months) This startling 93% failure rate provides further evidence that there were systemic and continued failures in TGP's compliance with regulatory controls, which suggests improper oversight, and or, inadequate regulatory enforcement.

During the 300 Line Extension Project there were also 10 separate instances where an inspector in their "Environmental Compliance Monitoring Program Weekly Summary Report" indicated that a noncompliance report would be filed at a later date, but where the inspector failed to file a noncompliance report with FERC (and no reason was provided for the failure to issue that report in the following week's report). These 10 separate instances indicate that either FERC has maintained incomplete records for the project, or that there were multiple failures to follow-up on potentially enforceable noncompliance matters by the environmental inspectors. These failures to follow-up include:

- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period June 6 Through June 11, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period June 20 Through June 25, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period July 4 Through July 9, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period July 11 Through July 16, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period July 18 Through July 23, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period August 1 Through August 6, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period August 8 Through August 13, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period September 19 Through September 24, 2011"
- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period September 26 Through October 1, 2011"

- "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period October 3 Through October 8, 2011"

Despite all of these failures there were no stop-work orders issued by FERC.

**Columbia 1278 Replacement Project**

During the Columbia 1278 Replacement Project, in 7 out of 7 "Environmental Compliance and Inspection Reports" the inspection summary indicated that there were "construction/restoration problems" and that "construction/restoration was unsatisfactory." This 100% failure rate demonstrates that there were systemic and continued failures in Columbia's compliance with regulatory controls, which suggests improper oversight, and or, inadequate enforcement.

During the Columbia 1278 Replacement Project and the 300 Line Extension Project the Pike County Conservation District reported that there were consistent failures to implement restoration activities within 10 day time period indicated on the associated Environmental Assessments. The Plan and Procedures should require complete restoration activities to take place within 5 days as indicated on the EPA Model Ordinance for Erosion and Sediment Control. (*See* Exhibit 3, Model Ordinance to Protect Local Resources, EPA)

## III.) ENFORCEMENT ACTIONS

In this section, we make suggestions on how to improve the enforcement procedures and powers as provided in the Plan and Procedures. In their current form they are either being underutilized or are too weak to effectuate proper compliance. In addition, it is a concern that recent large scale pipeline projects are being segmented in order to avoid providing proper environmental studies and analysis.

Section II(A)(3) of the Plan and section III(B) of the Procedures should include a provision that provides stronger enforcement authority to inspectors; currently, they only have the power to issue stop-work orders (a power which is very rarely exercised). This new strengthened authority should create clear mandate for inspectors to issue noncompliance notices that would result in fines to the associated project sponsor. The fines should be allowed to be levied immediately. If a payment is delayed, the inspectors should have the ability to then issue a stop-work order. An example of a penalty provision is provided in EPA's Model Ordinance for Erosion and Sediment Control:

> *"No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, contrary to or in violation of any terms of this ordinance. Any person violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and each day during which any violation of any of the provisions of this ordinance is committed, continued, or permitted, shall constitute a separate offense. Upon conviction of any such violation, such person, partnership, or corporation shall be punished by a fine of not more than $ _____ for each offense. In addition to any other penalty authorized by this section, any person, partnership, or corporation convicted of violating any of the provisions of this ordinance shall be required to bear the expense of such restoration."* (*See* Exhibit 3, Model Ordinance to Protect Local Resources, EPA)

Inspectors should be free of all contractual issues or limitations that may impede or prevent them from properly issuing stop-work orders or fines. This freedom should be outlined in the Plans and Procedures. During the Columbia 1278 Replacement Project and the Tennessee 300 Line project there was some

concern by local conservation district managers that contractual obligations were preventing inspectors from issuing stop-work orders. (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

During the Columbia 1278 Replacement Project and the Tennessee 300 Line project there was confusion over agency responsibility for corrective actions. A clear delineation between the responsibilities of Army Corps inspectors and the FERC's inspectors should be articulated in the Plan and Procedures. Such guidelines in the Plan and Procedures would better indicate who is directly responsible for corrective actions, how quickly they should occur, and who is ultimately responsible if they do not occur, and or, are delayed.

A review of inspection reports and construction activity reports for the Columbia 1278 Replacement Project and the Tennessee 300 Line Project indicates that there were numerous potentially improper and inconsistent categorizations of pollution events by inspectors. These inconsistent categorizations and results may have been the result of ambiguous language in the compliance level designation definition language. This problem could also be the result of a lack of proper experience/credentials and or communication between the inspectors. As such, it is necessary for the FERC to address both of these problems in their new draft of the Plan and Procedures.

Additionally, during the preconstruction filing process outlined in the Plan and Procedures, project sponsors should be required demonstrate that their projects are not being improperly segmented. For example, it is clear that the Tennessee 300 Line Project is directly related to the Northeast Upgrade Project, as Tennessee openly admits on their website that the purpose of the Northeast Upgrade project is to "close out the remaining unlooped segments of Tennessee's existing 300 Line." Why is FERC allowing these projects to be submitted and approved in a piecemeal fashion without a full analysis of cumulative impacts and development of a full environmental impact statement? (*See* Exhibit 2, Beecher, Letter, Dated December 20 2011).

## IV.) CONCLUSION

In their current form, FERC's Plan and Procedures provide inadequate guidance for the effective protection of human health and the environment from the detrimental impacts of pipeline construction activity. The purpose of this comment is to flag for review the most serious issues with the existing Plan and Procedures, and should not be construed as a comprehensive review of all the technical revisions that are needed to properly strengthen the regulations. In addition to the Exhibits referenced above, attached to this comment is an article titled, "Protecting PA Communities from the Shale Gas Rush; a Handbook for Local Residents and Officials" that was published by DRN in 2011, which we encourage FERC to review when drafting their new regulations. (*See* Exhibit 10) DRN looks forward to reviewing the Draft Plan and Procedures once they are released so that we can provide additional suggestions, comments, and analysis.

Sincerely,

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**LIST OF REFERENCES**

Exhibit 1, as an example, "Environmental Compliance Monitoring Program Weekly Summary Reports: For the Period September 26 Through October 1, 2011."
Exhibit 2, Beecher, Letter, Dated December 20 2011.
Exhibit 3, Model Ordinance to Protect Local Resources, EPA.
Exhibit 4, Utility Stream Crossing Policy, ETOWA Aquatic Habitat Conservation Plan (2006).

Exhibit 5, Michelle Adams, Evaluation of Erosion and Sediment Control and Stormwater Management for Gas Exploration and Extraction Facilities in Pennsylvania under Existing Pennsylvania Regulations and Policies to Determine if Existing Safeguards Protect Water Quality in Special Protection Waters of the Delaware Basin for the Delaware River Basin Commission (DRBC).
Exhibit 6, Yen Hoang, "Stormwater Management in the Rural New York Headwater Areas of the Chesapeake Bay Watershed."
Exhibit 7, Lucie Levesque et al., Review of the Effects of In-Stream Pipeline Crossing (2007).
Exhibit 8, Nature Conservancy, "Natural Gas Pipelines: An Excerpt From Report 2 of the Pennsylvania Impacts Assessment."
Exhibit 9, Tennessee Pipeline Construction Racks up 45 Violations in 3 Months.
Exhibit 10, DRN, "Protecting PA Communities from the Shale Gas Rush; a Handbook for Local Residents and Officials" (2011).
Exhibit 11, Laura Legere, Third Spill at Pipeline Sullies Susquehanna County Creek (2011).
Exhibit 12, The Environmental Law Clinic, Comments on Environmental Assessment of the Northeast Upgrade Project (Dec. 21 2011).