



Friends of Blackwater Canyon

September 4, 2009

Clyde N. Thompson
Forest Supervisor
Monongahela National Forest
200 Sycamore Street
Elkins, WV 26241

Re: Land Application of Hydraulic Fracture Fluids, Berry Energy, Inc. Gas Well B-800

Dear Clyde,

The Wilderness Society, Friends of Blackwater, and the undersigned organizations hereby submit these comments for the Berry Energy, Inc. Land Application of Hydraulic Fracture Fluids for Gas Well B-800. We have always had a great interest in the Monongahela National Forest (MNF), its management, and activities that could affect the flora, fauna and the resources the forest provides. Many of our collective members reside in the area while others recreate in and around the forest and enjoy the hiking, wildlife viewing, scenic beauty and opportunities for spiritual renewal the forest has to offer.

Gas well drilling on the B-800 well and the consequent disposal of fracking fluids have been controversial since it was first proposed a few years ago. Concerns were raised by the staff of the Forest Service's Northern Research Station and researchers at

West Virginia University who use the Fernow Experimental Forest. Concerns were also raised about effects to the Big Springs Cave System under the Fernow which is home to the endangered Indiana bat. Severe problems with the initial well drilling and the first round of hydraulic fluid land application from the B-800 well have only served to heighten concerns. We have a number of issues and concerns with the proposed land application, the hydraulic fracturing preceding it and the overall way in which the Forest seems to be assessing oil and gas development on the Monongahela. Our concerns are described in detail below.

Endangered Species Act (ESA) Compliance

Ongoing Violation of the ESA

We believe that the Forest is involved in an ongoing violation of the ESA. A biological evaluation (BE) was prepared by the MNF for the initial drilling of the B-800 well but was delivered to the U.S. Fish and Wildlife Service (FWS) with the decision memo (DM) for the project after the decision had already been made. This failed to allow the FWS the opportunity to concur or engage in formal consultation with the Forest Service prior to the decision.

The Forest Service claimed that their decisions space, and hence opportunity to consult, was limited due to the split estate of the area in question. The FWS sought an opinion from the Office of the Solicitor of the Department of Interior. The Solicitor's opinion was that:

“The Forest Service’s conclusion that it has no discretionary involvement or control over Berry Energy’s right to explore for and develop their mineral interests is incorrect...When the owner of the surface estate is the United States, as in this case, the government has the authority to regulate the use of the surface and impose conditions on that use...As a result of the Forest Service’s discretionary involvement in establishing reasonable conditions and mitigation measures, the Forest Service must consult with the FWS if the action may affect listed species, pursuant to Section 7 of the Endangered Species Act.”

U.S. Department of the Interior Office of the Solicitor memorandum to Barb Douglas, from Kate Costenbader dated February 1, 2008, page 2.

When the Forest Service proposed the B-800 well pipeline (under a separate decision memo) they did engage in formal consultation with the FWS. But it appears the original ESA violation from the drilling of the well has yet to be addressed. This must be rectified now.

Formal Consultation Is Required

Two important factors must be included as well. The extent of the Big Springs Cave system is not entirely known or mapped in the area. According to the well report filed with the state of West Virginia, the B-800 well was drilled through three caves: open caves at 92 and 149 feet and a mud-filled cave at 164 feet. Whether these caves included the endangered Indiana bat or other bats is unknown, although the Big Springs Cave system is home to the Indiana bat and the surface area around both the B-800 well and the proposed land application site are home to a known Indiana bat hibernaculum and maternity colony.

Efforts to assess whether there was take of listed species will be complicated by the second factor that must be addressed. In the time between the initial drilling of the B-800 well, the construction of the B-800 well pipeline and the current proposal, a devastating illness known as white-nose syndrome (WNS) has been discovered in West Virginia in this part of the state. Bat mortality, including Indiana bats, is extremely high, which has prompted cave closures wherever the disease has been found. The FWS and bat experts have yet to determine the cause, a cure or a way to definitively stop its spread. The combined effect of the stress and potential mortality cause by WNS must be analyzed together with potential adverse effects from oil and gas activities. The Forest Service must prepare a biological assessment (BA) and enter into formal consultation with the FWS.

The FWS Must Be Able to Assess the Cumulative Impacts of Berry Energy's Planned Development on Listed Species, Not Just This Single Activity

The piece-meal approach the Forest Service is taking to permitting Berry Energy development activities doesn't allow the FWS to adequately analyze the potential for take of listed species. The FWS needs to understand the entire likely development scenario in order to assess cumulative impacts and set terms and conditions. This is especially important now that white nose syndrome has been found in area bats; room for additional impacts without adverse effects and resultant take is extremely small.

We believe the Forest Service must prepare a Biological Assessment (BA) and enter into formal consultation with the FWS resulting in their issuance of a Biological Opinion (BO) before any further activities commence on or related to the use of the Berry Energy Gas Well B-800.

National Environmental Policy Act (NEPA) Compliance I: Process

Use of the Categorical Exclusion

The Forest Service appears to be headed for its third decision memo (DM) on Berry Energy oil and gas development activities. To date the Forest Service has cited the following categorical exclusion for each activity associated with the Berry Energy development (drilling of the B-800 well and then separately, the construction of the B-800 pipeline):

“Approval, modification, or continuation of minor special uses of National Forest System lands that require less than five contiguous acres of land.”

Cited as FSH 1909.15 Ch 31.2(3)

Continued use of DMs is disingenuous at best. The Forest Service has made no effort to detail or disclose reasonably foreseeable future actions. In addition, the agency has made no effort to discuss any potential effects, direct, indirect or cumulative in any of the comment letters for these activities, the present one included. All discussion and disclosure of any effects has only occurred in the DM after the decision has been made.

The use of the categorical exclusion, and the failure to properly assess the effects on extraordinary circumstances has allowed the agency to inappropriately narrow its assessment of cumulative impacts. There is no cumulative effects analysis presented for public comment and the only effects analysis likely will be limited in scope and only available after the decision. There also isn't likely to be any assessment or disclosure of the cumulative impacts of the overall Berry Energy development plan.

This segmentation of the cumulative impacts analysis improperly ignores what are reasonably foreseeable activities – and impacts – beyond the currently proposed land application of fluids.

The biggest impediment to agency use of a CE is that the CE used above no longer exists. In 2008, the Forest Service finalized the move of its NEPA direction to the Code of Federal Regulations at 36 CFR 220. CEs are now at 36 CFR 220.6(e). The only possible CE for use in this case is at 36 CFR 220.6(e)(17). However, we believe the use of this CE would not be appropriate given the overall nature of Berry Energy's development plans.

NEPA Requires the Forest Service to Prepare a Single EIS for Berry Energy Development In and Around the Fernow Experimental Forest

While the Forest Service has discretion in determining the scope of a NEPA document, there are situations where an agency must consider several related actions in a single NEPA document – including for Berry Energy development activities in and around the Fernow Experimental Forest: the agency must prepare a single EIS where proposed actions constitute “connected actions,” “similar actions,” or “cumulative actions” (i.e., have cumulative effects – although note that though overlapping, the duty to prepare a single EIS is separate from the duty to assess, in the first place, cumulative effects). 40 CFR § 1508.25. Connected actions include those that are “interdependent parts” of a larger action and “depend on the larger action for their justification.” 40 CFR § 1508.25(a). One of the primary reasons for NEPA’s requirement to evaluate “connected actions” in a single environmental document is “to prevent agencies from minimizing the potential environmental consequences of a proposed action (and thus short-circuiting NEPA review) by segmenting or isolating an individual action that, by itself, may not have a significant environmental impact.” Citizens' Comm. to Save Our Canyons v. United States Forest Serv., 297 F.3d 1012, 1028 (10th Cir. 2002).

In the Fernow Experimental Forest, Berry Energy’s planned gasfield development of 8-10 wells with associated pipelines, related infrastructure and land application of hydraulic fracturing fluids are connected; even though the Forest Service has chosen to separate individual APDs, activities associated with individual wells, and associated infrastructure from the analysis, the operators have proposed them as elements of their planned gasfield and all of these are within and impact the Fernow Experimental Forest. At the present rate and pattern, this gasfield could be the subject of dozens of separate decision memos (DMs), without any consideration of connected actions or cumulative effects should the agency have its way. This would clearly violate NEPA.

Additionally, though we know from numerous records that Berry Energy plans 8-10 wells in the area, the Forest Service has provided no comprehensive map showing where these wells and well infrastructure would be located. It is not even clear that the MNF has any idea where this development might occur. This is especially troubling in light of concerns raised by Fernow staff about the effects to ongoing research, some of which has been decades in the making. Continuing this piecemeal approach would be deleterious to this research. Further, the tipping point at which all of these single activities would cumulatively adversely affect research activities and forest resources would never be known or disclosed.

Given this lack of knowledge, neither the public nor the Forest Service knows exactly how the planned gasfield will impact forest resource values. This prevents the agency from considering reasonable management alternatives that provide for development but limit the impacts of such development based on the area’s non-mineral values. The

Forest Service's segmented approach, as stated, obscures cumulative effects and precludes the consideration and, if necessary, adoption of management alternatives that transcend individual wells and account for the Fernow's important values.

The regulations define "similar" actions as those that "have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." *Id.* The regulations also provide that agencies ought to analyze such similar actions in a single impact statement when "the best way to assess adequately the combined impacts of similar actions or reasonable alternatives is to treat them in a single impact statement." 40 CFR § 15.08.25. In relation to the gasfield proposed for the Fernow Experimental Forest, this development is all proposed for the same area, with the same general timing – only the Forest Service has tried to separate individual activities, even for the same well, into separate decisions under NEPA.

To ensure that combined impacts of separate activities do not escape consideration, NEPA also requires the Forest Service to prepare a single EIS where the actions would trigger cumulative effects. This is essential so that the agency can consider management alternatives commensurate with the context and intensity of impacts and, accordingly, consider and, if necessary, adopt management alternatives that would reduce such impacts to acceptable levels.

The Forest Service's approach to dividing the development into small pieces under 5 acres in the Fernow is a textbook example of deferring consideration and attempting to minimize environmental consequences (and avoid preparation of a comprehensive EIS) by segmenting proposed and reasonably foreseeable development into smaller parts in violation of NEPA. As the Supreme Court has stated, where several proposals "will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together." Kleppe v. Sierra Club, 427 U.S. 390, 410 (U.S. 1976).

"To permit noncomprehensive consideration of a project divisible into smaller parts, each of which taken alone does not have a significant impact but which taken as a whole has cumulative significant impact, would provide a clear loophole to NEPA." Scientists' Inst. for Pub. Information, Inc. v. AEC, 156 U.S. App. D.C. 395, 481 F.2d 1079, 1086 n.29, 1086-89 (D.C.Cir. 1973) (Holding that an EIS is required for an overall project where individual actions are related logically or geographically). "Segmentation of a large or cumulative project into smaller components in order to avoid designating the project a major federal action" violates NEPA. Susquehanna Valley Alliance v. Three Mile Island Nuclear Reactor, 619 F.2d 231, 240 (3d Cir. 1980).

The cumulative impact analysis for the Fernow area gasfield development violates the Forest Service's NEPA obligations and cannot support the Forest Service's continued use of the categorical exclusion for approval of well(s), associated infrastructure and

associated activities. An Environmental Impact Statement taking into account the impacts of all of the development proposed in the Fernow Experimental Forest is required.

National Environmental Policy Act (NEPA) Compliance II: Cumulative Impacts

Failure to Discuss or Disclose Cumulative Effects

Section 102(2)(C) of NEPA requires that the responsible federal agency prepare a detailed statement on the environmental impacts of the proposed action and any adverse environmental effects which cannot be avoided should the proposal be implemented. The regulations implementing NEPA provide that “[t]o determine the scope of environmental impact statements, agencies shall consider . . . (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. . . (2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement. . . . [and] (3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography.” 40 C.F.R. § 1508.25.

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the actions when added to other past, present, and foreseeable future actions regardless of what agency ...or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7.

The Opportunity to Comment document (slightly more than one page in length) for this proposal does not include any discussion of effects, connected, cumulative or similar. If past behavior is any indication, and phone conversations with agency staff lead us to believe this will be the case, the MNF is once again planning to issue a decision memo. And once again, any discussion of effects will only be disclosed after the decision has been made.

Land Application Concerns

The agency has argued that use of the categorical exclusion is warranted because land application is a routine activity with known effects, and that no extraordinary circumstances exist that will be impacted by the application of hydraulic fracturing fluids. This is incorrect on a number of fronts. Land application of fracking fluids can hardly be said to be a routine activity with known effects on the MNF.

Content of the Fracture Fluids is Unknown

First of all, the Forest does not even know what chemicals or elements will be contained in the fracture fluid and likely will not know until after the application has occurred. They are unlikely to know the chemicals and associated concentrations until after a decision is made and this information will likely not to be disclosed to the public. They are therefore unlikely to be able to adequately assess the impact on flora, fauna and aquatic resources that might come into contact with the applied fluids.

Past MNF Experience with Land Application

Secondly, the Forest can hardly argue that land application is a routine activity with which they have experience. Were that the case, the previous land application from the B-800 well should not have gone so horribly wrong. It is not clear if the previous pit draining and land application was carried out with the approval of the State Gas Well Inspector. Insufficient carbon may have been used to treat the fracturing fluids before they were applied on the land. An insufficiently sized area was used for the application so concentrations exceeded limits. Regardless, of how they occurred, significant impacts were the result. Had the Forest Service had more experience, staff would have better understood the need for adequate monitoring and oversight of operations and would have issued a permit for application over a far larger area.

The use of this categorical exclusion, “Approval, modification, or continuation of minor special uses of National Forest System lands that require less than five contiguous acres of land”, is not appropriate here because the activity cannot be said to be minor when the Forest has so little experience with the activity. Categorical exclusions (CE) must be applied correctly: if the uses approved are not minor, have unknown effects and the particular forest (and decisionmaker) has little or no experience with said special use, then the use of the CE is not appropriate. That is clearly the case here.

Experimental Nature of the Land Application

Forest Service CEs are supposed to be used for activities with known effects. But the Forest Service cannot claim in this instance to know those effects, because of the experiment proposed on the Fernow. Fernow staff are preparing experiment protocols in order to engage in Forest Service Research branch short and long-term study of the effects of land application of hydraulic fracture fluids on forest resources. The agency cannot have it both ways.

If the effects are known, there is no need for the Research Station experiment and no need to expend limited research dollars in this way. However, if the effects are not known and the experiment would or could provide useful data, then the Forest Service

cannot purport to know the effects of this activity and the use of the CE is inappropriate. If this is the case, preparation of an EIS is clearly called for.

Karst and Groundwater Resources

The Forest has repeatedly acknowledged the presence of karst topography on the Fernow. We are concerned with the adverse impacts land application might have on the karst system in the area. Big Springs Cave is located near the eastern side of the project area, but is part of a larger cave system underlying this part of the Forest.

In fact, a Well Operator’s Report of Well Work filed with the WV Department of Environmental Protection, Office of Oil and Gas on October 7, 2008, by Berry Energy for the B-800 well, notes on page 3 that during initial drilling and first fracture open caves were encountered at 92 and 149 feet and that a mud filled cave was encountered at 164 feet. Additionally, fresh water was encountered at 395’. This indicates there are likely abundant fractures, caverns and solution cavities existent within this karst structure and that it serves as a conduit for groundwater.

Land application of waste to soils overlaying such obviously rich karst structures creates the potential for seepage into the caves and caverns, thus altering the chemistry of such structures. The alteration of the chemistry could produce changes in the humidity level, which could in turn alter the temperature. Additionally, the air quality could be diminished if such toxic chemicals are introduced into a confined space.

Disturbance of cave habitat, including modification of delicately balanced air flow and temperature regimes has potentially already occurred. Indiana bats, in particular, can only hibernate successfully within a very narrow, specific temperature range, and have been known to abandon hibernacula when structural or other changes to the caves resulted in unsuitable temperatures.

It is our understanding that Berry Energy has asked state oil and gas regulators for a plug to be placed to access a shallower horizon in the current B-800 well. Additional hydraulic fracturing could force fracking fluids into formations that would increase the risk of adverse effects to groundwater resources. It could also result in greater risks of adverse effects on the cave system and a higher likelihood of take under the ESA. These potential impacts must be analyzed and disclosed under NEPA.

For the reasons discussed above, we recommend an alternative that entails no land application whatsoever. Hydraulic fracking fluids should be stored and hauled away where they can be properly treated and disposed of. Analysis and disclosure under NEPA should be conducted in a larger analysis in an EIS that examines Berry Energy’s

whole development plan. Finally, the MNF must prepare a BA and enter into formal consultation with the FWS.

We look forward to continued discussion of this project. We would like to be kept informed of the progress of the project and associated compliance activities and any opportunities to provide additional public feedback during the process. Please do not hesitate to contact us. Thank you for your time and consideration.

Sincerely,

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