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Dominion must meet conditions before construction

BY JOHN BRUCE • STAFF WRITER

MONTEREY — The Federal Energy Regulatory Commission staff’s environmental analysis requires Dominion meet specific conditions to be included the final FERC order, if adopted, before construction of the proposed Atlantic Coast Pipeline can begin.

The staff included more than 70 conditions yet to be met in the environmental impact statement issued July 21. None referred specifically to ridgetop removal, Little Valley, or Valley Center, but many referenced karst and preservation of water quality.

Limiting all rights of way width to 50 feet; establishing a landowner complaint resolution system; requiring completion of all biological surveys, including talks with the U.S. Fish and Wildlife Service over threatened and endangered species; and providing detailed maps of all project aspects are only a few of the conditions.

The Endangered Species Act directs federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the act. Section 7 of the act, called “Interagency Cooperation,” is the mechanism by which agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species.

Dominion “shall not begin construction of the proposed facilities until all outstanding biological surveys are completed; FERC staff complete any necessary section 7 consultation with the FWS; and (Dominion) has received written notification from the director of Office of Energy Products that construction and/or use of mitigation, including implementation of conservation measures, may begin,” the statement said.

Dominion must also file detailed alignment maps and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations; staging areas; pipe storage yards; new access roads; and other areas that would be used or disturbed and have not been previously identified. Approval for each of these areas must be explicitly requested in writing.

“For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area,” the statement said.

Complaint system

FERC requires Dominion develop and use an environmental complaint resolution procedure that provides landowners with clear, simple directions for identifying and resolving their environmental mitigation problems or concerns during construction and restoration of the right of way. Before construction, Dominion must mail the procedures to each landowner whose property would be crossed.

In its letter to landowners, Dominion must provide a local contact the landowners should call first. The letter should indicate how soon a landowner should expect a response, and instruct landowners that if they are not satisfied with the response, they should call Dominion’s hotline. If they are still not satisfied, they should be directed to call the Commission’s Landowner Helpline at 877-337-2237 or at LandownerHelp@ferc.gov.

FERC also directed Dominion to include in its weekly status report a copy of a table that provides: The identity of the caller and date of the call; the location by milepost and identification number from the authorized alignment sheet(s) of the affected property; a description of the problem/concern; and an explanation of how and when the problem was resolved, would be resolved, or why it has not been resolved.

Also, the pipeline company “shall not exercise eminent domain authority granted under section 7(h) of the National Gas Act to acquire a permanent pipeline right of way exceeding 50 feet in width,” FERC said. In addition, where the company has obtained a larger permanent right of way width through landowner negotiations, routine vegetation mowing and clearing must not exceed 50 feet wide.

Burnsville Cove, karst plans

As part of its implementation plan, Dominion must consult with the Virginia Department of Conservation and Recreation to determine if the route and construction will impact the Burnsville Cove Cave Conservation Site, and submit a report for review.

Before it completes any geotechnical boring in karst terrain, Dominion must verify with FERC that it consulted with DCR karst protection staff about each boring and follow the Virginia Cave Board’s “Karst Assessment Standard Practice” for land development when completing the borings.

Dominion must submit a revised “Karst Terrain Assessment Construction, Monitoring, and Mitigation Plan” that includes monitoring of all potential karst areas for subsidence and collapse using LiDAR monitoring methods during years one, two, and five following construction.

Before construction, Dominion must complete remaining field surveys for wells and springs within 150 feet of the construction workspace, and within 500 feet of the workspace in karst terrain, and file the results.

Also, Dominion must offer to conduct, with landowner permission, post-construction water quality tests, using the same parameters used in preconstruction tests, for all water supply wells and springs within 150 feet of the construction workspace and 500 feet in karst terrain.

FERC's statement also pointed out the pipeline would cross areas subject to karst hazards — 71.3 miles of karst terrain in West Virginia and Virginia. "The most prominent type of karst features in the ACP area are sinkholes, which comprise the greatest potential geohazard risk to any type of construction in karst terrain," the statement said. "Other karst features inventoried in the ACP area include caves, springs, and sinking streams."

Dominion developed plans to minimize karst activity during construction, FERC said, noting Dominion would perform a survey to detect subsurface features along all portions of the route that are mapped as limestone bedrock at the surface before construction.

During construction, Dominion would employ a karst specialist to monitor existing karst features and those that may form during construction. "An analysis of bedrock fracture lineaments aids in the identification of concentrated karst, and when coupled with existing dye trace studies, can be utilized to extrapolate groundwater flow through a mature karst system," FERC said.

Dominion would complete a fracture trace/lineament analysis using aerial photography and LiDAR, along with results of existing dye trace studies, to determine water flow from construction workspaces to area receptors such as caves, wells, and springs.

"However, the conclusions and recommendations of this analysis have not yet been completed," FERC noted.

The agency recommended Dominion provide the results, on maps.

Dominion conducted karst surveys in West Virginia, and in Bath, Highland and Augusta, in 2016 and 2017, the statement noted. "The Final Karst Survey Report identified karst features within these counties; however, due to the underground nature of these systems it is difficult to identify their full extent," FERC said. "Because no additional assessment was made of the karst features to determine whether they are appropriately suitable for any of the cave or subterranean obligate species (except bats), we assume that all karst features may provide suitable habitat for subterranean obligate species and assume presence of these species."

The DCR and Virginia Cave Board endorsed the revised plan. "However, because subterranean obligate species are often endemic to only a few known locations, and are vulnerable to changes in hydrological pattern or water quality ... it is possible that construction impacts could have population-level effects on these species," FERC concluded.

Invasive species

Dominion as been instructed to update and submit a plan for managing invasive species. The statement noted:

- Aerial spraying will not be used for invasive species control along the right of way;
- No herbicides will be applied within 25 feet of endangered plant species;
- No use of herbicides or pesticides within 100 feet of a waterbody or wetland, except where allowed by state or federal agencies;
- No spraying of insecticides or herbicides will be allowed within the 300-foot karst feature buffer, except where allowed by state or federal agencies; and
- The plan must include the results of the West Virginia and Virginia Natural Heritage Program recommendations for herbicide treatment next to sensitive features.

FERC staff noted it had received comments about this from the U.S. Forest Service and the U.S. Fish and Wildlife Service stating there are likely areas along the pipeline route where avoidance methods for a species might conflict with recommendations for another. FERC recommended Dominion file “environmental constraint maps” indicating Dominion is committing to the agencies’ recommendations.

As part of its review, FERC developed mitigation measures to reduce environmental impacts of the project, and recommended those be attached as conditions to FERC’s authorizations.

Dominion must obtain other applicable permits and consult with appropriate agencies, which have a chance to review proposals during the permitting process and identify additional mitigation measures.

Addressing landslides

FERC noted Dominion has adopted programs to minimize landslides, other risk measures have not been completed or adopted. “Additionally, although the proposed pipelines have been cited to maximize ridgeline construction, numerous segment of pipeline would be constructed on steep slopes and in areas of high landslide potential,” the statement said.

“Considering the historic and recent landslide incidences in the immediate project area, along with the factors above, we conclude that constructing the pipelines in steep terrain or high landslide incidence areas could increase the potential for landslides to occur,” FERC said.

Dominion provided design drawings for steep slopes on the Monongahela and George Washington national forests, including pipeline construction on 2,900 feet of ridge along Cloverlick Mountain and the southwest flank of Little Ridge on the GWNF, which FERC called one of the most challenging steep slope construction sites on the MNF or GWNF and “representative of ‘worst case’ construction sites.”

Thus, FERC concluded, Dominion has provided site-specific designs for the two main types of steep slope construction on both the MNF and GWNF — ridgetop construction, and 2) side slope construction. The ACP design provided the cross-sections and profiles of the 1) original ground surface, 2) the temporary ground surface of cuts and fills (temporary spoils), and 3) final ground (restoration backfill to original contour). The designs, cross-sections, and profiles provide information the FS would use to focus on construction inspection.

FERC said if the pipeline is authorized, the forest service will work with Dominion on creating site-specific plans for these and other steep slopes on the forest.

Also, the agency noted, the Virginia Department of Mines, Minerals and Energy provided comments noting the potential presence of vertebrate and plant fossils in certain deposits. “To ensure that paleontological resources are adequately protected, we are recommending that (Dominion) provide a plan for discovery of unanticipated paleontological resources that describes how (Dominion) would recognize and manage significant fossils encountered during construction,” FERC said.

FERC got several questions about how Dominion would dispose of excess rock and spoil during construction. That excess, FERC said, would be hauled to a disposal location, or be re-used depending on landowner approval.

“At this time, (Dominion has) not identified any areas where imported soils would be used,” FERC said. “However, FERC notes that there are commercial disposal locations where permits have been obtained by the owner/operator for an activity or as a resource needed for the project. These facilities would function as such regardless of the projects, have been approved for their use by the state or county authority(ies), and are independent of FERC approval.”

Also, the agency got several comments about whether the soil surveys were adequate to assess impacts.

Soil surveying

“We received multiple comments expressing concern about constructing in steeply sloped areas and the adequacy of using soil survey geographic database data to assess potential soil impacts along the project route. The forest service had requested an “Order 1” soil survey to inventory soils at an appropriate level for project planning. These surveys are based on a more precise degree of study, FERC noted. “The Order 1 Soil Survey is more accurate than the official soil survey for the extent of the right of way on national forest service lands,” FERC said. “However, soil survey geographic database data provide the most detailed level of soil mapping that is publicly available ... and was designed primarily for farm and ranch, landowner/ user, township, county, or parish natural resource planning and management; therefore, soil survey geographic database data were used in the analysis on private lands.”

Water quality

The impact statement noted that four public and 236 private water supply wells were identified near the pipeline project, and 18 private wells were identified near the Supply Header project. One of the public wells and 12 of the private wells are within the ACP workspace, and one is within the SHP workspace. Also, 124 and four springs were identified near ACP and SHP, respectively. Two of these springs were identified near ACP within the MNF, and six springs were identified within the GWNF.

“Because (Dominion continues) to communicate with landowners to complete surveys for private water supply sources (wells and springs), we are recommending that Atlantic complete and file the results of the remaining field surveys for wells and springs within 150 feet of the construction workspace, and within 500 feet of the construction workspace in karst terrain,” the statement said.

Before construction, pending landowner permission, Dominion would test water supply wells and springs within 150 feet of the workspace, and within 500 feet of the workspace in karst terrain. The tests would provide baseline information to determine whether construction adversely affects water sources. If a damage claim is filed, Dominion would conduct post-construction tests, which would be analyzed by a certified laboratory, to determine if wells and springs were affected by construction.

“If damage occurred, (Dominion) would provide a temporary potable water source, and/or a new water treatment system or well,” FERC said.

The agency said it received comments from landowners contending Dominion under-reported the number of wells, springs and seeps. FERC said if unidentified water sources are found during construction, the company would make plans to reduce impacts and maintain the flow of water as needed.

“We encourage anyone who believes their well or spring may be affected by construction of the proposed projects to specifically request a preconstruction water quality and yield survey from (Dominion),” FERC said. “Should construction activities affect a well or spring, landowners can negotiate the delivery of alternative water supplies and/or water sources with (Dominion). If (Dominion is) unresponsive or unwilling to negotiate, we encourage landowners to contact FERC’s Landowner Helpline to investigate the problem.”

As for interrupting subterranean springs or karst conduits, FERC said the likelihood is very low.

“There are 1,669 waterbody crossings ... (including crossings by access roads), including 702 perennial, 642 intermittent, 228 ephemeral, 49 canals/ditches, and 48 open water ponds/reservoirs (some waterbodies are crossed more than once). This also includes 18 major waterbody crossings and 12 section 10 (navigable) waterbodies,” FERC said.

“ACP would cross four perennial, 13 intermittent, and five ephemeral waterbodies on the MNF, and 13 perennial, 15 intermittent, and six ephemeral waterbodies on the GWNF,” the agency noted.

Dominion would use one of the following methods to install the proposed pipelines across waterbodies: the wet open-cut method, dry-ditch crossing methods (flume, cofferdam, and dam and pump), or trenchless method (HDD or bore). “We received several comments that a dry-ditch crossing method should be used instead of the open-cut method,” FERC said.

“While site-specific drawings for most of the major waterbodies crossings have been provided, crossing design specifications and locations have changed since the most recent site-specific drawings were submitted, and site-specific construction and restoration measures have not been incorporated into the plans.”

FERC recommended Dominion file updated crossing plans that include where temporary bridges would be located, pump locations, and other information. “Longterm impacts related to slope instability adjacent to streams have the potential to adversely impact water quality and stream channel geometry, in addition to downstream aquatic biota,” FERC said.

“At this time, the Construction, Operation and Management Plan is in draft form, and it is unclear if erosion control and rehabilitation measures would meet Forest Plan standards. Thus, the FS considers final sedimentation effects on water resources to be unknown pending incorporation of necessary mitigation measures as revisions to the COM Plan,” FERC added.

Old-growth forests

“We received comments from The Nature Conservancy and affected landowners regarding potential impacts on old-growth forests along the ACP and SHP routes,” FERC said.

Databases of old-growth stands are not available, so a desktop analysis using 2015 aerial photography and recent satellite photography was used to calculate the miles, acreages, and sizes of trees to be cleared within the pipeline construction and rights of way.

Based on the desktop analysis, FERC said, the projects would cross 361 miles of late seral forest, and a total of 4,914 acres of large trees are present within the construction workspace. A total of 2,681 acres of large trees are present in the permanent right of way.

The project would impact 81 acres of possible old-growth forest on the GWNF. Construction would convert mature or old-growth forests to herbaceous habitat, while the balance of the acres would be converted to an early successional condition, the agency said.

Pointing to forests with a high proportion of oak at risk of decline, FERC said, “Removal of trees along the right of way may expose already stressed trees to edge effects that could further weaken the trees, making them more likely to be attacked by pests or diseases that would not invade healthy trees.”

Wildlife impacts

FERC noted the project would impact wildlife and about 7,509 acres of habitat. The impact would vary depending on the habitat requirements of each species and the existing habitat present within the project area, it said.

Direct impacts from construction would include displacing wildlife and mortality of some individuals, such as incubating birds, their eggs, and nestlings, small mammals, invertebrates, including their eggs and larvae, and slow-moving reptiles and amphibians, including their eggs.

“Larger or more mobile wildlife, such as adult bats, birds, and large mammals, would leave the vicinity of the right of way as construction activities approach,” FERC said. “The influx and increased density of animals in nearby undisturbed areas could also reduce the reproductive success of animals that are not displaced by construction, and increase the risk of predation in the area. These effects would diminish after construction, and some wildlife could return to the newly disturbed areas and adjacent, undisturbed habitats after right of way restoration is completed and access roads are restored or their use is no longer required.”

Some species would return to their populations levels after habitat is restored. Other habitats would be permanently altered, degraded or destroyed and may permanently displace species. “Displacement of these individuals could result in decreased fitness and possible mortality,” FERC concluded. “ACP could impact cave invertebrates and other subterranean obligate species (amphipods, isopods, copepods, flatworms, millipedes, beetles, etc.) that are endemic to only a few known locations.”

Several waterbodies that are considered sensitive due to the presence of sensitive aquatic species, such as trout, anadromous fish, or federal or state/commonwealth protected species, would also be crossed.

Permanent access roads are proposed across 264 waterbodies on ACP, and there are an additional 10 temporary access road crossings, and FERC noted Dominion had a plan to prevent erosion from road construction into streams.

About 81 percent of the proposed access roads are existing roads that can accommodate construction traffic without modification, FERC said. “Some access roads, however, are dirt or gravel roads that are not currently suitable for construction traffic. Where necessary, Dominion would improve unsuitable dirt and gravel roads through widening or grading, installing or replacing culverts, or clearing overhanging vegetation or tree limbs; improvements will be based on need. Widening would generally involve increasing the width of the road up to 25 feet.”

Where improvements are needed, Dominion would install erosion devices and maintain these them through construction. In addition, where culverts require replacement, they would be sized to satisfy simulation design standards to accommodate aquatic organisms. “Although many of these access roads are existing, it is anticipated that there would be an increase in heavy vehicular and construction equipment traffic during construction that could increase erosion and sedimentation runoff from proposed access roads,” FERC said. Dominion would reduce impacts on aquatic resources by adhering to measures in FERC’s Plan and Procedures.

DCR's Division of Natural Heritage and Virginia Cave Board made additional recommendations to address impacts if mitigation and protective measures fail and there is a discharge to karst waters, potentially impacting habitat, drinking water, and surface streams fed by karst springs.

Several agencies are concerned about the potential for trenching, blasting, and water discharge that would impact karst features and karst waters that could indirectly impact bat hibernacula and Madison Cave isopod priority habitat.

FERC said Dominion would provide a report on karst features to FERC this summer. The company would also perform more investigations in 2018 and 2019 to identify or verify the locations of voids once trees have been cleared.