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Re: Keystone XL Response to the Montana Fish, Wildlife, and Parks (MFWP) letter to Montana Department of Environmental Quality (MDEQ) dated October 6, 2010

Dear Mr. Ring:

Thank you for your time and effort in reviewing Keystone's sage grouse plan entitled "An Approach for Implementing Mitigation Measures to Minimize the Effects of Construction and Operation of the Keystone XL Pipeline Project on Greater Sage-Grouse" (hereinafter referred to as the sage-grouse plan). Keystone has reviewed the letter sent by MFWP to your office on October 6, 2010 regarding sage-grouse mitigation measures for the Keystone XL pipeline project. We have also considered the discussion that was held among MDEQ, MFWP, and Keystone on October 13, 2010. Our response to the comments that were raised in the October 6 letter as well as during our discussion on October 13 follows:

Response to Specific MFWP Comments Noted in the October 6, 2010 Letter

1. Contact BLM, MFWP or SDGFP to determine what mitigation measures are needed for a lek found within the construction ROW.

Keystone will itemize all known sage-grouse leks by milepost and distance to the edge of the construction workspace as requested by MFWP and provide this information to MFWP, MDEQ, and BLM once a final route is determined. Keystone will contact the BLM, MFWP, or SDGFP if a new lek is discovered within three (3) miles of the construction workspace during project surveys.

2. Implement reclamation measures that promote sagebrush establishment.

Keystone provided a copy of the Sagebrush Construction/Reclamation (Con/Rec) Unit with the sage-grouse plan. The reclamation and revegetation procedures that are described in this Con/Rec unit include mulch, low rates of native perennial grasses, high rates of sagebrush seed (silver sagebrush or Wyoming big sagebrush depending on the location), and native forbs that are palatable to sage-grouse.

This Con/Rec unit has been reviewed and approved by the state NRCS and the Malta, Glasgow, and Miles City BLM field offices.

MFWP noted in its comment regarding reclamation that a "hump" may be left over the pipeline which may be visible for many years. Keystone responded in the October meeting that a large hump, or "roach", was often left over older pipelines to allow for potential subsidence. Leaving a large roach over the pipeline ditch is not Keystone's practice in pipeline construction and reclamation. The Keystone Construction Mitigation and Reclamation Plan (CMRP) states: "to reduce the potential for ditch line subsidence, spoil shall be replaced and compacted by backhoe bucket or by the wheels or tracks of equipment traversing down the trench" (Section 4.9). The CMRP also states: "the right-of-way shall be re-contoured with spoil material to approximate pre-construction contours and as necessary to limit erosion and subsidence" (Section 4.10). Keystone does not intend to leave a large roach over the pipeline ditch.

3. Compensatory mitigation for permanent facility impacts in sagebrush habitats or sage-grouse core areas.

MFWP noted that off-site mitigation should be provided to compensate for potential impacts to sage-grouse from Pump Stations 10 and 15 (PS-10 and PS-15). Keystone responded that PS-15 has been relocated from Fallon County, Montana to Harding County, South Dakota. PS-10 is located approximately 3.4 miles from Lek 744 where two male sage-grouse were observed in 2009, and is within the boundary of a sage-grouse core area. PS-10 is not within the view-shed of Lek 744 and topography between the lek and PS-10 will minimize impacts from the pump station. Keystone is working with MDEQ to address noise mitigation at pump stations for the Major Facility Siting Act (MFSA) certificate. This agreement will also reduce impacts to sage-grouse from noise.

Habitat at PS-10 is dominated by native grasses; silver sagebrush accounts for less than five (5) percent canopy cover at the site. The area surrounding PS-10 would not be considered sagebrush habitat under standard community type classification systems (e.g. Mueggler and Stewart 1980), or sagebrush and sage-grouse research specific to areas north of the Milk River (e.g. Tack 2009). Keystone recognizes that PS-10 is within a sage-grouse core area but does not agree that sagebrush communities would be removed at PS-10.

We note that MFWP recommended on page 5 of the October 6 letter, "a higher level of off-site mitigation to compensate for the direct (acres disturbed) and indirect (noise/fragmentation) effects to the habitat around the pump stations". During the October 13 meeting, MDEQ revised the proposed off-site compensation language in Appendix A of its Environmental Specifications to state, "The OWNER shall establish a compensatory mitigation fund to be used by DEQ, BLM and FWP to enhance and preserve sagebrush communities in core sage grouse habitat for greater sage-grouse and other sagebrush-obligate species in eastern Montana. The size of the fund will be based on the acreage of silver sagebrush and big sagebrush habitat disturbed during pipeline construction in core sage grouse habitat. For each acre disturbed the OWNER shall contribute $600 dollars to the fund." Keystone recognizes that PS-10 is within a sage-grouse core area and understands that the intent of MDEQ's

revision is to provide off-site mitigation funding for impacts within sage-grouse core areas. Keystone is willing to provide off-site mitigation to compensate for direct (acres disturbed) effects to sage-grouse core areas as part of the overall sage-grouse mitigation strategy outlined in this letter. Keystone would contribute $12,000 dollars in mitigation funding based on the 10 acre footprint of PS-10 and a value of $1,200 per acre. This amount was determined based on the $600 per acre value of impacts in sage-grouse core areas multiplied by a factor of two, since the pump station would convert land to an industrial use rather than reclaiming the area to native habitat.

4. Measures to prevent colonization of reclaimed areas by noxious weeds and invasive annual grasses such as cheatgrass.

MFWP recommended the establishment of mitigation funds to offset impacts to landowners due to the spread of noxious weeds or invasive annuals. Keystone will submit noxious weed control plans to county weed boards once a final route is determined through Montana. These weed plans provide for control measures that will prevent the spread of new populations of noxious weeds, or the expansion of existing populations of noxious weed, via the right-of-way. Invasive annuals, such as cheatgrass (*Bromus tectorum* or *B. japonicus*), are not considered noxious weeds under Montana state law. Keystone recognizes that cheatgrass can impede revegetation success and that dense stands of cheatgrass negatively affect rangeland productivity. Keystone's reclamation procedures include revegetation with native perennial grasses that will compete with invasive annuals. The reclamation success standards prescribed under MFSA require 90 percent canopy cover of desirable perennial plant species compared to adjacent rangeland of similar slope and topography within five years following revegetation. Keystone's reclamation procedures, and MFSA's reclamation standard, insure that invasive annuals will not negatively affect reclaimed areas.

5. Pipeline ROW inspection schedule during operation.

MFWP recommended that aerial inspection flights between March 1 and June 15 be conducted in the afternoon to prevent disruptions on leks. MDEQ noted that inspection flights are a federal requirement and that weather may necessitate flying during morning hours between March 1 and June 15. MDEQ revised the language of this recommendation to state that aerial inspection flights between March 1 and June 15 would be conducted in the afternoon when practicable. Keystone agrees with the modified language.

6. Discussion of a "qualified monitor" to report on lek activity when construction is within 3 miles.

MFWP recommended that Keystone provide funds for MFWP to hire a qualified monitor who would observe lek activities during construction, as described in the Keystone sage-grouse plan, and confer between specified agency biologists and a Keystone contact. MFWP's intent is to avoid "the subjectivity of a Project contact to decide whether or not conferring with specified agency biologists is warranted". Third-party contractors are routinely employed by pipelines to monitor and enforce environmental compliance and will be employed on the Keystone XL Project. Keystone does not agree

that an agency monitor is necessary, but we will insure open and timely communication between the sage-grouse monitor and agency biologists.

To facilitate communication among Keystone and the agencies, Keystone will provide MFWP, BLM and MDEQ with daily observation forms and photos that detail sage-grouse activity at active leks that are within three miles of construction between March 1 and June 15. This form will include information on the number of displaying male sage-grouse, the number of female sage-grouse, weather, predators (if present), activities and noise from the Keystone project (if present), and any adjacent disturbances such as agricultural or residential activities, road traffic, etc. MFWP and BLM agency biologists, and the MDEQ State Inspector, are invited to accompany Keystone's sage-grouse monitor at any time.

7. Lek specific mitigation comments

Keystone appreciates MFWP's agreement that a variety of factors such as topography, habitat, type and timing of construction, distance of a lek to construction, time of day, and other lek- specific features influence the types of measures that may be required to minimize impacts from pipeline construction to sage-grouse. Keystone agrees that leks 744, 1739, 1894, 799, 1838, 1437, 656, 1298, 1781, 662, and 1840 are the leks of most importance near the project. Avoidance, minimization, monitoring, and mitigation relative to construction around these leks are further described under item 8.

MFWP noted that new leks have been found in the vicinity of the project. Keystone recognizes that new leks may have been located during spring 2010 sage-grouse surveys and will incorporate updated sage-grouse data into project planning and mitigation as soon as those data are available.

8. Further sage-grouse mitigation

MFWP recommended additional on-site and/or off-site mitigation in four main areas:

8.1 impacts to critical habitat or large leks (this was defined in the letter and the meeting as sage-grouse core areas which occur between approximately project milepost 43.7 and 64.0, and leks 656, 1298, 1781, 662, and 1840);
8.2 impacts from pump stations;
8.3 impacts from noxious weeds; and
8.4 a post-construction study to determine longer term impacts to sage-grouse from construction.

Response to 8.1

Sage-Grouse Core Areas: MDEQ revised the sage-grouse condition within Appendix A to state that mitigation funds valued at $600 per acre would be provided for impacts within sage-grouse core areas. The Keystone XL pipeline will traverse approximately 20.4 miles of sage-grouse core area habitat northwest of Glasgow. The project footprint as currently designed (including the right-of-way and

additional temporary workspace) will affect approximately 303 acres within this area. Keystone will provide compensation at $600 per acre for the 303 acres of core area that is traversed by the project. MFWP and MDEQ stated in the October 13 meeting that mitigation funds are best handled through a third party. Keystone agrees that mitigation funding should be provided to a mutually agreeable third party for the purpose of sage-grouse habitat conservation in the project area.

Large leks: MFWP recommended a "higher level of on-site and/or off-site mitigation to minimize or compensate for potential impacts to the five (5) most important leks along the pipeline route". Keystone has revised the project's construction spreads and schedules to minimize impacts to these leks. Based on the current project schedule, there will be no construction within three (3) miles of leks 656, 1298, 1781, 662, and 1840 between March 1 and June 15. Avoiding construction near these leks during the breeding season, and reclaiming habitat as discussed in Keystone's sage-grouse plan, provides a "higher level of on-site" mitigation as requested by MFWP. Should changes to the construction schedule occur, and construction within three (3) miles of these leks is required between March 1 and June 15, Keystone proposes that construction be allowed to proceed as part of a study of the effects of pipeline construction on sage-grouse under the following stipulations:

i. construction within three (3) miles of the lek would only occur from two (2) hours after sunrise to one (1) hour before sunset between March 1 and June 15;
ii. a qualified observer would record sage-grouse behavior, noise levels, and construction equipment when construction is within three (3) miles of each lek (as described under comment 6); and
iii. Keystone would contribute mitigation dollars to a mutually agreeable third party for the purpose of sage-grouse habitat conservation in the project area. The amount of mitigation dollars would be based on the number of acres of sagebrush habitat within three (3) miles of each lek that is disturbed by Keystone construction, multiplied by $600 per acre.

Response to 8.2

Based on scientific literature summarized in the Keystone sage-grouse plan, the location of PS-10 to Lek 744, and noise mitigation that Keystone will develop with MDEQ as part of the MFSA certificate, Keystone does not believe that construction and operation of PS-10 will result in measurable impacts to sage-grouse. However, Keystone recognizes that PS-10 is located within a sage-grouse core area. Keystone would contribute $12,000 dollars in mitigation funding based on the 10 acre footprint of PS-10 and a value of $1,200 per acre as described on page 2 of this letter.

Response to 8.3

Keystone does not agree that funding for noxious weed control is warranted based on Keystone's weed control commitments. Keystone will submit a weed control plan to county weed boards and BLM field offices to minimize noxious weed impacts from the project and implement the plan.

Response to 8.4

MFWP provided a conceptual study plan with its October 6 letter to monitor the effects of pipeline construction to sage-grouse. The study would evaluate the effects of construction at different locations along the project by comparing control leks that are not subject to pipeline construction, to leks that are subject to different degrees of pipeline construction (e.g. construction time of day, intervening topography, and/or distance to a lek). Leks within three (3) main areas along the project, north Valley County, McCone County, and Fallon County would be used as the basis for comparisons. Counts of male sage-grouse lek attendance would be used as the measure of population change. A Before-After Control-Impact (BACI) study design would be used.

Keystone believes that the goal of a post-construction study should be to determine what level of pipeline construction activities during the breeding season result in longer-term measurable negative impacts to sage-grouse. If construction occurs more than three (3) miles from a lek between March 1 and June 15 or if construction occurs outside of the March 1 – June 15 timeframe a post-construction study would not be completed. If construction occurs within three (3) miles of a lek between March 1 and June 15, Keystone suggests the following study parameters:

i. Construction of Keystone XL may occur between March 1 and June 15 regardless of the distance of the project to a lek, with the stipulation that construction within three miles of an active lek would only occur from two (2) hours after sunrise to one hour before sunset between March 1 and June 15. Construction at other times of year would not be subject to these daily timing restrictions. A qualified observer would record sage-grouse behavior at leks when construction is within three (3) miles. The observer would also record noise levels at the lek prior to construction and when construction is within three (3) miles of the lek, equipment that is operating within three (3) miles of the lek, and equipment that is visible from the lek. These data would provide a measure of construction disturbance and sage-grouse behavior response. Adjacent activities or predators would also be recorded as discussed on page 4.

ii. Keystone is aware that the Miles City BLM Resource Management Plan does not allow construction within two (2) miles of an active sage-grouse lek on land administered by the Miles City BLM Field Office. Keystone will prepare an Exception Request to this requirement and requests that MFWP and MDEQ support this request as part of the experimental effect of pipeline construction on sage-grouse.

iii. Three (3) primary areas would be included for analysis as described by MFWP, including north Valley County, McCone County, and Fallon County. Paired control and impacted leks would be analyzed. Control leks would include those that are greater than three miles from the project where construction occurred between March 1 and June 15, but less than 10 miles from the project. Impacted leks would include those that are within three miles of the project where construction occurred between March 1 and June 15.

iv. Post-construction field work would be completed using standard sage-grouse monitoring protocols. Agency resources that are already allocated for annual sage-grouse monitoring in the project area would be used to the extent practicable. Keystone recommends that:

   a. each lek that is analyzed as part of the study would be monitored during three separate occasions each spring when male sage-grouse are most likely to be present;
   b. lek monitoring would be completed via ground survey;
   c. activities such as agriculture, construction, other human disturbances, or predators that are in the vicinity of the lek would be recorded; and
   d. post-construction noise levels would be recorded at lek sites during the breeding season.

v. Impacts to sage-grouse within the project area could occur as a result of disturbances that are unrelated to the project. Consequently, the study would also include an assessment of habitat change within three (3) miles of each lek that is selected for analysis. Habitat change would include features such as: conversion of rangeland to agriculture, road construction, oil and gas development, wind development, gravel pit development, suburban encroachment, etc. Habitat change would be quantified through photo-interpretation mapping completed prior to construction, followed by annual mapping revisions where necessary to depict habitat change.

vi. The duration of the study would be four years post-construction. Data from coal bed methane development indicate that an average of four (4) years of construction/development activity is required to result in measureable population decline in sage-grouse (Walker et al. 2007).

vii. The study would be directed by a mutually agreeable university-associated researcher.

viii. Keystone would be fully included in review and approval of study design and methodology, choosing leks for analysis, and results analysis and presentation.

ix. Once the study parameters have been finalized, Keystone would establish an escrow account of $100,000 as a source of funding for the study and enter into a contract with the third-party researcher for disbursement of the funds.

We appreciate MDEQ's and MFWP's review of the Keystone sage-grouse plan and your agencies considered response. We look forward to finalizing this issue.

Sincerely,

Les Cherwenuk, Director – Phase 4, Steele City
Keystone Oil Pipeline

REFERENCES

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