Attachment 3

Framework for Sage-grouse Impacts Analysis for Interstate Transmission Lines

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10-22-2011

(1) Evaluation of Direct and Indirect Impacts- This portion of the overall SG Impacts Assessment Framework addresses project-related habitat impacts that bear directly on listing factors considered by the U.S. Fish and Wildlife Service (FWS) when evaluating the need to provide full listing protection under the Endangered Species Act (ESA).

A starting point for this analysis is a thorough review of the threats assessment/five factor analysis that FWS conducted as part of the March 23, 2010 (75 FR 13910), listing of the SG as a Candidate under ESA. An evaluation of all potential threats to SG and SG habitat from the transmission line should be conducted incorporating the latest available scientific information—most of which is referenced in the FR notice itself.

Of particular importance is the synthesis evaluation of all potential threats of the project that operate cumulatively to impact SG populations and habitat in a way that is not adequately evaluated by examining threats independently. The project proponent should look to the FR cumulative threats assessment summary as an example of how to fully analyze impacts associated with the proposed project. Reference to additional scientific information published since the issuance of the FR is available on the FWS website and should be incorporated into the analysis.

An analysis of sage-grouse populations that attend leks within 18km of the project is a critical component of an indirect impacts analysis for the species. Sage-grouse that attend leks up to 18km from the project may be indirectly affected by the loss of habitat functionality during other seasons of the year (Connelly et.al. 2000). The construction of a transmission project or other linear facility may pose additional hindrance of seasonal migration patterns or avoidance of important seasonal habitats once used extensively by local sage-grouse populations. Qualitative and quantitative measures of habitat change must be considered in describing the potential impacts of the project. In the context of managing a species that requires such a large landscape of habitats to meet their life-cycle needs, and the nature of the proposed disturbance, it is reasonable to make some assumptive predictions about the relative impacts within 18km.

(2) Addressing Direct Loss of Birds- While the currency of HEA is in terms of habitat acreage and/or dollars associated with what is essentially an economic analysis, a fundamental concern of all agency biologists is the need to address the impact (i.e., "take" including mortality, harm, etc.) to SG populations and the issue of their replacement. This piece of the overall SG Impacts Assessment Framework is an important contribution to the rangewide jeopardy analysis conducted as part of the informal conferencing process for this Candidate species. Additionally, addressing impacts to populations provides key information needed for completing any potential future formal Section 7 consultation that would be required if the SG is ultimately listed under ESA during project development, thereby significantly streamlining this process.

FWS is actively working on this issue as it relates to rangewide SG conservation. There are two ways that the project proponent is expected to help resolve this concern:

a) Work closely with FWS and State Agency Biologists to develop an approach to address loss of birds from project-related impacts and their replacement;

b) Contribute financially to research projects that have been designed specifically to address this issue

(3) Mitigation- Until an impacts analysis has been conducted in coordination with agency biologists—leading to an adequate understanding of impacts to SG populations and habitat—the issue of mitigation will not be addressed. However, when discussion and evaluation of mitigation does begin, it is with the understanding that mitigation ratios across state lines will remain the same. That is, a bird in Wyoming is equivalent to one in Idaho; an acre of nesting habitat in WY is worth as much in Idaho; etc.

The Habitat Equivalency Analysis, described below, provides a standardized basis to determine a one-to-one ratio for habitat services lost to habitat services mitigated. However, biological factors may provide a valid basis for adjusting the minimal mitigation ratio beyond one-to-one. Three such factors include: (a) the best available scientific information regarding the relative value of sage-grouse populations contributing to long-term species viability across the species' range points to the relative importance of central and southwestern ID, central and northwestern NV, eastern OR, and the state of WY; (b) regarding individual birds, hens have a much higher biological value, in terms of contribution to populations, than males; and (c) localized habitats of high ecological value including (but not limited to) those serving key functions in demographic, genetic, or seasonal connectivity, important wintering areas, or leks.

Habitat Equivalency Analysis (HEA)- HEA is a method of quantifying the permanent or interim loss of habitat services from project related impacts. HEA provides a scientific-based, peer-reviewed method of scaling compensatory mitigation requirements, and has been used by federal regulatory agencies including the FWS and National Oceanic and Atmospheric Administration. The HEA is not meant to be an impacts analysis in and of itself; rather, it is a way to objectively determine quantity of project-related habitat impacts and provides the quantity and type of mitigation necessary to offset loss of habitat services as a form of output.

HEA is a process that requires close collaboration among the project proponent and State Agencies in states sustaining most of the impacts to populations and habitat (like Wyoming and Idaho) as well as FWS and BLM biologists to ensure adequacy of analysis and a corresponding final product. Other impacted states are expected to play an "advisory" role reviewing the HEA and ensuring consistency with their respective states as well (e.g., UT, NV, CO, and others depending upon the project). Building models associated with the HEA process must be done in close coordination with agency biologists in order to address concerns, questions, assumptions, and issues as they arise.

Agency biologists recognize the need for the incorporation of data and information the HEA models that the project proponent may not currently have. Agency biologists will work with project proponents to obtain such information to the extent they can (e.g., habitat maps; adequate

vegetation data)—again, reiterating the need for an interactive approach between the project proponent and agency biologists in order to ensure adequate completion of the HEA.

The initial starting point for evaluating direct and indirect impacts to SG habitat will be 18km either side of the proposed transmission line, addressing impacts to roughly 98% of nesting hens according the best available scientific information. Any deviation from this starting point must be supported by scientific literature: agency biologists can direct the project proponent to recently published literature on this topic which the project proponent is encouraged to use.

Calculating Density of Disturbance within Key[1] Habitat

Once the Alternatives Analysis is complete and a preferred alternative has been selected, an additional site-specific evaluation of density of disturbance within Key Habitats/Core Areas may be conducted. The purpose of this evaluation is to evaluate opportunities to: minimize density of disturbance within Key Habitats/Core Areas that are outside the designated disturbance corridor identified in the Wyoming Governor's Executive Order 2011-5; and restore and/or enhance important sage-grouse habitat as a part of project-related mitigation. These site-specific habitat evaluations also will enable BLM to: (a) demonstrate compliance with the *Greater Sage-Grouse Habitat Management Policy on Wyoming BLM Administered Public Lands including Federal Mineral Estate* (IM WY-2010-012); and (b) demonstrate consistency with the *Greater Sage-Grouse Core Area Protection*, Wyoming Governor's Executive Order 2011-5.

The overall goal of a Sage-Grouse Key Habitat/Core Area Strategy within both Wyoming and Idaho is to limit the density and duration of disturbances and restrict activities within Key/Core Areas sufficient to ensure the long-term conservation and management of sage-grouse within each state. To this end, the Density Disturbance Calculation (DDC) is a tool designed to measure habitat loss within the Key Habitat/Core Area. In particular, it is used to determine—in terms of management actions— how the project related disturbance can be limited to no more than 5% loss of habitat and result in no more than an average of one disturbance per 640 acres.

The DDC calculates habitat loss in Key Habitat/Core Areas beyond which scientific research has shown negative population level effects will occur. To accomplish this, the following evaluation will be conducted.

Step 1: Determination of leks that will be used in the site-specific evaluation:
Place a four-mile boundary around the outer project boundary (as defined by the proposed area of disturbance related to the project, i.e., 150ft Right of Way, or similar). All occupied and undetermined sage-grouse leks located within four miles of the outer boundary of the project, and within Key Habitat/Core Areas, the will be considered in the DDC.

Step 2: Determine the DDC area size and configuration:
A four-mile boundary placed around the perimeter of each lek identified in Step 1 and the area within the boundary of the leks, plus the four-mile project boundary, creates the DDC area for the project.

Step 3: Density of disturbance habitat evaluation:
Disturbance will be evaluated for the DDC area as a whole, as well as for individual leks within the DDC area. Any portion of the DDC that falls outside Key Habitat/Core Area will be removed from this portion of the evaluation for Wyoming.

Disturbance Calculation: Total acres of "disturbance" within the DDC area will be determined through an evaluation of:

a. Existing and Proposed disturbance—sage-grouse habitat that is disturbed by existing anthropogenic features or activities (e.g., transmission lines, distribution lines, wind development, oil/gas wells/facilities, geothermal, communication towers, pipelines, paved roads, and others)— and wildfire, including the full 150ft ROW of the proposed action;

- ❖ Additional guidance and information regarding how to "count" the number and acres of existing disturbances is available. Please request additional information regarding this issue from Idaho Fish and Game biologists the Habitat Protection Section (HPS) of the Wyoming Game and Fish Department.

b. Approved permits (i.e., any state or Federal permits providing approval for on the ground actions) for projects not yet implemented or constructed.

Habitat Disturbance Evaluation: For projects that will result in disturbance of more than 5% of the DDC area, it may be advantageous for the project proponent to map the full extent of sage-grouse habitat within the DDC area in order to reduce this percentage. If this is done, it will be conducted to identify:

a. "Suitable Habitat" and "Marginal Habitat" using BLM's Habitat Assessment Framework (HAF) and unsuitable habitats within the DDC area.
b. Sage-grouse evidence of use of suitable habitats (seasonal use, densities based on best available information)
c. Priority restoration areas (which could reduce the existing disturbances to below the 5% threshold) for example:
    i) Areas where plug and abandon activities on retired oil and gas wells will eliminate disturbance
    ii) Areas where old reclamation has not produced suitable habitat
d. Areas of invasive species
e. Lands where other conservation assurances are in place (e.g., CCAA, easements, habitat contract, etc.)

Step 4: Determination of existing and allowable suitable habitat disturbance:
Acres of disturbance within suitable habitat divided by the total suitable habitat within the DDC area, multiplied by 100, equals the percent of disturbed suitable habitat within the DDC area. Subtracting the percentage of existing disturbed suitable habitat from 5% equals new allowable suitable habitat disturbance until plant regeneration or reclamation reduces acres of disturbed habitat within the DDC area.

[1] **Key Habitat Definitions.** For purposes of the Density of Disturbance Analysis for Gateway West, "Key Habitat" areas in Wyoming will correspond to the State of Wyoming's identified Core Population Areas (version 3), and in Idaho the definition will encompass all of the following habitat types identified on the Idaho Sage-grouse Habitat Planning Map:

Key Habitat: Areas of generally intact sagebrush that provide sage-grouse habitat during some portion of the year.

Potential Restoration Area Type I (Also referred to as R1). Perennial Grasslands: Sagebrush-limited areas characterized by perennial grass species composition and/or structure that should provide suitable potential nesting habitat in the future, once sufficient sagebrush cover is re-established.

Potential Restoration Area Type II (Also referred to as R2). Annual Grasslands: Areas dominated or strongly influenced by invasive annuals such as cheatgrass (*Bromus tectorum*), medusahead rye (*Taeniatherum caputmedusae*) or similar species.

Potential Restoration Area Type III (Also referred to as R3). Conifer Encroachment: Areas where junipers and/or other conifer species are encroaching into sage-grouse habitat areas.