Appendix E

Greater Sage-Grouse Management Plan

U.S. Department of the Interior
Bureau of Land Management

GREATER SAGE-GROUSE MANAGEMENT PLAN

Marys River Oil and Gas Exploration Project

March 2014

Location: Elko County, Nevada

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GREATER SAGE-GROUSE MITIGATION PLAN
MARY'S RIVER EXPLORATION PROJECT
ELKO COUNTY, NEVADA

1.0 INTRODUCTION

Noble Energy, Inc. (Noble) submitted a Master Surface Use Plan of Operations (MSUPO) for the Mary's River Oil and Gas Exploration Project to the Bureau of Land Management (BLM) Elko District, Wells Field Office in October 2012. The MSUPO was updated in March 2014. Under the proposed MSUPO, Noble would conduct the Mary's River Oil and Gas Exploration Project (Proposed Action) which includes construction, drilling, operation, and abandonment of 20 wells on up to 20 well pads over two or more years. The project area is located in Elko County Nevada approximately 4 miles northwest of Wells, Nevada and approximately 40 miles northeast of Elko, Nevada on the north side of Interstate-80.

Currently the Greater Sage-Grouse (sage-grouse) is a candidate species for listing under the Endangered Species Act. Both the BLM and Nevada Department of Wildlife (NDOW) have specific policy regarding the species, its habitat and management practices within classified habitat. The project area is within Greater Sage-Grouse habitat with high value designations by the BLM and NDOW. Preliminary Priority Habitat (PPH) and Preliminary General Habitat (PGH) have been designated by the BLM on federal lands within the project area and NDOW has category 1, 2 and 3 habitats throughout the project area. These important habitats along with several active sage-grouse lekking areas in close proximity to the project area (actual proposed disturbances are 3 miles or greater from current active leks) have the potential to be impacted by the proposed activity.

The Council on Environmental Quality (CEQ) states that measures can be used in a document to reduce environmental impact to below significant impacts (40 CFR 1508.20). Additionally, monitoring and/or adaptive management are needed to insure the mitigation measures are effective (40 CFR 1505.2 (c)). The following text is from CEQ guidance.

Mitigation is an important mechanism Federal agencies can use to minimize the potential adverse environmental impacts associated with their actions. As described in the CEQ Regulations, agencies can use mitigation to reduce environmental impacts in several ways. Mitigation may include:

- *Avoiding an impact by not taking a certain action or parts of an action;*

- *Minimize an impact by limiting the degree or magnitude of the action and its implementation;*
- *Rectifying an impact by repairing, rehabilitating or restoring the effected environment;*
- *Compensating for an impact by replacing or providing substitute resources or environments.*

Under BLM policy set by WO IM No. 2012-43 where a field office determines that it is appropriate to issue a proposed fluid mineral authorization, the following process must be followed:

- *Where the BLM has not issued a permit for development, design future conditions or restrictions to minimize adverse effects to Greater Sage-Grouse and its habitat (e.g., Best Management Practices (BMP), noise limitations, seasonal restrictions, minimization of habitat fragmentation, improved reclamation standards, proper siting/designing infrastructure, restoring habitat) prior to permit approval. These measures may be in addition to and more protective or restrictive than the stipulations and restrictions identified in approved LUPs, when reasonable (43 CFR 3101.1-2), supported by science, and analyzed through the NEPA process.*
  <u>Fluid Minerals:</u> Consider suspending non-producing leases in instances where mitigation would not adequately protect the integrity of Greater Sage-Grouse habitat until the BLM amends or revises the LUPs. Consistently apply protective measures to split estate lands.
- *In areas where Greater Sage-Grouse populations have been substantially diminished, and where few birds remain, include actions in the authorization (e.g., siting/designing infrastructure, hastened habitat restoration) that will minimize habitat loss and promote restoration of habitat when development activities cease. In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (refer to WO-IM-2008- 04, Off-Site Mitigation). When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of Greater Sage-Grouse and its habitat.*
- *Geothermal (not applicable)*
- *<u>Fluid Minerals</u>: Ensure authorizations under Onshore Oil and Gas Order No. 7 (Disposal of Produced Water) consider the potential impacts to Greater Sage-Grouse from West Nile virus and develop appropriate mitigation measures.*

It is the intention of this document to illustrate compliance with WO IM No. 2012-043 and reduce the level of impacts by the Proposed Action on sage-grouse to an insignificant level through the implementation of Design Features, BMPs, and Mitigation Measures.

2.0 PRIMARY POTENTIAL RISKS FOR SAGE-GROUSE

To ensure BLM management actions are effective and based on available science, the Greater Sage-Grouse National Policy Team created a National Technical Team (NTT) which in turn created a report on sage-grouse conservation measures that included science based recommendations for managing uses on BLM lands. The NTT report identified three primary potential risks to sage-grouse from energy and mineral development:

1) *Direct disturbance, displacement, or mortality of grouse;*
2) *Direct loss of habitat, or loss of effective habitat through fragmentation and reduced habitat patch size and quality; and*
3) *Cumulative landscape-level impacts.*

Oil exploration activities including the pad construction, well drilling, well completion, oil production and related activities would create noise and visual intrusion, and fragment habitat. New roads associated with the exploration increase human access, increase human activity, fragment habitat, and may increase the spread of invasive weeds. Oil exploration activities could potentially disturb sage-grouse during critical times such as lekking, nesting, brood rearing, and winter seasons. More specifically, energy development may impact sage-grouse in the following or more ways: lek and nest abandonment may increase if active leks and nests are repeatedly disturbed by raptors perching on nearby structures, by vehicle traffic on nearby roads, or by noise and human activity associated with energy development during the breeding season. Also, sage-grouse avoidance of developed areas in winter habitat is high where density of human activity is high.

This Management Plan and the accompanying Memorandum of Understanding only apply to the Mary's River Oil Exploration Project (as analyzed under EA: DOI-BLM-NV-E0130-2013-0007-EA).

3.0 DESIGN FEATURES, BMP'S, AND MITIGATION MEASURES

3.1 DESIGN FEATURES

Design Features are measures that are taken to reduce impacts within the Environmental Assessment (EA) and by definition are not considered Mitigation Measures.

3.2 BMPS

Best Management Practices can be considered Design Features as long as they are incorporated into the EA. Noble's Best Management Practices for Sage-Grouse are incorporated by reference from their MSUPO and can be found in Exhibit F of the MSUPO. The proposed BMPs are specific to the protection of sage-grouse and sage-grouse habitat but were not developed specifically for the Mary's River project: therefore, not all practices are relevant to this project.

The NTT has suggested BMPs to be used for fluid mineral extraction. Many of these BMPs are addressed in Noble's proposed BMP's and would be adhered to. The additional BMP's that would be followed are based on the BMP's found in the NTT report (table 3.2.1).

Table 3.2.1

	Sage-Grouse NTT Best Management Practices
Roads	Establish 20 MPH speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
	Close and rehabilitate duplicate roads.
	Site and/or minimize linear ROWs to reduce disturbance to sagebrush habitats.
Site and Operations	Restrict the construction of tall facilities and fences to the minimum number and amount needed.
	During active lek season (March 1 to May 15) limit noise to less than 10 decibels above pre project ambient noise level at the perimeter of an active lek at sunrise and during morning hours(5:00 AM to 10:00 AM).
	Reduce produced noise by using housings that absorb noise on engines and motors. Orient noise producing equipment to direct noise away from sensitive areas.
	When drilling during the lekking, and nesting seasons (March 1 to June 30) noise shields would be required on pads where noise models indicate a risk of exceeding 10dBA above ambient noise levels at the edge of an active lek (L_{90} ambient noise values are 20-21 dBA as measured by Hayden-Wing Associates 2013).
	Use closed-loop drilling systems and store produced water in closed tanks to eliminate water pits and impoundments and eliminate threats from West Nile virus.

	Subcontractors will comply with the same protection measures used in company operations to avoid or reduce disturbances to occupied sage-grouse habitats.
Reclamation	Restoration plant species selection will be based around pre-disturbance conditions and ecological site potential as indicated by pre-disturbance vegetation cover and ecological site surveys for each well pad and road location.
	Maximize the area of interim reclamation on long-term access roads and well pads through techniques such as; reshaping, topsoiling and re-vegetating cut and fill slopes. Reclaim unused portions of pads when transitioning into the production phase.
	Final reclamation will resemble the pre-disturbance landforms.

3.3 MITIGATION MEASURES

In addition to the BMPs and Design Features these Mitigation Measures have been developed and are agreed to by Noble, NDOW, and the BLM to reduce impacts on sage-grouse and sage-grouse habitat to a level that is below significance as defined in the NEPA Handbook H-1790-1 Section 7.3.

Avoidance of Impacts:

- The Proponents would limit pad development to areas outside a 3 mile buffer centered on known and newly discovered lekking areas to avoid impacts to breeding behavior and nesting habitat.
- The Proponents would develop the resources in a phased approach only disturbing the areas where activity is occurring and avoiding the disturbance of future pads until the Proponent is ready to fully develop the pads and drill in that location. The phased approach would prevent unnecessary disturbance if the proponent decides not to pursue further exploration at any point.
- The Proponent would be held to a 3% disturbance cap within the project area. Disturbance is defined as: anthropogenic disturbance within PPH and within the project area boundary and does not include disturbance on private lands. Disturbance would include existing disturbance and new disturbances. Disturbances such as permitted grazing and wildfire would not be included in calculating the percentage of disturbed acreage and would not be counted against the cap.

Minimization of Impacts:

- All activities would be conducted in manner that minimizes impacts to wildlife including Greater Sage-Grouse, wildlife habitat, and the local wildlife communities.

- The Proponents would minimize the total area of surface disturbance and associated areas of indirect habitat loss by reducing human presence and activity to the extent possible.
    1. Utilization of large on-sight storage facilities to minimize traffic disturbance.
    2. Remote monitoring and well control would minimize traffic disturbances during production.
    3. Restricting travel to only authorized vehicles on newly developed roads combined with coordinating and scheduling the use of roads by project personnel and contractors, utilizing the minimum building standard necessary and reclaiming the roads when no longer needed for the project would minimize the impacts of developing new roads.
    4. Utilizing crew vehicles to shuttle people to worksites and holding crews in on-sight temporary living quarters for two rig shifts would contribute to minimizing impacts from traffic.
    5. Reducing pad size to the minimum size needed (7 acres of disturbance for initial two wells to 6 acres for succeeding wells).
    6. Reclaiming portions of pads once in the production phase of exploration so that pad size is reduced to less than 3 acres (initial disturbance acreages will be used when calculating mitigation funds and mitigation funds may not be used for reclamation
- Construction of new pads would be timed so that drilling equipment would be moved onto the pad and drilling activity would commence as soon as possible upon the completion of the preceding activity at that pad thus reducing lag time between phases and reducing the total time of high level activity leading up to well production.
- Limit noise disturbance to less than 10 decibels above measured ambient levels (L_{90} for baseline (ambient) L_{50} for monitoring) 5:00 a.m. to 10:00 a.m. at the perimeter of an active lek during the lekking and nesting season (March 1 to June 30).
    - Modeling would be used to identify which pads may approach the 10dBA above ambient threshold. Models would need to be built using data collected at an operating oil and gas drilling rig (modeling performed by JC Brennan and Associates 2013).
    - If monitoring determines project noise levels to be too high, Noble must notify BLM and NDOW immediately and measures must be taken to remedy the issue. Possible measures may include utilization of noise buffers such as straw bales, or other noise reducing measures.

Winter impact mitigation would be through a seasonal closure from November 30 to March 1 during crucial winter habitat (See section 5.0 Exception Process). Exemptions for winter restrictions are provided for well pad locations S25G and S12J.

Restoration of Impacts:

- Key habitat and habitat components such as sage-grouse seasonal habitats will receive priority for restoration.
- Drilling pads will be restored, re-contoured, re-planted, and pad size reduced to the minimum size necessary for following activities.

Reduction and Elimination of Impacts:

- Pad size is reduced from 7 acres of total disturbance in the initial proposal received from Noble to 6 acres (after the first 6 well pads) in the current proposal as an attempt to have the minimal disturbance necessary to achieve the intended objective. Pad size will be further reduced with a goal of reducing to 5 acres (3 acres once in production phase of exploration) if found to be possible without compromising equipment and crew safety.
- Noise impact reduction through;
    - Timing- time activities to occur during seasons when sage-grouse are utilizing other areas.
    - Reducing noise produced by equipment utilizing muffling devices (housings) on internal combustion engines and electric motors.
    - Orient equipment and use noise deflectors so that noise is directed away from areas of concern.
    - Utilizing sound buffers to absorb and redirect noise.
    - Monitor noise levels at the edge of lek during lekking season and use an adaptive approach to ensure that noise levels do not exceed 10 dBA above ambient levels (L_{50}).
- If the flaring technology used will cause less than negligible visual and auditory effects (i.e. internal combustion) it would be allowed at any time. If flaring will cause more than negligible effects it would be restricted to portions of the day three hours after sunrise to one hour before sunset during the lekking and nesting season (March 1 to June 30).

Compensation of Impacts:

Compensation for impacts would be sought for temporary, long term and permanent impacts.

- The Proponents would agree to a maximum of $600 per disturbed acre at 3:1 ratio for PPH/ Category 1 & 2 and 2:1 ratio for PGH/Category 3 for mitigation off-sets

to be put in an Impact Compensation Fund (escrow or similar account) for later use on offsite sage grouse habitat mitigation projects. Further details like how disturbed acres will be calculated and specifics about escrow accounts will be spelled out in the MOU.

- Use of Impact Compensation funds would be approved through a Wildlife Working Group consisting of the Proponent, BLM, and NDOW and with authority granted through an MOU that would be in place prior to any disturbance. The MOU would state how the Impact Compensation would be implemented including cost per acre and the use of escrow accounts. Projects should be consistent with the Elko County Local Area Working Group Action Plan (when completed). The MOU would also state that in the event the Wildlife Working Group cannot come to a consensus the BLM would retain the authority to make the final decision.

  Types of projects that would be considered include but are not limited to:
  - Habitat enhancement projects
  - Invasive species treatments (as offsite mitigation only, onsite treatments would remain the responsibility of the proponent)
  - Sagebrush plantings
  - Conservation easements
  - Restoring or preserving habitat connectivity
  - Sage Grouse Research (maximum of 10% total funds)

  Preferential weight will be given to projects that are:
  - First, within the affected PMU
  - Second, within immediately adjacent PMU's
  - Third, within Elko District PMU's
  - Fourth, all other projects including research

- The Draft - Regional Mitigation Manual Section (MS)-1794 (attachment 1), provides policy, procedures, and instructions for; Regional Mitigation Strategies, Regional Mitigation Planning, and Mitigation Implementation all with the intention of identifying and implementing appropriate mitigation within (onsite) or outside of the area of impact for particular land-use authorizations.
- The State of Nevada is currently working on a plan for the Governor that may include a Sage-Grouse Mitigation Bank Credit program. If the program is enacted and the wildlife working group approves, the Impact Compensation Fund may be used in this program.

4.0 MONITORING

Monitoring is required to ensure the implementation of these mitigation measures (40 CFR1505.2 (c)) and is an essential component to the success of this plan.

The purposes for monitoring are:

- To ensure compliance with the BMPs, Design Features and Mitigation Measures.
- To determine the effectiveness of the outlined BMP's, Design Features and Mitigation Measures.
- To determine how to modify mitigation measures if the desired outcomes are not met.

Compliance monitoring of Design Features, BMPs and Mitigation Measures would begin immediately upon the commencement of ground disturbing activities. Compliance monitoring would be ongoing through the life of the project through site visits.

Lek attendance would continue to be monitored for trends and impacts through the life of the project on leks (with active status at the time of project approval) within 4 miles of ongoing project activities including production and hauling activities. If no project activities have occurred in the previous year or are planned to occur in the current year monitoring will not be required. Noble has committed to voluntarily monitor active leks for 5 years (beginning in 2011) to establish trend data. All active lek monitoring efforts would be coordinated through the Elko NDOW office by February 1 of the same year (NDOW has certain leks that they would like to continue to monitor). Data collected along with summary reports would be required to be submitted to both NDOW and BLM by June 1 of each year.

Impact Compensation funds would not be used to monitor mitigation rather the Proponent would be responsible to fund monitoring efforts separately.

5.0 EXCEPTION PROCESS

The nature of this oil exploration project is such that direct habitat losses due to ground disturbance are relatively low when compared to the total acreage of the project area. Fragmentation of habitats by roads, traffic, well pads, construction and drilling, noise, and human presence is of greater concern than the physical loss of habitat. Timing restrictions have been designed to preclude disturbance activities in certain designated times and habitats crucial to the persistence of local sage grouse. Theoretically the restrictions reduce the level of displacement of the grouse by the project activity and allows the habitat to retain seasonal value. Timing restrictions have been based on the

best available knowledge of the species and habitat use for the specific area yet differences in weather and habitat condition influence where the grouse actually occupy the available habitat. The seasonal dates of use and areas of use may vary slightly from year to year and it may not be sensible to preclude project activities when areas are not occupied and grouse will not be impacted. In these cases Noble may submit a Wildlife Restriction Exception Request. BLM would consult with NDOW on determining what potential impacts to sage-grouse and other wildlife may be present prior to making any exceptions. The BLM would give serious consideration to all restrictions and exception requests while recognizing the needs of greater sage-grouse and its status as a candidate species for listing under the Threatened and Endangered Species Act.

An example of the Wildlife Exception Request Form is found in Appendix A. Information on the timing, duration, location, and nature of the activity will be gathered using the form. Exception requests need to be received at least 30 days prior to the proposed activity. If surveys are necessary they must be authorized by the BLM after receiving the exception request. Surveys can be performed by BLM approved third party biologist. Survey protocols must be signed off by the BLM in writing prior to initiation of field work. Surveys will have a shelf life of two weeks i.e. if disturbance work is not initiated within fourteen days from the completion of the survey a new survey would need to be completed. The BLM is committed to a process of coordinated review with NDOW when considering each request for an activity in designated crucial winter range and brood rearing habitat. Some of the criteria considered in this process would include; animal presence or absence, weather severity, habitat condition and availability, and the specific site location and requested action.

Appendix A

Example Exception Request Form

Bureau of Land Management
Pinedale Field Office
Wildlife Stipulation Exception Request Form

		Date Requested:	
Well Operator or Right-of-Way Holder:		**BLM Permit #:** (i.e.: Lease, Right-of-Way, Gravel Permit)	
Project Name:		**Legal Description, Township, Range, Section and Quarter:**	
Well Number:			

Activity Start Date:		**Activity Duration:**	
Wildlife COA's/Stipulations Involved:			

Activity Description: **Make sure to include any other associated activity, i.e. gas pipeline. Include the right-of-way holder's name and right-of-way number.**	

Justification for Request:	

Contact Name:			
Address:			
Phone Number		**Fax Number:**	
		****Please note that approvals will <u>only be faxed</u>.**	

☐ **<u>Required</u>** - Attach a 7.5 minute topographical quadrangle of the project area.
☐ Attach any wildlife surveys that have been completed.