

ACP Environmental Resource Reports

(May 19, 2015)

The Atlantic Coast Pipeline, LLC (Atlantic) filed today with the Federal Energy Regulatory Commission (FERC) 12 draft Environmental Resource Reports. We also expanded on Resource Reports 1 and 10, which originally were submitted as initial drafts in December.

Below is a high-level summary, including a brief description and key findings, for each Resource Report:

Report	Description	Key Findings
1. Project Description	<ul style="list-style-type: none"> • A general description of the project including <ul style="list-style-type: none"> ▪ Proposed facilities ▪ Purpose and need for project ▪ Construction and restoration methods ▪ Maps, alignment sheets and plot plans ▪ Non-jurisdictional facilities ▪ Land requirements ▪ Permits and authorizations ▪ Future expansion plans, if any 	<ul style="list-style-type: none"> • Early draft submitted to the FERC December 2014 • May 2015 draft includes several updates <ul style="list-style-type: none"> ▪ Several route alternatives have been incorporated into the proposed route ▪ Other alternatives remain under consideration ▪ See RR10: Alternatives for additional information • Purpose and need <ul style="list-style-type: none"> ▪ A study by ICF International concludes that electric generating capacity from coal and nuclear fuels will continue to decrease while demand for natural gas is expected to rise 6.3% annually from 2014 to 2035. ▪ The U.S. Dept. of Energy estimates that 38 to 42 bcf/d of new natural gas transmission pipeline infrastructure is needed to meet demand by 2030 • Stakeholder engagement <ul style="list-style-type: none"> ▪ Total of 27 open houses for ACP (more than 6,400 attendees) ▪ Many additional engagement activities including website, Facebook, newsletters, email, mailings and meetings with citizen groups and elected officials

<p>2. Water Use and Quality</p>	<ul style="list-style-type: none"> • Outlines potential impacts to <ul style="list-style-type: none"> ▪ Groundwater ▪ Surface waters and wetlands ▪ Aquifers ▪ Public and private wells ▪ Wellhead protection areas ▪ Springs 	<ul style="list-style-type: none"> • Protecting water resources is one of the top priorities • ACP will minimize or avoid impacts on groundwater flow and recharge by implementing construction practices outlined in FERC’s <i>Upland Erosion Control, Revegetation, and Maintenance Plan (Plan)</i> and <i>Wetland and Waterbody Construction and Mitigation Procedures (Procedures)</i>. • ACP will be constructed within 10 feet below the existing ground surface and well above the depth of aquifers in the areas crossed by the pipeline. • A detailed karst assessment, including field surveys is currently under way to identify sinkholes and other potential karst features along the proposed route. As features are identified, the project team will determine necessary route adjustments or sinkhole mitigation methods on a feature-by-feature basis. • Construction across waterbodies will be completed according to FERC guidelines, as well as local seasonal restrictions, to minimize impacts on aquatic resources (i.e., fish, freshwater mussels, etc.). <ul style="list-style-type: none"> ▪ Public water intakes within three miles of the waterbody crossing site will notified according to FERC procedures prior to construction. ▪ The crossing method for each wetland will depend on site-specific weather conditions, soil saturation, and soil stability. • ACP will typically be constructed using a 75-foot wide construction right of way across wetlands with Additional Temporary Work Space (ATWS) on both sides of the upland border to stage construction equipment, fabricate the pipelines, and store materials and excavated spoil. • The proposed wetland mitigation measures are intended to avoid wetland impacts to the greatest extent practicable; minimize the area and duration of disturbance; reduce soil disturbance; and enhance wetland revegetation after construction. • If blasting is required within 150 feet of a water well or private spring, ACP will seek landowner permission to conduct pre-construction and post-construction well testing, and perform necessary repair or restoration to maintain well productivity and water quality. <ul style="list-style-type: none"> ▪ ACP will comply with federal, state/commonwealth and local regulations governing the use of explosives and develop a project-specific blasting plan. .
<p>3. Fish, Wildlife and Vegetation</p>	<ul style="list-style-type: none"> • Identifies <ul style="list-style-type: none"> ▪ Designated and sensitive fisheries ▪ Essential fish habitat ▪ Vegetation types ▪ Sensitive communities 	<p>ACP has initiated consultation with the United States Forest Service (USFS) regarding potential impacts on species and survey requirements.</p> <ul style="list-style-type: none"> • FISHERIES: <ul style="list-style-type: none"> ▪ The proposed ACP pipeline facilities will cross 998 waterbodies, consisting of 379 perennial streams, 533 intermittent and ephemeral streams, 61 canal/ditch

- Special status species (threatened or endangered)

features, and 25 open water ponds. Additionally, ACP access roads identified will cross 92 waterbodies, including 33 perennial streams, 53 intermittent and ephemeral streams, 2 canal/ditch features, and 4 open water ponds.

- For all crossing methods, construction activities for the projects will be conducted in accordance with the FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) as well as ACP's *Erosion and Sediment Control Plan* (ESC Plan).
- VEGETATION: ACP will restore vegetation in riparian areas with native plant species
 - In wetland areas, vegetation is expected to naturally regenerate following installation of the pipeline and final grade and cleanup.
 - In agricultural areas, cropland will be restored to active agricultural production, and other areas.
- WILDLIFE: ACP will conduct field surveys as recommended by the FSW ESFO in each state/commonwealth crossed by the project to determine if federally listed species occur along the route/project area.
 - BATS: ACP will develop a Bat Survey Plan which details bat survey methods for the Indiana bat, northern long-eared bat and Virginia big-eared bat species, and including the little brown bat in West Virginia. ACP anticipates filing the Bat Survey Plan with the FWS in the spring of 2015.
 - MUSSELS: ACP will complete surveys in spring 2015 for five federally listed mussel species if suitable habitat is identified during field review of waterbody crossings along the proposed route.
 - Surveys will follow in accordance with each state agency (WVMSP, VDGIF and NC EFSO)
- PLANTS: Twelve federally listed plant species have potential to occur along the ACP project area. ACP will conduct surveys for these species in areas containing potentially suitable habitat as identified by qualified botanists approved by the FWS. Survey windows vary for each species based primarily on flowering times.
- BIRDS: ACP is developing conservation measures that would minimize impacts on migratory birds and will be outlined in the *Migratory Bird Conservation Plan* (Included in Appendix 1F of final Resource Report 1).
 - Surveys for raptor nests are completed at the same time as other biological surveys and will comply with the Bald and Golden Eagle Protection Act and follow National Bald Eagle Management Guidelines.
 - ACP will implement other measures to avoid and minimize such impacts, such as clearing outside of nesting season and implementing activity buffers around active nests for certain species.
- ENDANGERED and THREATENED SPECIES: ACP will use a qualified biological surveyor to review the route for endangered and threatened species including the Cheat

		<p>Mountain and Cow Knob salamanders; prepare survey plans for review by the FWS, USFS and VDGIF; and survey the proposed route in Spring of 2015.</p>
<p>4. Cultural Resources</p>	<ul style="list-style-type: none"> • Compliance with Section 106 of National Historic Preservation Act <ul style="list-style-type: none"> • Consultations • Investigations • Reporting requirements 	<ul style="list-style-type: none"> • Archaeological surveys have been occurring since June 2014. • Surveys of aboveground structures were conducted between August 2014 and March 2015; additional surveys will be conducted in the summer of 2015. <ul style="list-style-type: none"> ▪ Within the ACP survey corridor and the surrounding viewsheds, standing structures and other aboveground resources greater than 50 years in age have been identified and catalogued. • Metal detector surveys were conducted where the proposed pipeline facilities cross Civil War battlefield sites. • To date, 333 cultural resource sites have been identified including, 267 archaeological sites, 47 isolated archaeological finds, and 19 historic cemeteries or graves. <ul style="list-style-type: none"> ▪ ACP is evaluating options to avoid cemetery sites potentially affected by the proposed route. • The historic structures survey identified 10 battlefields and three historic districts either listed or eligible for listing on the National Register of Historic Places (NRHP). One additional historic district was identified, but not eligible for NRHP listing. • Cultural field survey work will continue throughout the summer of 2015. Results of all cultural field surveys, including plans to reduce or eliminate impacts to cultural resources identified through the surveys will be included in the final report. • To gather information on cultural resources, project team members have completed multiple consultations with many federal, state/commonwealth, tribal and historic and cultural organizations. Consultations continue and additional information will be included in the final report.
<p>5. Socioeconomics</p>	<ul style="list-style-type: none"> • Describes existing socioeconomic conditions, measures potential impacts and outlines plan to mitigate <ul style="list-style-type: none"> ▪ Human health ▪ Environmental justice ▪ Employment ▪ Housing ▪ Local government services ▪ Local tax revenues ▪ Transportation ▪ Industries specific to area 	<ul style="list-style-type: none"> • In general, the proposed ACP route avoids major population centers in the socioeconomic impact areas. <ul style="list-style-type: none"> ▪ The majority of the route crosses rural, undeveloped, forested or agricultural areas. (see RR8: Land Uses) • There is no disproportionate impact on environmental justice communities defined by poverty levels. Impacts associated with construction of the proposed ACP, such as exposure to construction dust and noise and disruption to traffic patterns, will occur proportionately in all municipalities crossed. • Construction and operation of ACP will result in economic benefits through increased payroll, tax revenue, purchase of materials and use of local vendors and businesses.

		<ul style="list-style-type: none"> • Construction of ACP is not expected to cause significant impacts to the education, health or social assistance industries, but could have a long-term, positive impact on public education and medical services because of tax revenues received by local governments. • Approximately 7,395 full-time equivalent workers will be used to build the ACP. <ul style="list-style-type: none"> ▪ About 50% will be from the local communities and 50% non-local who will temporarily re-locate to the area during construction. ▪ About 4,000 local/regional construction workers will be needed during construction. • About 82 permanent employees will be hired to support operations and maintenance after construction. <ul style="list-style-type: none"> ▪ May be local or non-local depending on skillsets needed and available. • Construction contractors set up “medipods” to provide first-aid treatment for minor injuries. Prior to construction, emergency response protocols for major incidents will also be established in coordination with local responders. • The majority of agricultural practices will resume along the pipeline right of way and within temporary construction areas at aboveground facilities in the first growing season following construction and restoration. • Agritourism, including breweries, wineries, cideries and maple sugar farms, is an important and stable source of tax revenue in the ACP project area. <ul style="list-style-type: none"> ▪ There are 10 wineries, three craft breweries and one cidery in Nelson County, Va. ▪ The proposed route passes 0.8 miles from one winery and about 150 feet to the northeast of the cidery property line. ▪ In Johnston County, N.C., the proposed route passes within one mile of a vineyard and about five miles from a winery. ▪ Highland County, Va., is home to a number of sugar maple stands. Consultations are under way to determine if the proposed route crosses any of these stands.
6. Geological Resources	<ul style="list-style-type: none"> • A description of geologic resources and hazards <ul style="list-style-type: none"> ▪ Geomorphologic and geologic features ▪ Blasting ▪ Minerals ▪ Potential karst features ▪ Paleontology ▪ Hazardous conditions 	<ul style="list-style-type: none"> • ACP will be built according to federal standards. It will be designed and constructed to provide adequate protection from washouts, floods, unstable soils, landslides, earthquakes and other hazards. • ACP crosses diverse geographic conditions spanning three states. The overall effects of construction and operation of the pipeline on the topography and geology will be minor. • About 26% of the proposed route will cross areas with bedrock less than 60 inches from the surface. The bedrock in more than half of these areas is soft and will not likely require blasting. Blasting of bedrock will only be required in areas where hard, crystalline bedrock

		<p>is encountered. This type of bedrock is not easily removed by conventional excavation methods.</p> <ul style="list-style-type: none"> ▪ Detailed blasting plans, in accordance with federal, state and local regulations, will be developed for any area requiring this practice. <ul style="list-style-type: none"> • No impacts to mining or oil and gas production are expected from the project. <ul style="list-style-type: none"> ▪ Three construction sand/gravel mines are located within ¼ mile of the proposed route ▪ No active coal mines are located within ¼ mile of the proposed route. ▪ A total of 228 active and 70 plugged and abandoned oil and gas wells have been identified within ¼ mile of the proposed route. • A detailed karst assessment, including field surveys, is currently under way to identify sinkholes and other potential karst features along the proposed route. As features are identified, the project team will determine necessary route adjustments or sinkhole mitigation methods on a feature-by-feature basis. • Some of the geologic formations crossed by the proposed route have the potential to contain fossils; however, based on initial consultations, none are considered significant. The ACP project team will coordinate with appropriate agencies to identify and protect paleontological resources if they are uncovered during construction. <ul style="list-style-type: none"> ▪ A number of cultural resource sites have been identified and are discussed further in Resource Report 4: Cultural Resources.
7. Soils	<ul style="list-style-type: none"> • A description of existing soil conditions and potential impacts <ul style="list-style-type: none"> ▪ Existing soils ▪ Effects of construction activity on soils ▪ Soil protection and restoration plans 	<ul style="list-style-type: none"> • To minimize or avoid potential impacts due to soil erosion and sedimentation, ACP will implement the soil mitigation measures outlined in FERC’s <i>Upland Erosion Control, Revegetation, and Maintenance Plan</i> and <i>Wetland and Waterbody Construction and Mitigation Procedures</i> and will prepare and implement an <i>Erosion and Sediment Control Plan</i> in accordance with state and local regulations or guidelines. • Topsoil segregation will be performed to prevent mixing of soil layers and prevent incorporation of rock into the topsoil. Segregation will be used primarily in non-saturated wetlands, cultivated or rotated croplands, managed pastures, hayfields, residential areas and in other areas requested by the landowner or land management agency. • During construction, the top soil will be stored separately from the subsoil. After construction, the soil will be replaced in the proper order during backfilling and final grading. Implementing proper top soil segregation promotes post-construction revegetation, thereby minimizing loss of crop productivity and the potential for long-term issues with erosion. • ACP will also take measures to minimize impacts on hydric soils, minimize or mitigate soil compaction due to construction activities, make diligent efforts to remove excess rock and minimize the introduction of subsoil into agricultural topsoil.

		<ul style="list-style-type: none"> • To promote successful revegetation following final grading and cleanup, ACP will condition the construction right of way for planting, including the preparation of a seedbed and application and incorporation of soil amendments at rates agreed to by the landowner or land managing agency, or as specified in writing by an appropriate soil conservation authority.
8. Land Use, Recreation and Aesthetics	<ul style="list-style-type: none"> • Identifies use of all land affected by construction and operation of the pipeline <ul style="list-style-type: none"> ▪ Character and quantity of affected land ▪ Identify public lands and designated recreation or other special use lands ▪ Discuss special construction techniques or other forms of mitigation to reduce impact ▪ Potential visual impacts on scenic areas 	<ul style="list-style-type: none"> • Based on publicly available data and field studies, the following land use classifications have been identified within the ACP project area: agricultural land including cultivated crops, pastures, tree plantations/harvested forests, upland forests/woodlands, developed areas, open land, wetlands and open water. • The construction space for the proposed ACP route is approximately 7,826 acres, with approximately 4,251 of those acres to be encumbered as permanent easement. This does not include additional temporary workspaces, access roads, aboveground facilities or contractor/storage yards. • Because of ongoing coordination efforts with counties and other municipalities, impacts to local land uses and potential future developments are not finalized. This information will be finalized before the final report is submitted. • All site-specific plans will be provided in the final report.
9. Air and Noise Quality	<ul style="list-style-type: none"> • Addresses the effects of ACP on the existing air and noise environment • Describes proposed measures to mitigate 	<p>Air Quality</p> <ul style="list-style-type: none"> • Compressor stations are proposed in Lewis County, W.Va.; Buckingham County, Va. and Northampton County, N.C. <ul style="list-style-type: none"> ▪ Each of these areas is in attainment with National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. ▪ ACP compressor stations are not expected to have emissions at levels that would trigger Prevention of Significant Deterioration (PSD) requirements for major sources located in attainment areas. • Emissions from construction activities are not expected to cause or significantly contribute to an exceedance of the NAAQS. • Dust control measures that will be implemented are described in the ACP <i>Erosion and Sediment Control Plan</i>. • Additional details will be included in the final Resource Report 9 when additional engineering design specification is available. <p>Noise Quality</p> <ul style="list-style-type: none"> • The FERC sound guidelines/requirements and certificate conditions require that the sound attributable to a new compressor station not exceed a day-night equivalent sound

		<p>level (Ldn) of 55 decibels on the A-weighted scale (dBA) at any nearby noise-sensitive area (NSA).</p> <ul style="list-style-type: none"> • It is expected that, if adequate noise control measures are successfully implemented, the estimated noise attributable to each compressor station will be lower than the 55 dBA (Ldn) • Several noise control measures for the new compressor stations, metering and regulation stations and HDD sites are currently being evaluated. All applicable noise control measures will be provided in the final Resource Report 9.
<p>10. Alternatives</p>	<ul style="list-style-type: none"> • Identifies route deviations and major route alternatives being considered. 	<ul style="list-style-type: none"> • An early draft of this report was submitted to the FERC in December 2014. • The May 19, 2015 draft includes a number of updates • Conceptual Collocation Route Alternatives • Route alternatives that have been incorporated into proposed route: <ul style="list-style-type: none"> ▪ George Washington National Forest 3 ▪ Appalachian Trail South ▪ East of Lovington • Route alternatives remaining under consideration: <ul style="list-style-type: none"> ▪ Monongahela 5 ▪ Great Dismal Swamp 5 and 6 ▪ Ft. Pickett 2 • Route variations incorporated into proposed route: <ul style="list-style-type: none"> ▪ Hacker's Creek ▪ Augusta Industrial Park ▪ Norwood Route 2 ▪ Perry Hill ▪ Cumberland Church Battlefield ▪ Breeches Swamp ▪ Red Oak ▪ Swamp Road ▪ Cape Fear ▪ Chesapeake Energy Center • Route variation remaining under consideration <ul style="list-style-type: none"> ▪ Wingina • The route is not final.

<p>11. Reliability and Safety</p>	<ul style="list-style-type: none"> • Describes how the facilities will be designed, constructed and maintained to minimize potential hazard to the public from <ul style="list-style-type: none"> ▪ Failure of ACP components ▪ Accidents ▪ Natural catastrophes • How the above-mentioned areas could affect reliability • What procedures are in place to reduce potential hazards 	<ul style="list-style-type: none"> • ACP will comply with, if not exceed, all federal design standards and construction requirements. The pipeline will be regularly patrolled, inspected and maintained according to all federal regulations. • ACP will develop an emergency plan that outlines procedures to minimize hazards from a pipeline emergency. • ACP will work with local emergency responders to plan for and coordinate efforts in the event of a major pipeline incident. ACP will offer training and hold regular meetings with local responder. • ACP will establish a continuing education program to enable customers, citizens, elected officials and other interested parties to recognize and properly report a gas emergency.
<p>12. Polychlorinated Byphenyl (PCB) Contamination</p>	<ul style="list-style-type: none"> • A description of potential PBC contamination during replacement or abandonment of pipeline 	<ul style="list-style-type: none"> • Not applicable to ACP