



October 10, 2017

Mel Bolling
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Via Electronic Mail

RE: Scoping Comments on South Fork Lease Modification Environmental Assessment, Federal Coal Leases UTU-84102 (Greens Hollow) and U-63214 (Quitcupah)

Dear Mr. Bolling:

WildEarth Guardians (“Guardians”) and Sierra Club submit the following comments on the Bureau of Land Management Price Field Office’s (“BLM”) and the Forest Service’s Public Notice and Opportunity to Comment on the Environmental Assessment to modify two federal coal leases, known as the South Fork Lease Modifications. Canyon Fuel Company, a subsidiary of Bowie Resources, requests to modify the lease boundaries for federal coal leases UTU-84102 (Greens Hollow) and UTU-63214 (Quitcupah) at the SUFCO Mine near Salina, Utah.

Firstly, WildEarth Guardians and Sierra Club submit these comments on October 10, 2017, as the 30th day after the September 7 notice was released was a Saturday (October 7), and October 9 was Columbus Day, a federal holiday under which the Forest Service and BLM were technically closed, under 36 C.F.R § 218.6(a).

Secondly, thank you for the opportunity to comment on the appropriate scope of BLM’s upcoming National Environmental Policy Act (“NEPA”) review evaluating the potential environmental impacts of mining an additional 6.25 million tons of coal on approximately 790 acres beneath the Fishlake and Manti-La Sal National Forests surface lands. Based on the consent from the National Forest supervisors, the BLM proposes to modify the leases by adding approximately 740 acres to the Greens Hollow coal lease and by adding approximately 50 acres to the Quitcupah coal lease. The SUFCO mine, which shipped over 6 million tons of coal in 2015, currently ships primarily to electric utilities in Utah by railway and truck. This extraction, shipment, and eventual combustion of SUFCO coal poses hazards to our air, water, and climate.

1. The BLM Cannot Approve a Modification of the South Fork Lease Modifications Because They Are Not Legally Valid.

As a threshold matter, we note that because the Greens Hollow lease was not legally approved, BLM therefore cannot approve a modification to the lease. In fact, WildEarth Guardians, Sierra Club, and other organizations currently have an appeal before the Interior Board of Land Appeals (“IBLA”) challenging the BLM’s legal basis for approving the lease. *See* IBLA 2016-0279, (Exhibit 1). This appeal is still pending and it would be foolhardy for the agencies to move forward with approving the proposed lease modifications prior to resolution of

that appeal.

It would be especially foolhardy for the to move forward with the proposed lease modification given that approval of the Greens Hollow coal lease was clearly in violation of sage grouse protection requirements. As explained in our Statement of Reasons, under the applicable Resource Management Plan (“RMP”) and the BLM’s coal management regulations, the agency was prohibited from authorizing the Greens Hollow coal lease because the BLM was required to deem the lease area “unsuitable” for coal mining in order to protect priority sage grouse habitat. 43 C.F.R. § 3461.3-1(a). Given this, we have grave concerns that the proposed modification to the Greens Hollow lease would similarly flout applicable sage grouse RMP direction and the BLM’s leasing regulations. Put simply, the lease modification area must be declared as unsuitable for leasing.

Further, a previous modification to the Quitchupah coal lease was illegally approved by a BLM Field Manager who lacked delegated authority. This raises serious concerns that the latest proposal to modify the Quitchupah coal lease cannot be authorized. The previous modification, which was supposedly approved on November 5, 2009 as part of the “West Coal Lease Modifications,” authorized a 640-acre expansion of the Quitchupah coal lease. If the latest lease modification proposal would further expand this previous expansion, then it cannot be authorized according to Interior Department policy. *See WildEarth Guardians*, 187 IBLA 349, 353 (May 6, 2016) (overturning Spruce Stomp coal lease by application in western Colorado on basis that it was approved by a BLM Field Manager without delegated authority); Order in IBLA 2016-79 (Aug. 25, 2016) (overturning lease modification for Jim Bridger mine in southern Wyoming on basis that it was approved by a BLM Field Manager without delegated authority); and Order in IBLA 2016-80 (Aug. 25, 2016) (overturning lease modification for Twentymile mine in northwestern Colorado on basis that it was approved by a BLM Field Manager without delegated authority).

2. The Forest Service Cannot Consent to Modifications that Violate Federal Legal Obligations.

The Forest Service and BLM (collectively, “the Agencies”) must first determine whether this proposal for additional coal is in the public interest. Secondly, these comments are intended to assist the Agencies in identifying issues that must be analyzed and disclosed during the NEPA process, under 36 C.F.R. § 218.25(a)(3). Pursuant to its Notice of Intent, the BLM will consider whether to authorize the lease modifications requested by Canyon Fuel Company and the Forest Service will consider whether to consent to the leasing in the Fishlake National Forest and Manti-La Sal National Forest.

The Mineral Leasing Act (“MLA”) provides that where a federal coal lease underlies National Forest lands, the lease may only be issued “upon the consent [and] upon such conditions as [the Forest Service] may prescribe with respect to the use and protection of the nonmineral interest in those lands.” 30 U.S.C. § 201(a)(3)(A)(iii); see also 43 C.F.R. §§ 3400.3-1, 3420.4-2. The Forest Service does not have a mandatory duty to approve coal leasing, and in fact the MLA conveys full discretion upon the Forest Service to reject coal leasing. This is consistent with the Congressional intent in authorizing the leasing of federal coal under the

MLA, and in particular the Federal Coal Leasing Act Amendments of 1976, which intended leasing to be tempered by public interest considerations, including environmental considerations. As the courts have noted, Congress intended the MLA: “to provide for a more orderly procedure for the leasing and development” of coal the United States owns, while ensuring its development “in a manner compatible with the public interest.” Thus, the Forest Service must ensure that any consent to coal leasing is consistent with NEPA, its RMPs, and other applicable environmental protection requirements. Further, the Agencies must consider the use and protection of the non-mineral interest in those lands under 30 U.S.C. § 201(a)(3)(A)(iii). The Manti-La Sal and Fishlake National Forests are currently managed to allow for a variety of uses, including recreation, grazing, wildlife, timber, and mineral extraction. Camping, sightseeing, hiking, and hunting are some of the recreational activities available in the area. These recreational activities must be assessed when determining whether the modification is in the best interest of the American people.

Here, if the Forest Service consents to the issuance of the two leases the agency will fall exceptionally short of meeting these basic legal obligations. As a result, we call on the Forest Service to withhold its consent to the proposed lease modifications.

3. The Agencies Have Not Demonstrated that this Lease in the Public Interest, As Required by the Mineral Leasing Act and the Federal Land Planning and Management Act.

We are first and foremost concerned that the Forest Service may be offering its consent to the lease modifications at a time when our nation and our federal government should be doing everything possible to prevent additional carbon emissions in order to combat climate change. For this and other reasons, we further believe that this lease is not in the public interest. The Forest Service should not undermine the public interest or America’s national interest to benefit one of world’s largest purveyors of dirty coal.

Pursuant to the MLA, a prerequisite to approving any coal lease modification is that the modification be in the “public interest” and the national interest. *See* 30 U.S.C. § 201(a)(1) (“The Secretary of the Interior is authorized to divide any lands subject to this chapter which have been classified for coal leasing into leasing tracts of such size as he finds appropriate *and in the public interest*” (emphasis added)); 30 U.S.C. § 203(a)(2)(A) (Interior Secretary may modify coal leases upon a finding that, inter alia, that the lease modifications “would be *in the interest of the United States*” (emphasis added); 43 C.F.R. § 3432.1(a) (“The authorized officer may modify the lease to include all or part of the lands applied for if he determines that: (1) The modification *serves the interests of the United States*” (emphasis added)).

The bypass of federal coal is not the only consideration the agencies must weigh in assessing whether to consent to the lease modifications. Under 30 U.S.C. § 203, a lease modification must satisfy three requirements: (1) it must “be in the interest of the United States”; (2) it must “not displace a competitive interest in the lands”; and (3) it must “not include lands or deposits that can be developed as part of another potential or existing operation.” Regulations implementing these statutory requirements provide federal agencies involved in the lease modification approval process with discretion to modify an application area if doing so is in the

public interest. *See* 43 C.F.R. § 3432.2(a) (“The authorized officer may modify the lease to include all *or part of the lands applied for* if he determines that: (1) The modification serves the interests of the United States” (emphasis added)).

Here, it is unclear how the proposed lease modifications would serve the best interests of the United States. We are concerned that the modification and leasing of additional coal will aid only in the profit creation for Bowie Resources, especially in light of the March 2017 authorization of the lease sale to Bowie, of an additional 56 millions tons of reserves. *See* Hall, Evan, “Greens Hollow Coal Lease Sale Approved”, Utah Public Radio, available at: <http://upr.org/post/greens-hollow-coal-lease-sale-approved>, 3/16/2017. Of primary concern is that many of the power plants currently receiving SUFCO coal, are slated to shutter, or at least severely reduce their capacity. Intermountain Power Project, which received 1.9 million tons of coal from SUFCO in 2016, is slated to shutter in 2025, (Exhibit 2). Even more imminent, Kennecott Power Plant, which received over 95,000 tons of coal in 2016 is de-commissioning 75 percent of its capacity by January 1, 2018, (Exhibit 3). As two of its highest recipients of coal are in the process of closing their doors, the addition of 6.25 million tons of coal is seemingly unnecessary. Further, coal from the SUFCO Mine has been exported in the past and, given Bowie Resources’ expressly stated plans to increase the amount of coal the company exports, there appears little doubt that a large amount of the proposed coal lease will end up overseas. *See* Tory, Sarah, “How Utah Coal Interests Helped Push a Secret Plan to Export Coal from California”, High Country News, (7/21/2016), available at: <http://www.hcn.org/articles/how-a-utah-coal-company-fueled-a-secret-plan-to-export-coal-from-california-Keep-It-In-The-Ground-Oakland-terminal>. It’s notable that in 2013 alone, 800,000 tons of coal was exported from the SUFCO Mine.

We are further concerned that the federal coal program, as a whole, is moving forward in leasing without a wider assessment. BLM manages federal coal pursuant to regulations and a programmatic EIS (“PEIS”) that were originally adopted 38 years ago, at a time when the threat of climate change was not fully appreciated and market conditions, infrastructure development, scientific understanding, and national priorities were dramatically different. *See* 44 Fed. Reg. 42,584 (July 19, 1979); *see also* BLM, Final Programmatic Environmental Statement: Federal Coal Management Program (“1979 PEIS”). The 1979 PEIS does not consider the climate impacts of the federal coal program or adequately evaluate other potential environmental effects, let alone reflect the conditions of the coal industry as it exists today. For instance, in 2009, EPA formally found that climate change substantially affects human health and the environment. EPA determined that “greenhouse gases and associated climate change affect public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife.” Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,498. EPA concluded that “[f]or each of these sectors, the evidence provides support for a finding of endangerment to public welfare.” *Id.*

On January 15, 2016, Secretary of the Interior Sally Jewell issued a Secretarial Order commencing a process to prepare a new programmatic EIS for the federal coal program and putting in place a moratorium on most new leasing activity until that review was complete. *See*

Secretarial Order No. 3338, Discretionary Programmatic Environmental Impact Statement to Modernize the Federal Coal Program (Jan. 15, 2016) (“Order 3338”), available at: https://www.doi.gov/sites/doi.gov/files/uploads/so_3348_coal_moratorium.pdf, (Exhibit 4). However, on March 29, 2017, Secretary of the Interior Ryan Zinke issued Secretarial Order 3348, entitled “Concerning the Federal Coal Moratorium,” which revoked Order 3338, restarted the federal coal leasing program, and terminated the environmental review process. While Order 3348 removed the moratorium, the facts surrounding the need for a PEIS still exist. The direct, indirect, and cumulative impacts of the federal coal program have not been fully analyzed under NEPA in nearly 40 years. It is critical to complete this review before any new leasing actions are considered, including the South Fork Lease Modifications.

Here, we are greatly concerned that approval of the lease modification will lead to more air and water pollution, more degradation to the quality of life for residents in the area, increased truck traffic and damage to local roads, among other impacts that will certainly impose costs upon the community and society as a whole. Because the lease modifications proposal will worsen climate change, and result in unnecessary and unmitigated pollution, with the only benefits flowing to a single coal company, both BLM and the Forest Service have ample basis to reject this proposal.

4. The Agencies Must Prepare an EIS.

According to its scoping notice, the Agencies are presenting their analysis to determine whether the proposed lease modifications may cause significant impacts to the human environment and thus require preparation of an EIS. The Agencies must therefore prepare an EIS in order to meet its duties under NEPA.

An EIS is required for any “major federal action[] significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). Agencies must prepare an EIS rather than a lesser Environmental Assessment (“EA”) if there are “substantial questions whether a project may have significant effect,” *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998), and an agency “cannot avoid preparing an EIS by making conclusory assertions that an activity will have only an insignificant impact on the environment.” *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 864 (9th Cir. 2004). Consistent with fundamental and long-standing NEPA requirements, the Agencies must analyze and disclose the reasonably foreseeable direct, indirect, and cumulative climate impacts of the proposed mining, and emissions of connected actions. 40 C.F.R. §§ 1508.7, 1508.8. Cumulative effects are defined as impacts “on the environment which result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future acts, regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7.

Any analyses of comparatively small, incremental mine expansions without a broader analysis of the total impact of all past, proposed, and reasonably foreseeable future mining would violate NEPA, as federal agencies have a clear obligation to consider and disclose cumulative effects of the projects they approve. The combined effect of these past operations and the proposed expansion must be disclosed on a multitude of bases, among other considerations, climate, air quality, and water quality, before the Agencies can authorize or consent to, the

proposed lease modification.

The SUFCO Mine shipped 6.02 million tons of coal in 2015, making it the largest mine in Utah by 1.6 million tons (the second largest being Skyline Mine at 4.4 million tons in 2015). (Exhibit 5). By allowing for coal mining on the lease modification and ongoing mining on the existing lease, the Agencies' decisions will, in effect, authorize myriad other indirect impacts, including connected road construction and maintenance, truck traffic, the operation and maintenance of coal processing facilities on site, the disposal of mine waste, the development of mine ventilation systems, and other impacts. If the Agencies do not believe that the proposed activities are significant in terms of the context of the area that may be impacted, the Agency must explain why. Such a discussion should include an explanation as to the thresholds upon which the Agencies based their assessment. If the Agencies cannot identify any rational thresholds for which to assess the significance of its actions with regards to context, then any future decisions will be arbitrary and capricious. Here, the proposed activities area also significant in the context of the potential impacts to native species and their habitats, to the climate and to other natural resources, including ground and surface water, and air quality, and to residents and the quality of life in the area.

Here the direct, indirect, and cumulative impacts of coal mining and combustion associated with the proposed SUFCO coal mine expansion will undoubtedly have a significant effect on the environment.

5. The Agencies Must Analyze the Reasonably Foreseeable Direct, Indirect, and Cumulative Impacts of the Proposed Mining, and Emissions of Connected Actions.

NEPA is our “basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). The law requires federal agencies to fully consider the environmental implications of their actions, taking into account “high quality” information, “accurate scientific analysis,” “expert agency comments,” and “public scrutiny,” prior to making decisions. *Id.* at 1500.1(b). This consideration is meant to “foster excellent action,” meaning decisions that are well informed and that “protect, restore, and enhance the environment.” *Id.* at 1500.1(c). To fulfill the goals of NEPA, federal agencies are required to analyze the “effects” of their actions to the human environment in an EIS. 40 C.F.R. § 1502.16(d). To this end, the agency must analyze the “direct,” “indirect,” and “cumulative” effects of its actions, and assess their significance. 40 C.F.R. §§ 1502.16(a), (b), and (d).

“Direct effects” are those “caused by the action and occur at the same time and place.” 40 C.F.R. § 1508.8(a).

“Indirect effects” are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable . . . [and] may include growth inducing effects.” 40 C.F.R. § 1508.8. In analyzing indirect impacts, courts have long recognized that reasonably foreseeable effects of private development spurred by an agency’s actions must be disclosed under NEPA, even where future action occurs on private property rather than federal lands. See *Davis v. Mineta*, 302 F.3d 1104, 1122-23 (10th Cir. 2002); *Sierra Club v. Marsh*, 769 F.2d 868, 877-79 (1st Cir. 1985).

“Cumulative effects” are defined as impacts “on the environment which result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future acts, regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7. As relevant here, the Ninth Circuit Court of Appeals has found that “[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.” *Center for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008).

Thus, the Agencies’ NEPA review must disclose any anticipated or reasonably foreseeable future expansions, including expansions into areas currently under lease, and must analyze the impacts of the mining and burning of coal from other federal, state, and private lands or mineral reserves that are made economically or physically accessible by the proposed expansion. This disclosure is critically important in order for the public to understand the full extent of the project’s impacts as expanded mining poses significant direct, indirect, and cumulative impact to air quality, water quality, and wildlife in the region.

A. Coal Combustion

Agencies must analyze coal combustion impacts from mine expansion decisions when “(1) ‘but for’ the proposed expansion, the coal-combustion impacts would not occur and (2) the coal-combustion impacts are reasonably foreseeable.” *Diné Citizens Against Ruining Our Environment v. U.S. Office of Surface Mining Reclamation and Enforcement*, No. 12-cv-01275, slip op. at 13 (D. Colo. March 2, 2015) (citing 40 U.S.C. § 1508.8, *Utahns for Better Transp. v. U.S. Dep’t of Transp.*, 305 F.3d 1152, 1176 (10th Cir. 2002)). In this case, the purpose of mining the coal is its eventual combustion, therefore, the Agencies must analyze the coal combustion impacts from additional mining of the proposed lease modifications.

In evaluating the climate impacts of the proposed expansion, the Agencies must provide, at a minimum, the following quantifiable information, much of which includes quantification of emissions from coal combustion:

- Direct emissions of carbon dioxide (“CO₂”) during mining and transportation, identified by both annual and total figures.
- Indirect emissions of CO₂ from combustion of coal in the lease modification area.
- Cumulative emissions from of CO₂ from combustion of all past, current, and reasonably foreseeable future coal mining operations at the SUFCO mine.

SUFCO Mine Customers, 2016, Total Coal Consumed, Data from Energy Information Administration Form 923 Data. U.S. Energy Information Administration at <http://www.eia.gov/electricity/data/eia923/>

Power Plant	State	Total Tons of SUFCO Coal Consumed in 2016
Hunter	UT	21,846.00
Huntington	UT	984,094.00
Intermountain Power Project	UT	1,902,571.00
Kennecott Power Plant	UT	95,129.00

These combustion impacts include not only emissions of greenhouse gases contributing to global climate change, but also emission of hazardous air pollutants including mercury and selenium that are deposited proximate to the power plant and pose risks to both human health and the survival of endangered and other native fish in the Green River. The Agencies must include an analysis of impacts to the listed Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. Some of the highest levels of mercury concentration in fish tissue within the entire region of the Upper Colorado River Basins occur in Colorado pikeminnow in the Middle Green River, located in close proximity to the Hunter power plant that burns the largest share of SUFCO coal. The Colorado pikeminnow is a critically-endangered fish and top natural predator in the Colorado River that has been federally protected since 1967. The pikeminnow is imperiled due to widespread destruction and modification of the Colorado River basin, including its tributaries, where it once occurred. The Agencies must analyze and assess whether SUFCO’s contribution to mercury releases from Hunter and other plants will cause jeopardy to the Colorado pikeminnow under the ESA.

Atmospheric mercury is produced from, among other things, combustion of coal at power plants, which releases mercury into the air where it is then deposited by precipitation water bodies, where micro-organisms convert it to methyl mercury, a particularly toxic form, at which point it becomes biomagnified through the food chain. *See*, U.S. Fish and Wildlife Service, Biological Opinion for the Four Corners Power Plant and Navajo Mine Energy Project 72-73 (April 8, 2015) (“FCPP/NM BiOp”), available at: https://www.fws.gov/southwest/es/NewMexico/documents/BO/2014-0064_USFWS_FINAL_BO_Four_Corners_Power_Plant_Navajo_Mine_Energy_Project.pdf. Further, according to the EPA, coal-fired power plants are the largest human source of mercury emissions in the United States, and atmospheric deposition appears to be the dominant source of mercury contamination in North America. *See* Environmental Protection Agency, “Mercury and Air Toxic Standards”, available at: <https://www.epa.gov/mats/cleaner-power-plants>. Some of the highest levels of mercury concentration in fish tissue within the entire region of the Upper Colorado River Basins occur in Colorado pikeminnow in the Middle Green River, located in close proximity to the Hunter power plant that burns the largest share of SUFCO coal.

B. Coal Transportation Impacts

The Agencies here must analyze and disclose the indirect impacts from coal

transportation in order to comply with NEPA’s clear mandates. NEPA not only requires consideration of indirect effects, 40 C.F.R. § 1508.8(b), but further provides that agencies must address “any adverse environmental effects that cannot be avoided should the proposal be implemented.” 42 U.S.C. § 4332(c)(ii).

SUFCO coal is currently transported to power plants by both rail and truck, which necessarily entails thousands of trips for both loaded and unloaded rail cars and coal trucks. The Agencies have the necessary data to quantify the number of trips and miles travelled for both trains and coal trucks, and these must be disclosed to the public. Further, the Agencies must assess impacts that result from these trips, including carbon dioxide emissions emitted during transportation, diesel particulate matter emissions and air quality impacts from coal trains and coal trucks, and the amount and impact of coal dust emissions as coal blows off the tops of uncovered coal trains. The Federal District Court in Montana recently invalidated an Environmental Assessment prepared by the federal Office of Surface Mining (“OSM”) regarding an expansion at the Bull Mountain Mine in Montana, in part because OSM refused to analyze these non-greenhouse gas impacts from transporting Bull Mountain coal. *Mont. Env’tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15- 106-M-DWM, Slip. Op. at 27-33 (D. Mont. Aug. 14, 2017), (Exhibit 6). Moreover, there OSM calculated the miles travelled during domestic transportation and the greenhouse gases emitted during transportation both domestically and abroad. *Id.*

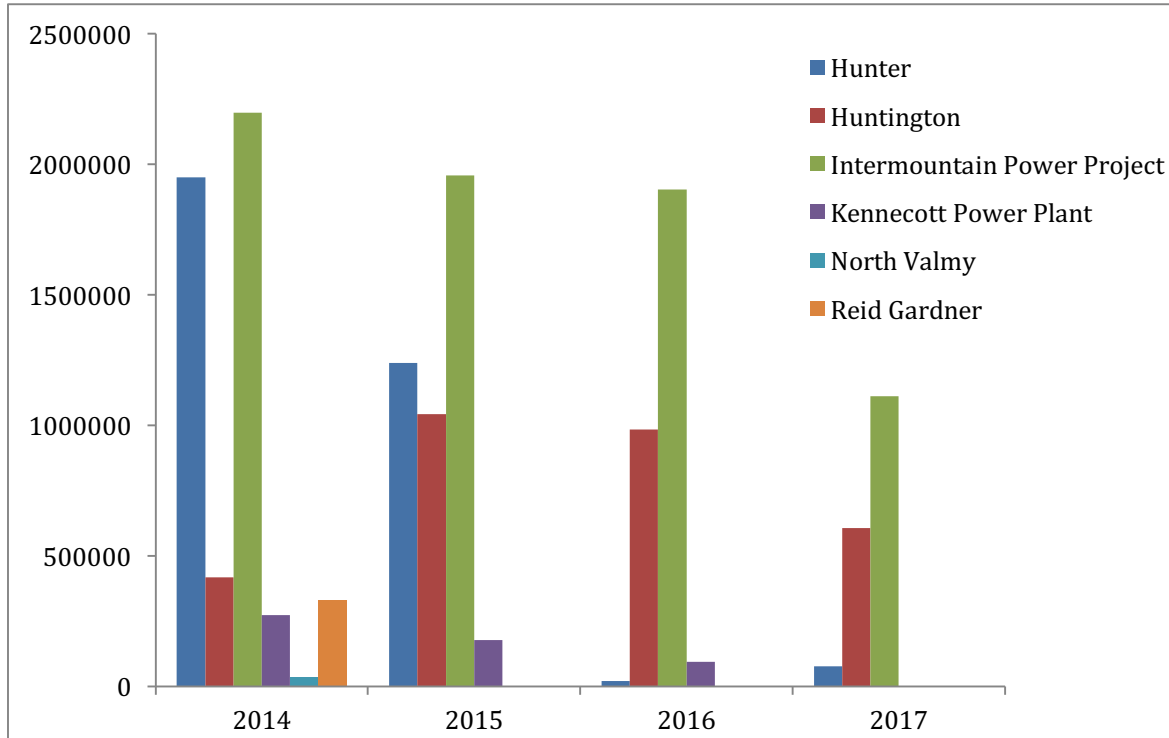
SUFCO coal has a limited number of purchasers, and with these likely end-users identified based on current SUFCO purchasers, the Agencies can determine the likely number of trips to each destination as a result of a 6.25 million ton SUFCO expansion, the total miles travelled, whether by coal train or coal truck, the towns and waterways likely to be adversely impacted by this transportation, and the extent of these impacts. All of these must be disclosed to the public prior to the Agencies authorizing the proposed mine expansion.

Based on publicly available data, all reviewable on the U.S. Energy Information Administration’s website regarding coal supplies to power plants, in 2016 SUFCO had four primary purchasers of its coal, and just three domestic purchasers in 2017. *See* <https://www.eia.gov/electricity/data/eia923/> (last visited October 9, 2017).

SUFCO Coal Mine Customers: 2016

Power Plant	Year	OPERATOR	Total Tons of Sufco Coal consumed	Contract Expiration
Hunter	2016	Pacificorp	21,846	Dec. 2020
Huntington	2016	Pacificorp	984,094	Dec. 2029
Intermountain Power Project	2016	Los Angeles Department of Water & Power	1,902,571	Dec. 2024
Kennecott Power Plant	2016	Kennecott Utah Copper	95,129	Dec. 2016

SUFCO Coal Mine Customers: 2014 - 2017



Given the exceedingly limited number of purchasers for SUFCO coal, the known location of those purchasers, and the currently utilized method of transporting coal to those buyers (whether by coal train or coal truck), the Agencies must analyze and disclose greenhouse gas and non-greenhouse gas pollution impacts caused by the transportation of the proposed 6.25-million-ton expansion at SUFCO mine.

C. Impacts to Water Quality

With regards to water quality, the Agencies must fully analyze and assess water quality impacts to ensure compliance with state water quality standards. Just as with other issues in the EIS, the Agencies are responsible for taking a “hard look” at surface and groundwater water quality and quantity impacts. *See Nat. Resources Def. Council v. Hodel*, 865 F.2d 288, 299 (D.C. Cir. 1988). The Agencies must identify all existing water quality problems in the area that will be directly, indirectly, and cumulatively affected by the proposed action and disclose any contribution the proposed action will make to those water quality problems. The Agencies must ensure that the reasonably foreseeable consequences of its actions ensure compliance with relevant water quality standards in accordance with the Clean Water Act.

The South and North forks of the Quitchupah are tributaries of the Colorado River, and run right next to the mine. The Agencies must assess impacts on this particular watershed, as a whole. Specifically, the Agencies must disclose approximately how much water will be used at the expanded facility areas, for such things like dust suppression on roads and other uses. The

Agencies must also disclose the threshold for the significance of the water use data. This is substantial as water is a finite resource, necessary for the human environment, and must be handled wisely in the arid west. Additionally, the current spring and seep survey is dated and does not provide an accurate, up-to-date representation of pre-mining conditions as they currently exist, according to a 2015 report regarding deficiencies at the Greens Hollow Lease Tract. (Exhibit 7).

Alarming, just below the Huntington Power Plant, which received almost one million tons of coal in 2016 from SUFCO, there are several fields that have been serving as a research farm for the past four decades. To develop new uses for wastewater, crops have been receiving wastewater to grow alfalfa, wheat and barley as part of scientific research. While the farm asserts the water from the power plant is safe, a study found that the cattle eating it have "soft teeth and bone weaknesses." (Exhibit 8). Thus, the Agencies should incorporate an analysis of the combustion wastewater in its assessment, and determine its impacts on the human environment.

Further, water quality issues must also be considered in light of the significant oil and gas development in the region that can also cause and contribute to water quality degradation. The potential impacts that may result from hydraulic fracturing ("fracking") are significant, and include impacts to water quality and supply, impacts to habitat and wildlife, as well as impacts on greenhouse gas emissions and air quality. *See, e.g.,* National Wildlife Federation, *No More Drilling in the Dark: Exposing the Hazards of Natural Gas Production and Protecting America's Drinking Water and Wildlife Habitats* (2011), available at: <https://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2011/No-More-Drilling-in-the-Dark.aspx>; *see also* United States Forest Service, Chloride Concentration Gradients in Tank-Stored Hydraulic Fracturing Fluids Following Flowback (Nov. 2010), available at: <http://nrs.fs.fed.us/pubs/38533/>, (Exhibit 9). The New York Times recently uncovered a 1987 U.S. Environmental Protection Agency ("EPA") report to Congress which found, among other things, that fracking can cause groundwater contamination, and cites as an example a case where hydraulic fracturing fluids contaminated a water well in West Virginia. *See Drilling Down, Documents: A Case of Fracking Related Contamination*, N.Y. Times Online, available at: <http://www.nytimes.com/interactive/us/drilling-down-documents-7-intro-page.html>.

In light of this development, as well as the expanded mining development in the region, the Agencies must analyze its impacts on the watershed, and the downstream impacts on wildlife, human health, and the surrounding environment. The Agencies must analyze and assess, at a minimum: (1) the chemical composition of ground water that flows into the mined area; (2) the quantity and quality of flow in nearby streams to which mine water is discharged; (3) the direction and quantity of surface-water runoff above underground mining areas because of diversion of runoff into tension cracks; (4) the quantity of water recharging aquifers that overlie a mined area; and (5) the quantity of ground water moving vertically between aquifer layers. Aquifers must be balanced either by an increase in recharge to the aquifer, by a decrease in the natural discharge from the aquifer, by a decrease of ground water in storage, or by a combination of the above. Water discharged by underground mines produces the same changes in a ground-water system as do wells. Dewatering of this aquifer could affect springs and seeps which may be located near the mine. Construction and upkeep of access ways and facilities, if not properly controlled, can increase erosion and sediment yields.

D. Impacts to Air Quality

The Agencies must fully analyze and assess direct, indirect, and cumulative impacts to air quality, including impacts to air quality in the context of all National Ambient Air Quality Standards (“NAAQS”), prevention of significant deterioration (“PSD”) increments for Class I and II areas, and visibility impacts to Class I areas. FLPMA requires the agency to, “provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards[.]” 43 U.S.C. § 1712(c)(8).

We are particularly concerned over the impacts of coal mining and combustion to pollutants for which the EPA has established NAAQS. Emissions of sulfur dioxide (“SO₂”) and nitrogen oxides (“NO_x”), which are pollutants in themselves and precursors to formation of ambient fine particulate matter methane (“CH₄”); nitrous oxide (“NO₂”); and hydrofluorocarbons range up to and beyond 6,300 as well as directly emitted fine particles such as PM_{2.5} (particulate matter of a diameter equal to or less than 2.5 micrometers). Coal burning also emits mercury and other substances classified as toxic under the Clean Air Act. Air quality in the area is affected by emissions from this existing mine, trucks used in hauling the coal, and two power plants in the area: The Hunter Power Plant located near Castle Dale and the Huntington Power Plant located in Huntington.

The Agencies must analyze and assess the impacts of emissions and pollutants as it relates to class areas. The EPA has classified all land in the United States as a Class I, Class II, or Class III Federal Air Quality Control Region (“AQCR”) (42 U.S.C. 7470). Class I areas include international parks, national wilderness areas which exceed 5,000 acres in size, national memorial parks which exceed 5,000 acres in size, and national parks which exceed 6,000 acres in size. Class I areas are intended to maintain pristine air quality. Utah Air Quality Rules R307-405-4 designates five Federal Class I areas in Utah: Arches National Park, Bryce Canyon National Park, Canyonlands National Park, Capitol Reef National Park, and Zion National Park. There are additionally two Class I areas located in neighboring states, but their 100-km areas extends into parts of Utah, and therefore must also be considered in light of the Utah Air Quality Regulations. The remaining land within Utah is classified as Class II (UDEQ, 2016a). The Agencies must determine the foreseeable impacts of additional mining from the South Fork Lease Modifications with this in mind.

Consistent with fundamental and long-standing NEPA requirements, the Agencies must analyze and disclose the reasonably foreseeable direct, indirect, and cumulative climate impacts of the proposed mining, and emissions of connected actions. 40 C.F.R. §§ 1508.7, 1508.8. Cumulative effects are defined as impacts “on the environment which result [] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future acts, regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7.

To ensure an effective analysis and assessment of impacts, we request that the Agencies at least use modeling to address ozone, nitrogen dioxide, and particulate matter impacts. Dispersion modeling to address nitrogen dioxide impacts, particularly on a one-hour basis, has

been utilized by the Agencies in analyzing and assessing the impacts of oil and gas development. It is critical that modeling be utilized to ensure that an accurate analysis is completed and that the Agencies ensure future impacts are appropriately disclosed and mitigated. Here, no state monitoring stations exist near the project area, background air quality levels, therefore, are based on data from surrounding areas and information provided by the state (Utah DEQ 2008). Thus, the Agencies must undertake their own analysis and assessment to comply with NEPA.

i. The Agencies Must Address Human Health Impacts Related to Air Quality

SO₂, NO_x, and PM_{2.5} are associated with important and damaging effects on human health and the natural, agricultural, and human environments. Specifically, considering a substantial body of published scientific literature and reflecting thousands of epidemiological, toxicological, and clinical studies, the EPA has concluded that there is a causal relationship between premature mortality and both long-term and short-term exposure to PM_{2.5}. Further, EPA has also concluded that there is a causal relationship between respiratory health effects and short-term exposure to SO₂. The immediate effect of SO₂ on the respiratory system in humans is bronchoconstriction. Asthmatics are more sensitive to the effects of SO₂ likely resulting from preexisting inflammation associated with this disease. The World Health Organization has reported that long-term exposure to particulate matter in the environment leads to a reduction in life expectancy from cardiopulmonary mortality. World Health Organization. “Outdoor Air Pollution”. Global Health Observatory, available at:

http://www.who.int/gho/phe/outdoor_air_pollution/en/index.html. Further, Inhalation of particulate matter in general is associated with increased risk of multiple types of cancer. Pope III CA, Burnett RT, Thun MJ, et al, “Lung Cancer, Cardiopulmonary Mortality, and Long-Term Exposure to Fine Particulate Air Pollution,” *Journal of the American Medical Association*. 2002; 287(9):1132– 1141, (Exhibit 10). Coal dust may contain traces of the heavy metals, such as lead, mercury, chromium, and uranium, that are toxic to the human nervous system, especially to children, causing decreases in birth weight, growth rate, and intellectual development problems. Hu H. Human Health and Heavy Metals Exposure. In: McCally M, ed. *Life Support: The Environment and Human Health*. Cambridge, Mass.: MIT Press; 2002, (Exhibit 11).

In addition, in the presence of sunlight and volatile organic compounds, NO_x can undergo a chemical reaction in the atmosphere to form ozone. Ozone adversely affects the human respiratory tract and has been associated with the onset of asthma. Ozone also affects adversely a number of agricultural crops. Reducing emissions of SO₂ and NO_x would also reduce ambient exposure to SO₂ and NO₂, respectively.

Further, a recent study found a new toxin existing in coal combustion emissions. *Nature Communications*, 194(2017) doi:10.1038/s41467-017-00276-2, available at: <https://www.nature.com/articles/s41467-017-00276-2>. The study suspected that in the U.S., scrubbers capture the material, reducing its prevalence, however, there is no monitoring of this particular harmful toxin, which contributes to the estimated 3 million air-pollution related deaths worldwide. Roston, Eric. “Coal Plants Might be More Toxic Than We Thought.” *Bloomberg News*. 8/8/2017, available at: <https://www.bloomberg.com/news/articles/2017-08-08/coal-plants->

might-be-even-more-toxic-than-we-thought, (Exhibit 12). The Agencies must account for this new information in its modeling analysis.

To ensure an effective analysis and assessment of impacts, we request that Agencies at least use modeling to address ozone, nitrogen dioxide, and particulate matter impacts. It is critical that modeling be utilized to ensure that an accurate analysis is completed and that Agencies ensure future impacts are appropriately disclosed and mitigated.

6. The Agencies Must Address Climate Change Impacts.

The Agencies must analyze and assess the full extent of climate change impacts of consenting to the proposed lease modification. Just last month, the 10th Circuit Court of Appeals ruled that the BLM violated NEPA in its economically “irrational” analysis of the climate impacts of Black Thunder mine and North Antelope Rochelle mine in the Powder River Basin, remanding to the BLM to revise its EIS. *WildEarth Guardians v. U.S. Bureau of Land Management, Case No. 15-8109, --F.3d--, 2017 WL 4079137*, (Exhibit 13). As this decision shows, a robust analysis of GHG is necessary to comply with NEPA.

We request the Agencies quantify the direct, indirect, and cumulative greenhouse gas emissions that would result from approving the proposed lease by application which would maintain production levels, including emissions of methane (including from mining activities), carbon dioxide, and other greenhouse gases that have been found to harm public health. The Agencies must quantify the greenhouse gas emissions resulting from the proposal, including methane and carbon dioxide released during the mining process, methane emitted during the storage and shipment of the coal, carbon dioxide emissions associated with the truck and rail transportation of the coal, and the carbon dioxide emitted during the end-use combustion of the coal. In particular, the coal extraction process releases large amounts of greenhouse gases, particularly methane, through leakage from surface mines and from ventilation and degasification systems in underground mines. These methane emissions must be quantified, and alternatives that avoid or reduce these emissions must be addressed.

As described in more detail in section 8 below, we also request that the Agencies analyze and disclose the impact of these greenhouse gas emissions. One tool available to the Agencies, though not the only available means to analyze the impact of the proposal’s greenhouse gas emissions, is the social cost of carbon. A federal district court in Montana recently ruled that a NEPA analysis that included the economic benefits of a project was incomplete without an assessment of the carbon costs that would result from the development. *See Exhibit 6, Mont. Env’tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15- 106-M-DWM (D. Mont. Aug. 14, 2017). Using the social cost of carbon would allow the Agencies to avoid a similar deficiency here. In this case, it appears that any level of extended carbon dioxide emissions would pose significant impacts to society. Further, a D.C. Circuit Court ruled that an agency’s assessment of the environmental impact of pipelines was inadequate, reasoning that it did not contain enough information on the greenhouse-gas emissions resulting from burning the gas that the pipelines carry, including its refusal to use the social cost of carbon to analyze the impact of the project’s greenhouse gas emissions. *Sierra Club, et al., v. Federal Energy Regulatory Commission*, No. 16-1329 (D.C. Cir. Aug. 22, 2017), (Exhibit 14).

Climate change is an urgent problem, and the Agencies must acknowledge this fact in the upcoming environmental review. The National Oceanic and Atmospheric Administration said the globe recently averaged 61.5 degrees, which was a degree-and-a-half higher than the 20th century average. National Oceanic and Atmospheric Administration, “2016 State of the Climate: Highlights”, available at: <https://www.climate.gov/news-features/understanding-climate/state-climate-highlights/2016>. The report for 2016 documents an unprecedented milestone: global average carbon dioxide concentrations exceeded 400 parts per million for the first time in at least 800,000 years. *Id.*

7. The Agencies Must Address Impacts of Similar and Cumulative Actions.

The Agencies must analyze and assess the impacts of similar and cumulative mining and coal leasing approvals that are under consideration by the U.S. Department of the Interior in the same area. Under NEPA, an agency must analyze the impacts of “similar” and “cumulative” actions in the same NEPA document in order to adequately disclose impacts in an EIS. *See* 40 C.F.R. §§ 1508.25(a)(2) and (3). Similar actions include actions that, “when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together.” 40 C.F.R. § 1508.25(a)(3). Key indicators of similarities between actions include “common timing or geography.” *Id.*

The significance of these impacts is based on the “context” and “intensity” of the impacts. 40 C.F.R. § 1508.27. Context of the impacts is determined by the impacts to, among other factors, the affected region, locality, whether the action “affects public health or safety,” the “[u]nique characteristics of the geographic area,” the degree to which impacts are likely to be “highly controversial” or “highly uncertain,” and whether the action may be cumulatively significant. 40 C.F.R. § 1508.27(b).

In addition to the obligation to disclose cumulative impacts discussed above, if the proposed expansion will facilitate mining on adjacent private, state and federal lands, then NEPA requires the Agencies to disclose the impacts of mining and burning that coal as part of its analysis of the indirect effects of the proposed project. Thus, the Agencies’ NEPA review must disclose any anticipated or reasonably foreseeable future expansions, including expansions into areas currently under lease, and must analyze the impacts of the mining and burning of coal from other federal, state, and private lands or mineral reserves that are made economically or physically accessible by the proposed expansion. This disclosure is critically important in order for the public to understand the full extent of the project’s impacts.

Here, in Sevier county alone, there are 65 active oil and gas wells. *See* Utah Department of Environmental Quality, Data from Interactive Map, available at: <https://enviro.deq.utah.gov/>. This oil and gas development is arguably a similar action, the direct, indirect, and cumulative impacts of which must also be analyzed and assessed in the South Fork Lease Modification EIS. Given the similar geography, timing of impacts, and nature of the actions (federal mineral development with similar air, water, wildlife, lands, and climate impacts), the Agencies must ensure a comprehensive analysis of any and all reasonably foreseeable oil and gas development.

Thus, in order for the Agencies to sufficiently analyze whether or not the impacts will be significant, the Agencies must analyze and assess not only the coal extraction for the immediate SUFCO, but also assess the extraction and combustion in the wider region. Here the direct, indirect, and cumulative impacts of coal mining and combustion associated with the proposed South Fork Lease Modifications will undoubtedly have a significant effect on the environment, in conjunction with similar actions.

8. The Agencies Must Analyze and Disclose Carbon Costs.

We also request that the Agencies analyze and assess the extent to which these emissions are likely to contribute to global climate change. In this case, it appears that any level of extended carbon dioxide emissions would pose significant impacts. However, at a minimum, to properly assess climate impacts under NEPA, the Agencies must analyze and assess the cost of carbon emissions of mining the Greens Hollow and Quitcupah lease using the social cost of carbon protocol.

The Agencies must analyze and assess the climate impacts of mining the additional coal at SUFCO using the social cost of carbon protocol. The social cost of carbon protocol for assessing climate impacts is a method for “estimat[ing] the economic damages associated with a small increase in carbon dioxide (“CO₂”) emissions, conventionally one metric ton, in a given year [and] represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).” EPA, “Fact Sheet: Social Cost of Carbon” (Nov. 2013) at 1, (Exhibit 15). The protocol was developed by a working group consisting of several federal agencies, including the U.S. Department of Agriculture, EPA, CEQ, and others, with the primary aim of implementing Executive Order 12866, which requires that the costs of proposed regulations be taken into account.

In 2009, an Interagency Working Group (“IWG”) was formed to develop the protocol and issued final estimates of carbon costs in 2010. Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (Feb. 2010), (Exhibit 16). These estimates were then revised in 2013 by the IWG. IWG on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (May 2013), (Exhibit 17). In July 2014, the U.S. Government Accountability Office (“GAO”) confirmed that the IWG’s estimates were based on sound procedures and methodology. GAO, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (July 2014), (Exhibit 18). The social cost of carbon estimates were again revised in 2015. IWG on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (modified July 2015), (Exhibit 19).

IWG’s most recent estimate was \$50 in global damages per ton of carbon dioxide, based on year 2020 emissions, converted from 2007 to 2017 dollars. IWG on the Social Cost of Greenhouse Gases, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (2016), (Exhibit 20).

While Trump’s Executive Order 13783 technically disbanded the IWG in March, 2017, in a recent letter published in the journal, *Science*, scholars urged the government and private sector to continue using IWG’s the estimate of \$50 per ton of carbon dioxide, as it is the “best estimate of the social cost of greenhouse gases”. “Best Cost Estimate of Greenhouse Gases.” Revesz, R. *Science* 357 (6352), 655. DOI: 10.1126/science.aao4322, (Exhibit 21). In the letter, scholars reasoned that IWG’s estimates “already are the product of the most widely peer- reviewed models and best available data.” *Id.* Thus, based on the recent letter published in *Science*, the social cost of carbon is still current and the best model.

The social cost of carbon provides decision makers and the public with an informative, accessible mechanism for both analyzing and understanding the climate impacts of a proposed decision. Although agencies such as OSM and the Forest Service often quantify the *amount* of carbon dioxide or CO₂-e (carbon dioxide equivalent) emissions from mining and burning coal from federal leases, these agencies have not yet taken the next step of consistently employing the social cost of carbon to tell the public about the *impact* of those emissions. An isolated calculation of the amount of carbon emissions that would result from a particular project does not provide any meaningful insight as to the effect that those emissions will have on our climate. By contrast, the social cost of carbon offers an actual estimate of the damage caused by each incremental ton of carbon emissions.

The social cost of carbon describes those damage estimates in monetary terms, which are far easier for decision makers and the public to comprehend and contextualize than tons of CO₂-e. In doing so, the social cost of carbon provides a concrete assessment of a project’s social and environmental impacts and provides a tangible sense of the scale of damage that both the public and decision makers can readily understand. As explained by one legal commentator, the social cost of carbon “allow[s] agencies to consider those GHG emissions . . . in a meaningful way,” and that “assigning a price to carbon emissions – even a conservative price – makes the cost of those emissions concrete for agency decision makers.” Squillace, Mark & Hood, Alexander, *NEPA, Climate Change, and Public Land Decision Making*, 42 ENVTL. L. 469, 510, 517 (2012).

Of course, we do not imply that the impacts of climate change can be fully captured by a dollar figure. Droughts, floods, extreme weather events, rising sea levels, and other phenomena related to climate change present threats to our planet that extend far beyond economic harms. Agencies must analyze not only the quantitative (and monetizable) climate impacts of proposed actions, but the qualitative and non-monetizable impacts as well. Nevertheless, to the extent that a project’s impacts can be quantified, the social cost of carbon is the best and most rigorous tool currently available for understanding the damages linked to carbon emissions, rather than simply the extent of the emissions themselves. Thus, the Agencies must at least attempt to quantify the costs of its impacts, even with a disclaimer that there could be many more impacts that are not quantified.

Although the social cost of carbon is often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated

with potential increases of GHG emissions.” EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011), (Exhibit 22). Furthermore, although it was initially developed to help agencies develop regulatory impact assessments of proposed rules, the social cost of carbon need not and should not be limited to this application. As CEQ has confirmed, statements that a particular agency decision will result in only a small fraction of global GHG concentrations should not be used to avoid analyzing the impact of those emissions. Consideration of Greenhouse Gas Emissions and Climate Change Effects in NEPA Reviews, 79 Fed. Reg. at 77,825. Such statements, according to CEQ, reflect the nature of climate change rather than the impact of any particular project. *Id.*

NEPA requires the Agencies to use the social cost of carbon because it is the best tool available to analyze the economic and environmental impact of increased carbon dioxide emissions. NEPA specifically requires federal agencies to analyze and disclose the environmental effects of their actions, including “ecological . . . aesthetic, historic, cultural, economic [and] health” impacts. 40 C.F.R. § 1508.8. Where “information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,” NEPA regulations direct agencies to evaluate a project’s impacts “based upon theoretical approaches or research methods generally accepted in the scientific community.” 40 C.F.R. § 1502.22(b)(4).

Agencies cannot ignore the effects of GHG emissions from mining operations or coal combustion. *High Country Consrv. Advocates v. US Forest Service*, 52 F. Supp. 3d 1174, 1190 (2014). Nor can they “completely [] ignore a tool in which an interagency group of experts invested time and expertise.” *Id.* at 1193. NEPA requires agencies to engage in “a reasonable, good faith, objective presentation of the topics,” such that it “foster[s] both informed decision-making and informed public participation.” *Custer Cnty Action Ass’n v. Garvey*, 256 F.3d 1024, 1035 (10th Cir. 2001) (citations omitted). The social cost of carbon is based on generally accepted research methods and years of peer-reviewed scientific and economic studies. It was developed by experts at a dozen federal agencies and offices, and it is both widely used and generally accepted in the scientific community. As such, it is the best tool now available for agencies to use in predicting and analyzing the climate impacts of proposed federal actions.

While the IWG is no longer assembled, agencies are still obligated to analyze the costs of GHG emissions. Specifically, federal agencies’ obligation to use the social cost of carbon to analyze the costs associated with GHG emissions through NEPA was directly affirmed by the court in *High Country*. 52 F. Supp. 3d 1174. In his decision, Judge Jackson identified the IWG’s social cost of carbon protocol as a tool to “quantify a project’s contribution to costs associated with global climate change.” *Id.* at 1190. “The critical importance of [climate change] . . . tells me that a ‘hard look’ has to include a ‘hard look’ at whether this tool, however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored.” *Id.* at 1193. To fulfill this mandate, they agency must use the social cost of carbon to disclose the “ecological[,] . . . economic, [and] social” impacts of the proposed action. 40 C.F.R. § 1508.8(b).

Importantly, other agencies within the Interior Department, have already utilized the social cost of carbon protocol in the context of analyzing the impacts of fossil fuel development

under NEPA. In recent Environmental Assessments for oil and gas leasing in Colorado, the BLM estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.” BLM, “Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale,” DOI-BLM-MT-0010-2014- 0011-EA (May 19, 2014) at 76, available at: [http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sales/2014/oct__21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20\(1\).pdf](http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sales/2014/oct__21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20(1).pdf). In conducting its analysis, the BLM used a “3 percent average discount rate and year 2020 values,” presuming social costs of carbon to be \$46 per metric ton. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).” *Id.* In Idaho, the BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon to be \$51 per ton of annual CO₂e increase. BLM, “Little Willow Creek Protective Oil and Gas Leasing,” EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 81 (Exhibit 23). Based on this estimate, the agency estimated that the total carbon cost of developing 25 wells on five lease parcels to be \$3,689,442 annually. *Id.* at 83.

In 2015, Michael Greenstone, the former chief economist for the President’s Council of Economic Advisers, confirmed that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction. *See* Greenstone, M., “There’s a Formula for Deciding When to Extract Fossil Fuels,” *New York Times* (Dec. 1, 2015). To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published in 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton. Moore, C.F. & Delvane, B.D., “Temperature Impacts on Economic Growth Warrant Stringent Mitigation Policy,” *Nature Climate Change* (January 12, 2015) at 2, (Exhibit 24). In spite of uncertainty and likely underestimation of carbon costs, nevertheless, the SCC is a useful measure to assess the benefits of CO₂ reductions, and costs of not reducing CO₂.

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decision-making, is emphasized by a 2014 White House report, which warned that delaying carbon reductions would yield significant economic costs. *See* Executive Office of the President of the United States, “The Cost of Delaying Action to Stem Climate Change” (July 2014), (Exhibit 25). As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO₂ accumulates in the atmosphere, delaying action increases CO₂ concentrations. Thus, if a policy delay leads to higher ultimate CO₂ concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO₂ concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO₂ concentration to given level, then that delay means that the policy, when implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.

Id. at 1.

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and supported in federal case law. As explained, NEPA requires agencies to analyze the consequences of proposed agency actions and consider include direct, indirect, and cumulative consequences.

To this end, courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

More recently, a federal court has done likewise for a federally approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See*, 52 F.Supp.3d 1174, citing 40 C.F.R. § 1502.23. However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project. However, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* Recently, a federal district court in Montana reaffirmed the reasoning in *High Country*, indicating that a NEPA analysis that included the economic benefits of a project was incomplete without an assessment of the carbon costs that would result from the development. *Mont. Env'tl. Info. Ctr.*, CV 15-106-M-DWM. In agreeing with the Plaintiffs, the Court specifically mentioned the social cost of carbon as one tool to use to quantify the costs associated with the mine expansion. *Id.* at 35.

Using any of the Interagency Working Group’s social cost of carbon values demonstrates that the combustion of coal from the proposed expansion will likely result in massive economic damages associated with climate change. The total climate impacts from the proposal will reach into the hundreds of millions of dollars, and this must be disclosed to the public and decision makers. To this end, the Agencies must fully analyze and disclose the carbon costs of authorizing the proposed lease modification.

9. The Agencies Must Account for Wildlife Impacts, Especially Greater Sage Grouse.

The Agencies must analyze and assess on the reasonably foreseeable impacts that would occur on site as a result of expanded mining. Of particular concern is the analysis and assessment of impacts to the greater sage grouse. Particularly, much of the Greens Hollow tract underlies mapped priority sage grouse habitat, habitat that the National Technical Team recommended should receive utmost protection. We urge the Agencies to specifically follow scientific guidelines for the protection of the greater sage grouse advanced by a National Technical Team of scientists and resource specialists from the BLM, state fish and wildlife agencies, the U.S. Fish and Wildlife Service, Natural Resources Conservation Service, and the U.S. Geological Survey. The Agencies must analyze whether the sage grouse will be adequately protected and the leasing will not contribute to the need for listing under the ESA. Finally, with regards to the sage grouse, as with other fish and wildlife, the Agencies must analyze and assess the impacts as related to its obligation to comply with its Land and Resource Management Plans (“LRMPs”) in accordance with the National Forest Management Act (“NFMA”). *See* 16 U.S.C. 1604(i). Both the Manti-La Sal and Fishlake National Forest LRMPs require the Forest Service to protect sensitive species and more importantly, to prevent the need for species to be listed as threatened or endangered under the ESA.

The Agencies must analyze and assess potential for impacts from project-related construction activity and vehicle traffic with sage grouse protection in mind. The development of the mine in question will involve access road development, use, and/or maintenance. Roads pose an important threat to sage grouse by fragmenting their habitat and displacing them from adjacent areas.

Under NEPA, federal agencies are required to analyze the direct and cumulative impacts of federally permitted activities together with connected actions, currently existing impacts, and reasonably foreseeable impacts. Existing impacts include vegetation treatment projects, roads, off-road vehicle traffic, and existing coal mine exhaust fans. Reasonably foreseeable impacts include all of this project’s modification of infrastructure. Cumulative effects for sage grouse consider only partially the direct consequences of coal leasing on this tract, but not how these interact with other cumulative impacts.

In proposing to consent to the lease modifications, the Forest Service must comply with its LRMPs and its Sensitive Species Manual with regards to the sage grouse. Here, the Forest Service’s Sensitive Species Manual, FSM 2670 requires that the Forest Service “[d]evelop and implement management practices to ensure that species do not become threatened or endangered because of Forest Service actions,” to “[m]aintain viable populations of all native and desired nonnative wildlife, fish, and plant species in habitats distributed throughout their geographic range on National Forest System lands,” and to “[a]void or minimize impacts to species whose viability has been identified as a concern.” FSM 2670.22 and 2670.32.

Specifically, the Manti-La Sal National Forest LRMP requires that the Forest Service “[m]anage habitat of sensitive species to keep them from becoming threatened or endangered” and comply with the Agency’s Sensitive Species Manual at FSM 2670. Manti-La Sal LRMP at III-21. The Fishlake National Forest LRMP similarly requires that habitat be managed to ensure viable populations of all native vertebrate wildlife species and also requires the Forest Service to

maintain habitat for each species on the forest by “protecting at least 40 percent of the ecosystems for existing species.” Fishlake National Forest LRMP, Wildlife and Fish Resource Management (C01) #1 at IV-18.

10. The Agencies Must Rigorously Explore and Objectively Evaluate a Range of Reasonable Alternatives.

The Agencies must analyze a range of reasonable alternatives. When federal agencies prepare an EIS, they must take a “hard look” at the project’s environmental impacts and the information relevant to its decision. *Wyoming v. U.S. Dep’t of Agriculture*, 661 F.3d 1209, 1237 (10th Cir. 2011). In taking the required “hard look,” an EIS must “study, develop, and describe” reasonable alternatives to the proposed action. 42 U.S.C. § 4332(2)(E); 4332(2)(C)(iii). This alternatives analysis “is the heart of the environmental impact statement.” 40 C.F.R. § 1502.14; *see also All Indian Pueblo Council v. United States*, 975 F.2d 1437, 1444 (10th Cir. 1992). Agencies “should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public,” including a “no action” alternative. *Id.*

In addition to the No Action Alternative, we request that the Agencies consider in detail all or portions of the following alternatives either as alternative mitigation measures or as alternatives to the proposed actions. The discussion of alternatives is to be based on information and analysis regarding the environment to be affected by the federal action and its environmental consequences. *Id.*; *see also* 40 C.F.R. §§ 1502.15, 1502.16. “Without substantive, comparative environmental impact information regarding other possible courses of action, the ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded.” *New Mexico ex rel. Richardson*, 565 F.3d at 708. The discussion will include the environmental impacts of the alternatives including the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. *Id.* In addition to alternatives, the EIS must “[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives.” § 1502.14(f). The following are several alternatives we urge the Agencies to analyze:

A. Mitigation Measures

We request the Agencies to consider in detail mitigation measures to offset the climate and environmental impacts of additional coal. NEPA’s statutory language implicitly charge agencies with mitigating the adverse environmental impacts of their actions. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 351-52 (1989); *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1522 (10th Cir. 1992). Mitigation measures are required by NEPA’s implementing regulations. 40 C.F.R. §§ 1502.14(f), 1502.16(h). The CEQ also has stated: “All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperation agencies” Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, 46 Fed.

Reg. 18026, 18031 (March 23, 1981). According to the CEQ, “[a]ny such measures that are adopted must be explained and committed in the ROD.” Forty Questions, 46 Fed. Reg. at 18036.

The Tenth Circuit has held that an agency’s analysis of mitigation measures “must be ‘reasonably complete’ in order to ‘properly evaluate the severity of the adverse effects’ of a proposed project prior to making a final decision.” *Colo. Env’tl Coalition v. Dombeck*, 185 F.3d 1162, 1173 (10th Cir. 1999) (quoting *Robertson*, 490 U.S. at 352). Mitigation “must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.” *City of Carmel-by-the-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting *Robertson*, 490 U.S. at 353).

Thus, a robust analysis of mitigation measures should be undertaken in order to comply with NEPA and its regulations.

B. Alternatives Based on Issues other than Bypassing Coal

We request the Agencies to consider in detail any alternatives that are based in the satisfaction of needs other than avoiding the bypass of coal. For instance, we request the Agencies analyze whether a new lease would be more appropriate than a lease modification. A lease modification does not have to be approved through a competitive process. *See* 43 C.F.R. § 3430 (‘Noncompetitive Leases’), § 3432 (‘Lease Modifications’). The purpose of lease modifications is to:

[E]nsure the recovery and receipt of fair market value of small areas of unleased Federal coal that may be discovered during the mining of an adjacent Federal coal lease. . . . Due to variability in exploration data and the coal geology, these small areas of unleased Federal coal are not easily identified with the limited data available when [a lease] is originally configure[d]. Such areas typically cannot be developed as an independent lease because of their size and configuration. Therefore, incorporation of these areas into an existing coal lease through a coal lease modification facilitates achieving fair market value and maximum economic recovery of Federal coal resources.

67 Fed. Reg. 2618, 2619 (Jan. 18, 2002). *See also WildEarth Guardians*, 183 IBLA 165, 166-67 n.3 (Feb. 12, 2013); 43 C.F.R. § 3400.0-5 (defining “bypass coal” as “an isolated coal deposit that cannot, for the foreseeable future, be mined economically and in an environmentally sound manner either separately or as part of any mining operation other than that of the applicant for either an emergency lease . . . or a lease modification”); 43 C.F.R. § 3432.2(c) (providing that, in the event of a modification, the United States is to receive fair market value of the newly leased tract through one payment mechanism or another).

The Agencies must explain how granting a lease modification will ensure that the American public will receive a fair market value for its coal, and why a lease modification, rather than a lease issuance, is appropriate here. A competitive lease would ensure that the United States receives fair market value for the coal. According to a report by the Inspector General of the Department of the Interior, BLM has consistently failed to ensure that it is obtaining fair market value for lease modifications. U.S. Dept. of the Interior, Office of the Inspector General,

Coal Management Program Evaluation at 13 (June 2013), available at: <https://www.doioig.gov/sites/doioig.gov/files/CR-EV-BLM-0001-2012Public.pdf>. In that report, the Inspector General noted the agency's noncompetitive coal leasing process consistently failed to secure fair returns for the taxpayer. *Id.* The report explained that, ideally, "[m]odifications serve BLM's goal of achieving 'maximum economic recovery' of the natural resource by developing coal that would otherwise go unmined." *Id.* However, due to some BLM offices' failure to comply with the relevant regulations, "BLM might not be obtaining a fair return for lease modifications." *Id.* The Inspector General analyzed 45 lease modifications granted since 2000 and found BLM typically approved a price 80 percent lower than the market value for regular leases during the same period. *Id.*

Considering the lease modifications as one new lease would better protect the interests of the United States in ensuring both a competitive bidding process and a return of fair market value. The Forest Service should have considered this reasonable alternative.

C. Alternative Mining Levels

We request the Agencies consider in detail an alternative that limits the amount of coal tonnage and/or acreage to be mined to lower levels than are currently proposed. To that end, a specific appropriate limit could be a leasing proposal that met only the demands of domestic coal needs, and not export needs. Such an alternative will limit the extent to which the direct and indirect impacts of mining, hauling, and coal combustion will occur, as well as incentivize power plant owners to develop alternative non-coal-fired electricity generation.

Courts have long interpreted the mandate to consider reasonable alternatives to require agencies contemplating energy projects to consider reasonable alternative forms of energy generation and energy conservation. *NRDC v. Morton*, 458 F.2d 827, 833-38 (D.C. Cir. 1972); *Hodel*, 865 F.2d at 295-97 (agency required to consider conservation alternatives in analysis of decision to issue oil and gas leases); *Libby Rod & Gun Club v. Poteat*, 457 F. Supp. 1177, 1186-8 (D. Mont. 1978), *aff'd in part and rev'd in part on other grounds*, 59 F.2d 742 (9th Cir. 1979). This consideration may include lower alternative mining levels, set to a standard of producing only what is necessary for domestic consumption.

D. An Alternative that Plans for the Just Transition of SUFCO

We request that the agencies consider in detail an alternative that plans for the just transition of the SUFCO mine away from coal. The Carbon Tracker Initiative published a new report about the profitability of coal power plants in the US, entitled "No Country for Coal Gen: Below 2°C and Regulatory Risk for US Coal Power Owners" and found that by the mid-2020s it will be cheaper to build new combines cycle gas turbines than continue to running 78% of the existing coal power stations. The report warns that by 2021 consumers will be paying \$10 billion per year to prop up more expensive existing coal power. The report warns that US utilities are highly unprepared for a coal phase out, but need to transition away from expensive coal energy. "Phasing out unprofitable coal plants could save US consumers \$10 billion per year," September 18, 2017, available at: <http://www.climateactionprogramme.org/news/phasing-out-unprofitable-coal-plants-could-save-us-consumers-10-billion-per>. We urge the Agencies to analyze an

alternative that includes transition away from coal.

E. An Alternative that Requires Offsite Mitigation or Compensation for the Impacts in Other Ways

We request the Agencies consider in detail offsite mitigation, as well as mitigation that requires compensation. Mitigation is explicitly authorized under NEPA and includes “[c]ompensating for the impact by replacing or providing substitute resources or environments.” 40 C.F.R. § 1508.20(e). In this case, we request the Agencies consider an alternative or alternatives that would require Bowie Resources to offset its carbon dioxide emissions from the mine and the power plants it fuels with offsite mitigation by developing a comparable amount of renewable energy. Such a mitigation measure would provide additional generation and also help to create cleaner energy sources that will eventually offset the greenhouse gas emissions produced by coal mining and burning. BLM and Forest Service could play a key role in spurring utilities to begin investing in and developing renewable energy as a means to limit fossil fuel consumption.

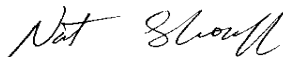
Conclusion

WildEarth Guardians and Sierra Club request that the Agencies reject the proposed lease modification in favor of the No Action alternative. As discussed above, if the Agencies proceed in the lease modification despite the legal impediments, the Agencies must prepare a full EIS for the proposed lease modification and that the Agencies cannot rely on information from an EA.

Sincerely,



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