



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

Eastern States

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In Reply Refer to:

3120 (930 JRK)

December 2016 Lease Sale

DEC 12 2016

CERTIFIED MAIL—RETURN RECEIPT REQUESTED

Fresh Water Accountability Project

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Grand Rapids, OH 43522

Athens County Fracking Action Network

33 Cable Lane

Athens, OH 45701

Buckeye Forest Council

P.O. Box 824

Athens, OH 45701

Ohio Valley Environmental Coalition

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Huntington, WV 25773

Appalachian Mountain Advocates

P.O. Box 507

Lewisburg, WV 24901

Torch CAN DO

26500 Rock Run Rd.

Coolville, OH 45723

Mountain Lakes Preservation Alliance

P.O. Box 99

Adrian, WV 26210

Radioactive Waste Alert

156 N Roosevelt Ave

Bexley, OH 43214

Columbus Community Bill of Right/Guernsey County Citizens' Support on Drilling Issues

P.O. Box 14741

Columbus, OH 43214

Frack Free Lake County

12898 Painesville Warren Rd

Painesville, OH 44077

Sustainable Medina County

P.O. Box 1013

Wadsworth, OH 44282

Ohio Allies

36278 Slope Creek Road

Barnesville, OH 43713

Frack Free Geauga

9059 Auburn Road

Chardon, OH 44024

Network for Oil & Gas Accountability & Protection

11705 Cali Court

Concord, OH 44077

Concerned Citizens Ohio
8784 Weaver Road
Ravenna, OH 44266

Friends for Environmental Justice
670 Twp Rd 251
West Salem, OH 44287

FaCT-Faith Communities Together for a Sustainable Future
7439 Case Avenue
Mentor, OH 44060-5720

Northwest Ohio Alliance to Stop Fracking
P.O. Box 177
Grand Rapids, OH 43522

Ohio Community Rights Network
P.O. Box 470123
Broadview Heights, OH 44147

The Community for the Youngstown Community Bill of Rights
525 Glacerview Drive
Youngstown, OH 44509

Concerned Citizens of New Concord
108 Thompson Avenue
New Concord, Ohio 43762

Ohio River Citizens' Alliance
86200 Tappan Highland Road
Uhrichsville, OH 44683

Ashtabula County Water Watch
2873 East Maple Rd
Jefferson, OH 44047

Headwaters Defense
146 Virginia Street
Oak Hill, WV 25901

West Virginia Highlands Conservancy
P.O. Box 306
Charleston, WV 25321

DECISION

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:
:

December 13, 2016
Competitive Oil and Gas
Lease Sale

PROTEST DENIED

On November 14, 2016, the Bureau of Land Management (BLM) Eastern States Office (Eastern States) timely received a protest filed on behalf of the above cited parties (Protesters) disputing the inclusion of thirty-three Ohio¹ parcels (Ohio Parcels) in the BLM Eastern States December 13, 2016 Competitive Oil and Gas Lease Sale (December Lease Sale). For the reasons stated below, the protest is hereby denied. However, the BLM Eastern States is withdrawing 16 Ohio

¹OHES 058185, OHES 058186, OHES 058187, OHES 058188, OHES 058189, OHES 058190, OHES 058191, OHES 058192, OHES 058193, OHES 058194, OHES 058195, OHES 058196, OHES 058197, OHES 058198, OHES 058199, OHES 058200, OHES 058201, OHES 058202, OHES 058203, OHES 058204, OHES 058205, OHES 058206, OHES 058207, OHES 058208, OHES 058209, OHES 058210, OHES 058211, OHES 058212, OHES 058213, OHES 058214, OHES 058215, OHES 058216, OHES 058217.

Parcels² from the December 13th Lease Sale to resolve questions of ownership and existing rights for minerals acquired by the United States government during the formation of the Wayne National Forest. Once these questions are resolved, the Ohio Parcels may be offered at the next available competitive lease sale.

BACKGROUND

After Eastern States conducted a preliminary adjudication of Ohio Parcels, the parcels were forwarded to the Northeastern States District (NSD) for review of environmental concerns, including interdisciplinary analyses and field visits, in compliance with the *National Environmental Policy Act of 1969* (NEPA) and BLM national policy codified in BLM manuals, handbooks, and Instruction Memorandums. The NSD conducted site visits on October 26 and 27, 2015 within portions of the Marietta Unit and consulted with the Forest Service and all applicable federal and state agencies during the preparation of the NEPA document: Environmental Assessment DOI-BLM-Eastern States-0030-2016-0002-EA, Oil and Gas Leasing, Wayne National Forest, Marietta Unit of the Athens Ranger District (Marietta EA).

Eastern States, NSD, and FS conducted a series of public meetings. Beginning on November 1, 2015, public notices regarding these meetings appeared in local newspapers, including the Marietta Times, Athens Messenger, and the Ironton Tribune, for two consecutive weeks. The BLM also issued a press release to other news outlets on November 2, 2015, notifying the public of dates, times, and locations of the public meetings. Public meetings were held on November 17, 2015 in Marietta, November 18, 2015 in Athens, and November 19, 2015 in Ironton. The primary purpose for these public meetings was to provide information and gather public input regarding issues that the BLM should consider in this Marietta EA. At each meeting, the BLM and the FS provided information regarding proposed oil and gas leasing activities throughout the Wayne NF, displayed maps showing locations of nominated parcels for proposed leasing and posters detailing the administrative processes associated with Expressions of Interest (EOIs), leasing, the NEPA, and answered other inquiries regarding the project.

In November 2015, the BLM also created a project website for the Marietta EA to provide the public links to documents, additional project information and comment opportunities, including methods for comment submission, maps and EOI information.

The Marietta EA is in conformance with the 2006 *Final Revised Land and Resource Management Plan, Wayne National Forest* and the 2012 *Supplemental Information Report* (2012 SIR) on oil and gas prepared by the Forest Service in coordination with the BLM. The BLM was a cooperating agency in development of the 2006 Forest Plan and its related Final Environmental Impact Statement. The Marietta EA incorporates by reference the relevant information from the 2006 Forest Plan, Final Environmental Impact Statement, and the 2012 SIR, in accordance with 40 CFR 1502.21.

² OHES 058185; OHES 058189; OHES 058192; OHES 058193; OHES 058194; OHES 058195; OHES 058196; OHES 058197; OHES 58206; OHES 58207; OHES 058208; OHES 058209; OHES 058210; OHES 058211; OHES 058212; OHES 058214

On April 28, 2016, the draft Marietta EA was posted on the Eastern States website in accordance with applicable BLM Manual and Handbook 3120 Competitive Leasing and Washington Office IM No. 2010-117. As a result of the public review period, the BLM received approximately 13,700 comments by email and 480 comments by U.S. postal service or FedEx. Approximately 300 comments were identified as substantive in accordance with NEPA. Public comments were addressed by either expanding existing sections of the EA, providing clarification, or adding additional information. The changes made to the draft Marietta EA are summarized in a comment matrix attached as Appendix A in the Final Marietta EA.

The Marietta EA for the Ohio parcels describes its purpose and need as follows (Page 17):

The purpose of the Proposed Action is to support the development of oil and natural gas resources that are essential to meeting the nation's future needs for energy while minimizing adverse effects to natural and cultural resources. The BLM minimizes adverse effects to resources by identifying appropriate lease stipulations and notices, best management practices, and mitigations. It is the policy of the BLM as mandated by various laws, including the Mineral Leasing Act of 1920, as amended (30 United States Code [USC] 181 et seq.), the Federal Land Policy and Management Act of 1976 (FLPMA), and the Energy Policy Act of 2005 to make mineral resources available for development to meet national, regional, and local needs. The oil and gas leasing program managed by the BLM encourages the sustainable development of domestic oil and gas reserves which reduces the dependence of the United States on foreign sources of energy as part of its multiple-use and sustainable yield mandate.

The leasing of federal minerals is vital to the United States as it seeks to maintain adequate domestic production of this strategic resource. Industry uses the BLM EOI process to nominate federal minerals for leasing. The Proposed Action is consistent with the BLM's mission and requirement to evaluate nominated parcels and hold quarterly competitive lease sales for available oil and gas lease parcels.

The Marietta EA considered two alternatives in detail (Page 22):

Alternative 1- No Action Alternative

Under the No Action Alternative, the BLM would not offer federal minerals in the Marietta Unit for oil and gas leasing, including both the parcels requested in currently pending EOIs and all other federal minerals in the Marietta Unit. Without a lease (No Action Alternative), operators would not be authorized to access federal minerals at the time of development but could develop adjacent privately owned minerals, potentially resulting in drainage of federal minerals without benefit to the government.

Alternative 2- Lands Available for Leasing Alternative

Under this alternative, the Bureau of Land Management (BLM) proposes to make available for lease up to approximately 40,000 acres of federally-owned mineral estate located in the Marietta Unit of the Athens Ranger District, Wayne National Forest, in Monroe, Noble, and Washington Counties in Ohio. This approximate acreage represents

the total amount of federally-owned minerals that could be nominated and potentially be made available for leasing on the Marietta Unit. Although this EA analysis assumes that both oil and gas may be produced in the future within the Marietta Unit, natural gas is more likely to be produced.

The Marietta EA considered but eliminated from detailed analysis an additional alternative (page 30):

Offer all leases with a no-surface-occupancy stipulation

Offering all leases with a no-surface-occupancy (NSO) stipulation was suggested through public comment. However, this alternative would not fulfill the purpose and need described in Chapter 1. This alternative would unnecessarily constrain oil and gas occupancy, especially in this highly fragmented landscape, where the ability to cross federal land may be critical to enabling an operator to develop. A No Surface Occupancy stipulation has been incorporated for all slopes in excess of 55 percent and a Controlled Surface Use stipulation applies to slopes between 35 and 55 percent.

Lease minerals for vertical drilling only

Offering all leases with a vertical drilling only stipulation was suggested through public comment. However, this alternative would not fulfill the purpose and need described in Chapter 1. A vertical drilling only stipulation would likely result in far greater surface disturbance as more wells would likely be drilled, and result in the least efficient extraction of Federal minerals.

The rule of capture is an oil and gas doctrine that allows one to produce oil and gas from their lands even though said oil and gas flows from the lands of their neighbors. In Ohio, the rule of capture entitles landowners to “offset” wells, or wells that do not need to conform with state conservation standards, when one's neighbor is draining their mineral interest. Second, a vertical drilling only alternative is equivalent to a ban on directional drilling, which in turn would be tantamount to a ban on development of the Utica, Marcellus, and other tight formations underlying the forest. Such tight formations require horizontal drilling to extract trapped oil and gas.

Through the analysis in the Marietta EA, the NSD determined whether the proposed parcels were appropriate for leasing and what mitigation measures (stipulations) should be applied to the leases for the protection of natural and cultural resources. In so doing, the NSD determined whether the 2006 FP/FEIS and 2012 SIR evaluation of various resource values, potential impacts to those resources, and appropriate mitigation measures to prevent potential impacts met the standards to be relied upon as a basis for the proposed decision. The BLM Eastern States Notice of Competitive Oil and Gas Internet-Based Lease Sale, December 13, 2016 was posted on October 14, 2016.

DISCUSSION

The Protesters makes 12 primary arguments as to why the Lease Sale Parcels should not be offered at the December Lease Sale. The following is a discussion of each argument, as well as BLM Eastern States' responses.

1. BLM Violated the National Environmental Policy Act (NEPA) by not preparing an EIS. NEPA Requires that an EIS be prepared prior to the proposed lease sale/ The EA and FONSI were insufficient to Meet the Requirements of NEPA

As discussed below, Eastern States satisfied the National Environmental Policy Act (NEPA) requirements analyzing potential impacts of oil and gas operations necessary prior to offering the Ohio Parcels. Under NEPA an EA may be relied upon without any further environmental analysis when the EA's analysis show that no significant impacts to environmental resources would occur. A finding of no significant impact does not require that no impacts are identified, rather, no impact may result from adequate regulations and mitigation measures that negate any potential significant impact. The Marietta EA contains adequate mitigating measures to any potential impacts. Therefore BLM can determine based on the analysis included throughout the EA that significant environmental impact would not occur. No surface disturbing activity would be authorized under leasing. Additional NEPA would be required before any potential future drilling may be proposed.

2. BLM Failed to Assess the Impact the Proposed Lease Sale will have on private mineral development in the area and the foreseeable environmental consequences of that development

The potential of private oil and gas development was addressed adequately throughout the Marietta EA. The Marietta EA states (Page 120):

Leasing federal minerals within the Marietta Unit may lead to additional future mineral development on private land and private minerals within the area. Although federal oversight of mineral development on federal land/federal minerals is more stringent than on private land/private minerals, there are numerous state laws and regulations in place. Appendix C of this EA summarizes the laws and regulations that govern mineral development activities on private land in Ohio.

The Marietta EA explains (Page 25):

While the RFDS does not project any disturbance on private lands, this EA analysis covers the potential impacts of future oil and gas development on both the Forest Service lands and on adjacent private lands within the Marietta Unit to allow for maximum NEPA coverage in case conditions should change in the future.

The Final Marietta EA includes private development in the cumulative analysis (Page 120):

...the cumulative effects analysis also considers recent past, ongoing, and reasonably foreseeable mineral development (private and federal) within the Marietta Unit. As of 2015, there were 285 federal wells in Washington County, 117 federal wells in Monroe County, and none in Noble County. There were a total of 790 active wells on private lands in the Wayne National Forest.

In addition, the Final Marietta EA states (Page 27):

...if some development were to occur on privately owned surface federal and state regulation do exist in order to address any potential concerns regarding contamination or spills. However, if the development occurs on private lands and pipelines or well development reaches federal minerals, the BLM would ensure that the construction of such well is in compliance with all applicable safety standards.

Please refer to Public Comment Matrix (Appendix A, Page 158) and Appendix C (Page 192) for a summary of the substantive public comments regarding private development and how those were addressed in the Final Marietta EA.

3. BLM has not properly assessed the impacts to groundwater and surface water resources as required under NEPA

The Marietta EA adequately analyzes the current state, and potential impacts, on water resources related to the proposed action. The Marietta EA states (Page 104):

While the act of leasing federal minerals would produce no impacts to surface water quality, subsequent exploration and development of the lease parcels have the potential to produce impacts. The potential effects to surface water from reasonably foreseeable mineral development include sediment loading of stream channels due to the erosion associated with site development or operational transport and introduction of pollutants, toxic chemicals, sediment or debris, via spills and releases to surface water from oil/produced water treatment, storage tanks, handling and sanitary facilities or oil/produced water transportation mediums (trucks or pipelines).

Specifically, the Marietta EA addresses concerns regarding withdrawals of water for oil and gas operations (Page 105):

The BLM and Forest Service would not approve water withdrawals that would draw down a surface waterbody to the extent that aquatic life would be measurably adversely impacted, for example, by dewatering a stream enough to entrap fish or expose mussels to dry conditions in a stream that would normally have perennial flow.

As to local aquifers and groundwater, the Marietta EA states (Page 105):

Local aquifers (within the Marietta Unit) do not yield sufficient water to support industrial activities within the Marietta Unit. Therefore, the likelihood that the proposed leasing

action and potential future mineral development would affect groundwater quantity is negligible.

However, the Marietta EA does acknowledge potential environmental concerns to water resources, as well as mitigating measures (Page 105):

Future mineral development activities would pose some risk of accidental spills of drilling fluids, produced water, and other chemicals (see also Section 4.7, Wastes, Hazardous or Solid). This risk would be minimized by the requirement, described in the 2012 SIR, for operators to use tanks, instead of open pits, to hold all fluids other than fresh water... The only areas where a spill would pose an unacceptable risk to groundwater quality are designated wellhead protection areas or certain locations within the Ohio River and Little Muskingum River floodplains (Thompson, 2012). Other locations throughout the Marietta Unit tend to have low groundwater pollution potential due to low hydraulic conductivity and depths of groundwater (around 200 feet or less from the surface). Drilling to a production zone that is below a potable water-bearing formation poses the risk of allowing brine and other chemicals to migrate up into a potable water zone. This risk is mitigated in federal wells by casing and cementing requirements in Onshore Oil and Gas Order Number 2.

4. BLM Violated the Endangered Species Act with regards to the considerations of impacts to threatened and endangered species

The Final Marietta EA adequately addresses wildlife and special status species. As to the Indiana bat, The Final Marietta EA states that there are no documented hibernacula for the Indiana bat within the Marietta Unit in Ohio (Page 48):

The WNF contains one documented hibernaculum, and it is not on the Marietta Unit...the Athens and Ironton Units most likely contain the most heavily concentrated populations of Indiana bat, based on thorough surveys conducted previously throughout the WNF by the USFWS.

For the Northern Long Eared Bat the Final Marietta EA clearly uses the 4(d) rule of the USFWS which states that in areas of the bat's range that may be affected by white-nose syndrome, incidental take caused by some tree removal and tree-clearing activities, does not need to be prohibited to conserve the northern long-eared bat when conservation measures that protect the bat's most vulnerable life stages are taken (Page 48):

The Forest Service activities fall under the 4(d) rule that exempts incidental take of northern long-eared bat, provided those activities adhere to certain, basic conservation measures to protect hibernacula and roost trees.

For Aquatic Species such as mussels the Final Marietta EA states (Page 49):

Fanshell and pink mucket pearlymussel are not documented anywhere on the WNF... Sheepnose and snuffbox may be present on waterways within the WNF and were not included in the 2005 BO, but the USFWS concurred with the Forest Service that the 2012 SIR did not need any update regarding these species because neither of these species would be affected by oil and gas activities on the national forest.

The Marietta EA adequately addresses Section 7 of the ESA and the rationale is (Pages 19-20):

The Forest Service completed a Biological Evaluation (BE) and the USFWS issued its Biological Opinion (BO) on November 22, 2005. The BO established a tiered approach to the Section 7 consultation. The programmatic (Tier I) BO (November 22, 2005) covers all the activities described in the 2006 Forest Plan/EIS at a programmatic, non-site-specific level. Because the BLM was a cooperating agency in the 2006 Forest Plan and EIS, the consultation conducted with respect to the 2006 Forest Plan and EIS applies to the Proposed Action analyzed in this EA... As part of the 2012 SIR, the Forest Service reviewed new information related to hydraulic fracturing and whether there could be additional effects to threatened and endangered species that had not been previously analyzed in the 2006 Plan/ EIS. The Forest Service and the USFWS concluded that no further analysis or consultation was needed and that the consultation conducted under the 2006 Plan/EIS was still valid. As the BLM analyzes individual projects pursuant to the Forest Plan, the BLM is responsible for reinitiating consultation and providing the USFWS with additional information; this process is called Tier II consultation.

...Since the BLM was a cooperating agency it can adopt the consultations included within the Plan as their 2012 revision done for their 2012 SIR.

...the BLM would submit a Tier II Biological Assessment to the USFWS when it receives an APD, if it determines that potential effects to critical habitat, fish or wildlife could occur.

5. The BLM action does not comply with NEPA and Federal Requirements in identifying and addressing environmental justice concerns

The Marietta EA adequately addresses environmental justice since it acknowledges the existence of a low-income environmental population (Page 80):

Based on a review of socioeconomic data for the five counties within and directly adjacent to the WNF, the potential for low-income environmental justice populations residing near the Marietta Unit does exist. Median household incomes for the five counties is lower than the state and national average and the overall poverty level is slightly higher (see Table 3.19). Compared to state and national averages, however, the percent of minorities is much lower.

As to the impacts on environmental justice of oil and gas development, the Marietta EA states (Pages 118-119):

Although there is potential for future mineral development within the Marietta Unit to affect low income populations in the area, the level of affect is not expected to be disproportionate and high as defined by CEQ criteria. Therefore, the proposed action would not be expected to result in environmental justice concerns. Should future development be proposed and specific oil and gas development plans be identified, the BLM would conduct additional site-specific analysis to further assess potential environmental justice issues associated with oil and gas development in the Marietta Unit.

The Marietta EA also includes potential mitigating measures to impacts on environmental justice (Page 118):

For leases in which the surface is privately owned and the mineral estate is federally owned, surface owner agreements, standard lease stipulations, and BMPs would potentially address many of the concerns of private surface owners.

6. BLM did not properly study the impacts of hydraulic fracturing on air quality

The Marietta EA adequately address potential environmental impacts to air quality. As to the ability to identify site-specific air quality concerns, the Marietta EA states (Page 94):

Further NEPA analysis would be conducted at the [Application for Permit to Drill (APD)] stage, when specific development details with which to analyze potential GHG emissions are likely to be known.

The Marietta EA establish the following mitigating measures for potential impacts to air quality identified during the APD stage (Page 95):

The BLM encourages industry to incorporate and implement BMPs to reduce impacts to air quality through reduction of emissions, surface disturbances, and dust from field production and operations...Additionally, the BLM encourages oil and natural gas companies to adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce natural gas emissions. In October 2012, USEPA promulgated air quality regulations for completion of hydraulically fractured gas wells (USEPA, 2015b). These rules required air pollution mitigation measures that reduced the emissions of volatile organic compounds during gas well completions. Mitigation included utilizing a process known as a “green” completion in which natural gas brought up during flowback is captured in tanks rather than in open fluid pits. Among other measures to reduce emissions include the USEPA’s Natural Gas STAR program. The USEPA U.S. inventory data shows that industry’s implementation of BMPs proposed by the program has reduced emissions from oil and gas exploration and development (USEPA, 2016i).

7. BLM failed to properly assess and account for the impacts of hydraulic fracturing on public health

The Final Marietta EA adequately addresses human health and safety in relation to fracking in Sections 3.8 & 4.8. Eastern States recognizes the public's concern regarding health issues related to possible future hydraulic fracturing, and therefore decided to compile a new section addressing this topic. The Final Marietta EA states (Pages 108-109):

There would be no direct impacts to public health and safety from leasing, since leasing is an administrative action.... BLM acknowledges that if the leasing area was to be developed in the future, environmental hazards of...oil and gas may produce some effects to public health or safety if not properly managed...communities or workforce residing or working near the potential development sites may be at higher risk for accidental spills, fugitive emissions or releases of gas from a future well bore. The level of effect would depend on the product released or spilled, level of activity, density of development, technological and safety controls/regulations in place, and the receptors' susceptibility to risk.

.... As of 2014, most studies addressing the public health implications of oil and gas development have been either predictive and/or descriptive hypothesis generating. The few analytic studies are preliminary and do not provide enough evidence to conclusively determine if oil and gas operations directly result in health effects in nearby populations. Existing studies have provided evidence that hazards are inherently present in and around oil and gas operations and populations can be exposed to these hazards if safety measures are not implemented. People living near oil and gas operations have reported that oil and gas operations affect their health and quality of life, particularly through traffic accidents, air and water pollution, and social disruption expressed as psychosocial stress (University of Colorado at Boulder, 2015). Some short term health effects reported by people living near oil and gas operations include irritation of the eyes, nose, throat, lungs or skin, or other symptoms like headache, dizziness or nausea and vomiting. Some also report sleep disturbance or anxiety associated with noise or light effects from mineral development activities. There is very little information about long term health effects in people living near oil and gas operations.

.... Numerous scientific studies have linked air pollution to a variety of health problems including: (1) respiratory and cardiovascular disease, (2) decreased lung function, (3) increased frequency and severity of respiratory symptoms such as difficulty breathing and coughing, (4) increased susceptibility to respiratory infections, (5) effects on the nervous system, including the brain, such as IQ loss and impacts on learning, memory, and behavior, (6) cancer, and (7) premature death. Sensitive individuals or those at high risk appear to be at even greater risk for air pollution-related health effects, for example, those with pre-existing heart and lung diseases (e.g., heart failure/ischemic heart disease, asthma, emphysema, and chronic bronchitis), diabetics, older adults, and children. Future mineral development operations within the Marietta Unit that would violate a state and/or federal air quality standard would not be approved.

8. The BLM failed to adequately consider the seismic risks and other geologic hazards of unconventional oil and gas drilling and disposal

The Marietta EA adequately addresses seismic risks and other geological hazards. Seismic risks are identified and as discussed as follows (Page 102):

...potential geologic hazards may result from future development and production operations. Induced seismic activity, seismic events attributable to human activities, may include landslides or earthquakes. Landslides involve the mass movement of earth materials down slopes and can include debris flows, soil creep and slumping of large blocks of material. Earthquakes occur when energy is released due to blocks of the earth's crust moving along areas of weakness of faults.

The Marietta EA also cites the best available science in regards to the source of possible geologic hazards (Page 102):

A study conducted by the National Academy of Sciences examined the issue of induced seismic activity from energy development. As a result of the study, they found that: (1) the process of hydraulic fracturing a well as presently implemented for shale gas recovery does not pose a high risk for inducing felt seismic events; and (2) injection for disposal of wastewater derived from energy technologies into the subsurface does pose some risk for induced seismicity, but very few events have been documented over the past several decades relative to the large number of disposal wells in operation (National Academy of Sciences, 2012).

.... On April 11, 2012, the Deputy Secretary of the United States Department of the Interior, David Hayes, stated that scientists have been investigating the recent increase in the number of earthquakes in the United States to determine whether there is scientific evidence of a link between unconventional oil and gas production and seismic activity. The preliminary findings did not suggest that HF caused the increased rate of earthquakes. Instead, "at some locations the increase in seismicity coincides[d] with the injection of wastewater in deep disposal wells" (Hayes, D. J., 2012).

The Marietta EA discusses the mitigating measures that would mitigate these seismic concerns (Page 55):

To ensure that oil and gas exploration and development is conducted in a safe and environmentally sound manner, the BLM approves and regulates all drilling and completion operations, and related surface disturbance on federal public lands. Prior to approving a Notice of Intent for Geophysical Exploration (NOI) or APD, the BLM identifies all potential subsurface formations that may be penetrated by the wellbore. This includes all groundwater aquifers and any geologic ones that would present potential safety or health risks that may need special protection during drilling. Once the geologic analysis is completed, the BLM reviews the proposed casing and cementing programs to ensure the well construction design is adequate to protect the surface and subsurface

environment, including the potential risks identified by the geologist and all known or anticipated zones with potential risks.

The Marietta EA also discloses how the state of Ohio ensures additional protection against seismic risks (Page 55):

The ODNR now requires operators drilling within three miles of a known fault or area of seismic activity greater than 2.0 to install seismometers. If seismic activity above 1.0 is detected, work must pause while the seismic activity is investigated, and work must stop if the investigation reveals a probable connection to the drilling operation. This regulation would affect drilling primarily in the southern half of the Marietta Unit, since the known and inferred faults and seismic areas are generally in Washington County or near the Washington-Monroe County line (Ohio Department of Natural Resources, 2014)

9. BLM failed to adequately assess the effects of climate change on the direct and indirect environmental impacts of the proposed action

The Marietta EA adequately addresses climate change and emissions. Impacts resulting from direct and indirect effects of oil and gas development are discussed as follows (Page 84):

...the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems.

10. BLM failed to adequately assess the quantity and impacts of methane emissions

The Marietta EA included quantitative analyses of greenhouse gases (GHG) impacts. Best available science was used to approach the greenhouse gas emissions calculation for the Marietta EA: “Life cycle greenhouse gas emissions of Marcellus shale gas (and associated supplementary data) (Jiang et al., 2011) was used as the basis for estimating GHG emissions from the preproduction phase of potential oil and gas development in the Marietta Unit” (Page 85). As it relates to Ohio, the Marietta EA states that: “Ohio’s Natural Gas and Crude Oil Exploration and Production Industry and Emerging Utica Gas Formation Economic Impact Study estimated that the average amount of natural gas per the life of a natural gas well is 5 billion cubic feet (bcf) (Kleinhenz & Associates 2011)” (Page 90). “Using...U.S. EPA combustion emission factors for natural gas (see Appendix E) allowed BLM to compare combustion emissions to those calculated for this EA” (Page 93).

The Marietta EA also discloses the calculation assumptions that were used (Page 87):

Disturbance for wellpad approximately 5 acres, approximately 6 wells per wellpad (per the 2006 RFDS), approximately 25 years for the lifetime of a well, use of horizontal drilling and hydraulic fracturing.

Based on the location of the proposed lease, geological formations, and similar construction techniques that would be used if future production was to occur in the Marietta Unit, the preproduction data gleaned from Jiang et al., 2011, is applicable to possible foreseeable mineral development within the Wayne National Forest.

As to post-production impacts, the Marietta EA states (Page 89):

...emissions associated with the post-production phase of development were calculated based on reasonable assumptions and standard emissions factors. Mean emission factors used in this EA for production of natural gas, processing, transmission and storage, distribution, and combustion were provided by Venkatesh et.al. (2011).

The uncertainties regarding development are also discussed in the Marietta EA (Page 93):

There are many factors that affect the potential for GHG emissions estimates at the leasing stage: a lease may not be purchased, so no GHG emissions would be expected; a lease may be purchased but never explored, so again there would be no GHG emissions; a lease may be purchased and an exploratory well drilled that showed no development potential, so minimal GHG emissions would occur; or a lease may be purchased, explored, and developed. If developed there are notable differences in the potential for emissions related to a wide variety of variables, including the production potential of the well, economic considerations, regulatory considerations, and operator dynamics, to name a few.

The methodology was described step-by-step within the Marietta EA (Pages 90-92). This analysis was an adequate assessment of the quantitative impacts of Methane emissions from future development of the Ohio Parcels

11. BLM violated NEPA when it failed to conduct an adequate analysis of available alternatives to the proposed lease sale

As discussed above, the Marietta EA considers in full two alternatives, and dismissed two additional alternatives without further consideration.

12. By failing to conduct an independent review and consenting to the proposed lease sale prior to an adequate NEPA review, the FS violated NEPA

In accordance with BLM regulations at 43 CFR 3120, the Forest Service is not obliged to provide proof to the BLM of its independent analysis, only whether or not it grants consent to leasing. The BLM is the authorized agency to approve or disapprove a particular parcel for leasing. Furthermore, mineral leasing was addressed by the Forest Service in the above mentioned Forest Plan, and Supplemental Information Report.

Eastern States and NSD fulfilled their requirements in coordinating with the surface management agency for the Ohio Parcels. As the NEPA Handbook H-1790-1 states (page 112):

You must invite eligible governmental entities (Federal, State, local, and tribal) to participate as cooperating agencies when preparing an EIS (516 DM 2.5(e)). You must also consider any requests by eligible governmental entities to participate as a cooperating agency with respect to a particular EIS, and will either accept or deny such requests. If such a request is denied, the BLM will inform the other agency and state in writing, within the EIS, the reasons for such denial. Throughout the preparation of an EIS, you must collaborate, to the fullest extent practicable, with all cooperating agencies, concerning those issues relating to their jurisdiction or special expertise (516 DM 2.5(f)). Prepare a Memorandum of Understanding (MOU) with any cooperating agency, clearly defining the roles and responsibilities of each agency.

These requirements explicitly apply to EIS, but coordination between BLM and the SMA is encouraged regardless the level of NEPA reviews.

DECISION

After a careful review, it has been determined that all of the protested Lease Sale Parcels described in the December Sale Notice may be offered at the December Lease Sale. The protests to all Lease Sale Parcels are denied for the reasons described above. As stated above, 16 Ohio Parcels included in the December Sale Notice will not be offered at the December Sale, but for reasons other than this protest.

You may appeal this decision to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the attached Form 1842-1 (Attachment 2). If you file an appeal, your notice of appeal must be filed in the BLM Eastern States Office, 20 M Street SE, Suite 950 Washington, D.C. 20003, within 30 days from receipt of this decision. You have the burden of showing that the decision appealed from is in error.

If you wish to file a petition (pursuant to regulation 43 CFR 4.21) (request) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standard for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) The relative harm to the parties if the stay is granted or denied,
- (2) The likelihood of the appellant's success on the merits,
- (3) The likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) Whether the public interest favors granting the stay.

Please contact Justin Katusak at (202) 912-7727 with any further questions or concerns.



Karen E. Mouritsen
State Director