ASWM Pipeline Permitting Project

Matrix of Barriers and Solutions/Lessons Learned to Improve Review of Oil and Gas Pipeline Development Project §401 Certification Permit Applications

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Background

Permitting of linear oil and gas pipeline projects involves complex processes, undertaken by a range of parties that are each working to address specific regulatory goals and requirements. In recent years, the growth of the natural gas industry has expanded pipeline development into new states and increased the number of permits necessitating review by states and tribes. While this growth is a critical economic driver, it comes with challenges as well**.** Pipeline development often results in short- and long-term, temporary and permanent impacts to environmental resources, including wetlands and other waters. Because of these impacts, states and tribes are tasked with working with pipeline project applicants to help avoid and minimize impacts to aquatic resources and, where impacts are unavoidable, to work to reduce long-term damage through mitigation.

ASWM's research into the needs of states and tribes identified a wide range of issues that serve as barriers to effective and efficient permitting of oil and gas pipelines. While each state and tribe has unique needs and circumstances, a number of common themes emerged, the following document provides a matrix of needs, associated potential solutions, useful contacts and supporting resources to aid states and tribes as they consider ways to improve their systems.

Methodology

To identify common barriers, issues and challenges associated with the permitting of oil and gas pipelines for the protection of water resources, the Association of State Wetland Managers (ASWM) conducted a literature review of peer-reviewed and gray literature on these topics. ASWM's national workgroup of 35 state, tribal, consultants and federal agency staff (Appendix A) was then independently asked to identify challenges, issues and barriers that they encountered in their permitting work. A third source of information was added from a survey conducted by ASWM funded by the Switzer Foundation to collect cross-sectional data on the status of state pipeline permitting capacity for aquatic resources. Information was collected on barriers, challenges and issues. These three sources of data were used to compile a single list of barriers, challenges and issues and placed into a matrix format. The workgroup then worked over a series of months to populate the matrix with information about potential solutions and lessons learned from their experience and identified relevant resources and contacts that could be useful to other states and tribes interested in building their permitting capacity and improving the permit processes.

Results

Data from the above-stated three sources are compiled into a matrix (Table 1), which includes: 1) the specific barrier, issue or challenges, 2) a listing of brainstormed potential solutions and lessons learned, as well as 3) useful resources and contacts that the project workgroup was able to identify.

The Association of State Wetland Managers

The Association of State Wetland Managers is a 501(c)(3) nonprofit incorporated in 1983 with the mission to incorporate sound science into wetland policy. For more information, contact Brenda Zollitsch, Senior Policy Analyst at Brenda@aswm.org or call (207) 892-3399. ASWM's Pipeline Project was funded by an EPA Wetland Program Development Grant, the Robert and Patricia Switzer Foundation and the McKnight Foundation.

Important Limitations of this Document

While this document provides an initial, qualitative review of barriers, issues and challenges, this is not a quantitative analysis and does not establish statistical information about the frequency of each element across all states and tribes that conduct oil and gas pipeline permitting. It serves as a base to better understand the breadth of complications that states and tribes face during permit work and highlights areas where additional resources and trainings may help states and tribes. The information contained in this matrix does not represent the complete universe of all possible occurances and does not provide insights into why these issues occur or their impacts. Additional research should be conducted with a statistically significant sample of states and/or tribes that conduct these permitting activities to develop a better understanding of the frequency and severity of each of these issues. Feedback on the suggested solutions and lessons learned would be valuable as well.

Table 1. Matrix of Barriers and Solutions/Lessons Learned to Improve Review of Oil and Gas Pipeline Development Project §401 Certification Permit Applications

Expansion of Natural Gas Production	Potential Solutions/Lessons Learned	Resources and Contacts
• The Shale Revolution has dramatically impacted natural gas and liquids industries • Demand for more natural gas leading to need for additional pipelines • Pipelines are being planned in areas where they have not historically hosted energy pipelines (need to move liquids to new supply basins) • Applications for pipeline development are coming in large numbers, not incrementally • Question whether existing regulatory framework can accommodate new market realities • Expansion into green routes/green lines, where there is currently no infrastructure (and no history of permitting	- Access to maps about planned expansion - As many conversations with energy associations, etc. as possible to get an idea of what is coming down the pike - Engagement in pre-application project planning efforts - Relationship building with energy company planners and consultants - Working with state/tribal leadership to plan ahead for expected expansion in permit review staffing needs	- Pennsylvania Pipeline Task Force - American Gas Association - Southern Gas Association - Interstate Natural Gas Association of America (WA DC) - ASWM Pipeline 101 Webinar Recording
Lack of Access to Information about Pending Projects	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• States need to be aware of all pending projects (can't review/condition/assist if don't know there is an application that is coming/has been submitted). • State should be provided information about proposed projects during the scoping process	• With FERC projects; engage in scoping process • Awareness when things go out for "open season" – when evaluate whether have customers or resources to develop new pipelines • Participate in pre-filing phase of FERC Processes • Be on FERC's environmental mailing (NOI)list (updates and know what is going on) – all states welcome to join • KY Coordinated response process – every interested agency has a chance to respond if they are going to have a permit	• Contact David Hanobic at FERC (outreach manager at FERC) • 4 FERC trainings per year (free training) • FERC can provide short seminars to specific agencies (let them know and the contact person and FERC will arrange).

	• FWS, Corps and DEPs all in the room at the same time for trainings • When FERC does scoping meetings, get staff on mailing list to be sure get emails • Bi-weekly pre-filing conference calls hosted by FERC and the applicant (ask to join calls) • Prior to scoping, applicant will hold open house, FERC usually attends, not confrontational, maps available etc. (All parties and public is invited) – great way to chat and connect.	
Inadequate No. of Regulatory Staff to Complete Review and Enforcement Activities	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• The number of staff available to provide oversight and review of permit applications is limited in many states • The amount of information to be reviewed is extensive and time consuming, req. a large commitment of staff time • Staffing in states that have not traditionally had to review pipeline permit applications may not have the staffing capacity to undertake these additional tasks • After applications have been reviewed, staff do not have the time to do any after-review	• Work to develop formal workflow plans and strategic staffing based on projected needs • Budget/secure more funding for needed staffing • Formally allocate portions of each involved FTE to these tasks, to ensure that staff positions incorporate permitting activities as part of their formal job description and tasks • Develop network with other agencies (DEP, FERC, F&W, etc.) – allows conversations with the same people (incl. consultants) –allows dealing with same people repeatedly – relationship building and social capital	
Untrained/Inexperienced Regulatory Staff	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• Requires unique and specialized expertise • Need range of expertise: engineers, scientists, planners, environmental professionals, legal experts, public policy experts, air and water quality professionals. • Lots of turnover in regulatory staff – need to receive training on permit review processes	Ensure staff receive adequate training to execute their permitting tasks effectively and efficiently • Participate in FERC training for gas pipeline projects (4-5 days) • Ensure access to training or experts on other related issues • Anytime/anywhere training (online resources)	• FERC • Southern Natural Gas Association • ASWM webinars • Terms and Acronyms • ASWM Pipeline Permitting Training Needs Document

• Inexperience leads to inaction (don't know how to address issues)
• Results in:
  ○ Poorly designed projects
  ○ Incomplete applications
  ○ Missed regulatory deadlines
  ○ Regulatory process delays
  ○ Adverse agency decisions
  ○ Staff having to play "catch-up"
• Need training on how to challenge an applicant's experts
	• Encourage mentoring with senior staff, documentation of institutional knowledge when staff retire or leave, and ongoing peer-to-peer networking and sharing to support staff when questions arise
	• Encourage state/tribal permitting staff to participate during construction site visits with FERC (what needs to be improved/changed) and go out in the field with FERC (staff will need to formally request to come along; FERC welcomes this)
	• Get introduced to environmental inspectors and others that are at the site and can exchange contact information
		• International Right of Way Association
		• Institute of Natural Gas Association of America (incl. consultants, etc.) – may focus on a specific issue/topic) – regulatory agencies, applicants, consultants – report

Need for Resources and Expertise to Defend State Decisions	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• The state needs to be able to go "toe-to-toe" with energy companies when there is a disagreement; this requires resources and expertise that many states do not have • States need to be able to support disagreeing with experts hired by the applicant	• Engage FERC in the NEPA process as a cooperating agency; FERC provide support as a condition in the order – there is no toe to toe you win. • If FERC attends meeting, this can help • State may want to contact their Office of General Counsel and/or Division of Enforcement • In some states, the Attorney General represents state (Not from the agency; from the general assembly)	• FERC Enforcement Office or Office of External Affairs
Need for Resources and Expertise to Defend State Decisions	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• Different states have different certificate requirements/procedures • Different rules and regulations at the state level regarding eminent domain	• USACOE may coordinate between at the state level • FERC projects can go across states –seek to identify areas of differences • Unless states or tribes have joint arrangements, this coordination can still be difficult	
Lack of Coordination/Consistency among Agencies	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• Lack of understanding about FERC-regulated and other challenges to states' authority. • Resulting conditions -- causes delays; allows for missing of key review elements • Applicant unaware of differing information requirements, permitting timelines and schedules • One agency's permit process may be dependent on another issuing a permit or approval • Some information can only be collected at certain times of the year (delays throw off schedule) • The need to coordinate comments with public requirements (Specific types of coordination: NEPA, Coastal Zone Program, State Dredge and Fill Programs, 401 Certification Programs) • Different regions have different approaches to endangered species and migratory bird issues. • Especially for smaller projects, applicants often receive mixed messages about which BMPs to use from different state agencies • Lack of money means that they may not participate in all meetings; lack of communication about participating in the meetings • In some cases, oil or gas pipelines may be a non-FERC Project. For example, a DEP dealing with stormwater that has critical impacts on a critical wetland. Difficulty obtaining information about these impacts. May not require review by all state/tribal agencies. • Includes NGO – adds level of complication • When dealing with multi-state projects, often one office will be the lead, but may not be an office that state/tribal aquatic resource managers regularly work with	• Hold early scoping meetings that include all permitting partners (e.g. state, corps, USFWS, state wildlife agencies, etc.) With this approach, everyone hears the information and gets the same answers to the same questions • Get together to determine which regulatory requirements are needed • Find examples where this coordination work is working well (e.g. West Virginia) • Determine with these other agencies whether the effort will be formal or informal sessions are adequate • Certain BMPs are sometimes above federal requirements – states/tribes should meet with FERC to ensure in advance that FERC understands why something is required by the state • Helpful to have the discussion early, to give them something to look at; for state to be able to get out and do some verification, know what has already been done by applicant, helpful to be able to brief leadership; enable planning to coordinate state field visits to verify delineations as soon as accessible. • States/tribes may want to meet with project consultants during one or more coordinated pre-application meetings; present some possible measures for the project; allows each interested agency to provide input on locations; more formal with many agencies for a larger. • When a lot of people together in the field, easier if formalized process. Lots of field time, so early planning and coordination is helpful. • Use of process maps to identify process and responsible parties • FERC tries to coordinate bi-monthly meetings with state and fed agencies (all on same page)	Pipeline permitting process documents, maps and other agency process documentation ASWM Pipeline Permitting Process Mapping Resources Regulatory documents Look at Waters of the State versus. Waters of the US Any FERC project document has info about non-jurisdictional elements (who responsible, if acquired permits, if requires construction – to assess if includes cumulative impacts). If future construction, helps determine what will be considered in cumulative impacts If the state/tribe has special stream classification that requires special consideration

	• Know who to contact at FERC and other agencies as early on as possible • Take into consideration a species about to be listed. • Associated with FERC project • May have to go back to the Environmental Assessment/Impact Statement • Regular communications with regional EPA Office. While may be redundant, everyone has the same awareness and information • FERC can arrange online participation if staff do not have the resources to attend (good idea to request it) • When working with agencies and offices that are not normally involved in projects together plan informal strategic discussions to build these new relationships. Good relationships pay off manifold in the long-run when issues arise.	
Additional Challenges for Smaller Project Review	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• Lots of applicants don't worry about small projects – but they still need due diligence • While larger (single and complete) projects usually do result in compensatory mitigation, smaller projects do not get the same level of review (consideration for mitigation or cumulative impacts) – some things slip through the cracks	• Small projects do require review for avoidance, minimization and mitigation of impacts (including cumulative). But if the Corps does not require mitigation, the state does not. • For Waters of the State, may require above and beyond for small projects	West Virginia has a metric (SWVM) that enables the state to assign functions to mitigation assessments and requirements
Lack of Understanding of Systems between Entities Involved	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• Lack of Understanding of Regulatory Process by Applicant/Consultant • Lack of understanding by state agencies about how energy industry goes about planning • Confusion about the FERC/Non-FERC program aspects can be confusing at the state level • Not consulting state-recognized only tribes (not federally-recognized) – required at state level but not the federal level	• Some states have arranged quarterly meetings among their state agencies involved in oil and gas permitting (e.g. meetings between DNR and Pollution Control). • Make sure to develop and keep current contact information for all involved entities. • Some states don't always recognize all the tribes in their state, which can lead to lack of/ miscommunication. Many states shared that there tends to be lots of turnover in staff in tribes, which makes keeping up with contact lists and relationship building especially important.	Examples of states with regular meetings include OR and WV
Incomplete or Overly General Permit Applications	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• High number of incomplete applications are received from permit applicants • Despite training of applicants, applications are still submitted incomplete • Current processes may not discourage incomplete applications • Applications are often very generic (not detailed like other permit applications). Need more detailed, specific information to be provided) • Applicant does not get access to all their sites. WL, Species, cultural surveys – cannot do it until they get access.	• Understand that for many projects, there needs to be an eminent domain process before some portion of the private land on which the pipeline will be built can be accessed. • State should recognize WHY the application is not complete. Send request for data (e.g. "lacks A, B, C") and convey that the state will not review the application until they get the complete information. • If an applicant pipeline company missed their start date, this can be very expensive for the company • When don't have access, some states condition certification – require desktop survey for completeness. When FERC issues cert require field survey for final review.	• Example: Kentucky Process Map (When receive application, state determines if the application is missing information. If it is, send letter to applicant. Applicant is given 30 days to submit the missing information. If it is not submitted in 30 days, receive notice that application will be withdrawn in two weeks if information is not received (NOD in state statute).

Piecemeal Approach to Applying for Permit Approvals	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• Applicant applies for multiple permits over time for what is actually a single project • Separation of permit for pipeline installation, cathodic protection systems, etc. • Some projects get broken into phases	• Focus should be on engagement in the pre-application process. Request planned pipeline maps. • Some regulators look at applications with the perspective that "if you are not sure where the pipeline is going, they you're not ready to apply" and won't accept applications that don't provide this information • Some states require that is there is a change in the route, a new application must be submitted for a new review • Some states require applications to have "independent utility", meaning that they must be a standalone project and cannot require any additional impacts to complete • Some states require a delineation for the full area of the planned pipeline impacts • Some states consider all decisions prior to the issuance of eminence domain or landowner signature to be pre-application	• Examples of states with independent utility requirements include OR, KY and NJ • Examples of states requiring full delineations include OR, KY, NJ, NY
Disagreement/Confusion on Applicability of Laws	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• Disagreements between agencies within a state • Disagreement on interpretation of laws around identifying, assessing and mitigating impacts. • Current lawsuits have not set clear directives • Natural gas and liquids are linked, but regulatory challenges differ, especially related to infrastructure development • Differing views on horizontal drilling/boring with adequate setbacks (no impact/impact); i.e. whether must include prevention and emergency response plans, as well as other mitigation, for spills/leaks of fluids.	• Some states and tribes convene multi-agency pre-application meetings • In other states, all state offices are required to meet at the pre-application phase • Multi-agency meetings limits the ability of applicants to play one agency against another • Oregon conducts KAIZEN meetings once a month, where all key state and federal agencies come together to discuss all permits underway • Work towards middle ground on conflicting issues • Develop MOUs/MOAs between agencies to create a process for addressing grievances	• Example of state with monthly state/fed agency meetings (OR) • Example of states with MOUs/MOAs between agencies to create a process for addressing grievances (NJ, MMO)
Agency Consultation/Approval Delays	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• Lack of access to regulatory staff with specific expertise (e.g. endangered species) for applicants to consult with when developing applications
• Can lead to:
  ○ Protracted negotiations between the permit applicant and regulators
  ○ environmental advocates suing or blocking projects after approval
	• This comes up a lot with staff turnover
	• Make sure to ask for assistance or expertise as needed (resource yourself); use consultants as needed to increase expertise
	• Focus on trying to get a complete application; if not responsive, applicant can withdraw their application
	• Provide a deadline for determining if an application is complete (e.g. 30 days) before the timeline starts for review.
	• Make sure to work with sister agencies and develop strong, effective working relationships (don't count on unknown/unclear systems)
	• Share resources as often as possible to get on the same page.
	• Use the FAST41 federal dashboard to track progress ; this will provide notification online if a project is delayed, complete, afforded an extension, etc.)
		• Federal tracking dashboard for projects is called: Federal Act for Fixing America's Surface Transmission (FAST 41)
		• Example of s state that requires the applicant to withdraw their application if they are not responsive to state's requests for additional information (KY)
		• Examples of states that can reject incomplete applications (NY , NJ)

Inconsistent Agency Decisions	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• Differing implementation of regulations/requirements for permit applicants between projects and/or agencies
• Difficulty identifying the chain of command within a regulatory agency
• Results in:
  ○ Inconsistent/unpredictable implementation of regulations
  ○ Confusion for the applicant
• Inability to identify the individuals responsible for explaining and addressing issues brought up with the draft application/plans
	• Understand what areas the state/tribe will review that are not covered by federal review
	• Come to agreement with the Corps and other agencies on what is considered a temporary impact and what is not
	• Share requirements ahead of time(during pre-application phase), so that they can be included in planning and FERC understands state requirements
	• State or tribal monitoring requirements may be different from federal requirements, resulting in the need for applicants to meet two sets of monitoring requirements in their application
	• Some states or tribes may have different delineation requirements from federal; these can also be set in advance to the applicant and federal agency
		• Examples of states that have different monitoring requirements from federal (FL, KY, OR, VA)
		• Examples of states with different delineation requirements from federal (FL, OR, WA)

	• Clarify whether the state/tribe consider temporary impacts to be regulated impacts or not Conduct coordination meetings (including pre-application and once application is submitted) • Make clear that different regulations and documents have different requirements (reference these in permit applications and review documents) • Develop MOUs between agencies that outline decisions steps and requirements • Some states review more than one Corps nationwide applications at the same time.	
Threats of Environmental Lawsuits/Environmental Justice Concerns	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• Perceptions that the law was inadequately applied may lead to the state being sued by environmental organizations. • Citizen suit provisions in many of the major environmental laws • Financial/staff time burden of defending lawsuits around regulatory decisions • Potential for the "defeat by delay" political tactic leading to additional expense for regulators (and applicants) • Need to balance avoiding wetlands in protected areas versus impacting vulnerable populations.	• Make sure that there is clear communication about legal issues with the public and environmental nonprofits • Address concerns of these entities to the best of the state/tribal agency's ability • Remember that it is unlikely that the agency can make everyone happy; focus on implementing the law/regulations • Meet with the Office of General Counsel/Department of Justice/Other legal entity within state/tribe • Lawyers tend to be involved in larger projects, whether contested or not • Make sure to speak with higher managers/leaders from environmental nonprofits as appropriate • Develop strong relationships with stakeholders	• Examples of states that work regularly with their Office of General Counsel/Department of Justice (KY, OR, NY, NJ)
Lack of Regulator Understanding about the Appropriate Applications for Specific Planned Activities	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• States need to have better understanding about when the application of HDD is appropriate and when it is not • State reviewers need to know how to deal with trench blasting (how to reclaim a blasted area, what they can put back, etc.)	• Talk with consultants • Look at examples of successful applications from other states/tribes • Use models that have been successfully • Look for Best Management Practices and assess for use in own state/tribe; ensure adapted for context and circumstances • View trainings and webinars • Contact experts (e.g. state geologist)	• American Society of Civil Engineers • American Petroleum Institute • Expert Consultants – how to interpret and what will come out of its use
Lack of Information about Pipeline Route	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• Lack of information about where the line is going to go (the specific route, which specific resources are going to be impacts – the overall picture and watershed level impacts) • Once the route is set, applicant is not flexible to change	This problem has to do with energy companies not confirming a whole route from the start; not likely to happen • Discuss plans in pre-application meetings • Discuss planned routes to the greatest extent possible • Discuss watershed level impacts with applicants	• Seek any planning documents • Develop relationships that can provide additional information
Lack of Access to the Land being Impacted	**Potential Solutions/Lessons Learned**	**Resources and Contacts**
• The inability for companies and the state to get access to land planned for use along the pipeline route leads to an inability to identify the resources that will be impacted and to what extent (e.g. vegetation, soils, hydrology, endangered species, threatened habitats) • Remote sensing is often inadequate to assess – need on-the-ground access to make informed permit review decisions • Not receiving permission to survey the land, as permission not grated until they have their permit approvals.	• This, unfortunately, is an issue for most pipeline projects and is very hard to overcome • Use best available data (state/tribal and web information) • Require field surveys after certified (some states already include this in conditions) • Some states require that field surveys and approval are secured construction go ahead is issued	• States that require applicants to have independent utility (OR, KY, NJ • Access to the pre-application/planning phase
Political Uncertainty	**Potential Solutions/Lessons Learned**	**Resources and Contacts**

• Shifts in the direction of long-time environmental policies
• Influence of partisan politics (declining political will to fight for the environment?)
• New infrastructure permit review streamlining initiatives to reduce "regulatory paralysis"
• Ongoing efforts to reform/repeal NEPA[1] may result in:
  ○ Narrowing review to only "major" environmental issues;
  ○ Mandating time limits;
  ○ Requiring NEPA to incorporate previous analysis into similar projects
  ○ Establishing functional equivalence of a NEPA analysis through federal and state statues that already require an environmental impact analysis; and
  ○ Eliminating greenhouse gas emissions analysis from the review process
• Current initiatives focused on energy reform:
  ○ Efforts to remove "duplicative" federal laws in favor of state regulations
  ▪ Potentially resulting in increasing burden on state resources and a lack of protections for resources where state law does not cover impacts
• State regulatory program concerns about lack of political will/staff resources to support denying or conditioning permit
	• Stay abreast of emerging political changes
	• Develop contingency plans for different scenarios
	• Understand that permitting processes may be included in political agendas
	• Focus on the implementation of existing laws and regulations
	• Participate in any planning opportunities during the evaluation or proposal of permitting changes
		• Federal Register
		• State notices of legal and regulatory changes

[1] Examining Environmental Barriers to Infrastructure Development (2017).Subcommittee on the Interior, Energy and the Environment and Subcommittee on Intergovernmental Affairs, Committee on Oversight and Government Reform, US House of Representatives. (Heritage Foundation). Downloaded from: https://oversight.house.gov/wp-content/uploads/2017/03/Loris_Testimony_infrastructure_FINAL.pdf

Appendix A: ASWM Pipeline Permitting Project Workgroup

Last	First	State	Organization
Berry	Amy	MI	MI DEQ
Bass	Florance	MS	MS DEQ
Bates	Justin	MD	McCormick Taylor
Bax	Stacia	MO	MO DNR
Brown	Clifford	WV	WV DNR
Butterfield	Melinda	OR	OR Dept. of State Lands
Christie	Jeanne	ME	ASWM
Connick	Sarah	CA	Switzer Fellow (Chevron Corps)
Davis	Dave	VA	VA DEQ
Denoncour	Brianna	NY	NY DEC
Elliott	Danielle	WV	WV DNR
Finklestein	Myra	CA	Switzer Fellow (UC)
Gitar	Rick	Tribe	Fond du Lac Reservation
Goerman	David	PA	PA DEP
Goodale	Wing	ME	Biodiversity Research Institute
Hansen	Evan	WV	Downstream Strategies
Harcarik	Tom	OH	OH EPA
Hayes	Stephanie	KY	KY Division of Water
Higgins	Karen	NC	NC DWR (Invited)
Jacobson	Roy	NY	NY DEC
Jones	*Vena*	*TN*	*Vena Jones (Initial inquiry)*
Kocchar	Medha	FERC	FERC
Kovatch	*Chariles*	*EPA*	*EPA HQ*
Mehaffy	Brad	DOE	Dept. of Energy
Murin	Ken	PA	PA DEP
Murk	David	API	API
Murtaugh	Jenny	NY	NY DEC
Parker	Robert	NE	NE DEQ (Invited)
Price	Myra	EPA	EPA OWOW

Pelloso	Andrew	Consultant	Burns and McDonald
Ryan	Patrick	NJ	NJ DEP (Invited)
Rowan	Joan	Consultant	Normandeau Associates
Zollitsch	Brenda	ME	ASWM
McDavit	*Michael*	*EPA*	*EPA HQ*
Alafat	*Beth*	*EPA*	*Region1 EPA*