Greens Hollow Tract Mining Plan Modification
Supplemental Environmental Assessment

Prepared in cooperation with the
US Department of the Interior Bureau of Land Management, US Department of Agriculture Forest Service, and Utah Division of Oil, Gas, and Mining

US DEPARTMENT OF THE INTERIOR

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

PROGRAM SUPPORT DIVISION

1999 BROADWAY, SUITE 3320

DENVER, CO 80202

PHONE 303-293-5000

FAX 303-293-5032

Table of Contents

List of Tables

List of Figures

Appendices

Acronyms Used in the EA

(acronyms used in comments not included)

ASLM	Assistance Secretary of Lands and Minerals
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality (Utah)
DOGM	Division of Oil, Gas and Mining (Utah)
EA	Environmental Assessment
EIA	Energy Information Agency (US Department of Energy)
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
FONNSI	Finding of No New Significant Impact
HAPs	Hazardous Air Pollutants
IWG	Interagency Working Group
MRP	Mine and Reclamation Plan
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
OSMRE	Office of Surface Mining Reclamation and Enforcement
PAP	Permit Application Package
PM_{10}	Particulate Matter smaller than 10 microns
$PM_{2.5}$	Particulate Matter smaller than 2.5 microns
PSD	Prevention of Significant Deterioration
SCC	Social Cost of Carbon
SMCRA	Surface Mining Control and Reclamation Act

SO_2	sulfur dioxide
TBtu	Trillion British thermal units
USC	United States Code
VOC	volatile organic carbons

Chapter 1
Purpose and Need

1.1 Introduction

Canyon Fuel Company, LLC, operator of the Sufco Mine in Utah, submitted a permit application package (PAP) to the Utah Division of Oil, Gas, and Mining (DOGM) on April 21, 2017, to modify its approved Mine and Reclamation Plan (MRP) to add the federal coal included in the Greens Hollow Federal Coal Lease Tract UTU-84102 (**Figure 1**). DOGM implements the Utah Coal Rules (Utah Administrative Code R645) following the terms of the Federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) under the oversight of the United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE) via the permanent program for Utah (30 Code of Federal Regulations [CFR] 944) (OSMRE, 1994). The OSMRE is required to evaluate the PAP before Canyon Fuel Company may conduct underground mining and reclamation operations to develop the Greens Hollow Federal Coal Lease Tract UTU-84102. OSMRE is the agency responsible for making a recommendation to the United States Department of the Interior Assistant Secretary for Land and Minerals Management (ASLM) to approve, disapprove, or approve with conditions the proposed mining plan modification.

As a federal agency, OSMRE is subject to the National Environmental Policy Act of 1969 (NEPA), therefore, must conduct an environmental review, in form of either adoption of a prior NEPA document for the same project that the environmental effects of the proposed action, supplementing a prior NEPA document to assess the effects of the proposed actions for the same project, or creation of a new NEPA analysis, before proceeding with the federal action of making a recommendation to the ASLM regarding the mining plan modification. The OSMRE has prepared this supplemental environmental assessment (EA) in accordance with 40 CFR 1502.9[c][1], because of new circumstances identified regarding how OSMRE characterizes air emissions in light of recent litigation (see Section 1.5) and based on new information provided in the PAP and additional information collected by OSMRE that is relevant to environmental concerns and have a bearing on the proposed action or its impacts. In accordance with 40 CFR 1502.9[c][2], OSMRE determined that the preparation of the supplemental EA would further the purposes of NEPA (42 U.S.C. 4321) by providing additional information on air emissions, which as shown in Chapter 5 as an important resource to the public, to "enrich the understanding of the ecological systems and natural resources important to the Nation". The new or updated information included in the PAP consisted of annual production data (5.5 to 6.3 million tons per year) and identification of no additional surface facilities (no powerline or vent shaft) that were previously identified in the *Final Supplemental Environmental Impact Statement for the Leasing and Underground Mining of the Greens Hollow Federal Coal Lease Tract UTU-84102* (referred to as the Greens Hollow FSEIS throughout this EA). Based on the new information obtained by OSMRE and the reduction of surface disturbing activities analyzed under the Proposed Action it was determined to prepare a supplemental EA. The supplemental EA focuses on only those sections that required updating and does not repeat the information from the

Greens Hollow FSEIS. The supplemental EA provides evidence for determining whether to prepare an EIS or Finding of No New Significant Impact (FONNSI) statement[1].

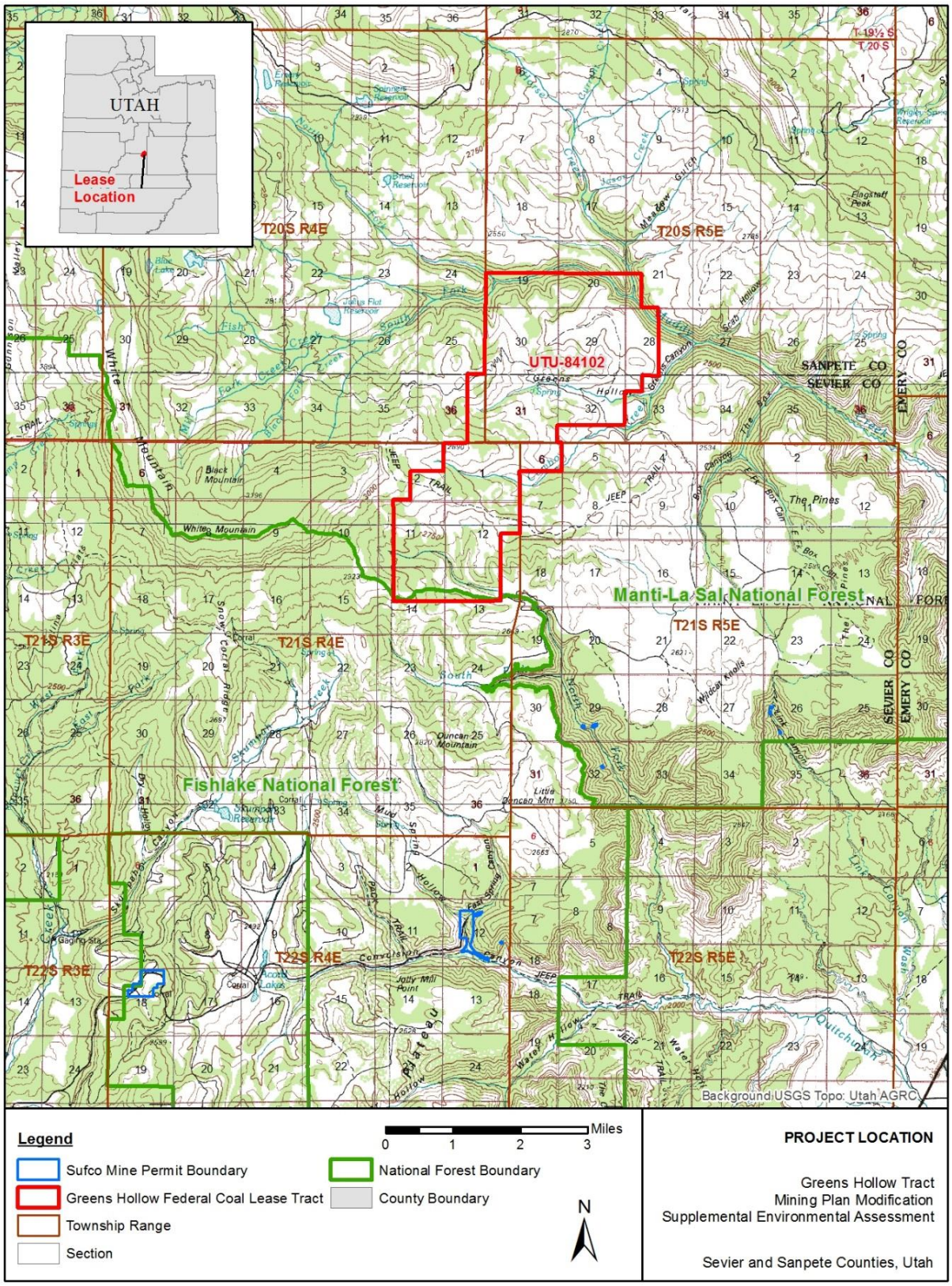
NEPA requires federal agencies to disclose the potential environmental impacts of projects they authorize. Additionally, NEPA requires agencies to make a determination as to whether the analyzed actions would "significantly" affect the environment. "Significantly" is defined by NEPA and is found in regulation 40 CFR 1508.27. If OSMRE determines that this project would have significant effects following the analysis in the EA, then an environmental impact statement (EIS) would be prepared. If the potential effects are not determined to be "significant", a FONNSI statement would document the reason(s) why implementation of the selected alternative would not result in significant environmental effects.

This EA is tiered to the descriptions and environmental analysis contained in the Greens Hollow FSEIS (BLM and Forest Service, 2015). The FSEIS adequately analyzed potential environmental consequences of the Proposed Action and Alternatives based on information available to the Bureau of Land Management (BLM) and U.S. Forest Service (Forest Service) at the time the FSEIS was prepared. The following resource area impacts were analyzed: geology, mining, subsidence, and seismicity (FSEIS Section 4.2); surface and ground water resources (FSEIS Section 4.3); aquatic and terrestrial wildlife resources (FSEIS Section 4.4); vegetation resources (FSEIS Section 4.5); heritage resources (FSEIS Section 4.6); paleontological resources (FSEIS Section 4.7); socioeconomics (FSEIS Section 4.8); recreation resources (FSEIS Section 4.9); visual resources (FSEIS Section 4.10); rangeland resources (FSEIS Section 4.11); roadless resources (FSEIS Section 4.12); and air quality (FSEIS Section 4.13). The FSEIS is incorporated by reference into this supplemental EA in accordance with 40 CFR 46.135 and available (along with associated documents) at: https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=92529.

The Forest Service, Manti-La Sal National Forest, BLM, Price Field Office, and the Utah DOGM are cooperating agencies in the preparation of this supplemental EA. The Forest Service and BLM were co-lead agencies on the Greens Hollow FSEIS with Forest Service issuing consent to BLM decision to offer a federal coal lease with conditions. Both agencies are serving as cooperating agencies on this EA due to their special expertise and jurisdiction related to the Proposed Action. Utah DOGM is serving as a cooperating agency on this EA because they have the authority and responsibility to make decisions to approve surface and underground coal mining permits and regulate coal mining in Utah under Utah Administrative Code R645-301. The Utah DOGM will review the Permit Application Package (PAP) specifying the mining and reclamation methods to be employed in the permit amendment. Once Utah DOGM finds the PAP administratively complete, the PAP will be submitted to OSMRE for review. The Utah DOGM will continue to work with the permittee to finalize the PAP. Utah DOGM will issue their findings and recommendations to OSMRE and, if deemed appropriate, issue the permit to the permittee.

[1] A finding of no significant impact other than those already disclosed and analyzed in the EIS to which the EA is tiered may be called a "finding of no new significant impact" (43 CFR 46.140(c)).

Figure 1. Greens Hollow Federal Coal Lease Tract Location Map



1.2 Background

The Sufco underground coal mine, in Sevier County, Utah has been in operation since 1941. The Greens Hollow Federal Coal Lease Tract UTU-84102 is under National Forest lands managed by the Manti-La Sal and Fishlake National Forests. The coal resources are also federal resources and are managed by the BLM. On January 4, 2017, the BLM sold the Greens Hollow Federal Coal Lease Tract UTU-84102 to the highest bidder, which was Canyon Fuel Company (BLM, 2017). Prior to the lease sale, the BLM and the U.S. Forest Service conducted an EIS, supplemental EIS, and made their respective decisions. The Forest Service consented to the leasing of the Greens Hollow Federal Coal Lease Tract UTU-84102 on October 5, 2015 and the BLM issued the lease March 14, 2017. OSMRE participated as a cooperating agency along with Utah DOGM.

The Greens Hollow FSEIS decisions approved the sale of the Greens Hollow Federal Coal Lease Tract UTU-84102, approximately 6,175 acres, for production of federal coal reserves, along with conditions to protect the environment which were included as lease stipulations. The lease sale made approximately 56.6 million tons of recoverable coal available. Additional background information is available in the Greens Hollow FSEIS Section 1.2.

1.3 Purpose and Need for Action

The purpose of the action (to make a recommendation to the ASLM to approve, disapprove, or approve with conditions the proposed mining plan modification) is established by the Mineral Leasing Act of 1920 and the SMCRA, which requires the evaluation of Canyon Fuel Company's PAP before they may conduct underground mining and reclamation operations to develop the Greens Hollow Federal Coal Lease Tract UTU-84102 30 CFR Part 746: 30 United States Code (USC)/208(c). OSMRE is the agency responsible for making a recommendation to the ASLM to approve, disapprove, or approve with conditions, the proposed mining plan modification. The ASLM will decide whether the mining plan modification is approved, disapproved, or approved with conditions. If the ASLM approves this action, operations at current production rates would continue at the Sufco Mine for approximately 9 to 10 years. The need for the action is to allow Canyon Fuel Company, LLC the opportunity to exercise its valid rights granted under the Greens Hollow Federal Coal Lease Tract UTU-84102 to extract coal from their federal lease under the Mineral Leasing Act.

1.4 Regulatory Framework

The extensive regulatory framework for management of coal leasing, mining, reclamation, and environmental protection are described in detail in Section 1.5.2 of the Greens Hollow FSEIS (BLM and Forest Service, 2015). The major regulations (statutes) relevant to OSMRE's evaluation of the Proposed Action are:

- Mineral Leasing Act of 1920, as amended by the Federal Coal Leasing Amendments Act of 1975, which authorizes the leasing of coal reserves and conditions of the leasing; and
- SMCRA, which provides a framework under which coal mining and surface uses are managed.

1.5 Issues

In accordance with 40 CFR 1501.1 and 1506.3, OSMRE has identified the following environmental issues, that are deserving of further study, to supplement the existing analysis completed in the Greens Hollow FSEIS for the proposed action and the no action alternatives.

- Non-greenhouse gas emissions from mining (particulate matter less than 2.5 microns ($PM_{2.5}$) and hazardous air pollutants (HAPs)), described in section 3.3.1.1;
- Emissions from the transportation of coal to the Hunter Power Plant, described in Section 3.3.1.2;
- Emissions from employee transportation, described in Section 3.3.1.3;
- Emissions from coal combustion, described in Section 3.3.1.4; and
- Mercury emissions from coal combustion in Section 3.3.1.5.

Chapter 2
Alternatives

2.1 Introduction

This section presents the description of the Proposed Action for which the issues identified in Section 1.5 are analyzed, along with the description of the No Action alternative for effects comparison purposes.

2.2 Proposed Action

The Proposed Action is for the OSMRE to submit a mining plan decision document to make a recommendation to the Department of the Interior, Assistant Secretary for Land and Minerals Management. The mining plan modification incorporates the revisions to the MRP submitted to Utah DOGM and is substantially similar to Alternative 3 selected by the Forest Service and BLM in their respective Record of Decision documents (Forest Service, 2015; BLM, 2016).

The modifications from the currently approved mining plan are:

- Add the Greens Hollow Federal Coal Lease Tract UTU-84102 (6,175 acres, 56.6 million tons);
- A ventilation and escape way shaft facility may be required to safely mine the Greens Hollow Federal Coal Lease Tract UTU-84102. Such a shaft has not been permitted, nor has it been proposed; and
- Extend the Sufco Mine life by 9 to 10 years, depending on the production rate (the Greens Hollow FSEIS projects 8.8 years extra mine life).

The mining plan modification would not change several aspects of the ongoing mining activity that may affect air and emissions:

- Mining will continue to be by underground longwall and room-and-pillar methods;
- Coal production would stay within the limits established by the Air Quality Approval Order which is up to 10 million tons of coal. Coal production from 2017 through 2021 is predicted to range from approximately 5.5 million to 6.3 million tons[2] per year; and
- The Sufco Mine will continue to be considered a minor source of air emissions according to the Utah Department of Environmental Quality (DEQ).

Table 1 shows the recent annual coal production at the Sufco Mine. **Table 2** shows the amount of coal that was shipped and which power plants the coal was shipped to in the recent past. Coal that was not shipped to power plants was shipped to US industrial sites (Drysdale, 2018). In 2015 and 2016, all of the

[2] The Greens Hollow FSEIS used a slightly higher production rate of 6.43 million tons per year which estimated an 8.8-year mine life. This supplemental EA uses a range instead of a single rate. As shown in **Table 1**, production has decreased slightly since the Greens Hollow FSEIS analysis. In several locations in the Greens Hollow FSEIS, there was either 6.43 million tons per year, 7 million tons per year, or 10 million tons per year depending on the resource. These different rates were deliberate to indicate the "conservative" impacts on economics and air quality.

coal from the Sufco Mine was used in the US. Coal production reported for any given year is not always shipped during that year. Coal may be stored and shipped later (referred to as "drawdown").

Table 1. Annual Coal Production at the Sufco Mine

	2015[a]	2016[a]	2017[b]
Production (short tons)	6,024,483	5,375,171	5,883,975
Average Number of Employees	369	370	

Sources:
a (EIA, 2016a)
b (Drysdale, 2018)

Table 2. Shipments from the Sufco Mine to United States Power Plants (Short Tons)

Plant	2015	2016[1]	2017
Hunter	1,238,753	21,846	-
Hunter Sales Reported as Hunter Prep Plant	1,112,409	2,042,898	2,379,466
Huntington	1,042,569	984,094	112,942
Intermountain Power Project	1,957,865	1,902,571	1,797,596
Total Shipped to Power Plants	5,351,596	4,951,409	4,290,004
Production (short tons)	6,024,483	5,375,171	5,883,975
Not shipped to Power Plants	672,887	423,762	1,593,971
Percent (%) of Sufco Coal Shipped to United States Power Plants	89%	92%	73%
Other Industrial	672,887	491,911[2]	

Source: (EIA, 2016b; Drysdale, 2018)

[1]Note that data for the most current time periods (2016) typically represent preliminary estimates based on samples collected by the surveys. After the end of a calendar year, the estimates are replaced by actual values from a final data collection, except in the case of missing values. The number of missing values (non-responses) are typically minimal.

[2] Domestic shipments exceeded production in 2016 as a result of inventory drawdown (Drysdale 2018).

In 2014, the Norwest Report evaluated potential market conditions (domestic and international markets) for the Greens Hollow, Flat Canyon, and Long Canyon tracts for the BLM. The report used representative destinations, but did not provide exact buyer locations or transportation routes that would allow for an in-depth analysis to be conducted. According to the report, "*the results of the analysis clearly show that exports from these tracts (Greens Hollow, Flat Canyon, and Long Canyon) are unlikely because domestic markets offer a much higher selling price at the mine gate…In that case (Greens Hollow Tract), the net selling price for export coal is near or below zero*" (Norwest Corporation, 2014).

Indirect air emissions from the Proposed Action were estimated for activities that are reasonably foreseeable, and included; coal transport (where a destination and quantity of delivered coal is known), mine worker commutes, and downstream coal combustion (see Section 3.3).

2.3 No Action

Under the No Action Alternative, the OSMRE would not recommend approval of the mining plan modification. The ASLM would deny the action and as a result, the coal reserves in the Greens Hollow Federal Coal Least Tract UTU-84102 would not be recovered. DOGM would still have authority to approve the significant permit revision (to include the Greens Hollow Federal Coal Lease Tract UTU-84102 into its state SMCRA permit), however, as stated above, mining would not occur within the Greens Hollow Federal Coal Lease Tract UTU-84102. Assuming an approval authorizing mining in the tract was not later obtained the Sufco Mine would continue to operate and mine coal until its other reserves run out in about 2020.

Chapter 3
Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the existing conditions of the issues shown in Section 1.5, then evaluates the direct, indirect, and cumulative impacts that would likely occur as a result of implementing the Proposed Action and No Action. Impacts are described by level of significance:

- Minor Impact: Impacts that potentially could be detectable but slight.
- Negligible Impact: Impacts in the lower limit of detection of an impact that could cause an insignificant change or stress to an environmental resource or use.
- No Impact: No discernible or measurable impacts.

3.2 Affected Environment

The air quality evaluation conducted for the Greens Hollow FSEIS included a review of the Manti-La Sal Coal Tracts Air Quality Evaluation Muddy Creek Technical Report (Marquez Environmental Services, Inc., 2004), the area of significant impacts based on stationary and mobile sources, and potential receptors within a 100-kilometer (62-mile) radius of the surface facility. The analysis provided in this supplemental EA is provided to supplement the information and analysis contained within the Greens Hollow FSEIS.

The air quality of a region is determined by the topography, meteorology, location of air pollutant sources, and type, quantity, and combination of air pollutants. The calculated or measured concentrations of various pollutants are compared to established standards to evaluate the impact of a given source and to evaluate regional air quality.

3.2.1 Regional Air Quality

Air quality in the region is affected by emissions from the Sufco Mine, trucks used in hauling the coal, and two power plants in the area: the Hunter Power Plant located near Castle Dale, Utah and the Huntington Power Plant located in Huntington Canyon, Utah. Additionally, potential local sources of air pollution include minor point sources, automobiles, trains, generators, and wood stoves/fireplaces (in the winter). These sources typically generate carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and other nitrous oxides, volatile organic compounds (VOCs), and particulate matter less than 10 microns (PM_{10}). Ozone may also form when nitrogen oxides (NO_x) and VOCs react with sunlight.

Utah's air monitoring network includes monitoring stations throughout Utah (DAQ, 2016a) and monitors conditions where there is a concern based on the annual emissions inventory. **Table 3** presents the results of the 2014 triennial inventory (most recently available) reported for Sevier County, Utah. There are no stations in Sevier and Sanpete counties, Utah because air quality is in compliance with the National Ambient Air Quality Standards (NAAQS) and, there is no indication from the emissions inventory that there is a concern.

Table 3. Triennial Emissions Inventory (Tons Per Year) for Sevier County (2014)

County	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOCs
Sevier County	9,058	2,012	7,512	1,092	36	16,843
Sanpete County	6,847	1,175	5,430	813	14	14,835

Source: Table 4 (DAQ, 2016a).

The analysis area is classified as a Class II area for all criteria pollutants. The only Class I area within 100 kilometers of the project area is Capitol Reef National Park which is located approximately 27 miles from the project area. Numerous air pollutant sources are located in the area that could impact the Class I area. Table 1.3 of the Air Quality Summary Report (Marquez Environmental Services, Inc., 2004), in the Greens Hollow FSEIS, outlines the point source emissions from numerous sources near Capitol Reef National Park. The largest contributors to air pollutant emissions in the region are power plants and generating stations.

Coal is currently mined at the Sufco Mine under an air quality permit issued by the Utah DEQ, Division of Air Quality (DAQ) approval order DAQE-AN106650014-13 (DAQ, 2013). The allowable emissions from this source, as stated in the approval, and permitted air quality emissions sources (DEQ, 2017) located in Sevier County are presented in **Table 4**.

Table 4. Large Industrial Source Emissions by Facility (Tons Per Year) - 2014

Site Name[2]	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOCs
Sufco Mine[1]	15.59	65.70	20.29	10.15	5.25	4.83
United States Gypsum Company	12.72	12.80	9.25	4.53	0.86	5.54
Western Clay Company	7.42	15.82	29.07	13.83	1.14	2.60
Hales Sand & Gravel Inc.	1.55	6.63	2.26	0.82	1.09	0.22
Georgia Pacific Gypsum - Sigrud Plant	0.02	0.04	2.47	0.94	0.00	0.00

Source:
[1] (DAQ, 2013)
[2] (DEQ, 2017)

3.2.2 Regulatory Requirements

Federal actions must meet the requirements of the Clean Air Act and must not cause or contribute to a violation of applicable air quality standards. The DAQ is the delegated authority for implementing the Clean Air Act in Utah and has developed a State Implementation Plan, outlining the requirements and regulations that the state will follow to assure that it is and will remain in compliance. There are no county or local air quality requirements. The Greens Hollow FSEIS describes regulatory requirements for the Proposed Action, including the NAAQS, clean air designations, and Prevention of Significant Deterioration (PSD). The section below addresses HAPs and how they relate to the Proposed Action.

3.2.2.1 Hazardous Air Pollutants

The Clean Air Act enacted the New Source Performance Standards and National Emissions Standards for HAPs for specific types of equipment located at new or modified stationary pollutant sources. The New Source Performance Standards regulations limit emissions from source categories to minimize the

deterioration of air quality. Stationary sources are required to meet these limits by installing newer equipment or adding pollution controls to older equipment that reduce emissions below the specified limit. The Proposed Action would not include equipment that is subject to these regulations. The New Source Performance Standards and National Emissions Standards for HAPs will apply to final coal combustion.

Unlike criteria pollutants, there are no NAAQS for HAPs. Although, these pollutants are also regulated under the Clean Air Act, the approach taken is focused on restricting or limiting emission of pollutants, setting emission standards and control requirements, and requiring record keeping and reporting of emissions to demonstrate on-going compliance with applicable limits and requirements.

HAPs are defined in 40 CFR 61 as pollutants that cause or may cause cancer or serious health impacts such as birth defects. There are currently 187 listed HAPs (EPA, 2005). The majority of HAPs originate from stationary sources (factories, refineries, power plants) and mobile sources (cars, trucks, buses), as well as indoor sources (building materials and cleaning solvents). Specific permitting requirements are a function of the type of source or activity to be permitted, the type(s) of pollutants, and the quantity of pollutants to be emitted. Sources that have the potential to emit greater than 10 tons per year of any one HAP; or more than 25 tons per year of all HAPs in aggregate; are classified as major sources. Sources are considered minor if they are less than the limits for major sources.

3.2.2.2 Social Cost of Carbon

A protocol to estimate what is referenced as the "social cost of carbon" (SCC) associated with greenhouse gas emissions was developed by a federal Interagency Working Group (IWG), to assist agencies in addressing Executive Order (EO) 12866 which requires federal agencies to assess the cost and the benefits of proposed regulations as part of their regulatory impact analyses. The SCC is an estimate of the economic damages associated with an increase in carbon dioxide emissions and is intended to be used as part of a cost-benefit analyses for proposed rules. As explained in the Executive Summary of the 2010 SCC Technical Support Document "the purpose of the [SCC] estimates…is to allow agencies to incorporate the social benefits of reducing carbon dioxide (CO_2) emissions into cost-benefit analysis of emissions." Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 February 2010 (withdrawn by EO13783). While the SCC protocol was created to meet the requirements for regulatory impact analyses during rulemakings, there have been requests by public commenters or project applicants to expand the use of SCC estimates to project-level NEPA analyses.

The decision was made not to expand the use of the SCC protocol for the Greens Hollow Supplemental EA for a number of reasons. Most notably, this action is not a rulemaking for which the SCC protocol was originally developed. Second, on March 28, 2017, the President issued Executive Order 13783 which, among other actions, withdrew the Technical Support Documents upon which the protocol was based and disbanded the earlier Interagency Working Group on Social Cost of Greenhouse Gases. The Order further directed agencies to ensure that estimates of the social cost of greenhouse gases used in regulatory analyses "are based on the best available science and economics" and are consistent with the guidance contained in OMB Circular A-4, "including with respect to the consideration of domestic versus international impacts and the consideration of appropriate discount rates" (EO 13783, Section

5(c)). In compliance with OMB Circular A-4, interim protocols have been developed for use in the rulemaking context. However, the Circular does not apply to project decisions, so there is no Executive Order requirement to apply the SCC protocol to project decisions.

Further, NEPA does not require a cost-benefit analysis (40 CFR § 1502.23), although NEPA does require consideration of "effects" that include "economic" and "social" effects. 40 CFR § 1508.8(b). Without a complete monetary cost-benefit analysis, which would include the social benefits of the proposed action to society as a whole and other potential positive benefits, inclusion solely of a SCC cost analysis would be unbalanced, potentially inaccurate, and not useful in facilitating an authorized official's decision. Any increased economic activity, in terms of revenue, employment, labor income, total value added, and output, that is expected to occur with the proposed action is simply an economic impact, rather than an economic benefit, inasmuch as such impacts might be viewed by another person as negative or undesirable impacts due to potential increase in local population, competition for jobs, and concerns that changes in population will change the quality of the local community.

Economic impact is distinct from "economic benefit" as defined in economic theory and methodology, and the socioeconomic impact analysis required under NEPA is distinct from cost-benefit analysis, which is not required.

Finally, the SCC, protocol does not measure the actual incremental impacts of a project on the environment and does not include all damages or benefits from carbon emissions. The SCC protocol estimates economic damages associated with an increase in carbon dioxide emissions - typically expressed as a one metric ton increase in a single year - and includes, but is not limited to, potential changes in net agricultural productivity, human health, and property damages from increased flood risk over hundreds of years. The estimate is developed by aggregating results "across models, over time, across regions and impact categories, and across 150,000 scenarios" (Rose, 2014). The dollar cost figure arrived at based on the SCC calculation represents the value of damages avoided if, ultimately, there is no increase in carbon emissions. But the dollar cost figure is generated in a range and provides little benefit in assisting the authorized officer's decision for project level analyses. For example, in a recent environmental impact statement, OSM estimated that the selected alternative had a cumulative SCC ranging from approximately $4.2 billion to $22.1 billion depending on dollar value and the discount rate used. The cumulative SCC for the no action alternative ranged from $2.0 billion to $10.7 billion. Given the uncertainties associated with assigning a specific and accurate SCC resulting from 9 to 10 additional years of operation under the mining plan modification, and that the SCC protocol and similar models were developed to estimate impacts of regulations over long time frames, this EA quantifies direct and indirect greenhouse gas emissions and evaluates these emissions in the context of U.S. and State/County emission inventories as discussed in Section 3.3 of the EA.

To summarize, this supplemental EA does not undertake an analysis of SCC because 1) it is not engaged in a rulemaking for which the protocol was originally developed; 2) the IWG, technical supporting documents, and associated guidance have been withdrawn; 3) NEPA does not require cost-benefit analysis; and 4) because the full social benefits of coal-fired energy production have not been monetized, and quantifying only the costs of greenhouse gas emissions but not the benefits would yield information that is both potentially inaccurate and not useful.

3.3 Direct and Indirect Effects

The following sections address potential impacts from the Proposed Action on ambient air quality, specifically non-greenhouse gas emissions from mining, emissions from transportation of coal, employee transportation, and emissions including mercury emissions from coal combustion.

3.3.1 Proposed Action

3.3.1.1 Non-Greenhouse Gas Emissions from Mining

Criteria Pollutants

The Proposed Action would utilize existing surface facilities and coal movement operations at the Sufco Mine. The emission rates for the existing mining operation were included in the Greens Hollow FSEIS. The reported total annual emissions are shown in **Table 5**.

Table 5. Reported Total Annual Emissions (Tons)

PM_{10}	NO_X	CO	SO_X	VOCs
24.1	62.0	17.7	4.7	4.7

Source: (Cirrus, 2004)

$PM_{2.5}$

Particulate matter (PM) is the general term used for a mixture of solid particles and liquid droplets found in the air. Airborne PM comes from many different sources. Primary particles are released directly into the atmosphere from sources such as cars, trucks, heavy equipment, forest fires, and other burning activities. Primary particles also consist of crustal material from sources such as unpaved roads, stone crushing, construction sites, and metallurgical operations. Secondary particles are formed in the air from reactions involving precursor chemicals (EPA, 2017a).

PM_{10} (PM less than 10 microns) included $PM_{2.5}$ (PM less than 2.5 microns). A 2006 study (Krause & Smith, 2006) showed that generally the $PM_{2.5}$ accounted for 29.2 percent of PM_{10} in surface coal mines. Using this percentage, the estimated $PM_{2.5}$ emission rate would be 7.04 tons per year (also see Table 4). This is considered to be a conservative estimate as the mining associated with the Proposed Action is underground rather than on the surface. PM_{10} emissions in **Table 5** are from mining activities including excavation, hauling, and reclamation.

Emissions of criteria pollutants and $PM_{2.5}$ impacts under the Proposed Action would be considered minor because concentrations would not exceed the NAAQS and short term because they would only occur during mining operations.

3.3.1.2 Emissions from Transport of Coal to Hunter Power Plant

As an example of emissions from hauling coal by diesel truck from the Sufco Mine, the haul to Hunter Power Plant was used to calculated using the EPA's Diesel Emissions Quantifier (EPA, 2017). The Hunter Power Plant has been the recipient of the largest portion of Sufco's coal recently (**Table 2)**. The diesel calculator does not calculate PM_{10}, SO_2 or VOCs, so the EPA's MOVES program was used to calculate these emissions. The calculator and MOVES uses the number of vehicles, annual miles, annual

idle time, and age of vehicle to make the calculation. The results are shown in **Table 6**. The calculations were generated using the following assumptions:

- The fleet is on-road, Class 8 combination long haul truck.
- The Sufco Mine reports there were 14,388 average trips per month for the most recent 3- month period reported.
- Default annual fuel usage generated by the calculator is 17,349 gallons per truck.
- Round trip distance is 72 miles for 12,431,232 miles traveled per year (14,388 trips per month for 12 months at 72 miles each).
- Annual truck idle time is 520 hours (an average of 2 hours per day for 260 working days).
- Average truck was made in 2010 and will be replaced in 2020.
- It is uncertain where the coal will be shipped. **Table 6** also indicates the emissions per mile for Sufco coal shipped by diesel truck, based on the analysis described above.

Table 6. Annual Sufco Mine Emissions from Truck Transportation of Coal

Annual Results (tons)	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOCs
Baseline of Entire Fleet	0.971	0.487	23.471	4.910	0.236	2.164
Annual Emissions per mile	0.013	0.007	0.326	0.038	0.003	0.030

The estimated emission rates presented in **Table 6** would be emitted during the transport of coal via Sufco Mine diesel trucks from the Sufco Mine to the Hunter Power Plant for an additional 1.2 years under the Proposed Action. Therefore, the Proposed Action would have a short-term, negligible effect on air quality.

Black carbon is a form of particulate air pollution that can be emitted through gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It comprises a significant portion of PM. Black carbon emissions from diesel tailpipe emissions are an expected by-product from haul trucks used during coal mining operations. The level of emissions from diesel tailpipe emissions are largely dependent upon the content of the diesel fuel used and, therefore black carbon emissions from the Proposed Action have not been quantified as part of this analysis, although PM concentrations were calculated and reported in Section 4.13.1.1 in the Greens Hollow FSEIS and reported in **Table 5** above in this supplemental EA. Black carbon is an unregulated pollutant; however, the EPA regulates diesel fuel quality.

Compared to the emissions inventory for Sevier County, Utah shown in **Table 3,** the emissions from truck transportation are negligible.

3.3.1.3 Emissions from Employee Transportation

Emissions from employee or delivery traffic have been estimated in **Table 7**. Emissions are generally limited to gasoline or diesel vehicles. Table 3.21 in the Greens Hollow FSEIS explains the criteria pollutants and the NAAQS.

Table 7. Estimated Annual Employee and Delivery Traffic Emissions

Vehicle Type	Daily Trips[2]	Daily Average Miles[3]	Work-days per Year[4]	CO_2 Emission Factor (pounds per mile)	Methane Emission Factor (pounds per mile)	N_2O Emission Factor (pounds per mile)	CO_2 (pounds)	CH_4 (pounds)	N_2O (pounds)
Commuting to Mine (Monday – Friday)									
Car	65	30	260	0.802	0.068	0.071	406,614	34,476	35,997
Passenger Vans[1]	6	30	260	1.14	0.079	0.104	53,352	3,697	4,867
Bus	6	30	260	0.236	0.001	0.001	11,045	47	47
Commuting to Salina Bus Stop (Monday – Friday)									
Car	193	15	260	0.802	0.068	0.071	603,665	51,184	53,442
Commuting to Mine (Saturday – Sunday)									
Car	13	30	104	0.802	0.068	0.071	32,529	2,758	2,880
Passenger Vans[1]	2	30	104	1.14	0.079	0.104	7,114	493	649
Bus	2	30	104	0.236	0.001	0.001	1,473	6	6
Commuting to Salina Bus Stop (Saturday – Sunday)									
Car	65	15	104	0.802	0.068	0.071	81,323	6,895	7,199
Total Annual Emissions (pounds)							1,197,115	99,556	105,087
Total Annual Emissions (Tons)							598.56	49.78	52.54

Source: (EPA, 2008)

[1]Considered equivalent to light-duty truck emission factor.

[2]Provided by Sufco Mine.

[3]Estimated from proximity to nearby communities, actual mileage unknown.

[4]Based on 52-week calendar year.

The impacts from vehicles under the Proposed Action by extending current operations at the Sufco Mine through 2028 would be short term because they would only occur during mining operations and, would have minor impacts when compared to air quality in the region (see **Table 4**) and would not exceed any of the NAAQS.

3.3.1.4 Emissions from Coal Combustion

As discussed in the Greens Hollow FSEIS, burning of coal is an indirect impact that is a reasonable progression of the mining activity. The Hunter Power Plant is again used to reflect effects from coal combustion because of proximity, it has historically received 38 to 40 percent of Sufco Mine coal and it is forecast to operate fairly far into the future (to 2042). Permitted air quality emissions from the Hunter Power Plant are presented in **Table 8**. In the past, Hunter and other power plants and industrial facilities have received coal from the Sufco Mine. Intermountain Power Plant is slated for closure in 2025 or conversion to gas (Power Engineering, 2017). Actual future coal consumers and quantities are not known at this time and would be too speculative to predict due to fluctuations in coal market conditions.

Impacts from coal going to other locations would be too speculative to quantify and therefore would not be meaningful to the decision maker.

The Hunter Power Plant burns approximately 4.5 million tons per year of coal (PacifiCorp, 2011). For purposes of this analysis, it has been assumed that emissions from the Hunter Power Plant will be at their maximum permitted level when burning 4.5 million tons of coal per year. Additionally, because the Hunter Power Plant has historically been one of the largest consumer of coal from the Sufco Mine, emission rates calculated from the Hunter Power Plant have been applied to all indirect emissions from the Proposed Action. In actuality, the various control technologies that may or may not be utilized by operators of facilities that ultimately burn the coal will cause emission rates to vary.

Based on the permitted emissions data presented in **Table 8**, and the reported 4.5 million tons of coal burned per year, emission rates have been extrapolated and used to estimate the indirect emissions from the Proposed Action. The estimated range of emissions due to the Proposed Action are presented in **Table 8**. The estimates provided are for information purposes only, as the end users of the coal produced from the Proposed Action are unknown at this time, and the rate at which the coal is burned is also unknown. Table 4.13 of the Greens Hollow FSEIS includes potential greenhouse gas emissions from combustion of coal, reporting 21.8 million metric tons per year of CO_2. Based on this yearly estimate, the total for coal produced for 8.8 years would be 191.8 million metric tons of CO_2.

Table 8. Estimated Indirect Range of Emissions from Coal Combustion (Tons Per Year)

Coal Burned	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
4.5 Million Tons (current)	4,343.40	11,491.17	747.44	426.03	3,939.31	125.93
5.5 Million Tons	5,308.60	14,044.76	913.54	520.70	4,814.74	153.91
6.3 Million Tons	6,080.76	16,084.64	1,046.42	596.44	5,515.03	176.30

Source: (PacifiCorp, 2011; DEQ, 2017).

Mercury Emissions from Coal Combustion

The final destination of the coal from the Proposed Action varies, so again, the Hunter Power Plant is used for the disclosure of impacts. Ultimately, the actual mercury emissions from the Proposed Action will depend on the final destination and emissions control technology and permit requirements at those facilities. Hunter Power Plant's Title V air permit 1500101002 (DAQ, 2016b) limits emissions of mercury to no greater than 1.2 pounds per TBtu and requires monitoring, record keeping, and reporting to demonstrate continuous compliance. Because the effects would be within the air permit limits, which are set to be protective of the environment, the impacts from mercury emissions would be negligible.

The mercury content of the Blackhawk Formation coal (which is what Sufco mines) is 3.7 pounds per trillion British thermal unit (TBtu) (Tabet, et al., 2009). The Btu content of bituminous coal is about 24 million Btu per ton of coal. **Table 9** shows the calculated mercury present in coal consumed annually at the Hunter Power Plant and the total coal that would be mined from the Greens Hollow lease. The indirect mercury emissions from combustion of the coal cannot consider specific control strategies and equipment. Mercury emissions from burning coal depends on control strategies and equipment used to minimize emissions and the quality and characteristics of the coal.

Table 9. Mercury Produced from Coal Combustion

Million Tons of Coal	TBtu Generated	Mercury (3.7 pound per TBtu)	2011 Source[1] Pounds Total Suspended Particle
4.5 Annual consumed at Hunter	108.0	399.6	8.45
56.6 Total	1,358.4	5026.08	106.28[a]

Notes:
1 Hunter Power Plant Source (DEQ, 2017)
a Calculated amount (annual 8.45 ÷ 4.5 tons annually X 56.6 tons total)

Power plants can emit mercury into the atmosphere with coal combustion which can then affect the quality of surface water as it settles into streams and lakes through deposition or precipitation. Mercury can go through a series of chemical transformations that convert it to a highly toxic form, which may concentrate in fish and birds (Irwin, 2007). However, mercury contamination through atmospheric deposition is extremely difficult to determine as atmospheric mercury can be derived from any number of local, regional, or global sources. The Hunter Power Plant is used as the representative user of coal from the Greens Hollow Federal Coal Lease Tract UTU-84102 and actual buyers and combustion locations would vary depending on coal market conditions. Thus, it is not possible to determine how much mercury emissions would be deposited into surface water or where it would be deposited as an indirect impact of mining the Greens Hollow Federal Coal Lease Tract UTU-84102 at the Sufco Mine.

3.3.2 No Action

Under the No Action, the Greens Hollow Federal Coal Lease Tract UTU-84102 coal would not be produced, shipped, or burned. Therefore, there would be no additional impacts on air quality. As Sufco is an operating coal mine with coal reserves to mine through 2020, the direct and indirect impacts of the No Action would be similar to those discussed in Section 3.3.1 for criteria pollutants, greenhouse gas emissions, and mercury emissions, except they would conclude in 2020 instead of extending another 9 to 10 years.

Based on the No Action Alternative for two years of operation:

- Annual criteria pollutant emissions **Table 5**;
- Annual estimated emissions from transportation of coal **Table 6;**
- Annual estimated emissions from employee transportation **Table 7**);
- Annual emissions of criteria pollutants from coal combustion **Table 8**); and
- Mercury emissions from coal combustion at the Hunter Power Plant would be 16.9 pounds over 2 years (see **Table 9**).

3.4 Cumulative Effects

When considering which actions had or will have cumulative effects, activities that are completed and reclaimed are assumed to not be producing cumulative impacts on air or emissions. Air quality and emissions impacts from those activities have already dissipated or are reflected in the current air quality, but cannot be differentiated individually from projects within or even outside of the cumulative impacts analysis area. For this reason, only current and reasonably foreseeable actions that will be occurring

during the same time frame as the mining and use of the coal from the Greens Hollow Federal Coal Lease Tract UTU-84102 are considered in the cumulative impacts analysis. For example, it is assumed that coal mined prior to 2017 has been consumed.

In evaluating the potential cumulative impacts of the alternatives when combined with the effects of the past, present, and reasonably foreseeable future actions, the Table 2.1 in the Greens Hollow FSEIS listed actions considered. Actions identified in the Greens Hollow FSEIS that have cumulative effects on air and emissions are summarized below in **Table 10**. These actions are also included in the cumulative impacts analysis for this supplemental EA. The Table 2.1 in the Greens Hollow FSEIS indicated which past and present actions were having residual effects and on which resources these residual effects were occurring. Actions which did not list residual effects that may affect air were eliminated from **Table 9**. After the Greens Hollow FEIS Record of Decision, additional actions have been proposed that may have cumulative air and emissions impacts. These actions are shown in **Table 11.** Construction of roads and a new transmission line are considered reasonably foreseeable. However, specific details regarding the construction design, timing, and equipment needed for these actions is unknown and would be too speculative to quantify associated impacts.

Table 10. Past, Present, and Reasonably Foreseeable Actions with Air and Emissions Effects

Actions	Dates	Residual, Current, and Future Effects
Ongoing Actions		
Minerals		
Oil and gas leases	ongoing	Closest is 15 miles. No incremental impacts due to distance from Proposed Action.
Vent fan operating in the North Fork of Quitchupah Canyon.	1996 to present	Fan site includes 0.70 acres of disturbance. Continual noise is produced by the fan.
Link Canyon power line and substation.	2000 to present	Current facility includes 0.25 acres of disturbance.
Link Canyon intake ventilation breakout and access.	2003 to present	Current structure encompasses 0.38 acres of disturbance.
Recreation and Transportation		
Vehicle (passenger, off-highway vehicle, snowmobile) access for Christmas tree cutting, firewood gathering, grazing management, mining, recreation, hunting, timber and private land access.	Ongoing	Emissions from vehicles.
Future Actions		
Minerals		
Seven exploratory drill holes to determine geologic factors. Drill holes would be considered a cumulative action since their authorization occurs independently.		Each drill pad is approximately .006 acres for a total permitted disturbance of 0.042 acres. In sensitive areas or areas of extreme terrain, helicopter assisted drilling may be used. Drill holes will be plugged, reclaimed, and revegetated. Exposed soil that could contribute PM would be short-term until the pads are revegetated.

Actions	Dates	Residual, Current, and Future Effects
Vehicle access and road use for construction and maintenance of an electrical power line to supply the Sufco Mine and the vent fan. Access would be via existing National Forest System roads (no new road construction).		Emissions from vehicle access to the vent shaft site(s) would be required on a daily basis.

The Sufco Mine has decided not to construct a previously approved coal segregation facility which was considered in the cumulative impacts analysis in the Greens Hollow FSEIS. Associated air quality impacts from additional disturbance will not occur.

Table 11. Reasonably Foreseeable Actions Since the Greens Hollow FEIS Record of Decision

Actions	Dates	Residual, Current, and Future Effects
Minerals		
South Fork Lease Modifications	2018-2019	Emissions from 6.35 million tons of coal mined, transported, and combusted.
3 Right 4 East Panel Amendment (Quitchupah Lease) (received by Utah DOGM 24-Jan-2017). Includes mining part of the Quitchupah Tract which was previously approved but not mined. The panel orientation has been modified. No additional surface disturbance would occur.	2017-2021	Emissions from 2.01 million tons of coal mined, transported, and combusted.
4 Right 4 East Panel Amendment (received by Utah DOGM 26-Oct-2017). Includes mining part of the Quitchupah Tract which was previously approved but not mined. No additional surface disturbance would occur.	2017-2021	Emissions from1.67 million tons of coal mined, transported, and combusted.

3.4.1 Proposed Action

Vehicle use for recreation and management of National Forest resources is ongoing, and not increasing above previous levels that are reflected in the current condition. As discussed in Section 3.2.1, these ongoing activities are not adversely affecting air quality to the degree that air quality standards for criteria pollutants are not being met.

Emissions from ongoing and future mining listed in **Table 11** (including drilling and ventilation) would contribute additional cumulative effects in the cumulative impacts analysis area during the same time frame as the Proposed Action, however, as described in Section 3.3.2, the impacts are not additive due to atmospheric dissipation.

The combined amount of coal added to the Sufco Mine mining plan that is reasonably foreseeable is 10.03 million tons, the total of the three proposed mining actions. Based on the annual production rate of 5.5 million to 6.3 million tons per year identified in Section 2.2, this amount of coal would extend the Sufco Mine life by 1.5 to 1.8 years. The amount of non-greenhouse gas emissions annually reported in **Table 5** from mining would continue for 1.5 to 1.8 years. Likewise, the annual rate of $PM_{2.5}$ emissions from mining (7.04 tons per year, see Section 3.3.1.1) would continue for the same amount of time. The

annual emissions from employees and delivery traffic are reported in **Table 7**. Emissions from employees and delivery traffic would continue at the same rate for the extended 1.5 to 1.8 years.

Indirect emissions from the combustion of coal mined from the reasonably foreseeable actions has been estimated below.

Combustion of the 10.03 million tons of coal that would be mined in the reasonably foreseeable future (as identified in **Table 11**) are shown in **Table 12**.

Table 12. Additional Estimated Indirect Emissions from Coal Combustion (based on Tons Per Year)

Coal Burned	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
10.03 Million Tons	9,680.956	25,612.54	1,665.961	949.5735	8,780.284	280.684

3.4.2 No Action

As the No Action would have no additional direct or indirect effects on air quality or emissions. Cumulative effects would be the same as the Proposed Action until the mine closed in 2020 including vehicle use for recreation and National Forest management (described in Section 3.2.1), annual emissions from employees and delivery traffic (**Table 7**), and ongoing and future mining as shown in **Table 12**.

Chapter 4
Consultations and Coordination

This supplemental EA was prepared by the people listed in **Table 13**.

Table 13. List of Preparers

Name	Role
Gretchen Pinkham	Project Manager
Nicole Caveny	Mining Plan Decision Document Manager
Cameo Flood	Project Description
Chris Hayes	Air Quality

References

BLM and Forest Service, 2015. Final Supplemental Environmental Impact Statement for the Leasing and Underground Mining of the Greens Hollow Federal Coal Lease Tract UTU-84102. Sanpete and Sevier Counties, Utah. [Online]
Available at: https://eplanning.blm.gov/epl-front-office/projects/nepa/65045/128886/156785/0529_February_2015_Greens_Hollow_Final_SEIS_201502_508_Compliant_UTU-84102.pdf

BLM, 2016. Record of Decision. Decision to Hold Competitive Lease Sale: Greens Hollow Federal Coal Lease Tract. August 12. [Online]
Available at: https://eplanning.blm.gov/epl-front-office/projects/nepa/65045/78669/90280/Signed_ROD_DOI-BLM-UT-070-2008-14_on_Green_Hollow_dtd_8-12-1608122016085733.pdf

BLM, 2017. Press release: BLM conducts coal lease sale for Greens Hollow Tract. January 4. [Online]
Available at: https://www.blm.gov/press-release/blm-conducts-coal-lease-sale-for-greens-hollow-tract-Jan2017

Cirrus, 2004. Coal tract evaluations on the Manti-La Sal Nationals Forest; Muddy Creek Technical Reports. Preapared for the Manti-La Sal National Forest, Price, UT., Logan, Utah: Cirrus Ecological Solutions, LC.

DAQ, 2013. Approval Order: Approval order modification to add a second emergency generator. January 28. [Online]
Available at: http://168.178.3.241:8080/DAQ_NOI/DocViewer?IntDocID=62666&contentType=application/pdf

DAQ, 2016a. Utah Division of Air Quality 2016 Annual Report. [Online]
Available at: https://documents.deq.utah.gov/air-quality/annual-reports/DAQ-2017-001541.pdf

DAQ, 2016b. Title V Operating Permit. Permit Number 1500101002. March 3, Salt Lake City: State of Utah.

DEQ, 2017. 2014 Statewide Point Sources by County. [Online]
Available at: https://deq.utah.gov/ProgramsServices/programs/air/emissionsinventories/inventories/docs/point-sources-by-county.pdf

Drysdale, M., 2018. Greens Hollow Supplemental EA - Canyon Fuel Comapny, LLC Comments, submitted to OSMRE. Minneapolis, MN: Dorsey & Whitney LLP, Council.

EIA, 2016a. Annual Sufco Mine Production. [Online]
Available at: https://www.eia.gov/beta/coal/data/browser/#/mine/4200089?freq=A&start=2001&end=2015&ctype=linechart&ltype=pin&pin=&maptype=0&linechart=COAL.MINE.PRODUCTION.4200089-BIT-UND.A&columnchart=COAL.MINE.PRODUCTION.4200089-BIT-UND.A

EIA, 2016b. Coal Shipments from Sufco Mine. [Online]
Available at:
https://www.eia.gov/coal/data/browser/#/shipments/mine/4200089?freq=A&start=2001&end=2016&ctype=&ltype=pin&pin=&maptype=0&linechart=COAL.MINE.PRODUCTION.4200089-BIT-UND.A&columnchart=COAL.MINE.PRODUCTION.4200089-BIT-UND.A

EPA, 2005. Initial list of hazardous air pllutants with modifications. [Online]
Available at: https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications
[Accessed 16 November 2017].

EPA, 2008. Optional emissions from commuting, business travel and product transport. May. [Online]
Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi/P1001177.PDF?Dockey=P1001177.PDF

EPA, 2017a. Ambient Concentrations of Particulate Matter. [Online]
Available at: https://cfpub.epa.gov/roe/indicator.cfm?i=9
[Accessed 16 November 2017].

EPA, 2017. Diesel Emissions Quantifier. [Online]
Available at: https://cfpub.epa.gov/quantifier/index.cfm?action=results.quantify
[Accessed 21 November 2017].

EPA, 2017. Diesel Emissions Quantifier. [Online]
Available at: https://cfpub.epa.gov/quantifier/index.cfm?action=results.quantify
[Accessed 21 November 2017].

Forest Service, 2015. Record of Decision. Final Supplemental Environmental Impact Statement for the Leasing and Underground Mining of the Greens Hollow Federal Coal Lease Tract UTU-84102. October 5. [Online]
Available at: https://eplanning.blm.gov/epl-front-office/projects/nepa/65045/129247/157193/0580_2015_October_5_Greens_Hollow_Forest_Service_ROD-151005Final.pdf

Irwin, B. B. a. M., 2007. Basic Mercury Data & Coal Fired Power Plants. [Online]
Available at: https://www.purdue.edu/discoverypark/energy/assets/pdfs/cctr/outreach/Basics2-Mercury-Mar07.pdf
[Accessed March 2016].

Krause, M. & Smith, S., 2006. Final - Methodology to calculate particulate matter (PM) 2.5 and PM 2.5 significance thresholds. October. [Online]
Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2

Marquez Environmental Services, Inc., 2004. Mant-La Sal Coal Tracts air quality evaluation Muddy Creek technical Report. February, Golden Colorado: Marquez Environmental Services, Inc..

Norwest Corporation, 2014. Coal market Analysis. October 9, Salt Lake City, Utah: Norwest Corporation.

OSMRE, 1994. Federal Register Notice. Register Volume 59, Number 145. 30 CFR Part 944.. [Online]
Available at: https://www.gpo.gov/fdsys/pkg/FR-1994-07-29/html/94-18529.htm

PacifiCorp, 2011. Hunter Power Plant. [Online]
Available at:
https://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Hunter.pdf
[Accessed 16 November 2017].

Power Engineering, 2017. Utah's Largest Coal Plant to Claose, Convert by 2025. [Online]
Available at: http://www.power-eng.com/articles/2017/05/utah-s-largest-coal-plant-to-close-convert-by-2025.html
[Accessed 12 December 2017].

Rose, S., 2014. Understanding the social cost of carbon: A technical assessment. December 8. [Online]
Available at: https://www.usea.org/sites/default/files/event-/SRose%20-%20Understanding%20the%20SCC%20-%20USEA%20Dec%202014%20pdf.pdf

Tabet, D. E., Hucka, B. P., Quick, J. C. & Wakefield, S. I., 2009. Available coal resource for the Salina Canyon and southwestern part of the Wasatch Plateau coalfields, Sevier County, Utah. [Online]
Available at: https://ugspub.nr.utah.gov/publications/special_studies/ss-129.pdf

Appendix A
Response to Comments

Response to Comments

A legal notice announcing the availability of the Greens Hollow Supplemental EA was published in the *Richfield Reaper* newspaper on January 4, 2018 and the *Sun Advocate* newspaper on January 9, 2018. A letter announcing the availability was sent to everyone on the mailing list (either hard copy or email), and the following tribes: Eastern Shoshone Tribe; Goshute Indian Tribe; Hopi Tribe; Laguna Pueblo Tribe; Navajo Nation; Northwestern Band of Shoshoni Nation; Paiute Indian Tribe of Utah; Pueblo of Jemez; Pueblo of Luguna; Pueblo of Zuni Tribe; Santa Clara Pueblo Tribe; Shoshone-Bannock Tribes; Southern Ute Tribe; Ute Indian Tribe; Ute Indian Tribe of the Uintah and Ouray Reservation, Utah; Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico and Utah ; Ute Mountain Ute Tribe; White Mesa Ute Tribe; and Zia Pueblo Tribe.

Three letters were received. Substantive comments and OSMRE's responses to those comments are in **Table A-1**. Comments on the Draft EA and FONNSI and Responses.

Number	Commenter	Comment	Response
1-1	Sam Baker	To Whom it May Concern, I am fully in favor of granting SUFCO's permit for the greens hollow tract. Having worked in the coal industry in neighboring Colorado and as mining engineering graduate I have the utmost confidence in both OSM and SUFCO's abilities to protect the environment while producing energy and providing jobs. Our modern mining methods and laws ensure that coal production can be done safely and responsibly in Utah and the rest of the country.	Comment noted.
2-1	Michael Drysdale Dorsey & Whitney LLP	On behalf of Canyon Fuel Company, LLC ("CFC"), I am pleased to submit comments on the Greens Hollow Tract Mining Plan Mining Environmental Assessment ("Greens Hollow EA") prepared by the Office of Surface Mining, Reclamation, and Enforcement ("OSMRE"), dated December 2017. Following a brief discussion of CFC's interest in the Greens Hollow EA, CFC's comments are organized by Section of the published document.	Comment noted.
2-2	Michael Drysdale Dorsey & Whitney LLP	**CFC's Interest** As identified in the Greens Hollow EA, CFC is the owner and operator of the Sufco Mine and the applicant for the proposed mining plan modification. Equally importantly, CFC is the lessor of the Greens Hollow Federal Coal Lease Tract UTU-84102. As acknowledged in Section 1.3 of the Greens Hollow EA, CFC thus possesses valid existing rights and obligations to mine the Greens Hollow Tract. These rights and obligations constrain OSMRE's discretion in reviewing the proposed mining plan modification. OSMRE correctly states that it has broad authority to "approve, disapprove, or approve with modifications" the proposed mining plan modification, but OSMRE does not have the authority to disapprove	Comment noted.

		or require modifications to the proposed mining plan modification based on environmental impacts that are necessarily incident to the granting of a federal coal lease, such as the downstream combustion of the federal coal. Consequently, OSMRE has no legal duty to examine such impacts. *DOT v. Public Citizen*, 541 U.S. 742 (2004). Case law to the contrary outside of the Tenth Circuit Court of Appeals, *see* the recent *Signal Peak Energy* decision (D. Mont. CV 15-106-M-DWM, Order of August 14, 2017), is not binding on OSMRE.[1] At the same time, analysis of such impacts is not legally prohibited, and as discussed below, CFC does not object to the analysis in this specific instance.	
2-3	Michael Drysdale Dorsey & Whitney LLP	**Section 1.1 - Introduction** The Greens Hollow EA makes the following statement: As a federal agency, OSMRE is subject to the National Environmental Policy Act of 1969 (NEPA), and therefore must conduct an environmental review, in form of either adoption of a prior NEPA document for the same project, supplementing a prior NEPA document for the same project, or creation of a new NEPA analysis, before proceeding the federal action of making a recommendation to the ASLM regarding the mining plan modification. The OSMRE has prepared this supplemental environmental assessment (EA), based on new information provided in the PAP. This statement could be interpreted as a broad statement of law regarding mining plan modifications generally, and the statement omits that NEPA analyses are not required for all federal actions, including minor mine permitting actions. The statement's use of the term "project" could also be confusing. CFC therefore recommends clarifying the statement as follows: As a federal agency, OSMRE is subject to the National Environmental Policy Act of 1969 (NEPA) for all major federal actions significantly impacting the human environment. OSMRE has determined that the proposed mining plan modification is a major federal action. OSMRE therefore must conduct an environmental review, in form of either adoption of a prior NEPA document for the same project that adequately analyzes the environmental effects of the proposed action. supplementing a prior NEPA document as necessary to assess the effects of the proposed action, for the same project, or creation of a new NEPA analysis, before proceeding with the federal action of making a recommendation to the ASLM regarding the mining plan modification. The OSMRE has prepared this supplemental environmental assessment (EA), based on new information provided in the PAP and additional information collected by OSMRE.	OSMRE agrees that the suggested language is correct in part and has modified Section 1.1 Introduction with language similar to the suggested language. OSMRE does not agree that the Proposed Action constitutes a major federal action significantly impacting the human environment and therefore that language was not included.
2-4	Michael Drysdale	**Figure 1**	The legend did not clearly identify the

	Dorsey & Whitney LLP	Figure 1 provides a location map that requires a correction. The Legend describes various areas outlined or colored in blue as the "Sufco Mine Permit Boundary." Under Utah's permitting regulations, permit areas are surfaces that are disturbed and subject to reclamation (hence the small and isolated character of the permitted areas). Of these, the "fish-shaped" area in T21S RSE, Sections 2, 3, 10, 11, 12, and 14 is technically not part of the Sufco Permit boundary and should be deleted from Figure 1. There is some water management occurring in that area but no surface disturbance and no reclamation, and it is not part of Sufco's Permit.	permit boundary displayed. Figure 1 has been updated as specified.
2-5	Michael Drysdale Dorsey & Whitney LLP	**Section 1.2 - Background** Because Section 1.2 is concise, it may be useful for readers to expressly point out that additional background information is available in the Greens Hollow FSEIS.	To further emphasize that the Greens Hollow FSEIS addresses impacts analysis, Section 1.2- Background was updated to further describe the connection between the two NEPA documents.
2-6	Michael Drysdale Dorsey & Whitney LLP	**Section 1.3 - Purpose and Need for Action** Section 1.3 contains the following statement: If the ASLM approves this action, operations would continue at the Sufco Mine for up to 8.8 years. Because market conditions and demand for coal fluctuates, and there may be future proposed actions, the Greens Hollow EA should not overstate the precision of forecasts of the life of future operations. CFC recommends that the statement be amended as follows: If the ASLM approves this action, operations at current rates of production would continue at the Sufco Mine for approximately 9-10 years. This revision would also be consistent with the "depending on the production rate" qualifier and duration stated in Section 2.2.	The estimated life-of-mine is slightly adjusted in the Greens Hollow Supplemental EA from the Greens Hollow FSEIS, therefore Section 1.3 Purpose and Need was updated to include the suggested statement.
2-7	Michael Drysdale Dorsey & Whitney LLP	**Section 1.4 - Regulatory Framework** It may be helpful to clarify that the "major regulations" referenced in Section 1.4 are statutes.	Section 1.4 – Regulatory Framework was updated to include statues.
2-8	Michael Drysdale Dorsey & Whitney LLP	**Section 1.5 - Issues** It is not correct to assert that the listed issues "have not been covered" by a prior environmental review. To the contrary, in the Greens Hollow FSEIS, BLM discussed each of the listed issues, and provided rational, non-arbitrary, and legally sufficient reasons for the scope of examination devoted to each subject. This does not preclude OSMRE from looking further into each issue, but OSMRE should not state or imply that the issues were not considered in the Greens Hollow	OSMRE agrees that the Greens Hollow FSEIS considered the issues, thus, Section 1.5-Issues. Statement was updated to clarify that issues were considered in the Greens Hollow FSEIS.

<table>
<tr><td></td><td></td><td>FSEIS.</td><td></td></tr>
<tr><td>2-9</td><td>Michael Drysdale
Dorsey & Whitney LLP</td><td><u>Section 1.5 - Issues</u>
In addition to the listed issues, CFC recommends that an additional issue be listed:
"Combustion effects arising from the No Action Alternative, as identified in the decision WildEarth Guardians v. United States Bureau of Land Management, 870 F.3d 1222 (10th Cir. 2017)." ("Wright Area"). The reason for identifying this issue is further discussed in Section
3.3.2.</td><td>Section 1.5 Issues were not changed because they apply to all the alternatives, however, the description of the impacts was revised slightly to reflect the ongoing impacts that would result from the No Action. See response to comment 2-19.</td></tr>
<tr><td>2-10</td><td>Michael Drysdale
Dorsey & Whitney LLP</td><td><u>Section 2.2. - Proposed Action</u>
Section 2.2 at page 6 and Table 2 summarize Sufco production for the past several years, and provides Energy Information Agency ("EIA") data on shipments to U.S. power plants.
The Greens Hollow EA assumes that all other Sufco production was exported. This misinterprets the EIA data in two important respects. First, Sufco has shipped substantial quantities of coal over the past two years to the Hunter Coal Preparation Plant, which commenced operations in 2015. This coal is then used at Hunter. Table 2 omits shipments to the Hunter Coal Preparation Plant, undercounting the amount of Sufco coal that has gone to Hunter. Second, the EIA does not report data on shipments to industrial customers, again undercounting shipments to domestic consumers. A corrected Table 2 for the years 2015-2016 is set forth below:
<table>
<tr><td>Sufco Mine - Sales History</td><td></td><td></td></tr>
<tr><td>Plant</td><td>2015</td><td>2016</td></tr>
<tr><td>Carbon</td><td></td><td></td></tr>
<tr><td>Hunter</td><td>1,238,753</td><td>21,846</td></tr>
<tr><td>Hunter Sales Reported as Hunter Prep Plant</td><td>1,112,409</td><td>2,042,898</td></tr>
<tr><td>Huntington</td><td>1,042,569</td><td>984,094</td></tr>
<tr><td>lntermountain Power Project</td><td>1,957,865</td><td>1,902,571</td></tr>
<tr><td>North Valmy</td><td></td><td></td></tr>
<tr><td>Reid Gardner</td><td></td><td></td></tr>
<tr><td>Sheldon</td><td></td><td></td></tr>
<tr><td>Total Shipped to Power Plants</td><td>5,351,596</td><td>4,951,409</td></tr>
</table></td><td>Table 2 has been updated.</td></tr>
</table>

		Production (Short Tons)	6,024,483	5,375,171	
		Not Shipped to Power Plants	672,887	423,762	
		Percent(%) of Sufco Coal Shipped to United States Power Plants	88.8%	92.1%	
		Other Industrial	672,887	491,911*	
2-11	Michael Drysdale Dorsey & Whitney LLP	After correction, it is clear that very little Sufco coal is exported. In fact, Sufco's entire production for 2015 and 2016 was consumed domestically. (*Domestic shipments actually exceeded production in 2016 as a result of inventory drawdown). It is also important to note that this is not necessarily a prediction of the future disposition of coal from the Greens Hollow Tract. As CFC has previously explained, CFC blends its coals from multiple mines to provide optimal service to its customers. Whether any Greens Hollow coal would be exported was depend on the specific mix of then-available coals and customer needs. Overall, however, it is fair to conclude that much less coal from Sufco was be exported over the near term than is conveyed in the Greens Hollow EA, and both the table and text should be corrected accordingly.	**Table 2** and surrounding text has been updated.
2-12	Michael Drysdale Dorsey & Whitney LLP	**Section 2.3 - No Action Alternative** Section 2.3 describes the No Action Alternative as resulting in an essentially permanent denial. There are many reasons why the No Action Alternative could be selected, many of which would only result in a temporary denial. Consequently, CFC recommend the following edits: Under the No Action Alternative the OSMRE would not recommend approval of the mining plan decision document. The ASLM would deny the action and as a result, the coal reserves in the Greens Hollow Federal Coal Least Tract UTU-84102 would not be recovered until such time as an approval could be obtained. DOGM would still have authority to approve the significant permit revision (to include the Greens Hollow Federal Coal Lease Tract UTU-84102 into its state SMCRA permit), however, as stated above, mining would not occur within the Greens Hollow Federal Coal Lease Tract UTU-84102. Assuming an approval authorizing mining in the tract was not later obtained, the Sufco Mine would continue to operate and mine coal until its other reserves run out in about 2020.	OSMRE agrees that Sufco could submit an amended application that could be reviewed and approved in the future. Text was modified to convey this possibility.
2-13	Michael Drysdale Dorsey & Whitney LLP	**Section 3.2.2.1 - Hazardous Air Pollutants** Carbon dioxide and other greenhouse gases are not HAPs, but a discussion of the social cost of carbon ("SCC") is located in Section 3.2.2.1. This should be relocated to its own section.	This formatting error was corrected. Social Cost of Carbon was intended to be its own section (3.2.2.2).

2-14	Michael Drysdale Dorsey & Whitney LLP	**Sections 3.3.1.2 and 3.3.1.4 - Emissions of Transport and Combustion of Coal at Hunter Power Plant** The Greens Hollow EA discusses in several locations that it is estimating coal transport emissions to the Hunter Power Plant, and provides the calculations in Section 3.3.1.2. In Section 3.3.1.4 OSMRE explains that Hunter is chosen as a "representative" plant for purposes of calculating emissions from coal combustion. It appears that was also true, but unstated, with regards to coal transportation. Section 3.3.1.2 should make that clear.	Text in Sections 3.3.1.2 and 3.3.1.4 was clarified that Hunter is a plant used for calculating emissions related to coal combustion and transportation.
2-15	Michael Drysdale Dorsey & Whitney LLP	In addition, it is important to be clear in both this section and everywhere else that Hunter is used as a representative facility because the future mix of trips and destination facilities for Greens Hollow tract coal is not known, especially in light of CFC's fuel-blending practices. (This fundamental uncertainty was a major reason why the BLM appropriately decided not to estimate transport and non-GHG combustion emissions in the Greens Hollow FSEIS). OSMRE attempts to address this uncertainty in Section 3.3.1.4, but the discussion could be clearer. When OSMRE states that "any other potential end users are unknown" (p. 15), it is not so much that Hunter is known and others are not, but rather the quantities of Greens Hollow tract coal going to *any* specific end user (Hunter or otherwise) cannot be forecast with any reliability. OSMRE has selected Hunter as "representative" because it is close, has historically received a large fraction of Sufco coal, and is forecast to operate fairly far into the future. To the extent the Hunter example provides value, it is principally to show the *relative magnitude* of historical effects. The specific calculations have *no value* as a predictive exercise of future quantities and effects associated with Greens Hollow tract coal. The Section concludes with the following statement: The Hunter Power Plant would likely continue as one end user of coal from the Proposed Action. The Hunter Power Plant is anticipated to continue operations for the life of the facility; therefore, regional impacts to ambient air quality from the combustion of coal within the region would be generally the same for the Proposed Action.	In accordance with NEPA, OSMRE must disclose potential impacts based on available information. OSMRE chose to evaluate the Hunter Power Plant as the receiver of Sufco coal in the future, which is reflected in the text of Section 3.3.1.2. OSMRE agrees that the final destination(s) of coal from the Greens Hollow tract is uncertain, which is also disclosed in section 3.3.1.2. This section also states that Hunter is used to present potential effects of the Proposed Action to aid the decision-maker. The analysis has been expanded to include the “per mile” emissions so reviewers can see how distance affects the emissions. The statements referred to by the commenter have been removed to avoid confusion and additional text explaining the analysis approach has been added to Section 3.3.1.2.

2-16	Michael Drysdale Dorsey & Whitney LLP	This should be clarified and expanded upon as follows: The Hunter Power Plant would likely continue as one end user of coal from the Proposed Action. The Hunter Power Plant is anticipated to continue operations for the life of the facility; therefore, regional impacts to ambient air quality from the combustion of coal within the region would be generally the same as between the Proposed Action and No Action Alternatives. The potential consequences of the No Action Alternative on net coal combustion are discussed in more detail in Section 3.3.2.	The statements referred to by the commenter have been removed to avoid confusion and additional text explaining the analysis approach has been added to Section 3.3.1.2. No additional edits similar to those suggested were included in the EA because while the No Action and Proposed Action are similar they represent differences in the amount of time coal is mined and therefore impacts are distinguishable.
2-17	Michael Drysdale Dorsey & Whitney LLP	**Section 3.3.1.5 - Mercury Emissions from Coal Combustion** OSMRE's discussion of the uncertainties regarding mercury emissions is generally correct. However, for consistency with the remainder of the document in the use of Hunter as a representative facility, OSMRE should report Hunter's actual mercury emissions since Hunter came into compliance with the Mercury Air Toxics Rule, rather than theoretical emissions based on the mercury content of the coal. At a minimum, the 1.2 lbs/Tbtu rate should be included in Table 9 along with the 3.7 lbs/Tbtu rate. This is what is actually emitted and potentially relevant to decision makers.	Section 3.3.1.5 Mercury Emissions **Table 9** has been updated with Hunter's actual emissions and calculated total for all of Greens Hollow coal. The 1.2 pounds per TBtu is included in the text above the table as a standard.
2-18	Michael Drysdale Dorsey & Whitney LLP	Section 3.3.1.5 - Mercury Emissions from Coal Combustion CFC also recommends that the following statement be added. "Whether approval of the mining plan modification would contribute to net combustion of coal, and therefore net combustion of mercury, is discussed in Section 3.3.2."	Additional text was added to Section 3.3.2 (No Action) to reflect that the No Action would have similar effects as the proposed action, but for a shorter period. Including the text suggested in the analysis of the proposed action would be inconsistent with the rest of the document, which does not discuss the ongoing emissions from power plants without the approval of the Greens Hollow mining plan modification.
2-19	Michael Drysdale Dorsey & Whitney LLP	**Section 3.3.2 - No Action Alternative** The Greens Hollow EA provides a very brief discussion of the environmental consequences of the No Action Alternative, stating that the No Action Alternative will result in no mining and therefore no impacts. This conclusion is correct with respect to *direct* impacts, but further discussion is warranted as to *indirect*	Additional qualification and references to the life of mine without the modification have been added to Section 3.3.2. OSMRE discloses both direct and indirect impacts from

		impacts associated with the No Action Alternative. Specifically, in *Wright Area,* the Tenth Circuit Court of Appeals held that, in the context of a coal *leasing* action, the BLM erred in assuming that selection of the No Action Alternative would have no effect on net coal combustion. As the Tenth Circuit explained, the failure to lease coal could have an impact on net supply and demand, and therefore net coal combustion. Consequently, the Tenth Circuit remanded the leasing decisions to the BLM to conduct supplemental analysis, which is ongoing. There are a number of important distinctions between leasing and mine plan review, and between the Wright Area decisions and Greens Hollow, which will be discussed below. However, because the Tenth Circuit decision is recent and from a federal appellate court, and the Tenth Circuit has not addressed OSMRE's duties to analyze the indirect combustion effects of a mine plan modification, an express discussion of these issues would be prudent in the final EA and/or Record of Decision.	mining, transportation, and coal combustion under the Proposed and No Action Alternatives. As outlined in the Wright Area 10th Circuit Court decision, OSMRE does not use "perfect substitution" in its analysis. OSMRE discloses both direct and indirect impacts from mining, transportation, and coal combustion under the Proposed and No Action Alternatives. This presents a conservative range of potential impacts associated with the approval or disapproval of coal to help the decision maker draw a distinction between the alternatives. It is always possible that other suppliers would pick up the coal that is not brought to market from the Greens Hollow lease under a No Action Alternative, but that would depend on the highly variable coal market making any assumptions and analysis too speculative. OSMRE is not required to complete a cost-benefit analysis under CEQ's NEPA Implementing Regulations (40 CFR 1502.23.
2-20	Michael Drysdale Dorsey & Whitney LLP	*Leasing v. Mine Planning* As previously noted, leasing and mining plan modifications are inherently different exercises. Leasing is highly discretionary with the Secretary of the Interior. In contrast, once a lease issued, both the lessor and federal government have rights and obligations to diligently develop the leased coal. As a matter of law, this precludes OSMRE from selecting the No Action Alternative on the basis of the effects of coal combustion. *Wright Area v. Greens Hollow*	Impacts related to the No Action Alternative are described in Section 3.3.2. OSMRE is the agency responsible for making a recommendation to the ASLM and can recommend that the mining plan modification not be approved to the ASLM.

		In the Wright Area FEIS, the BLM did not attempt to assess the end-users of the Wright Area coal or their sensitivity to differing leasing outcomes. In contrast, in the Greens Hollow FSEIS, and in the draft EA, the BLM and OSMRE identified the historically and currently largest consumers of Sufco coal, including the Hunter, Huntington, and lntermountain power plants. The BLM, and now OSMRE in the Greens Hollow EA, made specific determinations regarding the lifespan of these facilities. In each case the lifespan was determined to be independent of the proposed action *See, e.g.*, Greens Hollow EA at 15. Because of this difference, BLM and OSMRE were justified in concluding that selection of the No Action Alternative was not likely to affect net coal combustion. While this conclusion may by itself be a sufficient reason for not conducting further analysis of the indirect coal combustion effects of the No Action Alternative, it is also true that Hunter, Huntington, and lntermountain are not the sole consumers of Sufco coal, and their relative future consumption of Greens Hollow coal may differ from historic patterns. Consequently, it is also prudent to more generally assess the sensitivity of the market for Greens Hollow coal. Recent analyses by the Forest Service and SLM for the West Elk Mine provide useful information for such an exercise. *The West Elk Example* The West Elk Mine is located near Somerset, Colorado. West Elk coal is very similar in characteristics to what is known to date about Greens Hollow coal (i.e., high BTU, low ash, low mercury, low sulfur "compliant" and "super-compliant" coal), and therefore they will be competing in similar markets. Indeed, the Forest Service and BLM specifically identified Uinta Basin coal as being highly comparable to West Elk coal, and a competitor for the Hunter, Huntington, and lntermountain facilities. *See* the Colorado Roadless Rule Final Supplemental Environmental Impact Statement ("CRR FSEIS") at App. C, Tables E-1, E-9. The CRR FSEIS is available at https://www.fs.usda.gov/lnternet/FSE DOCUMENTS/fseprd525072.pdf. As part of the repromulgation of the North Fork Exception to the Colorado Roadless Rule following the Colorado federal district court's decision in *High Country Conservation Alliance,* the Forest Service and BLM analyzed the sensitivity of the market for West Elk coal to changes in coal supply. After conducting extensive modeling as part of the rulemaking process, the Agencies determined that the market for West Elk (and Uinta Basin) coal is especially "inelastic," meaning that demand for coal (and resulting combustion) was not significantly affected by changes in supply. The Agencies specifically noted that there was low capability in the Western Electric	OSMRE does not assert that selection of the No Action Alternative "was not likely to affect net coal combustion" and the EA states that air quality impacts would continue through 2020 under the No Action Alternative. See response to 2-19. OSMRE is aware of the Colorado Roadless Rule Final Supplemental Environmental Impact Statement coal analysis. OSMRE is not required to conduct a coal market analysis and it is considered to be out of scope for this EA. OSMRE discloses the potential impacts associated with the Proposed and No Action alternatives and does not make any assumptions about the future coal market conditions as those would be too speculative. This EA's analysis is not similar to the analysis in the Wright Area case because OSMRE does not assume that the coal market will adjust and substitute the coal reserves lost if OSMRE approves a No Action Alternatives. OSMRE analyzes potential impacts under both the Proposed and No Action alternatives with and without the coal reserves. Also, the amount of coal from the two mines in the Wright Area case comprised approximately 19% of the annual domestic coal production whereas coal from Greens Hollow on an annual basis would equal approximately 6 million tons. This

		Coordinating Council NERC Region (the region that Sufco and other Uinta Basin producers principally supply) to readily switch from coal to natural gas. CRR FSEIS App. C at Table C-18. The Agencies' methodology and market conclusions are set forth in detail in Appendix C to the CRR SFEIS. OSMRE may rely on the West Elk modeling to conclude that selection of the No Action Alternative for Greens Hollow would be unlikely to have a significant effect on net coal combustion.	would equal <1% of the annual domestic coal production using those values outlined in the Wright Area decision (see footnote 2). Therefore, due to the large difference in tonnages it is not appropriate to have the same level of analysis.
2-21	Michael Drysdale Dorsey & Whitney LLP	*Rationale for No Action* An important issue that was not addressed in the *Wright Area* decision is that the No Action Alternative is never selected in a vacuum, but rather for specifically stated reasons. Because coal combustion is an indirect effect of coal mining, and the ample federal reserves of comparable Uinta Basin or Colorado Plateau coal, the impact of the denial of Greens Hollow Mine Plan Modification will depend critically on the reasons given by OSMRE. For example, certain commenters urged rejection of the Greens Hollow lease application out of concern for alleged impacts to Greater Sage Grouse. If OSMRE denied the mine plan modification for that reason, that would inform the coal market that there might a be a (short or long term) problem at Sufco, but it would not signal to the market that is likely to be significant interruption in coal supply (i.e., the loss of Greens Hollow coal can be readily balanced by expanded production and leasing elsewhere). Conversely, if OSMRE denied the mine plan modification because of concerns about coal combustion, that would send a strong shock to the market, because it would potentially signal a broader curtailment of federal coal leasing and production. This dynamic squarely presents the question whether OSMRE could or would deny the mine plan modification on the basis of the effects of coal combustion. In addition to the fact coal supply is fundamentally the domain of the Secretary in leasing policy rather than OSMRE in enforcing SMCRA and other federal statutes, an individual mine plan modification decision is a uniquely poor (and perhaps illegal) mechanism in which to signal a change in federal coal supply policy. Policy changes should be developed through programmatic changes or rulemakings rather than individual applications. To make policy through individual applications would be highly prejudicial to both the individual applicant and the industry generally. For these reasons, it is highly unlikely (and perhaps illegal) that OSMRE would select the No Action Alternative on the basis of the effects of coal combustion. If the No Action Alternative was selected, it would be because of site-specific	OSMRE is the agency responsible for making a recommendation to the ASLM and can recommend that the mining plan modification not be approved to the ASLM. The rational for making that decision would be supported by the NEPA analysis and decision document. OSMRE discloses the potential impacts associated with the Proposed and No Action alternatives and does not make any assumptions about the future coal market conditions as those would be too speculative.

		concerns that are unlikely to affect net coal combustion. OSMRE should consider and discuss all of these issues and reasons, to ensure that any obligation that might later be determined to arise under the *Wright Area* decision is satisfied.	
2-22	Michael Drysdale Dorsey & Whitney LLP	**Section 3.4 - Cumulative Effects** Table 10 identifies two ventilation shafts as "reasonably foreseeable future actions" that "could be necessary." As stated elsewhere, CFC presently believes that additional ventilation shafts was not be necessary, and has not identified locations in the event that one or both do become necessary. CFC does not object to referencing the ventilation shafts, but they are too uncertain and unlikely at this point to be fairly described as "reasonably foreseeable" under NEPA nomenclature.	Based on the uncertainty, the ventilation shaft has been removed from **Table 10**.
2-23	Michael Drysdale Dorsey & Whitney LLP	**Section 3.4.1 - Proposed Action(s)** On page 19, the EA should state more clearly the 10.03 million tons of coal referenced is the total of the three proposed mining actions described in Table 11, and correct the "Error!" message in the text.	The referenced text was revised to reflect the three projects. The error message has been corrected.
2-24	Michael Drysdale Dorsey & Whitney LLP	**Section 3.4.2 - No Action** The discussion in this section should cross-reference the expanded No Action discussion in Section 3.3.2.	Discussion was cross reference Section 3.3.2.
2-25	Michael Drysdale Dorsey & Whitney LLP	CFC thanks OSMRE for its significant efforts to date in preparing the Greens Hollow EA and associated documentation, and looks forward to prompt finalization of the EA and ROD, and issuance of the mine plan modification. Let us know if you have any questions about any of the foregoing comments.	Comment noted.
2-26	Michael Drysdale Additional Follow Up Comment Email 2/5/2018	In the email referenced below I transmitted Canyon Fuel Company LLC's comments on the Greens Hollow Mining Plan Modification Supplemental Environmental Assessment. One comment that is not in the letter, but CFC would also to like to OSMRE to consider, concerns the emissions inventories for Sevier and Sanpete Counties. These are discussed in Section 3.2.1-Regional Air Quality, and Table 3. The text and Table 3 present the 2014 triennial emissions inventory for Sevier county, but not Sanpete County. CFC believes that there is an inventory for Sanpete County as well, see hhps://documents.deq.utah.gov/air-quality/annual-reports/DAQ-2018-001005.pdf. Assuming there was no technical reason to exclude the Sanpete County inventory, CFC recommends that the Sanpete County data also be presented in the final document. Thank you.	**Table 3** was updated to include Sanpete County.
3-1	WildEarth Guardians,	As a threshold issue, we are first concerned that the modification proposal is	While a challenge to the BLM

	Center for Biological Diversity, and Sierra Club Environmental Law Program	based on an invalid federal lease, and modification of a mining plan for an invalid lease would be in violation of the Surface Mining Control and Reclamation Act ("SMCRA").	compliance with NEPA and the Administrative Procedures Act in approving the Greens Hollow Lease is pending, BLM's sale of the lease has not been stayed or enjoined. Accordingly, the lease is in effect and it is appropriate for OSMRE to tier to the EIS. CEQ encourages tiering to reduce redundancy in analysis. Per the CEQ regulations implementing NEPA (40 C.F.R. §§ 1502.20 and 1508.28), tiering is appropriate when proceeding from a broader environmental impact statement on a specific action to an analysis at a later stage, so that the agencies can focus on the issues which are ripe for decision and exclude from consideration issues already decided.
3-2	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	In addition to the underlying lease's non-compliance with SMCRA, we are concerned that OSM is using a Supp. EA to correct deficiencies in a Final Supplemental Environmental Impact Statement ("FSEIS"), which is not provided for in the National Environmental Policy Act ("NEPA") regulations. Using an EA or Supp. EA to correct an Environmental Impact Statement ("EIS") or FSEIS is expressly prohibited in NEPA regulations and guidance, and therefore presents an immovable obstacle to the approval of this proposed modification.	OSMRE prepared a supplemental EA based on new circumstance and new information as described in Section 1.1. It was not prepared to, as the commenter states, "correct deficiencies" in the Greens Hollow FSEIS. Text has been updated to clarify using an EA to supplement an EIS and why this is appropriate. The preparation of an EA or supplemental EA in this case is not prohibited under CEQ's NEPA implementing regulations or guidance because OSMRE is not, as the commenter states, correcting an EIS or FSEIS. See footnote 1 in Section 1.1 "*A finding of no significant impact other than those already disclosed and analyzed in the EIS to which the EA is tiered may be called a "finding*

			of no new significant impact" (43 CFR 46.140(c))." An EA is the appropriate form of NEPA when the effects are not significant. Also see Section 1.1 for DOGM's coal program.
3-3	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Moreover, aside from using an incorrect process to supplement an FSEIS, we are further concerned that OSM seems to assume its Supp. EA is sufficient to patch the holes of its faulty air quality and climate analysis in the prior FSEIS, while also tiering to the insufficient FSEIS. While it is appropriate in some instances to tier an EA to a prior EIS, this is only the case when the EIS is proper and complete. OSM cannot have it both ways; either the FSEIS is insufficient and needs to be supplemented, or the FSEIS is complete and can be tiered to. While it seems that OSM understands its analysis in the prior FSEIS were insufficient, OSM has not provided sufficient additional analysis to fill in the gaps. Finally, even while ignoring that an incomplete FSEIS cannot be tiered to, OSM attempts to paper over its poor analysis using a Supp. EA and still ends up stopping short of the hard-look, high-quality analysis that NEPA requires. Guardians, CBD, and Sierra Club urge OSM to halt its review, or to disapprove of the mining plan modification. OSM must reject the preparation of an EA and move to conduct a full EIS, consistent with § 102(2)(C) of NEPA. *See* 42 USC 4332(2)(C).	See response to comment 3-2. OSMRE completed a "hard look" of the new issues described in Section 1.5. A "hard look" included review of new and previously available data, performing calculations to disclose potential air emissions from mining operations, employee vehicle use, transportation, and coal combustion, and analyzing available data on mercury emissions. The use of a supplemental NEPA analysis does not render the prior NEPA analysis insufficient or inadequate. A supplemental NEPA analysis as outlined in 40 CFR 1502.9 can be prepared based on new circumstances and information, when substantial changes are made to the Proposed Action, and when an agency determines that the purposes of the Act will be furthered by doing so. The rational for supplementing the Greens Hollow FSEIS is provided in Section 1.1. Tiering to the Greens Hollow FSEIS is appropriate under 40 CFR 1502.20 which states that, "Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual

			issues ripe for decision at teach level of environmental review." The supplemental EA focuses on those issues that required updated and tiers to the Greens Hollow FSEIS regarding other resource area analyses. As further described in 40 CFR 1508.28, "Tiering is appropriate when the sequence of statements or analyses (b) from an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). In this case the early stage is leasing and OSMRE is taking the preferred approach of supplementing for an analysis at a later stage which is the mining plan modification which includes any lease or permit stipulations and/or mitigation. An EIS is not required as no new significant impacts were determined in the supplemental EA's analysis. Rationale and findings are included in the FONNSI.
3-4	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	1. **OSM Cannot Approve a Modification Because the Greens Hollow Lease is Invalid** As a threshold matter, we are concerned that this modification relates to a federal lease that was not legally approved. Specifically, the BLM was prohibited from approving the Greens Hollow lease because it was legally required to declare the lease area unsuitable, in accordance with Sage Grouse management direction, in addition to BLM's own coal regulations, 43 C.F.R. § 3461.5(o). In fact, Guardians, Sierra Club, Grand Canyon Trust, and CBD currently have an appeal before the Interior Board of Land Appeals ("IBLA") challenging the BLM's legal	See response to comment 3-1. A Coal Unsuitability Criteria Assessment was completed on the Greens Hollow. Lands were determined to not be unsuitable. Per 43 CFR 3461.1, *coal deposits that would be mined by underground mining methods shall not be assessed as unsuitable where there would be no*

		basis for approving the lease. *See* IBLA 2016-0279. Under SMCRA, before leasing federal lands for surface coal mining, the agency "shall" determine whether the lands must be considered "unsuitable" and prohibited from leasing. 43 C.F.R. § 3461.3-1(a). When the BLM did not, and instead approved the Greens Hollow lease despite legal prohibitions, the lease became invalid and illegal. As contended in *WildEarth Guardians, et al*. Statement of Reasons, in authorizing the sale and issuance of the Greens Hollow coal lease, the BLM violated the Federal Land Management and Policy Act ("FLPMA") and implementing regulations by failing to comply with applicable Resource Management Plan ("RMP") direction regarding sage grouse conservation, as well as related coal leasing regulations. *See WildEarth Guardians, et al., Statement of Reasons, Appeal of the Greens Hollow Federal Coal Lease, UTU-084102,* IBLA 2016-0279 (8/15/2017) (Statement of Reasons challenging the BLM's ROD authorizing the s sale of the Greens Hollow Lease) (Exhibit 1).	*surface coal mining operations*. (As stated in Section 1.2.5 and Appendix A of the Greens Hollow FSEIS, "BLM used the unsuitability criteria as described in 43 CFR, Subpart 3461, and Table C-1and C-2 of the Manti-La Sal Land and Resource Management Plan (LRMP) to determine the suitability of National Forest lands for coal leasing. The determination of coal mining suitability within the Sage-Grouse Management Area (SGMA) was assessed under Criterion Number 15. Under Criterion Number 15, federal lands which the surface management agency and the state jointly agree are fish and wildlife habitat for residents species of high interest to the state and which are essential for maintaining these priority wildlife species should be considered unsuitable. It is important to note that an exception can be made and a lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected. The Greens Hollow proposed federal coal lease tract lies within the Parker Mountain – Emery SGMA established by Utah's Conservation Plan for Greater Sage-grouse. Currently, greater sage-grouse and underground coal mining coexist within the SGMA. Specifically, the greater sage-grouse lek in the immediate area of the lease

			tract, named Wildcat Knolls, has experienced underground coal mining directly underneath the lek, with no measureable effect upon the population attending the lek. Therefore, it was determined with the concurrence of other federal and state agencies, that underground coal mining below the SGMA, in the Greens Hollow tract would not affect sage-grouse habit and would not have a significant long-term impact on the greater-sage grouse (BLM and Forest Service 2015)." (BLM and Forest Service, 2015).
3-5	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	OSM's recommendation as to whether to approve, disapprove, or conditionally approve a mining plan modification must be based on, among other criteria, "[d]ocumentation assuring compliance with the applicable requirements of other Federal laws, regulations and executive orders other than the Act." *Id.* at § 746.13(c). Under SMCRA implementing regulations, the Secretary of the Interior can only approve mining of "leased Federal coal." 30 C.F.R. § 746.11(a). Here, OSM had an independent duty to verify that federal coal was validly leased prior to recommending any approval of a mining plan or mining plan modification. In this case, because the BLM was required to designate the Greens Hollow Lease area "unsuitable" for mining, it is not validly leased federal coal. Where there is no validly leased federal coal, neither OSM nor the Secretary have any legal authority to take any action under 30 C.F.R. § 746 to review a mining plan or mining plan modification. Moreover, the Mineral Leasing Act and SMCRA bestow upon the Secretary full discretion to reject mining plans or to condition their approval. *See* 30 U.S.C. § 207(c); *see also* 30 C.F.R. § 746.14.	See response to comment 3-1 and 3-4.
3-6	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Because the BLM was required to declare the Greens Hollow lease unsuitable, it is therefore not a valid lease, and OSM may not recommend approval, based noncompliance with required laws. OSM must, at a minimum, delay their decision until the pending IBLA case is resolved.	See response to comment 3-1 and 3-4.
3-7	WildEarth Guardians, Center for Biological Diversity, and Sierra	**2. <u>OSM Must Conduct a Full Environmental Impact Statement Analysis</u>** We are additionally extremely concerned OSM is preparing an EA to supplement its insufficient analysis in its 2015 FSEIS. This is an improper use of an EA, and	See response to comments 3-2 and 33. BLM, USFS, and Utah DOGM participated as cooperating agencies

	Club Environmental Law Program	illegal under NEPA. A full EIS, not an EA, is required here to analyze the significant impacts of past, present, and reasonably foreseeable future impacts in the region as a result of the proposal. It appears that BLM may be acting as a cooperating agency in this Supp. EA only to address deficiencies in its own FSEIS.[1] OSM must prepare an independent analysis of the effects of coal mining for the Greens Hollow Lease.	because of their special expertise and jurisdiction related to the Proposed Action. Additional language regarding cooperating agencies can be found in Section 1.1.
3-8	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	**a. OSM's Decision to Issue an Supp. EA is Unsupported by NEPA** There are several issues with OSM's decision to issue a Supp. EA to avoid preparing its own EIS or a Supplemental EIS. First, this decision is not supported by Interior Department NEPA regulations, which state: An environmental assessment may be prepared, and a finding of no significant impact reached, for a proposed action with significant effects, whether direct, indirect, or cumulative, if the environmental assessment is tiered to a broader environmental impact statement which fully analyzed those significant effects. 43 C.F.R § 46.140. Here, Bowie's 2015 FSEIS was insufficient to comply with NEPA requirements. Its insufficiency is acknowledged with the mere presence of this Supp. EA. OSM even acknowledges the 2015 FSEIS's shortcomings in its current Supp. EA, identifying specific areas that were not previously analyzed in the FSEIS, including: 1) non-greenhouse gas emissions from mining, 2) emissions from transport to the Hunter Power Plant, 3) emissions from Employee Transportation, 4) emissions from coal combustion, and 5) mercury emissions from coal combustion. Supp. EA § 1.5. This is further supported by the pending court case disputing the analysis and insufficient assessment of the FSEIS. *See* IBLA 2016-0279. Thus, while an EA may tier to a prior EIS, it may only do so when the underlying EIS offers complete analysis. Here, it is clear the underlying FSEIS analysis is incomplete as the case arguing currently sits fully briefed, the extent of which will be more fully understood once the IBLA has ruled on the merits. [1] A in a Notice of Supp. Authority on 1/26/2018 in the pending *ardians, et al*., IBLA No. 2016-0279, (Exhibit 2).	See response to comments 3-2 and 3-3. This EA tiers to the EIS which is appropriate according to 40 CFR 1508.28 because the EA is "*a subsequent statement or analysis at a later stage*…" and excludes "*from consideration issues already decided or not yet ripe*." See response to comment 3-1.
3-9	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Second, not only does this Supp. EA tier to an insufficient FSEIS, the use of a Supp. EA as created here, may not *supplement* an insufficient FSEIS. The use of this Supp. EA, then, is invalid at the outset. It is instructive to look to the BLM's NEPA Handbook for guidance on this issue, which states that "[s]upplementation is a process applied only to draft and final EISs, not EAs." H-1790-1-National	The EA was prepared in accordance with OSMRE's NEPA Handbook and NEPA implementing regulations. The CEQ NEPA implementing regulations does not prohibit the use of a

		Environmental Policy Act Handbook, available at: https://www.ntc.blm.gov/krc/uploads/366/NEPAHandbook_H-1790_508.pdf p. 29 (excerpt attached as Exhibit 3). attached as Exhibit 3). Nowhere does NEPA provide that an EIS may be supplemented with an EA. Further, while tiering to an FSEIS or prior EIS is supported in some instances, the Handbook states that, when tiering to an EIS, "[i]f there are new circumstances or information that would result in significant effects of an individual action not considered in the EIS, tiering to the EIS cannot provide the necessary analysis to support a FONSI for individual action[.]" BLM NEPA Handbook, § 5.2.2 at 27. Thus, OSM's Finding of No New Significant Impact ("FONNSI") based on tiering to an EIS (let alone an insufficient one) is wholly in violation of NEPA. Further, OSM's use of a Supp. EA to fills gaps in an FSEIS is unsupported by, and in violation of, NEPA.	supplemental EA. The use of supplemental EAs tiering to EISs is common practice among Federal agencies including but not limited to the Department of Energy, Department of Defense, Federal Aviation Administration, and Federal Emergency Management Agency. OSMRE's NEPA analyses are not subject to conformance with another agency's NEPA handbook. A FONNSI can be issued in accordance with 43 CFR 46.140(c). A supplemental EA was prepared based on new circumstances and information as described in Section 1.1, not due to insufficient analysis in the Greens Hollow FSEIS. See also response to comment 3-2 and 3-3.
3-10	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	To its credit, OSM does appear to acknowledge the 2015 FSEIS shortcomings, what OSM does not appear to understand, however is that an EA or Supp. EA cannot tier to a deficient EIS or FSEIS, nor can it serve to "fix" deficiencies in an EIS or FSEIS. If an FSEIS is inadequate, then the proper means of doing this is through a revised or Supp. EIS, not through an EA or Supp. EA. Put another way, if an EIS or FSEIS fails to disclose significant impacts, an EA cannot be the vehicle for disclosing those impacts under NEPA, only an EIS can be utilized to analyze and assess significant environmental impacts under NEPA. *See* 40 C.F.R. § 1502.3.	See response to comment 3-7. OSMRE does not acknowledge that the FSEIS has any shortcomings as alleged by the commenter. OSMRE is preparing a supplemental EA based on new circumstances and information as described in Section 1.1 that was not previously available to BLM or USFS. The analysis in the EA did not show significant impacts that would require an EIS. The unsigned FONNSI published with the EA provides rationale supporting the FONNSI.
3-11	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental	**b. An EIS is Warranted Because the Impacts are Significant** Outside of the improper patchwork NEPA process, OSM further violated NEPA by failing to adequately analyze and assess the reasonably foreseeable impacts of issuing the Greens Hollow coal lease. Such reasonably foreseeable impacts	See response to comment 3-2 and 3-9. OSMRE's NEPA analyses are not subject to conformance with another agency's NEPA handbook.

	Law Program	include coal combustion impacts, coal transport impacts, and coal export impacts. The BLM Handbook states that, "[a]n EIS would need to be prepared for the individual action only if there are significant effects that have not been analyzed in the broader EIS." BLM NEPA Handbook, § 5.2.2. at 27.	Section 3.3.1 of the EA includes discussion of coal combustion and coal transportation related impacts. See Table 2 and Section 2.2 for information on historic coal buyers.
3-12	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Here, there are significant impacts related to the mining of the Greens Hollow tract that were not considered in the 2015 FSEIS. Expanded mining poses significant direct, indirect, and cumulative impact to air quality, water quality, and special status species in the region. Further, the Supp. EA unfortunately falls short of adequately addressing several potentially significant impacts related to the mining of the Greens Hollow tract, including a number of potentially significant impacts that we flagged in earlier Statement of Reasons in our pending case. *See Statement of Reasons*. Accordingly, in addition to the reasons above, tiering would not be allowed in this instance. Given this, an EIS or a Supp. EIS must be prepared, not a Supp. EA.	See response to comment 3-2 and 3-3. The Proposed Action analyzed in this EA does not analyze expanded mining operations from that previously analyzed in the Greens Hollow FSEIS. OSMRE, as evidenced in this EA and FONNSI, did not find significant impacts related to the Proposed or No Action Alternatives.
3-13	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Regardless, an EIS is compelled based solely on the Interior Department's Departmental Manual, 516 DM 13. The Manual states that, approval of a mining plan requires an EIS where "[t]he environmental impacts of the proposed mining operations are not adequately analyzed in an earlier environmental document covering the specific leases or mining activity," "[t]he area to be mined is 1280 acres or more, or the annual full production level is 5 million tons or more," and "[m]ining and reclamation operations will occur for 15 years or more." 516 DM 13.4(A)(4). Upon review of available information, it appears that all three criteria are met. Additionally, OSM acknowledges that the FSEIS was indeed inadequate, and failed to adequately analyze the reasonably foreseeable impacts of mining the Greens Hollow lease.	See response to comment 3-2 and 3-3. The environmental impacts of the proposed mining operations are adequately analyzed in the FSEIS. A supplemental EA was prepared by OSMRE in response to new circumstances and information specific to our agency needs as described in Section 1.1. The Proposed Action does not meet the scenario described in the Departmental Manual 516 DM 13, which requires **all three criteria** to be met to initiate an EIS. OSMRE determined that the environmental impacts of the proposed mining operations is adequately analyzed in a previous environmental document covering the Greens Hollow tract lease, see Greens Hollow FSEIS.

			Departmental Manual 516 13 also explicitly recognizes that OSMRE may choose not to prepare an EIS for any of the listed actions "If for any of these actions it is proposed not to prepare an EIS, an EA will be prepared and handled in accordance with Section 1501.4(e)(2))".
3-14	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Here, the area to be mined is 6,557 acres, well over the required 1,280, and the annual production level is approximately 6 million tons per year, over the required minimum 5 million tons. Additionally, if the mining proposal is approved, it will continue the life of the Sufco mine almost 9 years, until 2028, after which it is reasonably foreseeable that reclamation would last for another 6 years or more. Thus, under the Interior Department's Manual, an EIS or Supp. EIS is required, not a Supp. EA.	See response to comment 3-13.
3-15	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Sufco Mine produces about 6 million tons of coal each year, making it the largest mine in Utah. 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 OSM does not believe that the proposed activities are significant in terms of the context of the area that may be impacted, then OSM must explain why and include an explanation as to the thresholds upon which it based its assessment. Here, the Supp. EA fell short of proper analysis when it determined that proposed impacts were insignificant. 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. To this end, it does not appear that an Supp. EA or a FONNSI is warranted. We again urge OSM to prepare an EIS or Supplemental EIS for the modification and comply with the relevant procedures governing the preparation. The Secretary of the Interior has discretion to disapprove mining plans pursuant to the Mineral Leasing Act, 30 U.S.C. § 207(c), and the Surface Mining Control and Reclamation Act ("SMCRA"), 30 C.F.R. § 746, meaning rejection is wholly authorized.	The degree and significance of impacts are described in the FONNSI, which found the Greens Hollow mining plan modification "*will have no new significant effect on the quality of the human environment individually or cumulatively with other actions within the region, that has not already been analyzed in the Greens Hollow FSEIS.*" As stated in the EA Section 3.3.1.4, the exact destination of the coal produced under the Proposed Action is unknown and would be too speculative to analyze any indirect impacts associated with exact transportation routes. The EA discloses potential emissions from vehicles in Section 3.3.1.2. The operations of coal processing facilities at the mine and disposal of mine waste (i.e. waste rock disposal sites) are analyzed as part of the

			Alternatives from the Greens Hollow FSEIS and thereby incorporated by referenced into this EA. As explained in Section 3.4 of this EA, the vent shaft is no longer being proposed as a reasonably foreseeable action for mine ventilation and therefore did not warrant further analysis. See response to comment 3-2 and 3-3.
3-16	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	If OSM decides to continue to process the proposed mining plan modification, despite the legal barriers, we request the Agency address the following issues: **3. The Supp. EA Fails to Fully Analyze and Assess the Direct and Indirect Impacts of <u>Mining the Greens Hollow Tract</u>** The Supp. EA falls short of adequately addressing a number of potentially significant impacts related to the mining the Greens Hollow tract, including a number of potentially significant impacts that we flagged in our earlier appeal of the FSEIS. *See* IBLA 2016-0279.	See response to comment 3-15 and 3-13. OSMRE, as evidenced by the EA and FONNSI, determined that the Proposed Action (direct and indirect) would not result in significant impacts. Impacts were adequately analyzed presenting quantitative emissions data and comparing those against Federal standards, such as the NAAQS.
3-17	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	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, considering "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). The U.S. Supreme Court has called the disclosure of impacts the "key requirement of NEPA" and held that agencies must "consider and disclose the actual environmental effects" of a proposed project in a way that "brings those effects to bear on [an agency's] decisions." *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 96 (1983). NEPA regulations require agencies to provide "a clear basis for choice among options by the decision maker and the public." 40 C.F.R. § 1502.14.	Comment noted.
3-18	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	To fulfill the goals of NEPA, federal agencies are required to analyze the "effects" of their actions on the human environment in an EIS. 40 C.F.R. § 1502.16(d). To this end, OSM 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, indirect (EA Section 3.3) and cumulative effects (EA Section 3.4) are analyzed in this EA as well as in the Greens Hollow FSEIS. The degree and significance of impacts are

			described in the EA and FONNSI.
3-19	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Unfortunately, as described in detail below, the Supp. EA, and tiered FSEIS, fails to adequately describe air quality impacts, climate impacts, and other related direct and indirect impacts that will occur from the mining, transportation, and combustion of Greens Hollow coal. OSM did not present sufficient information to justify a FONNSI. Therefore, OSM must fully analyze and assess the surface impacts of mining the proposed lease. We impress upon OSM to fully analyze and assess the impacts of mining to the following:	The degree and significance of impacts are described in the EA and FONNSI. Section 3.3.2 of the EA includes analysis of air quality impacts related to mining, transportation, and combustion of coal.
3-20	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	**a. Impacts to Air Quality** OSM was required to sufficiently analyze and address impacts to air quality related to the combustion of coal from the Greens Hollow Tract, and failed to do so. The FONNSI, in fact, indicated that impacts on air quality due to mining the Greens Hollow Tract would be "minor and short term." FONNSI at 4. However, without undertaking a full analysis, there is no way to determine whether these impacts would indeed be insignificant (or "minor and short term"). In fact, in this Supp. EA, OSM acknowledged that the FSEIS for the Greens Hollow coal lease did not fully analyze and assess environmental impacts related to air emissions from the transportation of coal to the Hunter coal-fired power plants, as well as greenhouse gas and mercury emissions from coal combustion. *See Statement of Reasons* at 4.	See response to comments 3-3 and 3-7. Section 3.3.2 of the EA presents updated analysis related to new information obtained by OSMRE. ... OSMRE does not consider the FSEIS inadequate, only that new issues and new information were identified relevant to OSMRE's federal action.
3-21	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	OSM was required to fully analyze and assess direct, indirect, and cumulative impacts to air quality, including impacts to air quality in the context of all NAAQS, prevention of significant deterioration ("PSD") increments for Class I and II areas, and visibility impacts to Class I areas. Here, OSM identified five areas which were "deserving of further study" which had not been covered by a prior analysis. Supp. EA §1.5. As mentioned previously, these areas were: non-greenhouse gas emissions from mining, emissions from transportation of the coal to the Hunter Power Plant, employee transportation emissions, coal combustion emissions, and mercury emissions. *Id.* While OSM acknowledges that the FSEIS is lacking in air quality analysis, the Supp. EA still does not sufficiently analyze the full impacts to air quality.	See response to comments 3-7, 3-20, and 3-22 through 3-31. OSMRE fully analyzed those issues identified in Section 1.5 of this EA in the context of direct and indirect (EA Section 3.3) and cumulative impacts (EA Section 3.4). Emissions presented in this EA and the Greens Hollow FSEIS are analyzed in the context of NAAQS (EA Section 3.3.1 and FSEIS 4.13.3.1). Emissions from the Proposed Action would be below the Prevention of Significant Deterioration (PSD) threshold of 250 tons per year, so PSD requirement do not apply as explained

			and thereby incorporated by reference in the Greens Hollow FSEIS (FSEIS Section 3.13.2.3 and 4.13.3.2). Potential visibility impacts to Class I areas is explained and thereby incorporated by reference in the Greens Hollow FSEIS which states that the visibility screening analysis indicates that visibility in the Capitol Reef National Park Class I area would not be impacts from operations of the Greens Hollow tract (FSEIS Section 3.13.4.1 and 4.13.3.4). OSMRE does not consider the FSEIS inadequate, only that new issues and new information were identified relevant to OSMRE's federal action.
3-22	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	We are primarily concerned that current monitoring for the area is not even occurring. While the Supp. EA states that emissions from the mine are not contributing to ozone exceedances, this statement does not represent an accurate assessment when monitoring stations are not even placed in Sevier or Sanpete county. *See* Supp. EA § 3.3. What's more, the Supp. EA did not contain any expression of whether the mileage of the air quality monitoring system to the mine would cause an impact to the monitoring results. Because 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, OSM must undertake its own modeling analysis and assessment to comply with NEPA. Additionally, OSM did not analyze quantified fugitive emissions from particulate matter from excavation, hauling, and reclamation activities.	To determine which areas need monitoring, Utah DAQ evaluates the emissions inventory. Areas that have high emissions are monitored. In Utah, this includes areas that also have documented poor air quality such as Salt Lake City. See Section 3.2.1. OSMRE is not required to complete monitoring or modeling effort if existing data is available to characterize the affected environment and monitoring and/or modeling is not required for the decision maker to make a reasoned choice (40 CFR 1502.22). Section 3.3.1 of the EA discusses $PM_{2.5}$.
3-23	WildEarth Guardians, Center for Biological Diversity, and Sierra	*1. Coal Transport* OSM was required to explain how its analysis concluded that coal transport impacts were insignificant, and failed to do so. OSM dismissed coal trucking data	OSMRE has determined that the EA has adequately demonstrated that the foreseeable effects of implementing

	Club Environmental Law Program	as insignificant compared to the rest of the county. In the FSEIS, the agency did not deny that greenhouse gas emissions would be released, both directly from mining operations, including trucking, and indirectly from coal combustion, and that these emissions would contribute to climate change. *See* FSEIS at 285. However, the agency stopped short of a full analysis when it denied the impacts of daily trucking from the mine to Hunter Power Plant and their contribution to climate change and air quality. The comparison of a mine's impacts to the rest of Sevier County does not give automatic conclusion to its insignificance under NEPA. Rather, the agency should have taken the extra step to establish a well-known baseline for comparison, and then compared. Here, the mine-to-county comparison is arbitrary and unsupported by NEPA.	the Sufco mining plan and those effects would not significantly affect the quality of the human environment. The uncertainty regarding future combustion locations and the exact transportation routes to ship the coal to those destinations, make analysis of truck and/or train traffic too speculative. Therefore, transportation related impacts could occur throughout the county and a comparison to local county emissions is an appropriate measure to determine significance. GHG emissions resulting from mining, processing, shipping, and combusting coal are disclosed in Section 3.3.1 of the EA.
3-24	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Further, the agency only looked at the impacts of coal hauling from the mine to one particular power plant nearby. This is not sufficient to meet NEPA's "hard look" requirement.	As explained in Section 3.3.1.4, the use of the Hunter Power Plant was to reflect potential impacts from coal hauling and combustion. Actual future consumers of the coal produced under the Proposed Action are unknown at this time and would be too speculative to predict due to uncertainties in the coal markets. OSMRE determined that it would not be useful to the decision maker nor is it necessary to determine significance to present emissions from every potential or previous buyer of coal from SUFCO and chose to analyze potential impacts from one likely buyer, Hunter Power Plant as presented in Section 3.3.1.4 thereby meeting the NEPA "hard look" standard.

<table>
<tr><td></td><td></td><td></td><td>See also the response to comment 2-15.</td></tr>
<tr><td>3-25</td><td>WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program</td><td>Additionally, in order for coal extraction impacts to be fully addressed, the agency must analyze other impacts that occur day-to-day. For example, there is no disclosure of CO2 emissions associated with heavy equipment that will be required to construct roads, the new ventilation shaft, new fan shaft, and the new transmission line. Until these deficiencies are corrected, the agency continues to fall short of the analysis required by NEPA.</td><td>The emissions are regulated on an annual basis, regardless of the hours per day the mine operates. See Section 3.3.1.
Construction of roads, and a new transmission line are considered reasonably foreseeable in Section 3.4. However, specific details regarding the construction design, timing, and equipment needed for these actions is unknown and would be too speculative to quantify associated impacts.
Ventilation shafts are no longer considered reasonably foreseeable (Section 3.4).</td></tr>
<tr><td>3-26</td><td>WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program</td><td>2. Coal Combustion
OSM was required to analyze the eventual combustion of such coal, in relation to air quality. In 2017, Sufco coal was burnt at Huntington, Hunter, and Intermountain Power Project generating stations. OSM must examine the impact of these generating stations on air quality, especially as it relates to death and disease attributable to fine particle pollution. While the following data is several years old, it points to the incredible health impact that coal combustion has on the community surrounding the generating station:
<table><tr><th>Type of Impact</th><th>Annual Incidence</th><th>Valuation</th></tr><tr><td>Deaths</td><td>12</td><td>$86,000,000</td></tr><tr><td>Heart attacks</td><td>18</td><td>$2,000,000</td></tr><tr><td>Asthma attacks</td><td>260</td><td>$14,000</td></tr><tr><td>Hospital admissions</td><td>8</td><td>$190,000</td></tr><tr><td>Chronic bronchitis</td><td>8</td><td>$3,700,000</td></tr><tr><td>Asthma ER visits</td><td>10</td><td>$4,000</td></tr></table></td><td>As explained in Section 3.3.1.4, theuse of the Hunter Power Plant was to reflect potential impacts from hauling and combustion actual future consumers of the coal produced under the Proposed Action are unknown and would be too speculative to predict due to uncertainties in the coal markets.
Any existing impacts at the generating stations listed by the commenter would fall under other state and federal agencies jurisdiction.

OSMRE determined that it would not be useful to the decision maker to present emissions from every potential or previous buyer of coal from SUFCO and therefore OSMRE analyzed potential impacts from one</td></tr>
</table>

		Clean Air Task Force, "Find Your Risk from Power Plant Pollution". Here, OSM found that these impacts were "negligible", against the weight of evidence of significant health impacts. In order to fully analyze and assess the impacts to health and air quality, OSM must complete a modeling analysis, especially considering local residents' health.	likely buyer, Hunter Power Plant as well as presenting a per-mile value which can be extrapolated if the public choses to.. Health and air quality modeling is outside the scope of the analysis and would not be useful to the decision maker since OSMRE was able to determine through a quantitative analysis that air emissions would not be significant and under the NAAQS which were created to protect human health. Since future coal consumers are unknown any related impacts at the power plant or industrial facility would be too speculative to quantify, regulated by other permitting agencies, and outside of OSMRE's jurisdiction.
3-27	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Further, a recent study found a new toxin existing in coal combustion emissions. *Nature* *Communications* 8, Article number: 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. Thus, OSM must include an analysis of this particular new toxin's prevalence in the effects of coal combustion. Until OSM undertakes this analysis, it is not in compliance with NEPA.	The study referenced was related to coal ash spill data from North Carolina related to aquatic organism exposure, which is outside the scope of the analysis for the decisions to be made for the mining plan as the Proposed Action does not involve a coal ash spill and is in a different geographic location. . The study goes on to state that it is an "initial assessment… clearly invites further toxicity studies."
3-28	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	*3. Mercury* OSM was required to analyze and assess the impacts of mercury from coal combustion. In addition to greenhouse gas emissions, coal combustion also releases emissions of hazardous air pollutants including mercury that deposit near the power plant and pose risks to both human health and the survival of endangered and other native fish in the Green River. As indicated in the	Section 3.3.1.5 addresses the potential for mercury deposition from coal combustion. However, an in-depth analysis of potential mercury deposition and impacts to fish species is not warranted because the potential

		Statement of Reasons, the FSEIS's discussion of impacts to the listed Colorado pikeminnow, razorback sucker, humpback chub, and bonytail are limited solely to discussion of water diversions, and makes no mention of the known threat to those species posed by mercury deposited from coal combustion. *See* FSEIS at 198. Also indicated in the Statement of Reasons, because mercury accumulates in the environment and in organisms, the relevant concern is not the rate of combustion but the total pollutant contribution. While the Supp. EA acknowledged that atmospheric mercury from coal combustion can be converted to methyl mercury and bio-magnify through the food chain, any analysis stops there. *See* Supp. EA § 3.3.1.	end user of the coal from the Greens Hollow tract is unknown and too speculative to predict with any accuracy that would be helpful to the decision maker. As stated in Section 3.3.1.5, "Because the effects would be within the air permit limits, which are set to be protective of the environment, the impacts from mercury emissions would be negligible."
3-29	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	OSM states that because atmospheric deposition can be difficult to quantify it is "not possible" to determine how much mercury would be deposited into water sources, or more generally as an indirect impact of mining the Greens Hollow tract. *Id.* As indicated in the Statement of Reasons, OSM cannot ignore this significant impact under NEPA due to minor uncertainty regarding the precise destination and combustion conditions for Greens Hollow coal. *See Northwest Envt'l Defense Ctr. v. NMFS*, 647 F. Supp. 2d 1221, 1247 (D. Or. 2009) ("Clearly, there can be a significant impact on a species [under NEPA] even if its existence is not jeopardized.") (quotation omitted).	Table 9 has been updated to include the mercury emissions from combustion of coal at the Hunter Power Plant. As stated in Section 3.3.1.5, "Because the effects would be within the air permit limits, which are set to be protective of the environment, the impacts from mercury emissions would be negligible."
3-30	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Mining at Sufco occurs 24 hours a day, and runs equipment which emits pollution 24 hours a day. These impacts cannot be dismissed as "insignificant." Until OSM has corrected these deficiencies in monitoring data and analyses, it cannot conclude the impacts will not be significant.	The emissions are regulated on an annual basis, regardless of the hours per day the mine operates. See Section 3.3. 1. See comment response for 3-22 on monitoring. Rational and findings are in the FONNSI.
3-31	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	**a. Climate Change Impacts** The Supp. EA indicates that OSM would not undertake carbon cost analysis and in refusing to do so, continues to fail to analyze and assess the full climate change impacts of approving the modification. OSM was required to 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. OSM reasserts the dismissal of significant climate impacts by claiming that available tools are not accurate or sufficient enough to analyze the impacts of climate change. *See* FSEIS at 285; *see*	See Section 3.2.2.2 for rational on why a social cost of carbon analysis was not conducted. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. *See WildEarth Guardians v. Jewell*, 738 F.3d 298,

		also Supp. EA § 3.3.1. This argument is unsupported. As asserted in our Statement of Reasons, there are tools available for this type of assessment, that are both supported by scientific evidence as well as the Department of Interior, and the federal courts. *See* Greens Hollow, Statement of Reasons at 21. However, at a minimum, to properly assess climate impacts under NEPA, OSM must analyze and assess the cost of carbon emissions using the social cost of carbon protocol.	309 n.5 (D.C. Circuit 2013) where the District of Columbia Circuit Court affirmed that the BLM's environmental analysis of the climate change impacts of the leased coal was adequate under NEPA. The court thus held that "because current science does not allow for the specificity demanded by the [plaintiffs], the BLM was not required to identify specific effects on the climate in order to prepare an adequate EIS."
3-32	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	In our prior Statement of Reasons, we detailed the need and appropriateness of carbon cost analysis and suggested the use of the widely-acknowledged "Social Cost of Carbon" tool. *Id*. In the Supp. EA, OSM provides various reasons for rejecting such a carbon costs analysis, namely that: 1) it is not engaged in a rulemaking, 2) the guidelines have been withdrawn, 3) NEPA does not require it, 4) the inclusion of a Social Cost of Carbon analysis would be one-sided and uncertain.	See revised text in Section 3.2.2.2 and the response to comment 3-31.
3-33	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Despite its contentions, OSM must analyze and assess the climate impacts of mining the Greens Hollow Tract 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 4). Here, the Supp. EA referenced only the increase of economic activity and dismissed the economic costs because they were "uncertain."	See revised text in Section 3.2.2.2. Without a complete monetary cost-benefit analysis, which would include the social benefits of the proposed action to society as a whole and other potential positive benefits, inclusion solely of a SCC cost analysis would be unbalanced, potentially inaccurate, and not useful in facilitating an authorized official's decision.
3-34	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	*1. Social Cost of Carbon Can be Used for Project-Level Analyses* One reason OSM gave for not using the Social Cost of Carbon is that the tool was designed for rulemakings and not for project-level analyses. *Id.* This is false; although 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	See response to comment 3-33.

		(June 6, 2011) (Exhibit 5). Furthermore, although it was initially developed to help agencies develop regulatory impact assessments of proposed rules, the social cost of carbon should not be limited to this application. Such statements, according to Council of Environmental Quality, reflect the nature of climate change rather than the impact of any particular project. Consideration of Greenhouse Gas Emissions and Climate Change Effects in NEPA Reviews, 79 Fed. Reg. at 77,825. Thus, OSM is not only allowed to, but *required* to undertake a balanced assessment of the costs of climate impacts, using a tool like the Social Cost of Carbon.	
3-35	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	*2. Despite Federal Withdrawal of Guidance, Social Cost of Carbon is Still Regarded as the Best Tool to Estimate Cost of GHG* OSM also stated it would not use the Social Cost of Carbon because the technical supporting documents have been withdrawn. While it is true 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". Revesz, R., "Best Cost Estimate of Greenhouse Gases", *Science* 357 (6352), 655. DOI: 10.1126/science.aao4322 (Exhibit 6). In the letter, scholars reasoned that IWG's estimated "already are the product of the most widely peer-reviewed models and best available data." *Id.* While the IWG is no longer collected, 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). Thus, OSM's excuse not to use the Social Cost of Carbon because its working group was disbanded and support documents withdrawn, is insufficient as it continues to stand as the best model under NEPA.	See revised Section 3.2.2.2. Executive Order 13783 withdrew the Technical Support Documents upon which the protocol and directed agencies to ensure that estimates of the social cost of greenhouse gases "are based on the best available science and economics" and are consistent with the guidance contained in OMB Circular A-4, "including with respect to the consideration of domestic versus international impacts and the consideration of appropriate discount rates" (EO 13783, Section 5(c)). While interim protocols have been developed for use in the rulemaking context, they do not apply to project decisions, so there is no Executive Order requirement to apply the SCC protocol to project decisions.
3-36	WildEarth Guardians, Center for Biological Diversity, and Sierra	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 OSM indicated in the Supp. EA	See response to comment 3-35

	Club Environmental Law Program	that it quantified the *amount* of carbon emissions from mining and burning coal from the Greens Hollow lease, OSM has yet to take the next step of 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 ton of carbon emissions.	
3-37	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	*3. NEPA Requires OSM to use the Social Cost of Carbon* An additional reason the Supp. EA provided for not using the Social Cost of Carbon is that NEPA does not require a cost-benefit analysis. *See* Supp. EA at 12. This is an incorrect assessment of what NEPA requires. 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). NEPA requires OSM 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.	See Section 3.2.2.2. OSMRE is not required to use the SCC tool because the SCC is for a rulemaking, the IWG, technical supporting documents, and associated guidance have been withdrawn; NEPA does not require cost-benefit analysis; and the benefits of coal-fired energy production have not been monetized and quantifying only the costs of greenhouse gas emissions but not the benefits would yield information that is both potentially inaccurate and not useful.
3-38	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	The requirement to analyze the social cost of carbon is also supported in federal case law. The courts have ruled agencies cannot ignore the effects of GHG emissions from mining operations or coal combustion. *High Country Consv. Advocates v. U.S. Forest Serv.*, 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.	See response to comment 3-37 regarding SCC. OSMRE does not ignore the potential impacts from greenhouse gas emissions associated with the Proposed and No Action Alternatives, see FSEIS Section 4.13.3.6 and EA Sections 3.3.1.2, 3.3.1.3, and 3.3.1.4.
3-39	WildEarth Guardians, Center for Biological	Here, OSM tiered to an FSEIS that did not take the hard look at climate impacts, specifically the Social Cost of Carbon, as required by NEPA, and further refused	The Greens Hollow FSEIS took a hard look at the impacts on climate

	Diversity, and Sierra Club Environmental Law Program	to do so in its Supp. EA.	change by quantifying impacts when possible and disclosing that which is unknown to the agencies in Section 4.13.3.6, which is incorporated by reference and considered in the FONNSI. As stated in FSEIS Section 4.13.3.6, "The climate change research community has not yet developed tools specifically intended for evaluating or quantifying end-point impacts attributable to the emissions of GHGs from a single source, and there is a lack of any scientific literature to draw from regarding the climate effects of individual, facility-level GHG emissions." OSMRE is not required to use the SCC tool as described in Section 3.2.2.2.
3-40	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	*4. The Social Cost of Carbon Provides a Balanced Analysis* A primary reason OSM gave for not completing a social cost of carbon analysis is that "inclusion solely of a SCC analysis would be unbalanced, potentially inaccurate, and not useful." Supp. EA at 12. 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). Thus, OSM's decision not to complete a social cost of carbon analysis because it does not present all the data is flawed in a major way. As indicated, OSM calculated the economic *benefits* of the modification, while ignoring any detriments. FSEIS at 56 (OSM lauded the 370 jobs the expansion would provide, and the "$1.87 billion" the leasing would generate). This type of one-sided analysis is a principal example of	See response to comment 3-37. The Greens Hollow Supplemental EA and FSEIS does not claim any socioeconomic benefits.

		the inadequate evaluation engaged in by OSM. To that end, 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. *Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017) (Exhibit 7). 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, OSM 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.	
3-41	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Further, the courts disagree that the Social Cost of Carbon is not useful. 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. *Ctr. for Biological Diversity v. Nat'l. Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008). States and public interest groups challenged a rule that the Highway Traffic Safety Administration had proposed to create fuel economy standards for light trucks for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions, while at the same time monetizing the benefits of the proposed action. *Id*. at 1199. While the agency argued, that valuing the costs of carbon emissions was too uncertain, the court found this argument to be arbitrary and capricious. *Id*. at 1200. Similar to the Supp. EA's stated reasoning to refuse analysis of the costs, the court in *Nat'l. Highway* noted that the agency monetized other benefits that were also uncertain. *Id*. at 1202. More recently, a federal court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA, but when an agency prepares a cost-benefit analysis, it "cannot be misleading". *See* 52 F.Supp.3d 1174, 1182, citing 40 C.F.R. § 1502.23. Similar to the Greens Hollow Supp. EA, in that case, the NEPA analysis included a quantification of benefits of the project, but did not quantify the costs, which the court found was arbitrary and capricious because the NEPA analysis had misleading economic assumptions. *Id*. At 1196.	See response to comment 3-33. The case referenced by the commenter *Ctr. for Biological Diversity v. Nat'l. Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008) was for a national rulemaking regarding new fuel economy standards on light duty vehicles. The decision before OSMRE to make a recommendation is not considered a rulemaking and therefore would not require an SCC analysis. The Greens Hollow Supplemental EA and FSEIS does not quantify any benefits associated with the Alternatives.
3-42	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Further, 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. Envtl. Info. Ctr.*, CV 15-106-M-DWM. In agreeing with the Plaintiffs, the Court specifically mentioned the Social Cost of	See Section 3.2.2.2 and comment response for 3-33 OSMRE does not quantify or otherwise attribute any benefits of the Proposed or No Action Alternatives in

		Carbon as one tool to use to quantify the costs associated with the mine expansion. *Id.* at 35. 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. *Sierra Club, et al., v. Fed. Energy Regulatory Comm'n,* No. 16-1329 (D.C. Cir. Aug. 22, 2017) (Exhibit 8). Thus, the most recent rulings indicate a robust analysis of GHG is necessary.	the EA or FSEIS therefore case, *Mont. Envtl. Info. Ctr.,* CV 15-106-M-DWM, is not applicable to this action. The case referenced by the commenter, *Mont. Envtl. Info. Ctr.*, CV 15-106-M-DWM, does mention the SCC tool but does not require the agency to use it. The case referenced by the commenter, *Sierra Club, et al., v. Fed. Energy Regulatory Comm'n,* No. 16-1329 (D.C. Cir. Aug. 22, 2017), states that, "Our discussion so far has explained that FERC must either quantify and consider the project's downstream carbon emissions or explain in more detail why it cannot do so." OSMRE discloses potential greenhouse gas emissions in Sections 3.3.1.2 – 3.3.1.4 of this EA and in Section 4.13.3.6 of the FSEIS. The case goes on to state that, "We do not decide whether those arguments are applicable in this case as well, because FERC did not include them in the EIS that is now before us. On remand, FERC should explain in the EIS, as an aid to the relevant decisionmakers, whether the position on the Social Cost of Carbon that the agency took in EarthReports still holds, and why." OSMRE discloses those arguments why an SCC analysis is not necessary in Section 3.2.2.2.
3-43	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental	The combustion of coal from the proposed expansion will likely result in massive economic damages associated with climate change. Granted, there may be uncertainty around these numbers, however, NEPA does not allow an agency to forego analyzing impacts completely simply because there may be some	See Section 3.2.2.2. Also, the Greens Hollow FSEIS addresses climate change "on the wider climate" in section 4.13.3.6, which is incorporated

	Law Program	uncertainty, especially where the information may still be of "high quality" according to 40 C.F.R. § 1500.1. The court in *Nat'l. Highway* noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. 538 F.3d 1172, 1202. OSM seems to understand this as the FSEIS analyzes and discloses a number of reasonably foreseeable impacts that are uncertain, including economic impacts, which OSM tiers to in its own analysis. FSEIS at 243 (that Greens Hollow coal lease "could" extend the life of the mine by almost 9 years and that the coal "could be recovered" and provide revenue). As previously argued in the *Statement of Reasons*, the agency made no effort to assess climate impacts, and just indicated it was not possible. Thus, as we argued before, the agency continues to fail to analyze climate impacts, and thus the underlying FSEIS OSM tiers to contradicts NEPA's requirements that information and analysis be of "high quality." 40 C.F.R § 1500.1.	by reference and considered in the FONNSI. The Greens Hollow Supplemental EA and FSEIS does not quantify any benefits associated with the Alternatives. The case referenced by the commenter *Ctr. for Biological Diversity v. Nat'l. Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008) was for a national rulemaking regarding new fuel economy standards on light duty vehicles. The decision before OSMRE to make a recommendation is not considered a rulemaking and therefore would not require an SCC analysis.
3-44	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	To this end, OSM was required to fully analyze and disclose the carbon costs of authorizing the proposed mining plan modification, and failed to do so. Under any analysis, it is unsupported that OSM could find the climate impacts of this proposal to be insignificant.	See response to comment 3-42. OSMRE did analyze the potential impacts of climate change and quantified potential greenhouse gas emissions, see EA Sections 3.3.1.2 – 3.3.1.4 and FEIS Section 4.13.3.6. OSMRE determined that None of the newly analyzed environmental effects from the Proposed Action discussed in the EA are considered to be significant as stated in the FONNSI. OSMRE is not required to disclose carbon costs for the mining plan modification as explained in Section 3.2.2.2 of the EA.
3-45	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	**b. <u>Coal Export Impacts</u>** The Supp. EA does not sufficiently analyze the impacts of coal exports, because OSM believes they are "too speculative" to provide any meaningful information. This is an inaccurate assessment, and in fact, the report relied upon by OSM shows a complete disregard for any chance that Greens Hollow coal could be shipped abroad. Supp. EA § 2.2 ("the results of the analysis clearly show that	**Table 2** and surrounding text has been revised based on new information. Nearly all of Sufco's coal is used domestically.

		export from [Greens Hollow] are unlikely[…]"). This is incorrect. Bowie's exports from the Greens Hollow tract, and the Sufco mine are certain. In fact, Bowie has continued to grow its export business, recently having been entangled in a pacific terminal battle in Oakland, California. Bowie is currently engaged in a pending federal case, hoping to reverse Oakland's decision to ban coal handling (specifically, unloading, loading, storage and intermodal transfer within the city). *See* Maffly, Brian, "Utah's top coal produce is fighting to reverse a California city's ban on exporting coal and open new markets for local mines", The Salt Lake Tribune, 1/8/2018, (Exhibit 9). The firm that would operate the Oakland export station is a subsidiary of Bowie. *Id.*	
3-46	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	This is further supported, as the Supp. EA acknowledges, by the eventual closure date of the largest consumer of Sufco coal, Intermountain Power Project. O'Donoghue, Amy, "Intermountain Power Project Will Shutter Coal-Fired Power Plant Near Delta," Desert News, 5/23/2017, available at: https://www.deseretnews.com/article/865680637/Intermountain-Power- Project-will-shutter-coal-fired-power-plant-near-Delta.html. Intermountain Power is a huge consumer of Sufco coal; through October of 2017, Intermountain Power consumed 1.6 million tons of Sufco coal, and likely thousands of tons more through the end of 2017.[2] U.S. Dept. of Energy, The Energy Information Administration, Fuel Receipts and Cost Time Series File, 2017 October, EIA-923 report. The Supp. EA acknowledges that less than half of its coal went to United States power plants in 2016. Despite the inevitable closure of Intermountain Power, its major domestic customer, Bowie feels confident that its international consumers will support its proposed expansion to mine coal from Greens Hollow. What's more, the number of coal to domestic customers dropped significantly from the year prior, where almost two-thirds of the mine's shipments when to domestic consumers, indicating its general downward projection. Supp. EA § 2.2, Table 2. This decline is a clear signal that domestic consumers will continue to dwindle and Bowie will have to look for other purchasers for its coal. Thus, the export of coal looks to be a certainty and not speculative as claimed in the Supp. EA.	See response to comment 3-45.
3-47	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Moreover, because Bowie is engaged in the details of this terminal project, it is crystal-clear that coal transport data can be quantified. For example, the news media has reported that 104-car unit trains, hauling more than 10,000 tons of Utah coal, which would take 5.2 hours to unload, would travel into the terminal every day. *See* Maffly, Brian, "Port developer attacks Oakland coal ban and city's claims that Utah shipments would endanger public health", The Salt Lake Tribune, 1/18/2018, (Exhibit 10). Thus, with some data extrapolation, an analysis	Sufco's coal in recent years and for the foreseeable future is shipped by truck. **Table 2** and surrounding text has been revised based on new information. Nearly all of Sufco's coal is used domestically.

		and assessment of exporting coal would not be speculative, as OSM claims, nor very difficult and would provide the decision-maker would valuable information regarding the significant impacts of exporting coal from the Greens Hollow lease. While OSM may believe that the ultimate destination of the coal is uncertain, this does not remove the responsibility of analyzing the exporting of coal, nor does it absolve the agency of addressing these impacts in accordance with NEPA.	The coal terminal in Oakland has not received permits to construct or begun construction and is currently under litigation. Therefore, the proposed port could not be considered reasonably foreseeable.
3-48	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	When coal is burned domestically, we can be reasonably certain of the pollution control regulations to which it will be subject. However, there is no guarantee that equivalent regulations will be in place in the Asian countries where the exported coal will be sold and burned. As a result, the air pollution impacts of exporting U.S. coal may be greater than if the coal were to be burned domestically. Yet these impacts will not stay in Asia. Airborne transport of soot, sulfur compounds, mercury, ozone, and other byproducts of coal combustion can travel across the Pacific Ocean and affect the health of western states' ecosystems and residents.	See response to comment 3-47. Coal from the Greens Hollow tract would be burned domestically.
3-49	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Given this, OSM was required and failed to fully analyze and assess the impacts of exporting coal from the Greens Hollow tract. Such an analysis and assessment should have considered the impacts of hauling the coal by rail through the western United States, the impacts of shipping it overseas to be burnt abroad, and the eventual combustion of the coal. To that end, OSM should have also addressed the reasonably foreseeable impacts of the new coal export facility in Oakland, California.	See response to comment 3-47. Coal from the Greens Hollow tract would be burned domestically.
3-50	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Further, the general purpose of coal mining under SMCRA is to meet the Nation's energy needs. The nation's energy needs are not met when domestic coal, a natural resource owned by all Americans, is shipped overseas. In light of this, OSM's authority conveys full discretion upon the agency to reject this coal leasing. Specifically, 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." *Northern Cheyenne Tribe v. Hodel*, 851 F.2d 1152, 1156 (9th Cir. 1988) (citation omitted). As it seems that shipping domestic coal abroad for the benefit of non-American citizens, to the detriment of Americans, is not compatible with the public interest, OSM has full authority to not recommend this modification.	See response to comment 3-47. Coal from the Greens Hollow tract would be burned domestically.
3-51	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	4. The Supp. EA Still Fails to Address the Impacts of Similar and **Cumulative Actions** The Supp. EA indicated that there were no significant cumulative effects identified. Supp. EA § 3.4.1. Under NEPA, an agency must analyze the impacts	As explained in the EA, emissions are regulated by annual limits, and the cumulative effects of permitted emissions are reflected in the current air quality, which is disclosed in Section 3.2.1. Cumulative effects for

		of "similar" and "cumulative" actions in the same NEPA document in order to adequately disclose impacts in an EIS or provide sufficient justification for a FONNSI in an EA. *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*. We are concerned by the potentially significant cumulative impacts posed by nearby coal mines and associated power plants in the area. As indicated in WildEarth Guardians' scoping comments for the South Fork Lease Modification, OSM was required to fully analyze and assess the impacts of similar federal coal leasing and mining approvals being undertaken throughout the region in order to properly account for the climate impacts of mining and the reasonably foreseeable impacts of combustion. *See* WildEarth Guardians, Scoping Comments, South Fork Lease Modification Environmental Assessment, 10.10.2017. Here, the U.S. Department of the Interior is currently weighing numerous coal decisions, similar to the proposed action at hand, which pose similar and cumulative impacts in terms of greenhouse gas emissions, climate, and other impacts, particularly in terms of carbon costs. Further, neither the FSEIS nor the Supp. EA accounted for the 65 active oil and gas wells in Sevier County alone. *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. OSM cannot justify a FONNSI unless and until it fully accounts for the cumulative impacts of past, present, and reasonably foreseeable mining at Sufco mine and other nearby fossil fuel projects, including oil and gas development. Therefore, an EIS must be prepared to fully analyze and assess these impacts.	other resource areas including wildlife, cultural, geology, vegetation, visual, rangeland, and water resources are analyzed in Chapter 4 of the FSEIS and OSMRE considered the impacts in the FONNSI. Section 3.4 of the EA analyzes potential future mining operations. OSMRE is unaware of any newly proposed oil and gas wells that would require additional analysis under cumulative impacts. Any active oil and gas wells in the County would be captured as part of the baseline data collected and shown in Table 3 of this EA. Text in Section 3.4 has been revised to describe oil and gas wells. Section 3.4 of this EA analyzes potential oil and gas development within the project vicinity and future mining development, see Tables 10 and 11.
3-52	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	OSM acknowledges that when it comes to greenhouse gas emissions, emissions at both a national and statewide scale are relevant for analyzing and assessing impacts. *See* Supp. EA at 41 (disclosing national greenhouse gas emissions from fossil fuel combustion and coal mining, as well as state-wide energy-related carbon dioxide emissions). As the agency explicitly states, the analysis area for consideration of climate impacts includes the states of Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. *Id*. at 29. This is due to the fact that, as OSM acknowledges, "climate change and global warming are regional and global phenomena." *Id*. Here, however, the Supp. EA analyzed only local impacts and disregarded the impacts on the wider climate.	The Greens Hollow FSEIS addresses climate change "on the wider climate" in section 4.13.3.6, which is incorporated by reference.

3-53	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	As the Supp. EA is inadequate in this regard, among others, it is imperative that OSM analyze the impacts of mining at the Sufco consistent with the scope required under NEPA in order to ensure that impacts of cumulative and similar are fully analyzed and assessed consistent with 40 C.F.R. § 1508.25(a).	See response to comment 3-2 and 3-3. Section 3.4 of the EA analyzes potential cumulative impacts.
3-54	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	CONCLUSION We appreciate your time and attention to this issue. As OSM reviews and the Secretary weighs approval of additional mining plans, it is more important than ever to ensure clarity around SMCRA compliance. As explained, mining plans are not meant to be rubberstamped, but rather acted upon after careful consideration of substantive factors. The approval of mining the Greens Hollow tract was have devastating effects to the climate and air quality.	Comment noted.
3-55	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	Here, the Supp. EA relates to modification of an invalid lease, and should halt approval of the modification in its path at the outset.	See response to comment 3-1.
3-56	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	However, even if OSM disagrees, the Supp. EA still did not fully analyze the significant impacts of leasing and mining the lease. Specifically, OSM did not consider the impacts of additional CO2, methane, and other emissions from both the mining and the combustion of the coal. Further, the Supp. EA fails to address a number of potentially significant impacts, including the climate impacts related to the reasonably foreseeable consequence of coal combustion, air quality impacts, and cumulative impacts related to additional federal coal management decisions, including additional leasing that had occurred since the original lease was granted.	The EA and the Greens Hollow FSEIS (incorporated by reference) covers the analysis of mining operations, transportation, and combustion of coal in Section 4.13.3.6. Section 3.4 of the EA includes future coal mining operations.
3-57	WildEarth Guardians, Center for Biological Diversity, and Sierra Club Environmental Law Program	The Supp. EA is insufficient to analyze these impacts, as only an EIS can be utilized to analyze and assess significant environmental impacts under NEPA. *See* 40 C.F.R. § 1502.3. Thus, OSM cannot possibly determine whether or not the impacts of emissions are significant, because its Supp. EA analysis was woefully insufficient. Until the agency is able to correct these deficiencies properly, the analysis is insufficient to comply with NEPA. As such, Guardians, CBD, and Sierra Club urge OSM to halt its review, or to disapprove of the mining plan modification. OSM must reject the preparation of an EA and move to conduct a full EIS, consistent with § 102(2)(C) of NEPA. *See* 42 USC 4332(2)(C).	See response to comment 3-2 and 3-3. Along with the additional analysis in the Greens Hollow Supplemental EA, OSMRE considered all the effects disclosed in the Greens Hollow FSEIS.
3-58	WildEarth Guardians, Center for Biological	We appreciate the opportunity to comment. Thank you.	Comment noted.

	Diversity, and Sierra Club Environmental Law Program		
4-1	The Hopi Tribe	The Hopi Tribe claims cultural affiliation to earlier identifiable cultural groups in Utah. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites, and we consider the archaeological sites of our ancestors to be Traditional Cultural Properties. Therefore we appreciate the Office of Surface Mining (OSM)'s, Forest Service's and Bureau of Land Management's ongoing solicitation of our input and your efforts to address our concerns.	Comment noted.
4-2	The Hopi Tribe	The Hope Cultural Preservation Office has previously responded to correspondences on this mine and effects to cultural resources resulting from subsidence from underground mining. In the enclosed letter dated March 3, 2014, regarding SUFCO 2014 Exploration License, UTU-090269, a proposal to explore for coal deposits on Fishlake National Forest and Bureau of Land Management, Price Field Office lands in Sevier County, DOI-BLM-UT-G023-2014-0017-EA, we stated we previously responded to correspondences regarding SUFCO mine expansions in letters dated June 12, July 2, September 35, November 25, and December 19, 2012, and May 20, 2013. We determined that future mining as a result of this proposal may affect cultural resources significant to the Hopi Tribe. In the enclosed letter dated April 7, 2014 to Manti La Sal and Fishlake National Forests regarding leasing of the Greens Hollow Federal Coal Leasing Tract UTU-84102, we reviewed the draft Supplemental Environmental Impact Statement and Stated We understood the Proposed Action is likely to result in adverse effects to Seven National Register eligible prehistoric sites from ground subsidence including two sites with two rock shelters each, while Alternative 3 may adversely affect one legible prehistoric site. We further state we are aware of several eligible rock shelters that were disturbed by subsidence in the Muddy Creek area due to underground mining activities. Therefore, we concluded either of the action alternatives will result in adverse effect to National Register eligible prehistoric sites. We acknowledge that Alternative 3 in the Draft Supplemental Environmental Impact Statement was developed to provide protection for important non-mineral surface resources from the effect of subsidence, including water and cultural resources, and concluded that either of the action alternatives will result in adverse effects to National Register eligible prehistoric sites. In the enclosed letter dated March 30, 2015, we reviewed the Final Environmental Impact Statement and stated we understood Alternative 3 will be approved. We also stated we appreciated the efforts of the Grand Canyon Trust, Utah	BLM and Forest Service selected an alternative that includes a stipulation (#9) which will avoid subsidence of all but one of the eligible sites. The remaining site was mitigated. Consultation with tribes will continue (See Section 3.6.1.2 in the Greens Hollow FSEIS).

		Environmental Congress and Center for Biological Diversity in appealing the initial Record of Decision. Therefore, we requested continuing consultation on this proposal including being provided with a copy of the proposed treatment plan for review and comment. We have not reviewed the supplemental environmental assessment for a federal mining plan modification based on new information for future mining activities into the 6,175 acres Greens Hollow Federal Coal Lease Tract, UTU-84102, as part of Canyon Fuel Company's Sufco Mine on Fishlake and Manti-La Sal Forest Lands.	
5-1	Six County Association of Governments	Authorized mining of recoverable coal in the Greens Hallow lease, will be part of Canyon Fuel Company's SUFCO Mine, also located in Sevier and Sanpete Counties. This industry is extremely important to the economic vitality of the Six County region. It creates hundreds of direct and indirect jobs, provides a substantial tax base, and significantly impacts the economic viability of the Six County area. Approval of the Greens Hollow lease extends SUFCO Mine operations by 8.7 years.	Comment noted.
5-2	Six County Association of Governments	We expect an immediate approval by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to begin mining operations on the Greens Hollow lease once the Surface Mining Control Act of 1977 (SMCRA) permit is approved through the regulatory authority of the Utah Division of Oil, Gas, and Mining (DOGMA); and, the approval of a required mining plan is approved by the Assistant Secretary for Land and Minerals Management (ASLM).	OSMRE is following the regulatory process as quickly as possible.
5-3	Six County Association of Governments	We feel that the previous permitting process required by the Bureau of Land Management (BLM) to offer the Greens Hollow lease for sale to the highest bidder satisfied the required public involvement process.	Comment noted.