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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF WYOMING

Case No. 2:12-cv-00085-ABJ

WILDEARTH GUARDIANS; POWDER RIVER BASIN RESOURCE COUNCIL; and SIERRA CLUB, Plaintiffs,

v.

UNITED STATES FOREST SERVICE; TOM TIDWELL, in his official capacity as the Chief of the United States Forest Service, MARIBETH GUSTAFSON, in her official capacity as the Acting Regional Forester of the U.S. Forest Service; and BRIAN FEREBEE, in his official capacity as the Deputy Regional Forester of the U.S. Forest Service, Defendants,

and,

THE STATE OF WYOMING; BTU WESTERN RESOURCES, INC.; NATIONAL MINING ASSOCIATION; WYOMING MINING ASSOCIATION, Intervenor-Defendants.

PLAINTIFFS' OPENING MERITS BRIEF

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INTRODUCTION

In this case, Plaintiffs WildEarth Guardians, Powder River Basin Resource Council, and Sierra Club challenge the United States Forest Service's approval of two massive coal leases within the Thunder Basin National Grassland (the "Grassland"). These two leases, the South Porcupine and North Porcupine coal leases, are among six coal tracts, known as the Wright Area tracts, that the Bureau of Land Management ("BLM") is currently leasing for strip mining. Because the South and North Porcupine tracts are partially located on the Grassland, a unit of the National Forest System, the Forest Service must consent to these coal leases before BLM can issue them. *See* 30 U.S.C. § 201(a)(3)(A)(iii). As the surface owner, the Forest Service had the authority to approve, deny, or impose protective conditions on these leases. *Id.*

And, as the agency charged with protecting the land and resources of the Grassland, the Forest Service was required to take a "hard look" at the environmental consequences of these leases before consenting to them. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). The Forest Service failed to do so here. In issuing the Records of Decision ("RODs") that approved the coal leases, the Forest Service relied heavily on an environmental impact statement ("EIS") prepared by BLM. *See generally* AR Doc. 73 (the "Wright Area EIS" or "EIS"); AR Doc. 1 (South

Porcupine ROD); NP AR Doc. 1 (North Porcupine ROD).[1] Both the Wright Area EIS and the Forest Service RODs suffer from multiple deficiencies. First, the Forest Service failed to consider reasonable alternatives to the issuance of these massive coal leases. Although Plaintiffs proposed several alternatives that would have addressed the environmental harms of coal strip mining while meeting the project's purposes, the Forest Service disregarded these alternatives. Second, the Forest Service failed to discuss measures to mitigate the effects of these mines on the area's groundwater supply. Finally, the Forest Service failed to analyze an array of serious air quality impacts that will likely result from these coal leases.

By consenting to the South and North Porcupine coal leases, the Forest Service violated the National Environmental Policy Act ("NEPA"), the National Forest Management Act ("NFMA") and management plan for the Grassland, and the Administrative Procedure Act ("APA"). For these reasons, and for the additional reasons set forth below, Plaintiffs respectfully request that this Court (i) declare the Forest Service's consent decisions to be unlawful, (ii) vacate the South Porcupine and North

[1] All references to the administrative record are to the South Porcupine record unless otherwise stated. Documents in the administrative record are cited by reference to their first page. For example, because the Wright Area EIS begins on page 73 of the South Porcupine record, this document is cited as "AR Doc. 73." Citations to the North Porcupine record are prefaced with the initials "NP."

Porcupine RODs, and (iii) enjoin the Forest Service's consent to these coal leases until the agency satisfies its obligations under federal law.

BACKGROUND

A. The Thunder Basin National Grassland

Five of the six Wright Area coal lease tracts, including the South and North Porcupine tracts, are partially located within the Thunder Basin National Grassland. Collectively, these five tracts extend across 12,481 acres of the Grassland, AR Doc. 73 at 132, which is an important ecological, economic, recreational, and cultural resource in northeastern Wyoming. The Grassland serves as an important refuge for wildlife species and their ecosystems, and it provides grazing lands, recreational opportunities, and groundwater for the communities of the Powder River Basin.

The Grassland is biologically diverse, hosting numerous wildlife species important to the region's ecological balance. The Grassland, including the Wright Area, contains populations of big game such as pronghorn and mule deer, and it serves as an important refuge for several bird species. AR Doc. 73 at 499-500, 531-33. The Wright Area is particularly important for raptors, and the Forest Service has recognized that the "[h]igh incidence of raptor nesting" is a unique attribute of this part of the Grassland. AR Doc. 210336 at 21059. Indeed, there are 88 intact raptor nests within a two-mile radius of the analysis area for the South and North Porcupine tracts. AR Doc. 73 at 514-15. Raptor

species found within the Wright Area include the golden eagle, Swainson's hawk, great horned owl, and ferruginous hawk. *Id.* at 515. The bald eagle is a frequent winter resident, *id.* at 512, and "one of the largest concentrations of golden eagles in the nation is found in the Thunder Basin region." AR Doc. 21484 at 21798.

The Grassland supports an array of species that the Forest Service has designated as sensitive due to decreasing populations or significant habitat loss. *See id.* at 21698, 21753-56 (listing rare plant communities and sensitive animal species found on the Grassland); *see also* Forest Service Manual 2670.5, 2670.11. Sensitive species within the Wright Area include the swift fox, mountain plover, ferruginous hawk, black-tailed prairie dog, and greater sage-grouse. AR Doc. 791 at 522, 1104-05; *see also* AR Doc. 21848 at 21762. In addition to its sensitive status, the sage-grouse is a candidate for listing under the Endangered Species Act. 75 Fed. Reg. 13910 (Mar. 23, 2010).

The Grassland is also an important economic resource in northeastern Wyoming. Most of the Grassland consists of high-quality range, *id.* at 21582, and the principal land use in the Wright Area is livestock grazing on native rangelands. AR Doc. 73 at 542; AR Doc. 791 at 1042-43. The Grassland provides livestock forage during the summer months, and local ranchers have an "interdependent relationship" with the Grassland. AR Doc. 21484 at 215008. Moreover, community ranchers depend on the Grassland's groundwater supply for their ranching operations. *See, e.g.*, AR Doc. 791 at 1356. In the

area surrounding the South and North Porcupine tracts alone, 85 water wells are permitted exclusively for livestock use, 12 are permitted for domestic use, and 48 are permitted for other uses unrelated to coal and gas development. AR Doc. 73 at 455-56.

The Grassland, which is open year-round for public use, is also an important recreational resource for both the region's residents and visitors. Among the activities Grassland visitors enjoy are fishing, camping, off-road vehicle use, hunting, sightseeing, and wildlife observation. *Id.* at 735; *see also* AR Doc. 21036 at 21059 (noting that "[r]ecreational hunting for mule deer, elk and pronghorn antelope is common" in the area that includes the South and North Porcupine tracts).

B. Coal Mining and Reclamation in the Powder River Basin

In addition to its ecological value and importance to ranchers and recreationists, the Thunder Basin National Grassland – which is located in the Powder River Basin – contains substantial coal reserves. There are currently twelve active coal mines in the Wyoming Powder River Basin, including four in the Wright Area. AR Doc. 6821 at 6841. One of the ongoing problems in the Basin has been the slow pace of reclamation on previously-mined lands.

Reclamation of coal strip mines is regulated by the Surface Mining Control and Reclamation Act ("SMCRA"), which was designed to "establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining

operations." 30 U.S.C. § 1202(a). SMCRA requires strict reclamation of lands that have been damaged by coal mining. The statute mandates that land affected by surface mines be restored to a condition "capable of supporting the uses which it was capable of supporting prior to any mining, or higher or better uses of which there is a reasonable likelihood." *Id.* § 1265(b)(2). Among other directives, SMCRA requires that affected lands be restored to their "approximate original contour," that topsoil be restored or replaced, that the lands be revegetated, and that impacts to the hydrological balance be minimized. *See generally id.* § 1265(b)(1)-(21).

These reclamation efforts must occur "in an environmentally sound manner and as contemporaneously as practicable with the surface coal mining operations." *Id.* § 1265(b)(16); *see also* 30 C.F.R. § 816.100. This statutory requirement reflects Congress's goal that land be reclaimed "as contemporaneously as possible" with mining operations. 30 U.S.C. § 1202(e).

Within the Powder River Basin, reclamation efforts have lagged. According to a 2009 report published by the Interior Department's Office of Surface Mining Reclamation and Enforcement ("OSM"), approximately 151,186 acres had been disturbed due to coal mining, and of that amount only 5.3% had completed the

reclamation process. *See* AR Doc. 4575 at 4581 (quoting OSM report);[2] *see also* BLM AR Doc. 31730 at 31771-80 (copy of report). At the North Antelope Rochelle mine – the mine that would be expanded by the South and North Porcupine tracts – 15,311 acres had been disturbed, but only 1880 acres had completed the first phase of reclamation, and only 182 acres had achieved the second phase. *See* AR Doc. 4575 at 4582; *see also* BLM AR Doc. 31730 at 31780. And not a single acre of the mine had completed the reclamation process. *Id.*

The lack of reclamation in the Powder River Basin has had negative impacts on the region. The failure to contemporaneously reclaim these lands has resulted in decreased air quality, less water restoration, and a long-term loss of grazing land and wildlife habitat. *See, e.g.*, AR Doc. 4575 at 4580-81; AR Doc. 4312 at 4313, 4319. Indeed, the Thunder Basin Grazing Association has noted that, since mining-related losses of rangeland began back in the 1980s, no reclaimed lands have been returned to the Association for livestock grazing. AR Doc. 4546. The lack of reclamation is particularly harmful to water resources. The OSM has stated that restoration of surface waters and

[2] SMCRA's implementing regulations measure the degree of reclamation in bond release phases. Each phase reflects a progressively greater amount of reclamation. *See* 30 C.F.R. § 800.40. Phase I includes backfilling, regrading, drainage control, and possible replacement of topsoil. *See id.* § 800.40(c)(1). Phase II involves reestablishing vegetation. *See id.* § 800.40(c)(2). After the operator has successfully completed all surface coal mining and reclamation activities, the release of the remaining portion of the bond may occur at Phase III. *See id.* § 800.40(c)(3). When the operator obtains Phase III bond release, the reclamation process is complete.

groundwater can be measured by the number of acres that have completed the reclamation process. *See* AR Doc. 4575 at 4583; *see also* BLM AR Doc. 31730 at 31774, 31775. The small number of acres that have been fully reclaimed underscores the ongoing impacts to the region's water resources.

C. The Wright Area Coal Leases

In September 2006, BTU Western Resources, Inc. ("BTU"), a subsidiary of Peabody Energy Corporation, filed an application with BLM to lease federal coal reserves within the South and North Porcupine tracts. AR Doc. 1 at 1. These tracts would allow BTU to expand and extend the life of the North Antelope Rochelle mine. AR Doc. 73 at 179.[3] In October 2007, BTU requested that the configuration of these tracts be modified in order to increase the amount of recoverable coal. *Id.* BLM granted this request. *Id.*

Opening the South Porcupine, North Porcupine, and other Wright Area tracts to coal strip mining would have enormous impacts on the Thunder Basin National Grassland. There would be a "temporary reduction of livestock grazing [and] incremental loss of wildlife habitat (particularly big game) . . . while the areas are being mined." *Id.* at 132. Recreational activities such as hunting "would be eliminated during

[3] BTU and Powder River Coal, LLC, which operates the North Antelope Rochelle mine, are both subsidiaries of Peabody. AR Doc. 1 at 1.

mining and reclamation." *Id.* at 133. In short, the proposed coal leases would render much of the area unusable to the public and the region's ranchers. And even after these lands are reopened, it may take 100 years to restore the sagebrush habitat and hydrological resources to their pre-mine conditions. *Id.* at 462, 530.

Beyond the impacts to wildlife, water resources, ranching, and recreational use of the Grassland, these coal leases also pose a risk to human health. Many of the air pollutants associated with coal mining are known to cause serious health problems. These harmful pollutants include both nitrogen dioxide ("NO_2") and particulate matter ("PM"). *See id.* at 360-62, 383-84.

Although the air quality impacts from these coal leases would be felt most acutely within the region, the leases will negatively affect the national and global environment as well. Once mined, the coal from these tracts will be burned in coal-fired power plants and other boilers, emitting pollutants such as mercury, NO_2, sulfur dioxide, and PM. *See id.* at 784. Burning this coal will also release massive quantities of carbon dioxide ("CO_2"). The South and North Porcupine tracts, which contain more than a billion tons of coal, have the potential to produce 1.8 billion metric tons of CO_2 emissions. *Id.* at 773. This is not an insignificant amount of CO_2 – to put it in perspective, 1.8 billion metric tons represents more than 30% of all the CO_2 emissions released in the United States in 2009. *See* AR Doc. 2005 at 2010; NP AR Doc. 2111 at 2116, 2274-76.

D. The Wright Area EIS

Where, as here, an agency considers a proposal to lease a large tract of federal coal, the agency must prepare an EIS to evaluate the environmental impacts of that lease. This is required by NEPA. As "[t]he centerpiece of environmental regulation in the United States, NEPA requires federal agencies to pause before committing resources to a project and consider the likely environmental impacts of the preferred course of action as well as reasonable alternatives." *New Mexico ex rel. Richardson v. BLM*, 565 F.3d 683, 703 (10th Cir. 2009). NEPA directs federal agencies to prepare an EIS for each proposed "major Federal action" that could "significantly affect[] the quality of the human environment." 42 U.S.C. § 4332(2)(C); *see also* 40 C.F.R. § 1501.4.

An EIS must analyze the direct, indirect, and cumulative impacts of an agency's proposed action, and must consider alternatives to the proposal. *See* 40 C.F.R. §§ 1502.14, 1502.16(a)-(b), 1508.7, 1508.8. NEPA also prescribes specific procedural requirements: an agency must prepare a draft EIS and then request comments from other federal agencies, state, local, and tribal governments, and the public. *Id.* § 1503.1. The agency must assess, consider, and respond to those comments in preparing the final EIS. *Id.* § 1503.4(a).

In this case, BLM prepared a single EIS to cover the leases for all six Wright Area coal tracts. *See* AR Doc. 73 at 76. The Forest Service was a cooperating agency

throughout the entire EIS process, AR Doc. 1 at 3, 9, and it relied on the Wright Area EIS in consenting to the South and North Porcupine leases. *Id.* at 7; *see also* 40 C.F.R. § 1506.3(c) (agency may adopt another agency's EIS following an independent review).

The federal agencies issued the Draft EIS in July 2009. AR Doc. 73 at 86. During the comment period that followed, the agencies received hundreds of letters and e-mails from interested and concerned parties, including Plaintiffs. *See generally* AR Docs. 4312, 4323. The agencies issued the Final EIS in July 2010, and subsequently held another comment period. Plaintiffs again submitted detailed comments. *See generally* AR Docs. 4575, 4596.

In their comments, Plaintiffs identified multiple problems with the Wright Area EIS and proposed coal leases, and Plaintiffs requested that the federal agencies consider alternatives that would be more protective of the environment. One alternative proposed by Plaintiffs called for the agencies to delay the leases, or subject them to a phased approval, in order to ensure that reclamation requirements are satisfied before additional coal mining begins. AR Doc. 4575 at 4583; AR Doc. 4312 at 4313, 4318-19; *see also* AR Doc. 4280 at 4280 (attaching previously-submitted comments and urging Forest Service to consider them). For example, the agencies could have considered adding a lease stipulation that would prohibit mining of a new tract until a certain percentage of previously-mined areas had been fully reclaimed. *See* AR Doc. 4575 at 4583. By

ensuring that previously-mined areas are restored before new areas are opened for mining, this alternative would have reduced wildlife habitat fragmentation, minimized the long-term loss of grazing land, and reduced air quality impacts caused by the exposure of large tracts of land. *See* AR Doc. 4575 at 4580-81; AR Doc. 4312 at 4313. Although Plaintiffs proposed this delay alternative during the agencies' decision-making process, neither the Forest Service nor BLM considered it.

Plaintiffs also proposed an alternative that called for either rejecting one or more of the leases, or leasing smaller tract sizes, thereby reducing the amount of coal to be mined. *See, e.g.*, AR Doc. 4575 at 4578, 4583; AR Doc. 4323 at 4334; *see also* AR Doc. 4280 at 4295-96. This alternative would have helped mitigate the enormous greenhouse gas emissions associated with the proposed coal leases, as well as the direct and indirect air quality impacts of these leases. *See* AR Doc. 4575 at 4590; AR Doc. 4323 at 4334; AR Doc. 4312 at 4317. And this alternative would have reduced the amount of unreclaimed land, thereby protecting rangelands and the ranchers that rely on them. *See* AR Doc. 4280 at 4287; *see also* AR Doc. 4575 at 4580 (noting that lack of reclamation affects livestock and wildlife pastureland). Again, Plaintiffs proposed this alternative at multiple points throughout the decision-making process. But the federal agencies did not consider it.

Eschewing the alternatives that Plaintiffs requested, the EIS analyzes only two action alternatives for the South Porcupine and North Porcupine tracts: the proposed action, which would lease the tracts as applied for by BTU; and Alternative 2, BLM's preferred alternative, which calls for even *more* coal mining than BTU's original proposal. AR Doc. 73 at 203-11.

E. The Forest Service's Consent Decisions

Because the South and North Porcupine tracts are partially located on lands managed by the Forest Service, the consent provisions of the Mineral Leasing Act ("MLA") must be satisfied before BLM can lease these tracts. Under the MLA, coal leases on National Forest System lands – such as the Grassland – "may be issued only upon consent of" the Forest Service and "upon such conditions as [the Forest Service] may prescribe with respect to the use and protection of the nonmineral interests in those lands." 30 U.S.C. § 201(a)(3)(A)(iii); *see also* 43 C.F.R. §§ 3400.3-1, 3420.4-2. Thus, although BLM administers leasing of federally-owned coal tracts like the South and North Porcupine tracts, the MLA empowers the Forest Service to approve or deny a proposed coal lease, or to condition its approval upon the protection of Grassland resources. The Act also includes a directive aimed at protecting both air quality and water resources, mandating that "[e]ach coal lease shall contain provisions requiring compliance with the Federal Water Pollution Control Act [] and the Clean Air Act." 30

U.S.C. § 201(a)(3)(E). The Forest Service's consent authority imposes a duty on the agency to perform its own environmental analysis and ensure that NEPA, NFMA, and other legal requirements will be met.

In 2011, following the issuance of the Wright Area EIS, the Forest Service held a comment period on its proposal to consent to the five coal leases located within the Grassland, including the South and North Porcupine tracts. In their comments on the proposed consent decisions, Plaintiffs restated many of problems they had identified with the Wright Area EIS, including concerns about the federal agencies' failure to analyze reasonable alternatives and to discuss mitigation measures. *See generally* AR Doc. 4280. The Forest Service rejected these concerns, issuing a ROD for the South Porcupine tract in July 2011, and for the North Porcupine tract in September 2011. AR Doc. 1 at 38; NP AR Doc. 1 at 40.

In the RODs, the Forest Service consented to Alternative 2 of the EIS. AR Doc. 1 at 5-6; NP AR Doc. 1 at 5-6. This alternative would result in the mining of even more coal than the amount BTU originally sought.

Like the EIS they rely upon, the RODs – which are nearly identical – suffer from serious deficiencies. In their discussions of air quality, the RODs state that air quality impacts will be monitored by other agencies. AR Doc. 1 at 20-22. Although the RODs acknowledge that there will be groundwater impacts from these leases, neither ROD

addresses mitigation measures. *Id.* at 22-23. Similarly, while the RODs recognize that loss of grazing land will seriously affect family ranches, they do not quantify the loss or discuss mitigation. *Id.* at 24. Moreover, despite the enormous amount of coal contained in each tract, both RODs assert that the South and North Porcupine leases "would not result in the creation of new sources of human-caused [greenhouse gas] or mercury emissions." *Id.* at 10, 28; NP AR Doc. 1 at 11, 30. In other words, according to the Forest Service the effect of rejecting the proposed leases would be inconsequential, because "[o]ther national coal producers have the capacity to produce coal and replace the production from this existing mine." AR Doc. 1 at 8; NP AR Doc. 1 at 9. The Forest Service failed to provide any analysis to support this remarkable assertion.

In August and November 2011, Plaintiffs filed timely administrative appeals of the South and North Porcupine RODs. *See* AR Doc. 2005; NP AR Doc. 2111. In their appeals, Plaintiffs challenged, among other things, the Forest Service's failure to consider reasonable alternatives, to analyze and provide for mitigation of groundwater impacts, and to analyze air quality impacts. The Forest Service denied both appeals. AR Doc. 2101; NP AR Doc. 2590. Having exhausted their remedies through the agency appeals process, Plaintiffs filed this suit.

STANDARD OF REVIEW

In this case, Plaintiffs allege violations of NEPA and NFMA. Because these statutes do not provide a private cause of action, this Court reviews the Forest Service's actions under the Administrative Procedure Act ("APA"). *See* 5 U.S.C. § 702; *see also Silverton Snowmobile Club v. U.S. Forest Service*, 433 F.3d 772, 779-80 (10th Cir. 2006) (noting that courts review NEPA and NFMA claims under the APA).

Under the APA, an agency action is unlawful and must be set aside if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). An agency action also must be set aside if it is unsupported by substantial evidence in the record. *Olenhouse v. Commodity Credit Corp.*, 42 F.3d 1560, 1574 (10th Cir. 1994). An agency action will set aside as arbitrary and capricious where the agency

> (1) "entirely failed to consider an important aspect of the problem," (2) "offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise," (3) "failed to base its decision on consideration of the relevant factors," or (4) made "a clear error of judgment."

New Mexico, 565 F.3d at 704 (citations omitted).

ARGUMENT

I. PLAINTIFFS HAVE STANDING TO BRING THIS ACTION.

Plaintiffs have standing to bring this suit. "An environmental organization has standing if 'its members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.'" *New Mexico*, 565 F.3d at 696 n.13 (citing *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., Inc.*, 528 U.S. 167, 181 (2000)). Plaintiffs easily satisfy these requirements.

First, Plaintiffs' members would have standing to sue in their own right. To establish Article III standing, a plaintiff must show: (1) an injury in fact, which is "concrete and particularized" and "actual or imminent"; (2) that the injury "is fairly traceable to the challenged action," and (3) that the "injury will be redressed by a favorable decision." *Comm. to Save the Rio Hondo v. Lucero*, 102 F.3d 445, 447 (10th Cir. 1996) (citations omitted). Members of all three organizations meet these constitutionally-mandated elements. As set forth in the accompanying declarations of Leland J. Turner (Ex. 1) and Jeremy Nichols (Ex. 2), members of each of the Plaintiff groups live near, or have plans to visit, the Thunder Basin National Grassland, including areas within close proximity to the South and North Porcupine tracts. *See, e.g.*, Turner Decl. ¶ 4, Nichols Decl. ¶¶ 7-9. The Forest Service's consent to the coal leases, and the

strip mining that the agency's approval will unleash, pose an imminent threat to these individuals' aesthetic, recreational, health, and economic interests. *See, e.g.*, Turner Decl. ¶¶ 5-10; Nichols Decl. ¶¶ 14-21, 23-27, 38-39; *cf. Rio Hondo*, 102 F.3d at 449 (finding constitutionally sufficient injury due to "the increased risk of environmental harm"). Furthermore, the Plaintiffs' increased risk of injuries is "fairly traceable to the [Forest Service's] failure to comply with [NEPA]." *Id*. at 451. Finally, a favorable decision will redress Plaintiffs' injuries by requiring compliance with NEPA and ensuring that the Forest Service take a "hard look" at the environmental effects of the leases and consider reasonable alternatives. *Id.* at 452.

Second, as shown by Mr. Turner's and Mr. Nichols's declarations, the interests that the Plaintiffs are advocating for are germane to the Plaintiff organizations' purposes. *See* Turner Decl. ¶¶ 2-3, 9; Nichols Decl. ¶¶ 3-5, 35, 37, 39; *cf. New Mexico*, 565 F.3d at 696 n.13. Finally, because Plaintiffs only seek declaratory relief, vacatur of the consent decisions, and an injunction, "individual members need not be present for a court to afford relief." *New Mexico*, 565 F.3d at 696 n.13. Plaintiffs therefore have standing.

II. THE FOREST SERVICE VIOLATED NEPA BY FAILING TO CONSIDER REASONABLE ALTERNATIVES.

NEPA requires federal agencies to "[r]igorously explore and objectively evaluate *all* reasonable alternatives." 40 C.F.R. § 1502.14(a) (emphasis added); *see also* 42 U.S.C. § 4332(2)(C)(iii). This requirement represents "the heart of the environmental

impact statement." 40 C.F.R. § 1502.14. If an agency fails to examine a viable alternative, the EIS is legally inadequate. *See New Mexico*, 565 F.3d at 708-11 (holding that agency violated NEPA by failing to consider a reasonable alternative); *see also Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 814 (9th Cir. 1999); *Diné Citizens Against Ruining our Environment v. Klein*, 747 F. Supp. 2d 1234, 1256 (D. Colo. 2010).

An agency must devote "substantial treatment" to each reasonable alternative. 40 C.F.R. § 1502.14(b). NEPA also requires an agency to briefly discuss why an alternative was eliminated from more detailed study. *Id.* § 1502.14(a). Without a comparison of different alternatives' environmental impacts, the "ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded." *New Mexico*, 565 F.3d at 708.

The reasonableness of an alternative under NEPA "is measured against two guideposts." *Id.* at 709. First, an alternative must "fall[] within the agency's statutory mandate." *Id*. Second, "reasonableness is judged with reference to an agency's objectives for a particular project." *Id*. (citation omitted).

During the decision-making process that culminated with the Forest Service's approval of the South and North Porcupine leases, Plaintiffs proposed at least two reasonable alternatives that would have addressed significant environmental concerns.

One alternative would have tied development of the coal tracts to the reclamation status of previously-mined lands. *See, e.g.*, AR Doc. 4575 at 4583. This delay of leasing alternative would have allowed full development of the coal tracts while ensuring timely reclamation of previously-mined tracts. *Id.* Plaintiffs also proposed an alternative that would have permitted coal mining, but would have reduced mining activity through either a smaller tract or by rejecting one or more of the coal leases. *See, e.g., id.* at 4578, 4583. Because both alternatives were within the Forest Service's statutory mandates and would have satisfied the purpose and need of the project, they should have been considered. *New Mexico*, 565 F.3d at 709.

Throughout the NEPA process, however, the Forest Service did not consider any action alternative which addressed environmental concerns. Other than the legally required no-action alternative, the EIS and RODs considered only two alternatives in detail:

- The Proposed Action, originally requested by BTU Western Resources, which sought to lease 990 million tons of mineable coal from the South and North Porcupine tracts, and which would disturb an estimated 12,230 acres; and
- Alternative 2, the agencies' preferred alternative, which proposed leasing 1.179 billion tons of mineable coal and disturbing an estimated 15,512 acres.

See AR Doc. 73 at 288-91. By restricting its analysis to alternatives that focus solely on maximizing coal recovery, and ignoring alternatives which addressed serious environmental issues, the Forest Service violated NEPA.

A. The Forest Service Failed to Consider a Delay of Leasing Alternative.

In the EIS and RODs, the Forest Service failed to consider Plaintiffs' delay alternative. Under this alternative, the federal agencies would have temporarily delayed the coal leases, or subjected them to a phased approval, to ensure that a certain amount of reclamation had occurred before new tracts of land were opened for mining. AR Doc. 4575 at 4583; AR Doc. 4312 at 4313, 4318-19; *see also* AR Doc. 4280 at 4280. This alternative would have addressed a serious problem within the region and helped mitigate an array of environmental concerns.

The lack of reclamation within the Wyoming Powder River Basin is well documented. As of 2009 (when the Wright Area EIS was being prepared), approximately 151,186 acres had been disturbed due to coal mining, yet only 5.3% of those acres had completed the reclamation process. *See* AR Doc. 4575 at 4581; BLM AR Doc. 31730 at 31771-80. And the situation at the North Antelope Rochelle mine was even worse, with not a single acre having finished the reclamation process. *Id.*; *see also* AR Doc. 4546 (no reclaimed lands have returned to the Thunder Basin Grazing Association since mining-related losses began). The lag in reclamation has resulted in decreased air quality, less

water restoration, and a long-term loss of grazing land and wildlife habitat. *See* AR Doc. 4575 at 4580-81; AR Doc. 4312 at 4313, 4319; AR Doc. 1 at 24. And the region has fallen far behind OSM's benchmark of maintaining a 1 to 1 ratio of mined acres to reclaimed lands. *See* AR Doc. 4312 at 4318; NP AR Doc. 2111 at 2535.

By proposing that more of these lands be permanently reclaimed before additional tracts are released for coal mining, Plaintiffs' alternative would have addressed these environmental concerns. For example, timely, complete reclamation of previously-mined lands would benefit wildlife, enabling the greater sage-grouse, big game animals such as pronghorn, and other species to utilize these lands for habitat and grazing. AR Doc. 1 at 24. This alternative also would have addressed the problems faced by ranchers due to the loss of grazing lands. AR Doc. 4575 at 4580. Moreover, public use of these lands, such as for hunting and other recreational activities, is severely limited until the lands are fully reclaimed. AR Doc. 1 at 24. A delay alternative would have helped ameliorate this problem.

Plaintiffs' delay alternative, which would have addressed an array of serious environmental impacts, was reasonable and should have been considered by the Forest Service. *See New Mexico*, 656 F.3d at 709. *First*, the alternative satisfies the purpose of the project, which is to supply coal to "meet the nation's energy needs." AR Doc. 73 at 193. The amount of coal mined under this alternative would be identical to the amount

permitted by the Forest Service's RODs; this alternative simply delays the development of these tracts until previously-mined lands have been reclaimed.[4]

Second, Plaintiffs' delay alternative is consistent with the Forest Service's statutory mandates. Management of the Grassland is governed by NFMA, which requires National Forest System lands to be managed to "provide for multiple use and sustained yield of the products and services obtained" from the land, including "coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness." 16 U.S.C. § 1604(e)(1). An alternative that permitted full development of the South and North Porcupine tracts – while imposing conditions that promote recreational opportunities, rangeland for cattle grazing, hydrological restoration, and wildlife habitat – falls squarely within NFMA's multiple use mandate. *Cf. New Mexico*, 656 F.3d at 710 (concluding that an alternative closing a grassland to natural gas development falls within a similar multiple use mandate for BLM lands).[5]

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[4] Indeed, given that one of the project goals was to "analyze[] the environmental impacts of issuing federal coal leases and mining the federal coal," AR Doc. 73 at 194, the delay alternative would have met the project purposes even more thoroughly than the agencies' preferred alternative.

[5] Plaintiffs' alternative is also consistent with the mandates of the Federal Land Policy and Management Act ("FLPMA"), 43 U.S.C. §§ 1701-1787, the statute that governs management of BLM lands. Like NFMA, FLPMA includes a multiple use mandate, which "requires management of the public lands and their numerous natural resources so that they can be used for economic, recreational, and scientific purposes without the infliction of permanent damage." *New Mexico*, 565 F.3d at 710 (citations omitted). By permitting development of the coal lease tracts, while taking "into account the long-term

Plaintiffs' delay alternative is also consistent with the Land and Resource Management Plan for the Grassland ("Grassland Plan" or "Plan"). The South and North Porcupine leases are within a part of the Grassland whose desired conditions include both mineral development and livestock grazing, and where streams, woody draws, and soils are managed to ensure their functionality. AR Doc. 21036 at 21058. Moreover, the Grassland Plan emphasizes that "[w]hen mineral activities are concluded, the disturbed lands will be reclaimed to blend in with adjacent undisturbed areas." *Id.* Plaintiffs' alternative, which permits full development of the coal lease tracts while ensuring timely reclamation of previously-mined lands, would have promoted these management objectives.

This alternative also falls within the directives of the Surface Mining Control and Reclamation Act. SMCRA requires that reclamation efforts occur "as contemporaneously as practicable with the surface coal mining operations." 30 U.S.C. § 1265(b)(16); *see also* 30 C.F.R. § 816.100 (same). Plaintiffs' alternative furthers this statutory mandate by incentivizing the mining company to reclaim lands as quickly as reasonably possible. And it would help satisfy OSM's determination that the ratio of disturbed land to reclaimed land should be 1:1. AR Doc. 4312 at 4318; NP AR Doc.

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needs of future generations for renewable and nonrenewable resources, including . . . recreation, range, . . . [and] wildlife and fish," 43 U.S.C. § 1702(c), the delay alternative falls well within FLPMA's mandates.

2111 at 2535. Although the Forest Service is not directly responsible for SMCRA's implementation, the agency should have considered the contemporaneous reclamation requirement when analyzing alternatives in the EIS and RODs.[6] Indeed, by tying new coal development to increased reclamation efforts, Plaintiffs' delay alternative furthers the Forest Service's statutory mandates to a much greater extent than either the Proposed Action or Alternative 2.

The Forest Service's NEPA violation here is similar to the one committed by BLM in *Colorado Environmental Coalition v. Salazar*, 875 F. Supp. 2d 1233 (D. Colo. 2012) ("*CEC*"). That case involved BLM's decision to open up an environmentally significant plateau in western Colorado for oil and gas development. *Id*. During the decision-making process, the plaintiffs proposed an alternative that would have largely preserved the top of the plateau while allowing nearly full exploitation of the gas resources beneath it. *Id*. at 1248-49. In other words, their alternative would have permitted resource development while responding to environmental concerns. Because BLM did not consider this alternative in its EIS, the agency violated NEPA. *Id.* at 1250. So too here: Plaintiffs proposed an alternative that satisfied the project's purpose while addressing a significant environmental concern. Because Plaintiffs' delay alternative was

[6] The Forest Service acknowledges that it evaluated the coal leases under SMCRA. *See* AR Doc. 1 at 6.

reasonable, *New Mexico*, 565 F.3d at 609, and because neither the EIS nor the RODs considered it, the Forest Service violated NEPA.

The Forest Service's reasons for not considering Plaintiffs' alternative are without merit. In refusing to consider a delay alternative, the federal agencies emphasized that they were not responsible for the reclamation process. *See* AR Doc. 791 at 1376; AR Doc. 4547 at 4559; AR Doc. 1 at 47. But the fact that another agency administers that process does not excuse the Forest Service's duty to comply with NEPA before consenting to the coal leases. The Forest Service had ample authority to consider – and implement – an alternative that would have addressed the lack of reclamation within the region. *See* 30 U.S.C. 201(a)(3)(A)(iii) (establishing agency's right to impose stipulations related to "the use and protection of the nonmineral interests in [the] lands"). To the extent the Forest Service failed to consider Plaintiffs' alternative because the agency does not directly regulate reclamation activities, that merely underscores its NEPA violation.[7]

[7] Nor did the agencies discharge their NEPA responsibilities when they briefly considered an alternative that would have delayed leasing in order to maximize the recovery of coal bed natural gas resources. *See* AR Doc. 73 at 269. This alternative was focused solely on natural gas recovery, and it did not tie the release of coal tracts to reclamation of previously-mined lands (i.e., the "salient feature" of Plaintiffs' proposal). *Cf. CEC*, 875 F. Supp. 2d at 1250. This natural gas maximization alternative thus differed materially from Plaintiffs' proposed alternative. Neither the Forest Service nor BLM suggested that this alternative could serve as a proxy for Plaintiffs' delay proposal. *See* AR Doc. 73 at 270.

In the EIS and RODs, the Forest Service failed to consider an alternative that would have allowed full exploitation of the South and North Porcupine tracts while addressing significant environmental issues. *Cf. CEC*, 875 F. Supp. 2d at 1248-50. Because the failure to consider this "alternative prevented [the agency] from taking a hard look at all reasonable options before it," *New Mexico*, 565 F.3d at 709, the Forest Service violated NEPA.

B. The Forest Service Failed to Consider a Smaller Tract Alternative.

During the NEPA process, the Forest Service also failed to consider Plaintiffs' smaller tract alternative. *See* AR Doc. 4575 at 4583. Because this alternative furthers the objectives of the leasing project, and falls within the Forest Service's statutory mandates, it should have been considered. The failure to do so violated NEPA.

Under Plaintiffs' proposed alternative, the Forest Service and BLM still would have authorized the leasing of coal within the Wright Area, but would have leased less than under the two action alternatives considered in the EIS. *See* AR Doc. 4575 at 4578, 4583; AR Doc. 4323 at 4334; *see also* AR Doc. 4280 at 4295-96. For example, the agencies could have rejected one of the Porcupine leases, or leased smaller tract sizes.

By reducing the amount of coal extracted, this alternative would have reduced the greenhouse gas emissions resulting from the project, and decreased other air quality impacts. *See* AR Doc. 4575 at 4590; AR Doc. 4323 at 4334; AR Doc. 4312 at 4317.

And by reducing the "footprint" of these strip mines, this alternative would have helped address the lack of reclamation in the region, thereby benefiting ranchers, and preserving wildlife habitat and recreational opportunities. *See* AR Doc. 4280 at 4287; AR Doc. 4575 at 4580; *see also* AR Doc. 21036 at 21059 (noting that raptor nests and recreational hunting are unique attributes of this part of the Grassland). Rejecting one of the leases, or leasing smaller tracts, would have addressed these environmental issues.

Plaintiffs' alternative is reasonable because it furthers the defined objectives of the project. *See* AR Doc. 4575 at 4578. By allowing coal development to proceed on some of the tracts, this alternative would still be supplying coal to "meet the nation's energy needs." AR Doc. 73 at 193. For example, an alternative in which the Forest Service rejected the South Porcupine lease but consented to the North Porcupine lease would still have supplied 745.4 million tons of coal for national energy needs – enough coal to extend the life of the North Antelope Rochelle mine by 5-8 years (depending on the rate of mining). *Id.* at 288, 773. Notably, neither the EIS nor the RODs establish a minimum amount of coal that must be leased to satisfy the project purposes, and with good reason because, as the federal agencies admit, future demand for Powder River Basin coal is difficult to predict. *Id.* at 211. Moreover, rejecting a lease application now does not preclude the federal agencies from approving it at a later time. *Id.* at 499. The smaller tract alternative therefore meets the purpose and need for the project.

Additionally, this alternative is reasonable because it complies with the Forest Service's statutory mandates. Similar to the delay alternative discussed above, this alternative falls within the Forest Service's multiple use mandate under NFMA, which emphasizes, among other things, outdoor recreation, range, watershed, and wildlife. *See* 16 U.S.C. § 1604(e)(1). All of these uses would be promoted by a less aggressive leasing alternative. Plaintiffs' alternative is also consistent with the Grassland Plan, which contemplates both mineral development and livestock grazing in this part of the Grassland. AR Doc. 21036 at 21058. And by reducing the amount of land consumed by coal strip mining, thus ensuring smaller impacts throughout the region, Plaintiffs' alternative is consistent with the reclamation requirements of SMCRA. 30 U.S.C. § 1265(b)(16). Because a smaller tract alternative satisfies the objectives of the Wright Area leasing action, and is consistent with the Forest Service's statutory mandates, it should have been considered. *See New Mexico*, 565 F.3d at 710.

During the NEPA process, however, the Forest Service failed to consider an environmentally protective alternative like the one Plaintiffs proposed. Instead, as noted above, the agency restricted its analysis to the no-action alternative and two alternatives that sought to maximize coal recovery. AR Doc. 73 at 249-67. The Forest Service's approach – limiting the NEPA analysis to extreme options, and ignoring reasonable, middle-ground alternatives – contravenes both the goals and requirements of NEPA. *See*,

e.g., *Diné Citizens*, 747 F. Supp. 2d at 1254-56 (agency reviewing a permit application violated NEPA where it only considered approval or denial of the permit, and failed to consider a middle-ground approval with conditions); *New Mexico*, 565 F.3d at 711 n.32 (holding that consideration of alternatives "at one extreme of the spectrum of management possibilities . . . . does not relieve BLM of the duty to consider any other alternative along the spectrum"); *see also Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1175 (10th Cir. 1999) (stating that agencies must "provide legitimate consideration to alternatives that fall between the obvious extremes").

As in *Diné Citizens* and *New Mexico*, here the Forest Service did not consider an environmentally protective alternative or any other middle-ground alternative. Had a smaller tract alternative been considered, it would have provided a robust comparison to the impacts of the Proposed Action and Alternative 2, thereby enabling "a reasoned choice of alternatives as far as environmental aspects are concerned." *New Mexico*, 565 F.3d at 708 (citation omitted). By failing to consider this reasonable alternative the Forest Service violated NEPA.

III. THE FOREST SERVICE VIOLATED NEPA WHEN IT FAILED TO ADDRESS GROUNDWATER MITIGATION.

One of NEPA's core requirements is that an EIS must discuss mitigation measures for adverse environmental impacts. *See* 40 C.F.R. §§ 1502.14(f), 1502.16(h). The "omission of a reasonably complete discussion of possible mitigation measures would

undermine the 'action-forcing' function of NEPA," because without one, "neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Robertson*, 490 U.S. at 352. Therefore, an EIS must discuss "mitigation . . . in sufficient detail to ensure that environmental consequences have been fairly evaluated." *San Juan Citizens Alliance v. Stiles*, 654 F.3d 1038, 1053 (10th Cir. 2011) (quoting *Robertson*, 490 U.S. at 352).

Here, the Forest Service violated NEPA when it approved the South and North Porcupine coal leases without addressing groundwater mitigation. *See* 40 C.F.R. § 1508.20. It is undisputed that coal mining significantly impacts both groundwater quantity and quality, particularly given that the coalbed in the Powder River Basin is itself an aquifer. AR Doc. 73 at 322, 413. The EIS admits that "[r]oughly 30 years of surface mining and the more recent [coal bed natural gas] development have resulted in complete dewatering of the coal aquifer in localized areas." *Id.* at 414. And if leased, the South and North Porcupine tracts will negatively impact this aquifer, exacerbating the harms that have already occurred from prior mining. *See* AR Doc. 791 at 1214. Yet, the EIS and the RODs scarcely mention mitigation measures for adverse impacts to groundwater. Although these documents acknowledge the negative impacts of coal mining on the region's groundwater, the "discussion" of mitigation measures is limited to

two vaguely-worded two bullet points. *See* AR Doc. 73 at 274. The Forest Service's failure to actually consider mitigation for groundwater impacts violated NEPA.

The Forest Service was well aware that surface coal mining adversely impacts groundwater quality and quantity. *See* AR Doc. 1 at 22 (noting that "[i]f the South Porcupine [ ] tract is leased . . . [it] would result in an increase in the area of impacts to groundwater quantity" and quality); NP AR Doc. 1 at 23. The EIS also acknowledges that the agencies' preferred alternative would increase impacts to groundwater quantity and quality. AR Doc. 73 at 416, 419. Increased coal mining will impact groundwater quantity in two ways: (1) the coalbed aquifer will be drained ("drawdown") and top layers of soil will be removed and replaced with backfill when the mining is completed; and (2) water levels in adjacent aquifers will drop because of "seepage into and dewatering from" the surface mines. *Id.* at 416. The top layers of soil (the "overburden") and the aquifers within the leased tracts "would be completely dewatered and removed, and the area of drawdown . . . would be extended" beyond the tracts themselves. *Id.* Indeed, at the North Antelope Rochelle mine (which would be expanded by the coal lease tracts), the current "rate and extent" of aquifer drawdown is much greater than originally predicted for the life of the mine. *Id.* at 434. And returning groundwater to its pre-mining levels will take approximately 100 years once the backfill is in place. *Id.* at 143.

Coal mining will also impact groundwater quality: the water that saturates the backfill generally has a higher concentration of total dissolved solids ("TDS") than the water originally in the aquifer. *Id.* at 419. TDS is a measure of water quality, with higher concentrations associated with a decrease in quality.[8] The TDS concentration often increases when pits from surface mining are filled with backfill materials. AR Doc. 13565 at 13566. A 2004 paper by the Wyoming Department of Environmental Quality ("WDEQ") found that 25% of post-mining groundwater samples from the Powder River Basin contained TDS concentrations that exceed the Wyoming standard for use by livestock. *Id.* at 13577; AR Doc. 12081 at 12216.

These negative impacts on groundwater quality and quantity are not localized and include significant site-specific and cumulative impacts. AR Doc. 73 at 410, 419-20. And these impacts are especially important because there are 1761 permitted water wells within three miles of the South and North Porcupine tracts.[9] *Id.* at 460-61. Some of these private water wells will likely be impacted "either directly by removal of the well or indirectly by water level drawdown." *Id.* at 461.

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[8] EPA, TOTAL SOLIDS, *available at* http://water.epa.gov/type/rsl/monitoring/vms58.cfm (last visited Oct. 24, 2013).

[9] Around the South tract, approximately 5% of the 779 wells are permitted for livestock use and 1.5% are permitted for domestic, livestock, industrial, and miscellaneous uses. *Id.* at 461. At the North tract, 7% of the 982 wells are permitted for livestock use and less than 1% are permitted for domestic, livestock, industrial, and miscellaneous uses. *Id.* at 460.

Although an agency does not need to adopt a comprehensive mitigation plan, it cannot "merely list possible mitigation measures." *San Juan Citizens Alliance*, 654 F.3d at 1053-54 (quoting *Dombeck*, 185 F.3d at 1173). Indeed, courts have repeatedly held that simply listing mitigation measures is not sufficient to comply with NEPA. *See, e.g.*, *San Juan Citizens Alliance*, 654 F.3d at 1053-54; *Dombeck*, 185 F.3d at 1173; *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir. 1998); *see also San Juan Citizens Alliance*, 654 F.3d at 1054 (noting that "[d]etailed quantitative assessments of possible mitigation measures are generally necessary").

Thus, when an agency's proposed action will cause adverse environmental impacts, the agency must do more than compile a "perfunctory description of mitigating measures." *Neighbors of Cuddy Mountain*, 137 F.3d at 1380. In *Neighbors of Cuddy Mountain*, the Forest Service acknowledged that its timber sale would negatively impact trout by increasing sedimentation levels, but the agency only included a few sentences listing mitigation measures to alleviate the impact. *Id.* at 1381. This violated NEPA because the Forest Service only considered mitigation measures in a vague and general manner. *Id.* at 1380-81. Similarly, in this case the EIS recognizes that mining would cause adverse impacts on groundwater, and yet simply lists a pair of vaguely-worded mitigation measures. AR Doc. 73 at 274. The Forest Service's cursory treatment of this issue violated NEPA.

IV. THE FOREST SERVICE VIOLATED NEPA AND NFMA BY APPROVING THE COAL LEASES WITHOUT ADEQUATELY ANALYZING AIR QUALITY IMPACTS.

In consenting to the South and North Porcupine leases, the Forest Service failed to adequately analyze the air quality impacts of these leases. It did not sufficiently examine direct impacts, including the impacts of potential exceedances of federal air quality standards for nitrogen dioxide and fine particulate matter. These failures violate NEPA. Neither the EIS nor the RODs adequately considers the significant environmental and public health impacts of air pollution from the proposed coal leases. By approving these leases without first considering air pollution impacts, the Forest Service failed to take a "hard look" at all the requisite information.

The Forest Service also violated NFMA in approving the coal leases. In particular, the Forest Service failed to ensure compliance with the substantive air quality standards of the Clean Air Act, as required by the Grassland's management plan.

A. Major Pollutants Associated with Coal Mining

Under the Clean Air Act, the U.S. Environmental Protection Agency ("EPA") establishes air quality standards (the National Ambient Air Quality Standards, or "NAAQS"), which are designed to protect public health and welfare. 42 U.S.C. § 7408. These standards define maximum concentrations of seven harmful pollutants ("criteria pollutants") in the ambient air. *Id.* Criteria pollutants are pollutants that either cause or contribute to air pollution and are reasonably anticipated to endanger public health and

welfare.[10] *See id.* §§ 7401, 7408; *e.g.*, 62 Fed. Reg. 38652 (July 18, 1997) (setting more stringent NAAQS for particulate matter to protect against health-related effects).

For each criteria pollutant, the NAAQS contain both primary and secondary standards. 42 U.S.C. § 7409. Primary standards are designed to protect public health with "an adequate margin of safety." *Id.* § 7409(b)(1). Secondary standards "protect the public welfare from any known or anticipated adverse effects" of particular air pollutants. *Id.* § 7409(b)(2).

With respect to the primary standards, the NAAQS contain both short-term and longer-term exposure standards. Air quality monitoring and enforcement ensure that each air quality control region (*i.e.*, airshed) meets these short-term and longer-term standards. For example, for fine particulate matter ("$PM_{2.5}$"), EPA has established NAAQS for both short-term periods (24 hours) and longer-term periods (1 year). In any 24-hour period, the average concentration of $PM_{2.5}$ must not exceed 35.0 micrograms per cubic meter ($\mu g/m^3$). 40 C.F.R. § 50.13. In any 1-year period, average concentrations of $PM_{2.5}$ must not exceed 15.0 $\mu g/m^3$.[11] *Id.*

[10] Dangers to the public health and welfare include "injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation." 42 U.S.C. § 7401.

[11] The short-term and longer-term periods are not the same for all criteria pollutants. For example, carbon monoxide has a short-term limit of 1 hour and a longer-term limit of 8 hours.

Two criteria pollutants, $PM_{2.5}$ and nitrogen dioxide ("NO_2"), are particularly relevant to the coal leases approved by the Forest Service because both are byproducts of coal mining activity and have serious health effects. *See* 40 C.F.R. § 50.11; *id*. § 50.13; AR Doc. 73 at 384, 687.

$PM_{2.5}$ is a harmful pollutant released during blasting activities associated with coal mining; this pollutant is also emitted from coal-fired power plants. 78 Fed. Reg. 3086, 3123 (Jan. 15, 2013); *see also* AR Doc. 73 at 354. $PM_{2.5}$ causes a variety of adverse health effects, including premature death, heart attacks, birth defects, and asthma attacks, and can aggravate respiratory and cardiovascular disease. *See* AR Doc. 15831; *see also North Carolina v. TVA*, 593 F. Supp. 2d 812, 822 (W.D.N.C. 2009), *rev'd on other grounds*, 615 F.3d 291 (4th Cir. 2010) (finding that "there is an increased risk . . . of premature mortality in the general public associated with $PM_{2.5}$ exposure, even for levels at or below the NAAQS standard"); 78 Fed. Reg. at 3098 (EPA unable to find evidence of a level of $PM_{2.5}$ below which death and disease would not occur). Furthermore, some populations are particularly sensitive to exposure to $PM_{2.5}$, including older adults, people affected by heat and lung disease, and children. *Id.* To curb these harms, EPA, through the NAAQS, has set a primary short-term 24-hour limit and a longer-term 1-year limit for $PM_{2.5}$. 40 C.F.R. § 50.13(a) (see above).

NO_2 is a harmful pollutant emitted from the incomplete combustion of nitrogen-based explosives during blasting activities associated with mining. AR Doc. 73 at 384. NO_2 "is a highly reactive, reddish brown gas" and can form nitric acid with water in the eyes, lungs, mucous membranes, and skin. *Id.* at 383, 386. Acute exposure may cause death or serious health problems by damaging the pulmonary system; chronic or repeated exposure to low levels may exacerbate preexisting respiratory conditions or increase susceptibility to respiratory infections. *Id.* EPA has recognized that even short-term exposure to NO_2 can affect respiratory disease, morbidity, and "defense and immune system changes, airway inflammation, and airway responsiveness." 75 Fed. Reg. 6474, 6480 (Feb. 9, 2010). To help address the harms associated with short-term exposure to NO_2, EPA established a 1-hour standard of 100 parts per billion ("ppb"). *Id.*; *see also* 40 C.F.R. § 50.11. The current annual standard is 53 ppb.[12] 61 Fed. Reg. 52852 (Oct. 8, 1996).

When an airshed is within the NAAQS limits, it is considered to be in "attainment." *See* 42 U.S.C. §§ 7407, 7471. Such areas are regulated under the Clean Air Act's prevention of significant deterioration ("PSD") program, which works to ensure that the area does not slip into non-attainment. *Id.* When an airshed exceeds the NAAQS

[12] The NO_2 NAAQS are given in ppb, but, when converted, are 188.1 µg/m3 and 100 µg/m3, respectively. EPA, INDOOR AIR UNIT CONVERSION, *available at* http://www.epa.gov/athens/learn2model/part-two/onsite/ia_unit_conversion_detail.html (last visited Oct. 24, 2013).

limits, it is in non-attainment. *See id.* §§ 7407, 7501-7515. A non-attainment designation triggers the nonattainment ("NA") program, which requires states to develop and implement plans to bring the area back into attainment. *Id.*

B. The Forest Service Violated NEPA By Failing to Analyze the Air Quality Impacts of the Coal Leases.

The Forest Service violated NEPA by failing to take a "hard look" at the air quality effects of the proposed coal leases in the EIS. *Robertson*, 490 U.S. at 350. The Forest Service was required to analyze the direct effects of the proposed action and its alternatives. 40 C.F.R. § 1502.16. Direct effects are those that "are caused by the action and occur at the same time and place," *id.* § 1508.8, such as the emissions resulting from coal strip-mining operations. Here, the Forest Service failed to analyze the direct air quality impacts of NO_2 and $PM_{2.5}$ emissions that would result from leasing the South and North Porcupine tracts. Leasing these tracts would extend the life of the North Antelope Rochelle mine, which would lengthen the time period during which emissions of harmful pollutants will occur. AR Doc. 1 at 21.

1. The Forest Service Failed to Analyze the Environmental Impacts of $PM_{2.5}$ Emissions.

Despite the serious harm that $PM_{2.5}$ poses to public health, the Forest Service did not analyze the potential impacts of $PM_{2.5}$ emissions before it approved the South and North Porcupine coal leases. The Forest Service violated NEPA in two fundamental

respects. First, the agency did not adequately analyze the effect of the leases on the ambient concentration of $PM_{2.5}$, and the environmental impacts of those concentrations. Second, the Forest Service failed to adequately consider the environmental impacts of $PM_{2.5}$ that would result if either (a) the life of the North Antelope Rochelle mine is extended, or (b) the mine operator increases production to its permitted rate of 140 million tons per year ("mmtpy").

The Forest Service's failures are particularly alarming because current concentrations of $PM_{2.5}$ already exceed the NAAQS limit and are expected to increase substantially. AR Doc. 73 at 680. The 24-hour limit is 35.0 $\mu g/m^3$, but levels within the Wright Area are already estimated to be 87.6 $\mu g/m^3$. 40 C.F.R. § 50.13(a); AR Doc. 73 at 680. And the EIS predicts these 24-hour concentrations will increase substantially, hitting maximum levels of 218.4 $\mu g/m^3$ by 2020. *Id.* at 680-81. Thus, by 2020, the daily concentration of $PM_{2.5}$ may be *six times* greater than the 24-hour NAAQS. The EIS also projects that the annual standard for $PM_{2.5}$ will be exceeded by 2020, due largely to coal-related sources. *Id*. at 679-82.

Turning to the first violation, even though the South and North Porcupine tracts will cause $PM_{2.5}$ emissions (and thus contribute to violations of the NAAQS), the Forest Service failed to meaningfully discuss the public health and other environment impacts of these $PM_{2.5}$ emissions. Other than visibility, the EIS includes only a general reference to

the harms of $PM_{2.5}$ emissions. *Id.* at 360-62. It does not identify the incremental increase in $PM_{2.5}$ concentrations that will result from the proposed coal leases, and it lacks any analysis of the health and other environmental effects these emissions will cause. *Cf.* 40 C.F.R. § 1502.16 (EISs must discuss "[d]irect effects and their significance"). Instead, the discussion of particulate emissions is limited solely to PM_{10}, which has different effects than $PM_{2.5}$ and is regulated as a distinct pollutant under the Clean Air Act. *See* AR Doc. 73 at 362-64, 372-78. By failing to identify the incremental impact of the South and North Porcupine coal leases on ambient concentrations of $PM_{2.5}$, and by failing to analyze the environmental and public health effects of that pollution, the Forest Service violated NEPA. The Forest Service further violated NEPA by failing to discuss the impacts of alternatives other than Alternative 2, the federal agencies' preferred alternative. 40 C.F.R. § 1502.16 (EIS must analyze the effects of the proposed action and its alternatives).

Second, not only did the Forest Service fail to analyze the environmental impacts of $PM_{2.5}$ emissions, the agency compounded the error by failing to adequately analyze the potential impacts of either an increased rate of coal production or a prolonged mine life. Although the Forest Service RODs assume that 95 mmtpy will be mined from the North Antelope Rochelle mine, AR Doc. 1 at 22, there is a strong possibility that the mine operator will increase the annual production rate to 140 mmtpy. Indeed, WDEQ issued a

permit that increased the maximum rate of coal production at the mine to 140 mmtpy. AR Doc. 20740 (WDEQ permit); *see also* AR Doc. 73 at 372. Alternatively, if the production rate remains at 95 mmtpy, leasing the South and North Porcupine tracts will increase the life of the North Antelope Rochelle mine, thereby lengthening the duration of $PM_{2.5}$ emissions.[13] AR Doc. 1 at 21.

Either scenario will affect air quality, and will result in environmental impacts from $PM_{2.5}$ concentrations. But the EIS does not analyze these impacts, and instead simply states that "[d]ue to similarities in mining rates and mining operations, the potential impacts of mining the [ ] tracts have been inferred from the projected impacts of mining the existing coal leases as currently permitted." AR Doc. 73 at 362. This conclusory statement falls far short of NEPA's requirements: The Forest Service must analyze the environmental and public health consequences from $PM_{2.5}$ emissions that could result if the South and North Porcupine tracts are leased and mined at a higher production rate or for a longer amount of time. *See Or. Natural Res. Council Fund v. Brong*, 492 F.3d 1120, 1134 (9th Cir. 2007) ("*ONRC*") (noting that "general statements about possible effects and some risk do not constitute a hard look") (citation omitted).

[13] If the production rate does remain at 95 mmtpy, these coal leases will extend the life of the North Antelope Rochelle mine by 9.9 years under the Proposed Action or 11.4 years under Alternative 2. AR Doc. 1 at 21.

The Forest Service's duty to analyze environmental impacts based on the legally permitted rate of 140 mmtpy is underscored by *Barnes v. U.S. Department of Transportation*, 655 F.3d 1124 (9th Cir. 2011). In *Barnes*, the Transportation Department violated NEPA when it assumed that permitting a new runway would not increase aviation activity. *Id.* at 1137. In discussing the effects of the proposed project, the agency stated that "[t]otal aircraft operations would be the same as under the No Action Alternative." *Id.* at 1134. The Ninth Circuit disagreed, finding that agency officials knew there was a "reasonable possibility" that building the new runway would increase aviation activity, but "chose to gloss over it." *Id.* Refusing to accept the agency's unsupported assertion that a new runway would not increase aviation demand, the court held that the failure to examine the increased demand violated NEPA. *Id.* at 1137. Like in *Barnes*, here the Forest Service simply relied upon the mine operator's assertion that leasing the South and North Porcupine tracts would not increase the production rate. Given that the operator had received a permit to mine up to 140 mmtpy, there was at least a "reasonable possibility" that production would increase. And similar to *Barnes*, the Forest Service violated NEPA by "gloss[ing] over" the possibility that $PM_{2.5}$ emissions (and concentration levels) will increase due to the permitted, anticipated increase in mining.

Indeed, in this case there was much more than a "reasonable possibility" that the rate of mining would increase. The WDEQ permit indicates that the mine operator intends to increase the mine's production rate to 140 mmtpy. *See* AR Doc. 20740 at 20740 (granting "application to modify operations at the North Antelope Rochelle Mine . . . to increase the maximum annual coal production rate from 105 million tons per year [MMTPY] to 140 MMTPY"). It would make little sense for the operator to go through the trouble of modifying its permit if it had no intention of increasing the rate of mining. Additionally, elsewhere in the EIS the federal agencies recognize that mining could easily increase to 140 mmtpy. *See, e.g.*, AR Doc. 73 at 375, 391 (modeling that assumes a 140-mmtpy production rate). For these reasons, the Forest Service was required to complete an analysis of the impacts on environmental quality and ambient air concentrations of $PM_{2.5}$ based on a production rate of 140 mmtpy. By failing to perform these analyses, the Forest Service violated NEPA.

2. The Forest Service Failed to Analyze the Environmental Impacts of NO_2 Emissions.

The Forest Service also failed to adequately analyze the potential impacts of NO_2 emissions on ambient air concentrations and environmental quality. As explained below, the agency violated NEPA in at least two respects.

First, the Forest Service failed entirely to analyze the impact of leasing the South and North Porcupine tracts on short-term concentrations of NO_2. As noted above, in

2010 EPA issued a new 1-hour standard for NO_2, which was intended to curb the harms associated with even short-term exposure to NO_2. 75 Fed. Reg. 6474, 6480 (Feb. 9, 2010). The federal agencies acknowledge that NO_2 "is by far the most toxic of several species of NO_x," and that "there is concern about the potential health risk associated with short-term exposure to NO_2 from blasting emissions." AR Doc. 73 at 383, 386. But neither the EIS nor the Forest Service RODs make any attempt to analyze the impacts of the coal leases on the 1-hour NO_2 standard. Compounding this deficiency, the EIS and RODs also fail to discuss the public health, environmental, and other effects resulting from potential short-term spikes in NO_2 concentrations. By failing to analyze the impacts of NO_2 emissions stemming from the South and North Porcupine coal leases, the Forest Service violated NEPA.[14]

Second, the Forest Service failed to consider the environmental consequences of a higher annual concentration of NO_2. The EIS acknowledges that annual NO_2

[14] The failure to analyze the impact of the coal leases on the 1-hour NO_2 concentrations is further troubling because, on a cumulative basis, the 1-hour standard is already being violated in the Powder River Basin and is projected to worsen. Modeling prepared as part of a BLM coal review shows that background 1-hour NO_2 concentrations in Montana are already at 217.55 parts per billion, more than twice the Clean Air Act standard. *See* AR Doc. 9607 at 9614. By 2020, these concentrations are expected to increase to as high as 235.48 parts per billion. As the Wright Area EIS notes, "the modeling results indicate that the 1-hour NO_2 concentrations at Montana near-field receptors for 2020 would exceed EPA's new 1-hour NAAQS . . . ." AR Doc. 73 at 681. But the EIS makes no effort to analyze cumulative NO_2 impacts in the Wyoming portion of the Powder River Basin.

concentrations may double in the coming years: the annual NO_2 concentrations within the region averaged 25 $\mu g/m^3$ between 2005 and 2008, and are projected to rise to 50.6 $\mu g/m^3$ by 2012, and 55.2 $\mu g/m^3$ by 2017. AR Doc. 73 at 355, 391. But the EIS does not analyze the potential health and other environmental impacts of these increases. Instead, it simply states that "NO_x impacts from mining the South and North Porcupine . . . tracts have been inferred to be similar to the currently permitted impacts of mining the existing coal leases at the North Antelope Rochelle Mine." *Id.* at 391. This does not satisfy NEPA: an EIS cannot simply "infer" environmental impacts without explaining, discussing, or analyzing them.[15] *See ONRC*, 492 F.3d at 1134 (noting that an agency "may not rely on a statement of uncertainty to avoid even attempting the requisite analysis"). Therefore, the Forest Service failed to analyze the specific environmental

[15] The EIS also seems to imply that these "currently permitted impacts" have been addressed in another analysis, the identity of which is unclear. AR Doc. 73 at 391. To the extent that the agencies relied on some earlier, undisclosed analysis, that was impermissible: First, if this earlier analysis was prepared by WDEQ or some other agency, then the Forest Service impermissibly relied on another agency's analysis without providing any independent review. *See South Fork Band Council of Western Shoshone of Nevada v. U.S. Department of the Interior*, 588 F.3d 718, 726 (9th Cir. 2009) ("A non-NEPA document — let alone one prepared and adopted by a state government — cannot satisfy a federal agency's obligations under NEPA."). Second, even if this earlier analysis were otherwise applicable, the Forest Service cannot rely on it because the analysis must be identified in the EIS, and the potential air quality impacts must be analyzed in the EIS itself. *See, e.g.*, *Grazing Fields Farm v. Goldschmidt*, 626 F.2d 1068, 1074 (1st Cir. 1980) (holding that NEPA mandates discussion of alternatives in "the environmental impact statement itself"). In short, the Forest Service cannot rely on an undisclosed analysis not included in the EIS.

consequences of these increased NO_2 concentrations from the South and North Porcupine tracts.

The Forest Service's failure to analyze these NO_2 impacts on the grounds that such impacts would "be similar to the currently permitted impacts" is strikingly similar to the NEPA violation at issue in *South Fork Band*, 588 F.3d 718 (9th Cir. 2009). In that case, BLM argued that it did not need to consider the air quality impacts of transporting ore from a proposed mine expansion because the proposed expansion would result in "no increase in the rate of toxic ore shipments." *Id.* at 725. The Ninth Circuit disagreed, noting that even with "no change in the rate of shipping and processing . . . the mine expansion will create ten additional years . . . of environmental impacts that would not be present in the no-action scenario." *Id.* at 725-26. Like the BLM in *South Fork Band*, here the Forest Service did not analyze the NO_2 impacts from leasing the South and North Porcupine tracts. The agency's decision to forgo such analyses based on "currently permitted impacts" violated NEPA. AR Doc. 73 at 391.

Moreover, in several instances the Forest Service assumed that mining will not increase even though the operator's air quality permit allows an additional 45 mmtpy of coal to be mined. This permitted increase will result in more blasting and mining, increasing emissions of NO_2 and magnifying the environmental impacts of those emissions. By simply assuming that production will not rise, the Forest Service wholly

ignores this likely scenario. Because the Forest Service failed to analyze the NO_2 impacts of the South and North Porcupine coal leases, it did not make a "rational connection between the facts found and the decision made." *New Mexico*, 565 F.3d at 713. For these reasons, the Forest Service's decision was arbitrary and capricious.

C. The Forest Service Violated NFMA By Approving the Coal Leases Without Ensuring Compliance with Federal Air Quality Regulations.

In the management plan for the Thunder Basin National Grassland, the Forest Service committed to ensuring that any permitted activity within the Grassland, such as the South and North Porcupine coal leases, comply with federal air quality standards. The Forest Service failed to ensure compliance because it did not analyze the impacts of the coal leases on several air quality standards – namely, the NAAQS for NO_2 and $PM_{2.5}$. Indeed, the models and data suggest that the NAAQS will be exceeded if the South and North Porcupine tracts are mined. AR Doc. 73 at 680. By failing to analyze whether these coal leases would comply with federal air quality regulations, the Forest Service violated both its management plan and NFMA.

NFMA, the statutory framework that governs the management of national forests, directs the Forest Service to develop management plans for units of the National Forest System, such as the Grassland. 16 U.S.C. § 1604(a). Each plan must "recognize the fundamental need to protect and, where appropriate, improve the quality of soil, water, and air resources." *Id.* § 1602(5)(C). Once a land and resource management plan has

been adopted, site-specific projects and permits – such as the approval of a subsurface coal lease – must be consistent with the plan. *Id.* § 1604(i); *see also Lamb v. Thompson*, 265 F.3d 1038, 1042 (10th Cir. 2001) ("Projects must be consistent with the governing forest plan . . . .").

The Grassland Plan is the relevant plan under NFMA for the protection of the Grassland and its resources. The purpose of the Grassland Plan is to govern "all resource management activities on the Thunder Basin National Grassland." AR Doc. 20992 at 20994. Included within the Plan are a series of standards, which are either "actions that must be followed or . . . required limits to activities" that help ensure the Plan's objectives are met. AR Doc. 21003 at 21013.

The Plan includes several standards aimed at protecting the Grassland's air quality. First, the Plan requires the Forest Service to "[m]eet state and federal air quality standards, and comply with local, state, and federal air quality regulations and requirements . . . for such activities as . . . mining." *Id*. Second, the Plan directs the Forest Service to meet Clean Air Act requirements, including the prevention of significant deterioration program and state implementation plans, both of which help ensure that airsheds remain in attainment with the NAAQS. *Id.* Failing to abide by these standards violates NFMA. 16 U.S.C. § 1604.

Here, the Forest Service violated the Grassland Plan's air quality standards when it consented to the South and North Porcupine coal leases. First, the Forest Service failed to analyze whether the leases would affect the attainment of the 1-hour NO_2 NAAQS within the Wright Area. Second, the Forest Service failed to analyze the degree to which the coal leases will affect the annual and 24-hour $PM_{2.5}$ concentrations, and the potential air quality impacts of these emissions.

First, the Forest Service's failure to analyze air quality impacts under the new 1-hour NO_2 NAAQS violated NFMA. The EIS does not contain any analysis of the impacts in Wyoming of increased NO_2 emissions resulting from increasing mining operations to 140 mmtpy. *See* AR Doc. 73 at 384-86. In failing to analyze the impacts of leasing the South and North Porcupine tracts, the Forest Service failed to ensure the area will be in attainment with the NO_2 NAAQS, as the Grassland Plan requires. This failure is not rationally explained in any of the accompanying documents or analysis on which the Forest Service relies. While the EIS discusses 1-hour NO_2 concentrations in Montana, it provides no analysis for such concentrations in Wyoming.[16] By failing to

[16] Moreover, the EIS notes that some Montana areas will exceed the NAAQS, but the 1-hour NO_2 ambient concentrations will likely decrease in 2020 because of the southward migration of coalbed natural gas development into Wyoming. *Id.* at 681. However, if this development continues to move further south into Wyoming, the 1-hour NO_2 concentration will increase in Wyoming, as the emissions will move south with the development. The knowledge that emissions from development in Montana cause violations of the NAAQS and that the sources of those emissions are increasingly moving

analyze the impacts of the leases on the 1-hour NO_2 NAAQS in Wyoming, the Forest Service violated NFMA and the air quality standards of the Grassland Plan.

Second, the Forest Service failed to ensure that $PM_{2.5}$ pollution would not exceed the annual and 24-hour NAAQS, and did not adequately analyze the impact of leasing the South and North Porcupine tracts on $PM_{2.5}$ ambient concentrations. Despite the Plan's clear mandate to protect against future non-attainment, and the potential for $PM_{2.5}$ to cause severe adverse health impacts, the Forest Service did not complete a specific analysis of $PM_{2.5}$ impacts from leasing the South and North Porcupine tracts. This failure is especially concerning because the EIS indicates that current and future development of these coal leases will cause or contribute to exceedances of the annual and 24-hour $PM_{2.5}$ NAAQS. *See* AR Doc. 73 at 680-81. The Forest Service's failure to ensure compliance with the NAAQS violated NFMA.

The Grassland Plan requires the Forest Service to ensure that Clean Air Act standards will be met before it approves a site-specific project such as a coal lease. AR Doc. 21003 at 21013. The agency failed to do to so here. By failing to ensure that the South and North Porcupine coal leases will comply with federal air quality standards, the Forest Service violated NFMA and the Grassland Plan.

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into Wyoming provides evidence that the NO_2 NAAQS will also likely be exceeded in Wyoming.

V. THE FOREST SERVICE FAILED TO CONSIDER THE INDIRECT AIR QUALITY IMPACTS OF THE COAL LEASES.

The Forest Service also failed to consider the indirect air quality impacts of the South and North Porcupine coal leases. Specifically, the EIS and Forest Service RODs do not adequately analyze the air quality impacts likely to result from burning the coal mined from these two tracts.

Indirect effects "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(b). And a "degradation in air quality[] . . . is indeed something that must be addressed in an EIS if it is 'reasonably foreseeable.'" *Mid-States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003). Even "when the *nature* of the effect is reasonably foreseeable but its *extent* is not . . . the agency may not simply ignore the effect." *Id.*

Here, the Forest Service was required to consider the impacts from coal combustion in coal-fired power plants before consenting to the South and North Porcupine coal leases. These impacts are reasonably foreseeable because coal is mined for the primary purpose of being burned in coal-fired power plants, which in turn produces pollution and affects air quality. AR Doc. 73 at 784. Indeed, the Wright Area EIS acknowledges "concerns associated with burning coal for the production of electricity," but does not analyze or address them in any way. *Id.*

The Forest Service failed to meet NEPA requirements to (a) thoroughly consider the indirect health, environmental, and economic effects resulting from the combustion of this additional supply of coal and the resulting power plant emissions, and (b) compare those emissions under the different alternatives. *See* 40 C.F.R. §§ 1502.14, 1502.16 (stating that an EIS must consider and compare, among other things, the "indirect effects and their significance" of the proposal and reasonable alternatives).

A. The Forest Service Entirely Failed to Analyze the Impacts of NO_2, SO_2, $PM_{2.5}$, and PM_{10} Emissions.

The Forest Service ignored the indirect effects of pollution from coal-fired power plants, even though this is a reasonably foreseeable action arising from the South and North Porcupine leases. The EIS admits that "[w]hen coal is burned" compounds and elements such as mercury, NO_2, sulfur dioxide ("SO_2"), fine particulate matter ("$PM_{2.5}$"), and particulate matter ("PM_{10}"), among others, are produced. *See* AR Doc. 73 at 784. However, the EIS makes no attempt to quantify these emissions. It ignores many of the health, environmental, and economic impacts that will result from burning the coal mined at these tracts.

The EIS states that NO_2, SO_2, $PM_{2.5}$, and PM_{10} "may have direct or indirect effects on human health." *Id*. But the EIS does not analyze these human health, environmental, or economic impacts. *See id.* Additionally, the Forest Service failed to compare the

NO_2, SO_2, $PM_{2.5}$, and PM_{10} impacts of the different alternatives, thus further violating NEPA. 40 C.F.R. § 1502.14; *see generally* AR Doc. 73 at 784.

Agencies cannot ignore the reasonably foreseeable indirect effects of their proposed actions. In *Mid-States*, the Eighth Circuit vacated the Surface Transportation Board's ("STP") approval of a large railroad construction and improvement project, in part because STP ignored "the effects that may occur as a result of the reasonably foreseeable increase in coal consumption" arising from the project. 345 F.3d at 550. There, the plaintiff argued the project would lead to "an increase in the supply of low-sulfur coal to power plants" from the Powder River Basin. *Id.* at 548-50. The court agreed, and vacated STP's decision because it ignored the effects of increased coal transportation and subsequent combustion in coal-fired power plants, including environmental impacts from increases in NO_x, CO_2, PM, and mercury emissions. *Id.* at 548, 550.

As in *Mid-States*, here it is reasonably foreseeable that increased coal combustion will result from leasing the South and North Porcupine tracts. This, in turn, will lead to increased emissions of NO_2, SO_2, $PM_{2.5}$, and PM_{10}. Because the Forest Service completely ignored the environmental impacts from increased coal combustion – including those from NO_2, SO_2, $PM_{2.5}$, and PM_{10} – its decisions consenting to the South and North Porcupine leases should be vacated. *See Mid-States*, 345 F.3d at 550.

B. The Forest Service Failed to Adequately Analyze the Indirect Air Quality Impacts of Mercury Emissions.

The EIS also fails to adequately analyze the indirect impacts of mercury emissions on the environment, public health, or economy from combusting coal from the South and North Porcupine tracts. Rather, the EIS merely presents general facts about the potential harms mercury, a hazardous air pollutant, poses to humans and the environment. The EIS acknowledges that the Powder River Basin "represent[s] about 0.2 percent of the global mercury emissions" and that "[c]oal production from the Wyoming [Powder River Basin] represented approximately 43.4 percent of the coal use for power generation in 2008" in the U.S. AR Doc. 73 at 784-87, 769. But the Forest Service failed to analyze actual mercury emissions resulting from the combustion of South and North Porcupine coal.

Increased coal combustion is a reasonably foreseeable effect of the Forest Service's consent decisions. Similar to the situation in *Mid-States*, the Forest Service must consider the indirect impacts of increased mercury emissions from the increased combustion of coal. *See* 345 F.3d at 548, 550. Moreover, the resulting mercury emissions – as well as the resulting NO_2, SO_2, $PM_{2.5}$, and PM_{10} emissions – are important aspects of the problem and the Forest Service's failure to analyze these indirect impacts is arbitrary and capricious. *New Mexico*, 565 F.3d at 704.

Therefore, the Forest Service acted arbitrarily and capriciously when it ignored the indirect impacts of emissions from coal-fired power plants and relied on the deficient NEPA documents. *See New Mexico*, 565 F.3d at 704. Indirect impacts from the burning of coal are an important aspect of the problem. Because the Forest Service ignored these aspects, it violated NEPA and its decisions in this case should be vacated.

CONCLUSION

For the reasons stated above, Plaintiffs respectfully request that this Court: (i) declare that the Forest Service's approval of the South and North Porcupine coal leases violated NEPA, NFMA, and the APA; (ii) order that the Records of Decision approving those coal leases be vacated; and (iii) enjoin the Forest Service from consenting to these proposed coal leases until it complies with NEPA and NFMA.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on October 24, 2013, I electronically transmitted: i) Plaintiffs' Opening Merits Brief, ii) the Declaration of Leland J. Turner, and iii) the Declaration of Jeremy Nichols to the Clerk's Office using the CM/ECF System for filing and transmittal of a Notice of Electronic Filing to the following counsel of record in this matter:

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