

**State of Wyoming Executive Order
Greater Sage-grouse Core Area Protection 2015-4
Avoidance, Minimization and Compensatory Mitigation for Development in Core vs. Non-Core
October 29, 2018**

This chart is a tool to assist with the implementation and understanding of the Executive Order, Greater Sage-grouse Core Area Protection 2015-4 (SGEO). It does not replace or supersede the SGEO in any way. This document does not preclude additional actions that may be needed by the land management agency or permitting agency. This document mirrors the SGEO in listing General and Specific Stipulations. The Compliance and Minimization examples listed are recommendations and suggested considerations for reducing impacts and may or may not be applicable to every situation. Site specific evaluations are still necessary. These are a list of most common Avoidance and Minimization practices, but not a comprehensive list.

The definition of Avoidance (i.e., compliance) used will be that outlined in the SGEO, “Preferred development plans avoid negative impacts in Core Populations Areas and other Executive Order delineated habitat used by Core Population Area Greater sage-grouse.” The definition of Minimization used will be that outlined in the SGEO, “When development occurs within Core Population Areas and other Executive Order delineated habitat used by Core Population Area Greater sage-grouse, all reasonable options are pursued to minimize impacting additional suitable habitat and/or maintaining impacts below identifiable thresholds to the greatest extent possible.” Compensatory Mitigation comes into play when compliance is not possible and the SGEO stipulation thresholds are exceeded, in addition the proponent has worked to minimize impacts to Greater sage-grouse.

General Stipulations - Executive Order 2015-4, Attachment B					
Stipulations for Development in Core	Compliance in Core No Compensatory Mitigation	Minimization in Core	Stipulations for Development in Non-Core	Compliance in Non-Core No Compensatory Mitigation	Minimization in Non-Core
<p>Surface Disturbance</p> <ul style="list-style-type: none"> Limited to 5% of DDCT assessment area. 	<ul style="list-style-type: none"> Surface disturbance < 5% of Density/Disturbance Calculation Tool (DDCT) assessment area. Surface disturbance > 5% of DDCT assessment area demonstrating no net gain of disturbance acres (e.g., locate new disturbance outside of core area or complete co-location within existing disturbance feature). Find opportunities to co-locate new disturbance with existing disturbance features and/or to resolve existing disturbance features in the DDCT area, by conducting habitat mapping. 	<ul style="list-style-type: none"> Find the areas of least suitable habitat for appropriate siting of infrastructure and to resolve existing disturbance features in the DDCT area by conducting habitat mapping. Co-locate or cluster development in “low impact” areas (i.e., on or adjacent to existing disturbance or within identified marginal or unsuitable habitat). Place infrastructure adjacent to previously disturbed locations or in designated corridors. Conduct additional reclamation/restoration or management of invasive species to reduce the amount of overall disturbance. Consider other opportunities to improve habitat (i.e., conservation easements, additional reclamation that is no longer required of disturbed habitats in suitable habitats). <p><u>Compensatory Mitigation</u> New disturbance exceeding 5% disturbance threshold and occurring more than 0.6 miles from an occupied lek (5 debits per acre)</p>	<p>Surface Disturbance</p> <ul style="list-style-type: none"> No surface disturbance stipulation 		

<p>Surface Occupancy</p> <ul style="list-style-type: none"> NSO within 0.6 miles of the perimeter of an occupied lek. 	<ul style="list-style-type: none"> Move development outside of NSO buffer. No new surface occupancy within the NSO buffer. 	<ul style="list-style-type: none"> Co-locate new disturbance within existing disturbance or within unsuitable habitat. Place infrastructure adjacent to previously disturbed locations. <p><u>Compensatory Mitigation</u> Any new disturbance within 0.6 miles from occupied lek (10 debits per acre)</p>	<p>Surface Occupancy</p> <ul style="list-style-type: none"> NSO within 0.25 miles of the perimeter of an occupied lek. 	<ul style="list-style-type: none"> Move development outside of NSO buffer. No new surface occupancy within the NSO buffer. 	<ul style="list-style-type: none"> Co-locate new disturbance within existing disturbance or within unsuitable habitat. Place infrastructure adjacent to previously disturbed locations. <p><u>Compensatory Mitigation</u> Any new disturbance within 0.25 miles from occupied lek (2 debits per acre)</p>
<p>Seasonal Use/Human Activity (Production and maintenance activities are exempt)</p> <ul style="list-style-type: none"> Activities allowed July 1 – March 14 outside the 0.6 mile buffer of an occupied lek. Where supported by data, dates may be shifted 14 days prior to or subsequent of, but not both. 	<ul style="list-style-type: none"> Conduct activity outside of seasonal stipulation period in core area. 	<ul style="list-style-type: none"> Minimize human activity within breeding, nesting, and/or early brood rearing habitat through project planning that may include traffic management and on-site activity reduction. <p><u>Compensatory Mitigation</u> Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</p>	<p>Seasonal Use/Human Activity (Production and maintenance activities are exempt)</p> <ul style="list-style-type: none"> Activities allowed July 1 – March 14 outside the 0.25 mile buffer of an occupied lek. Where supported by data, dates may be shifted 14 days prior to or subsequent, but not both. A 2 mile seasonal buffer applies to occupied leks from March 15 – June 30. Activities in unsuitable habitat may be approved year-round on a case-by-case basis. Activities may be allowed during seasonal closure periods as determined on a case-by-case basis. 	<ul style="list-style-type: none"> Conduct activity outside of seasonal stipulation period within 2 miles of an occupied lek. 	<ul style="list-style-type: none"> Minimize human activity within breeding, nesting, and/or early brood rearing habitat through project planning that may include traffic management and on-site activity reduction. Conduct activities in unsuitable habitat. <p><u>Compensatory Mitigation</u> Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</p>
<p>Winter Concentration Areas - Activities allowed March 14 to Dec 1. (not part of core area stipulations) Avoidance - Locate new disturbance outside of winter concentration area or conduct activity outside of seasonal stipulation period in winter concentration area. Minimization - Co-locate new disturbance with existing disturbance or within unsuitable habitat.</p>					
<p>Geophysical Exploration</p> <ul style="list-style-type: none"> Follow seasonal stipulations (see Seasonal Use/Human Activity Stipulations in Core Area). Staging areas should be located outside of 	<ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Core Area. Locate staging areas outside of core area. 	<ul style="list-style-type: none"> See Surface Disturbance Stipulations in Core Area. Co-locate staging areas within existing disturbance (if in core area). Minimize size of staging areas. Minimize the surface impacts of vibrosis. <p><u>Compensatory Mitigation</u></p>	<p>Geophysical Exploration</p> <ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Non-Core. 	<ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Non-Core. 	<ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Non-Core. <p><u>Compensatory Mitigation</u> Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</p>

<p>core, or in existing disturbance.</p>		<p><i>Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year New disturbance exceeding 5% disturbance threshold and occurring more than 0.6 miles from an occupied lek (5 debits per acre)</i></p> <p><i>Any new disturbance within 0.6 miles from occupied lek (10 debits per acre)</i></p>			
<p>Transportation</p> <ul style="list-style-type: none"> Locate new collector or arterial roads >1.9 miles from the perimeter of an occupied lek. Locate new local roads > 0.6 miles from the perimeter of an occupied lek (see Surface Occupancy Stipulations in Core Area). 	<ul style="list-style-type: none"> See Surface Occupancy Stipulations in Core. Locate new haul and arterial roads outside the 1.9 mile lek buffer. Locate new local roads outside the 0.6 mile lek buffer. 	<ul style="list-style-type: none"> See Surface Occupancy Stipulations in Core. Use existing roads within the 1.9 mile or 0.6 mile lek buffer with a travel management plan. Construct the minimum number and lengths of roads. Bury pipelines for gas and fluid mineral collections to centralized facility within existing road right-of-way and outside of NSO (traffic reduction). <p><u>Compensatory Mitigation</u> <i>Any new disturbance within 0.6 miles from occupied lek and new collector or arterial roads within 1.9 miles from occupied lek (10 debits per acre)</i></p>	<p>Transportation</p> <ul style="list-style-type: none"> See Surface Occupancy Stipulations in Non-Core. 	<ul style="list-style-type: none"> See Surface Occupancy Stipulations in Non-Core. 	<ul style="list-style-type: none"> See Surface Occupancy Stipulations in Non-Core. Use existing roads within the 0.25 mile lek buffer with a travel management plan. <p><u>Compensatory Mitigation</u> <i>Any new disturbance within 0.25 miles from occupied lek (2 debits per acre)</i></p>
<p>Overhead Power Lines</p> <ul style="list-style-type: none"> New lines in identified corridors (2 mile wide corridors and 115kV corridors or larger) construction between July 1 – March 14 (or July 1- Dec 1 in winter concentration areas) (see Seasonal Use/Human Activity Stipulations in Core Area). New lines located at least 0.6 miles from the perimeter of occupied leks (see 	<ul style="list-style-type: none"> See Surface Disturbance Stipulations in Core Area. See Seasonal Use/Human Activity Stipulations in Core Area. See Surface Occupancy Stipulations in Core Area. 	<ul style="list-style-type: none"> See Surface Disturbance Stipulations in Core Area. See Seasonal Use/Human Activity Stipulations in Core Area. See Surface Occupancy Stipulations in Core Area. Bury new power lines in identified suitable breeding, nesting, and early brood-rearing habitat. Implement appropriate measures from current Avian Power line interaction Committee (APLIC) Sage-grouse Best Management Practices. <p><u>Compensatory Mitigation</u> <i>New disturbance outside corridor and exceeding 5% disturbance and occurring more than 0.6 miles from an occupied lek (5 debits per acre)</i></p>	<p>Overhead Power Lines</p> <ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Non-Core. See Surface Occupancy Stipulations in Non-Core. 	<ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Non-Core. See Surface Occupancy Stipulations in Non-Core. 	<ul style="list-style-type: none"> See Seasonal Use/Human Activity Stipulations in Non-Core. See Surface Occupancy Stipulations in Non-Core. Bury new power lines in identified suitable breeding, nesting, and early brood-rearing habitat. Implement appropriate measures from current Avian Power line interaction Committee (APLIC) Sage-grouse Best Management Practices. <p><u>Compensatory Mitigation</u> <i>Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</i></p> <p><i>Any new disturbance within 0.25 miles from occupied lek (2 debits per acre)</i></p>

<p>Surface Occupancy Stipulations in Core Area).</p> <ul style="list-style-type: none"> • New lines, not in identified corridors – only when activity will avoid negative impacts. 		<p><i>Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</i></p> <p><i>Any new disturbance within 0.6 miles from occupied lek (10 debits per acre)</i></p>			
<p>Noise</p> <ul style="list-style-type: none"> • New project noise should not exceed 10 decibels above baseline noise at the perimeter of a lek from 6pm -8am, March 1 – May 15. 	<ul style="list-style-type: none"> • Conduct development and production activity outside of breeding season time period. • Insure noise levels do not exceed 10 decibels above baseline at the perimeter of the lek between 6pm - 8am by noise monitoring to collect baseline noise levels before the disturbance or activity occurs. Continue noise monitoring during development and after • If noise levels exceeds 10 decibels stop activity or muffle activity to acceptable levels. 	<ul style="list-style-type: none"> • Develop a travel management plan to prohibit and reduce human presence between 6pm and 8am, from March 1- May 15. • Muffle, use internally combustion or otherwise control, exhaust and engine noise from all new equipment. • Consolidate/centralized production facilities and/or use Liquids Gathering Systems to minimize truck traffic and wellsite visits. • Minimize flaring; utilize green completion technology • Use noise shields 	<p>Noise</p> <ul style="list-style-type: none"> • No noise stipulation 		
<p>Vegetation Removal</p> <ul style="list-style-type: none"> • Within 4-miles of an occupied lek, all topsoil stripping and vegetation removal in suitable habitat is limited to July 1 – March 14. • Initial disturbance in unsuitable habitat March 15 – June 30 may be approved on a case-by-case basis. 	<ul style="list-style-type: none"> • Within 4 miles of an occupied lek, see Seasonal Use/Human Activity Stipulations in Core Area. • See Surface Disturbance Stipulations in Core Area. 	<ul style="list-style-type: none"> • Co-locate infrastructure and reduce project footprint to the extent possible. <p><u>Compensatory Mitigation</u></p> <p><i>New disturbance exceeding 5% disturbance threshold and occurring more than 0.6 miles from an occupied lek (5 debits per ac)</i></p> <p><i>Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</i></p>	<p>Vegetation Removal</p> <ul style="list-style-type: none"> • See Seasonal Use/Human Activity Stipulations in Non-Core. 	<ul style="list-style-type: none"> • See Seasonal Use/Human Activity Stipulations in Non-Core. 	<ul style="list-style-type: none"> • See Seasonal Use/Human Activity Stipulations in Non-Core. • Co-locate infrastructure and reduce the project footprint within identified suitable breeding, nesting, and early brood rearing habitat within 2 miles of an occupied lek, to the extent possible. <p><u>Compensatory Mitigation</u></p> <p><i>Short Term Impact (Seasonal stipulation relief) 10 debits per activity per year</i></p>
<p>Sagebrush Treatment</p> <ul style="list-style-type: none"> • Limited to 5% of DDCT assessment area. 	<ul style="list-style-type: none"> • Follow Wyoming Game and Fish Department Vegetation Treatment Protocol. <ul style="list-style-type: none"> • Sagebrush treatments that maintain sagebrush cover at or above 15%. • Sagebrush treatments that will reduce canopy cover below 15% that are within the 5% disturbance threshold. • Sagebrush treatments in stands with less than 15% sagebrush cover 	<ul style="list-style-type: none"> • Reduce acreage of treatment area to meet 5% disturbance threshold. • Configure treatment such that all treated habitat is within 60 meters of sagebrush habitat with 10% or greater canopy cover and no more than 20% of suitable sage-grouse habitat in the DDCT boundary is treated in this manner. 	<p>Sagebrush Treatment</p> <ul style="list-style-type: none"> • No disturbance threshold stipulation 		

	designed to maintain or improve sagebrush habitat.	<u>Compensatory Mitigation</u> New disturbance exceeding 5% disturbance threshold and occurring more than 0.6 miles from an occupied lek (5 debits per acre)			
Specific Stipulations for Development - Executive Order 2015-4, Attachment B (to be applied in addition to general stipulations)					
Oil and Gas • Oil & Gas pads and associated infrastructure not to exceed an average of 1 pad per square mile (1/640)	<ul style="list-style-type: none"> Disruptive activity density < 1/640 in DDCT assessment area. Disruptive activity density > 1/640 in DDCT assessment area demonstrating no net-gain of disruptive activities (e.g., locate new disruptive activity outside of core area or co-location of new pads and associated infrastructure with existing disruptive activities). 	<ul style="list-style-type: none"> Cluster new pads with existing development and/or consider multi-well pads. <u>Compensatory Mitigation</u> Greater than 1 activity per 640 acres (10 debits per activity, per year)	Oil and Gas • No density stipulation		
Mining • Active mining development areas not to exceed an average of 1 site per square mile (1/640) • There will be exceptions for minimal impacts [associated with coal mines] due to existing operations through modified mine plans and new leases.	<ul style="list-style-type: none"> Disruptive activity density < 1/640 in DDCT assessment area. Disruptive activity density > 1/640 in DDCT assessment area demonstrating no net-gain of disruptive activities (e.g., locate new disruptive activity outside of core area or co-location of new mines and associated infrastructure with existing disruptive activities). 	<ul style="list-style-type: none"> Cluster development in “low impact” areas. <u>Compensatory Mitigation</u> Greater than 1 activity per 640 acres (10 debits per activity, per year)	Mining • No density stipulation, see surface occupancy and seasonal use general stipulations.		
<p>Connectivity Corridors - Disturbance limited to no more than an average of 5% per 640 acres of suitable habitat (not part of core area stipulations), NSO buffer of 0.6 miles around occupied leks, a March 15 to June 30 timing limitation stipulation is required within nesting habitat within 4 miles of occupied leks.</p> <p>Avoidance - Surface disturbance < 5% of DDCT assessment area. Surface disturbance >5% of DDCT assessment area demonstrating no net gain of disturbance acres (e.g., locate new disturbance outside of connectivity corridors or complete co-location within existing disturbance feature).</p> <p>Minimization - Cluster development in “low impact” areas. Place infrastructure adjacent to previously disturbed locations.</p>					

<p>Underground Rights of Way (ROW)</p> <ul style="list-style-type: none"> • Pipelines inside RMP designated utility corridors are not expected to meet the 5% disturbance threshold. • Pipelines outside RMP designated utility corridors are required to comply with the 5% disturbance threshold. 	<ul style="list-style-type: none"> • Use RMP designated utility corridors • Surface disturbance < 5% of DDCT assessment area. • Surface disturbance > 5% of DDCT assessment area demonstrating no net gain of disturbance acres (e.g., locate new disturbance outside of connectivity corridors or complete co-location within existing disturbance feature). 	<ul style="list-style-type: none"> • Co-locate pipelines and other utilities with roadways or within common utility corridors. • Mow vegetation within the ROW instead of blading the entire ROW. • Use pull/plow/boring technology instead of trenching. • Reduce ROW width. • Locate pigging operations outside of Core. <p><u>Compensatory Mitigation</u></p> <p><i>New disturbance exceeding 5% disturbance threshold and occurring more than 0.6 miles from an occupied lek (5 debits per acres)</i></p> <p><i>Any new disturbance within 0.6 miles from occupied lek (10 debits per acre)</i></p>	<p>Underground Rights of Way (ROW)</p> <ul style="list-style-type: none"> • No disturbance stipulation, see occupancy and seasonal use general stipulations 		
<p>Wind Energy Development</p> <ul style="list-style-type: none"> • Not recommended 	<ul style="list-style-type: none"> • Site wind energy development outside of core 		<p>Wind Energy Development</p> <ul style="list-style-type: none"> • See general stipulations 		
Exempt Activities					
<p>Pre-2008 & Pre-2015 Valid Existing Rights</p> <ul style="list-style-type: none"> • Activities existing or permitted in Core Population Areas prior to August 1, 2008 will not be required to be managed under Core Population Area stipulations. • Activities existing or permitted in Core Population Areas added as a result of E.O. 2015-4 will not be required to be managed under Core Population Area stipulations. 					
<p>Production and Maintenance Activities</p> <ul style="list-style-type: none"> • Production and maintenance activities are exempt from seasonal use stipulations. 					
<p>De Minimis Activities</p> <ul style="list-style-type: none"> • Standard uses of the landscape described in SGEO Attachment C. 					

Other resources for avoiding and minimizing include but are not limited to: *Wyoming Game and Fish Standard Wildlife Recommendations, Wyoming Game and Fish Recommendations for Development of Oil and Gas Resources Within Important Wildlife Habitats, Avian Power Line Interaction Committee (APLIC) Sage-grouse Best Management Practices, Bureau of Land Management Approved Sage-Grouse Resource Management Plan Amendment (Required Design Features) Appendix C*