

KEYSTONE XL PIPELINE PROJECT

0315-SD-P4-XXX.X-XXX.X-S

KEYSTONE XL PIPELINE PROJECT PIPELINE ROUTE VARIATION FORM			
1	<b>VARIATION TYPE:</b>	Refinement: <input type="text"/>	Reroute: <input type="text"/>
		Centerline: <input type="text"/>	Pump Station: <input type="text"/>
		Footprint: <input checked="" type="checkbox"/>	Design: <input type="text"/>
		Valve Site: <input checked="" type="checkbox"/>	CAR: <input checked="" type="checkbox"/>
2	<b>LOCATION:</b>	Sketch: <input type="text"/>	Pictures: <input type="text" value="N/A"/>
	State: <input type="text" value="SD"/>	County: <input type="text" value="Meade, Haakon"/>	Quad Map: <input type="text" value="N/A"/>
	Township: <input type="text" value="08N, (06N)"/>	Range: <input type="text" value="16E, (18E)"/>	Aerial Map: <input type="text" value="See attached map sheet"/>
	Section: <input type="text" value="35, (014)"/>	Centerline: <input type="text" value="7/13/2012"/>	MP: <input type="text" value="XXX.X"/> to <input type="text" value="XXX.X"/>
3	<b>REASON FOR ROUTE VARIATION</b> (Please include reason for route variation):		
	<p>This report consists of 2 proposed Valve MLV-18 (relocation, RV-0315-01) and CK-MLV-19 (actuation, RV-0315-02). MLV-18 relocation from a low lying area to an easily accessible location for operations. This move will make the spacing greater than 20 miles, so CK-MLV-19 has to be actuated.</p> <p>As per the PHMSA condition 32 - Mainline and Check Valve Control: Keystone must design and install mainline block valves and check valves on the Keystone XL system based on the worst case discharge as calculated by 49 CFR § 194.105. Keystone shall locate valves in accordance with 49 CFR § 195.260 and by taking into consideration elevation, population, and environmentally sensitive locations, to minimize the consequences of a release from the pipeline. Mainline valves must be placed based on the analysis above or no more than twenty (20) miles apart, whichever is smaller.</p> <p>To comply with spacing requirement, Keystone determined areas its current valve spacing design exceeded a spacing of 20 miles and employed one of the following steps to mitigate the issue:</p> <ul style="list-style-type: none"> <li>Relocated the valve after a thorough analysis of the resulting spill volume and assuring the original intent of the valve was still realized</li> <li>Bringing remote actuation to the downstream manual ball valve of a check valve, block valve set.</li> <li>Adding a new remotely actuated mainline valve site.</li> </ul>		
	<b>DETAIL ROUTE VARIATION</b> (Please describe route variation in detail):		
	<p><b>RV-315-01:</b> Listed in "Supplemental Info" Tab.</p> <p><b>RV-315-02:</b> Listed in "Supplemental Info" Tab.</p>		
	<b>ADDITIONAL IMPACTS</b> (Please include any additional impacts which may affect cost; crossings, induction bends, etc.):		
	<p><b>RV-315-01:</b> MLV-18 relocation: CAR-093 (to be deleted) and CAR-148 (to become a permanent Access road) will be impacted; Tracts Impacted: ML-SD-ME-11040.000 (Freda Wilson, Life Estate, Linda Grenz, Jennifer Silbaugh) - New MLV-18 Location ML-SD-ME-01170.000 (Wink Cattle Co.) - Previous MLV-18 location.</p> <p>Cost Analysis: For 315-01: The cost associated with relocation of MLV-18 is \$100,000 for access across landowner; in addition the upgrade of the access road (CAR-148 ~624 ft. at \$50/ft.) ~\$31,200 and site built up ~\$20,000. Cost Savings are related to the upgrade of CAR-093 (~30206.51 ft at \$50/ft) ~\$ 1,510,325</p> <p>For 315-02: Cost associated to actuate CK-MLV-19 is \$250,000.</p>		
	Is there an increase/decrease in the number of crossings?	Yes <input type="text"/>	No <input checked="" type="checkbox"/>
	If yes, please list: <input type="text"/>		
	<b>COST ANALYSIS</b> (costs incurred or saved from the route variation)		
	Additional length of route realignment:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 360/ft
	Additional length of side-hill construction:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 19/ft
	Additional length of wetland construction:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 195/ft
	Additional bore length (Road, RR):	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 540/ft
	Additional foreign line/pipeline crossings:	<input type="text"/> EA	\$ <input type="text" value="-"/> \$ 30,000/EA
	Additional water body crossing (streams, ponds, etc.):		
	35 - 65' +	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 185,000/EA
	10' - 19'	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 77,250/EA
	Less than 10'	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 32,500/EA
	Additional survey required:		
	Civil:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 5,000/mile
	Cultural:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 2,500/mile
	Biological:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 2,800/mile
	Miscellaneous costs saved or added due to route variation from <b>ADDITIONAL IMPACTS</b> listed above:		\$ <input type="text" value="(1,109,125)"/>
	Overall estimated costs of the route variation:	\$ <input type="text" value="(1,109,125.00)"/> (See "Additional Impacts" above)	

<b>4 LAND / TransCanada</b> <span style="float: right;"><i>Tina Hall</i></span>	
a) Is a new landowner affected by the proposed variation?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Is the affected landowner/tract a possible condemnation?	Yes <input type="checkbox"/> No <input type="checkbox"/>
c) Does proposed route variation impact Tribal Lands?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does proposed route variation impact any Federal/State Lands?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name type (i.e. USFWS, BLM, etc.): <input type="text"/>	
e) Is proposed realignment outside the easement/workspace?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
f) Is realignment proposed to satisfy landowner request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name of landowner(s)/track number(s): <input type="text"/>	
g) Has all the evaluation criteria been examined/provided for this specific discipline?	
If no, please explain why: <input type="text"/>	
<input type="text"/>	
<b>5 ENGINEERING/CONSTRUCTION - TransCanada</b> <span style="float: right;"><i>Meera Kothari</i></span>	
a) Maximum deviation perpendicular to proposed alignment:	<input type="text" value="N/A"/> ft.
b) Does variation (CL) (including workspaces) falls within 500 ft. MDEQ Corridor?	Yes <input type="text" value="N/A"/> No <input type="checkbox"/>
c) Has the centerline been staked for construction?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does route variation affect HDD crossing alignment?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
e) Is realignment proposed for engineering/construction reasons?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
f) Will the route variation require the relocation of a pump station?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
g) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
<b>6 ENVIRONMENTAL / TransCanada</b> <span style="float: right;"><i>Sandra Barnett</i></span>	
a) Has the corridor been environmentally surveyed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b) Has the proposed variation been environmentally surveyed?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
c) Does proposed route variation impact Sage Grouse areas?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does route variation impact ABB areas?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
e) Was variation proposed to satisfy environmental issues?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
f) Was realignment proposed to satisfy agency request?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
-If yes, name of agency(s): <input type="text" value="PHMSA Condition 32"/>	
g) Environmental features:	
Added (+): <input type="text"/>	Subtracted (-): <input type="text"/>
Wetland ID # for newly impacted wetlands: <input type="text"/>	
h) Has all the evaluation criteria been examined/provided for this specific discipline?	
If no, please explain why: <input type="text"/>	
<input type="text"/>	
<b>7 ENGINEERING / FACILITIES AND HYDRAULICS (if applicable)</b> <span style="float: right;"><i>Sandra Gigovic</i></span>	
a) Will the route variation require the relocation of a pump station?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Will route variation impact hydraulics?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c) Are additional valves required at HCA's or water crossing?	Yes <input type="checkbox"/> No <input type="checkbox"/>
d) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<b>8 STAKEHOLDER RELATIONS / TCPL (if applicable)</b> <span style="float: right;"><i>Bud Andersen</i></span>	
a) Does the variation result in any new stakeholders?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Does the variation require follow-up with specific stakeholder groups?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
c) Was the variation proposed to satisfy stakeholder request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, please specify issue type (as it aligns to stakeholder database): <input type="text"/>	
d) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
9 Originator: <input type="text" value="Engineering"/>	10 Received by: <input type="text"/>
Date: <input type="text" value="8/14/2012"/>	Date: <input type="text" value="8/14/2012"/>
	Fax to: ?
11 Assigned Tracking Number: <input type="text" value="0315-SD-P4-XXX.X-XXX.X-S"/>	12 Filed by: <input type="text"/>
	Date: <input type="text"/>
	Fax to: ?

0315-SD-P4-XXX.X-XXX.X-S

**Keystone XL Pipeline - Supplemental Information for Route Variation Report 0315**

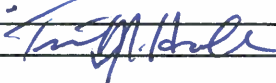



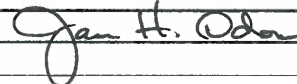
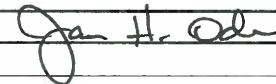
Prepared: 2012-08-14

RV-ID	Status	Previous Scenario		New Scenario		Relocated Distance (miles)	Upstream distance to next motorised valve or PS (miles)	Downstream distance to next motorised valve or PS (miles)	Spread	Previous Scenario Type	New Scenario Type	County	State	Previous Scenario			New Scenario			Tag (Motor operated valve)	Tag (Check valve)	Tag (Manual valve)
		Milepost	Valve ID	Milepost	Valve ID									Legal	Latitude	Longitude	Legal	Latitude	Longitude			
0315-01		424.4	MLV-18	419.6	MLV-18	4.8			6	MOV	MOV	Meade	South Dakota	035-033N-36E	44° 33' 14.671" N	102° 4' 50.936" W	035-008N-16E	44° 36' 17.249" N	102° 8' 38.204" W	260-FAITH-01A-B0-MLV-01		
0315-02		435.7	CK-MLV-19	435.7	CK-MLV-19	0.0			6	CHECK AND MANUAL	CHECK AND MOV	Haakon	South Dakota	014-06N-018E	44° 28' 26.173" N	101° 54' 20.546" W	014-06N-018E	44° 28' 26.173" N	101° 54' 20.546" W		260-FAITH-02A-B0-CKV-01	260-FAITH-02A-B0-MLV-01

RV-ID	New Scenario		Closest Road	Side	Previous Scenario		New Scenario		Required building setback	Distance from Road ROW/FENCE to valve (whichever greater) (ft)	Distance from CL of Road to valve (ft)
	Milepost	Valve ID			Tract Number	Owner	Tract Number	Owner			
0315-01	419.6	MLV-18	CAR-148; HWY-34	UPSTREAM	ML-SD-ME-01170.000	Wink Cattle Co.	ML-SD-ME-11040.000	Freda Wilson, Life Estate, Linda Grenz, Jennifer Silbaugh	NONE	100	130
0315-02	435.7	CK-MLV-19	202ND Street	UPSTREAM	ML-SD-HK-00170.000	Kelly Blair	ML-SD-HK-00170.000	Kelly Blair	NONE	100	130

# Keystone XL Pipeline - Approval form for Route Variation Report 0315

Prepared: 2012-08-14

RV ID		RV-315-01: MLV-18 Relocation	RV-315-02: CK-MLV-19 (Actuation)
LAND (TransCanada) Tina Hall	Approval (Y/N)	Y	Y
	Comments		
	Signature		
ENGINEERING (TransCanada) Meera Kothari	Approval (Y/N)		
	Comments		
	Signature		
ENGINEERING (exp) Butch Wallace	Approval (Y/N)		
	Comments		
	Signature		
ENVIRONMENTAL (TransCanada) Sandra Barnett	Approval (Y/N)		
	Comments		
	Signature		
FACILITIES (TransCanada) Sandra Gigovic	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - MONTANA (TransCanada) Alan Lietz	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - SOUTH DAKOTA (TransCanada) James Odom	Approval (Y/N)	Y	Y
	Comments		
	Signature		
PROJECT MANAGEMENT - NEBRASKA (TransCanada) Robert Bradley	Approval (Y/N)		
	Comments		
	Signature		
KEYSTONE XL MANAGER (TransCanada) Steve Marr	Approval (Y/N)		
	Comments		
	Signature		




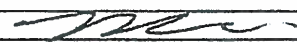

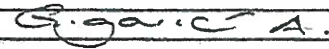
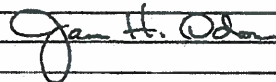
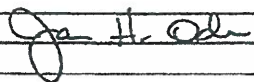
# Keystone XL Pipeline - Approval form for Route Variation Report 0315

Prepared: 2012-08-14

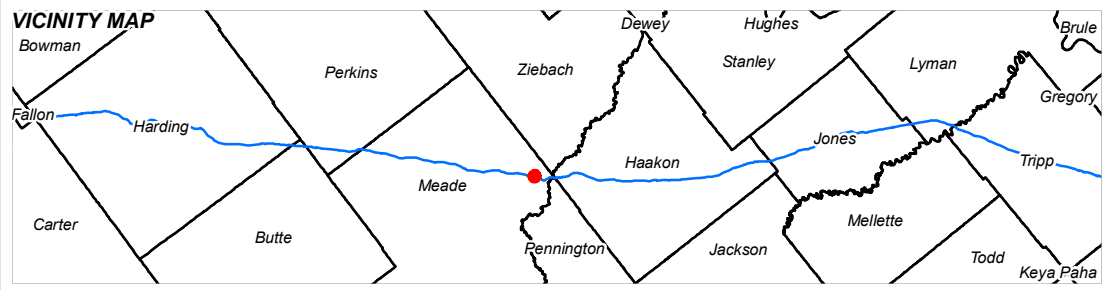
RV ID		RV-315-01: MLV-18 Relocation	RV-315-02: CK-MLV-19 (Actuation)
LAND (TransCanada) Tina Hall	Approval (Y/N)		
	Comments		
	Signature		
ENGINEERING (TransCanada) Meera Kothari	Approval (Y/N)		
	Comments		
	Signature		
ENGINEERING (exp) Butch Wallace	Approval (Y/N)	Y	Y
	Comments		
	Signature	<i>B. Wallace</i>	<i>B.C. Wallace</i>
ENVIRONMENTAL (TransCanada) Sandra Barnett	Approval (Y/N)		
	Comments		
	Signature		
FACILITIES (TransCanada) Sandra Gigovic	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - MONTANA (TransCanada) Alan Lietz	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - SOUTH DAKOTA (TransCanada) James Odom	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - NEBRASKA (TransCanada) Robert Bradley	Approval (Y/N)		
	Comments		
	Signature		
KEYSTONE XL MANAGER (TransCanada) Steve Marr	Approval (Y/N)		
	Comments		
	Signature		

# Keystone XL Pipeline - Approval form for Route Variation Report 0315

Prepared: 2012-08-14

RV ID		RV-315-01: MLV-18 Relocation	RV-315-02: CK-MLV-19 (Actuation)
LAND (TransCanada) Tina Hall	Approval (Y/N)	Y	Y
	Comments		
	Signature		
ENGINEERING (TransCanada) Meera Kothari	Approval (Y/N)		
	Comments		
	Signature		
ENGINEERING (exp) Butch Wallace	Approval (Y/N)		
	Comments		
	Signature		
ENVIRONMENTAL (TransCanada) Sandra Barnett	Approval (Y/N)		
	Comments		
	Signature		
FACILITIES (TransCanada) Sandra Gigovic	Approval (Y/N)	Y	Y
	Comments	Sept 7, 2012	Sept 7, 2012
	Signature		
PROJECT MANAGEMENT - MONTANA (TransCanada) Alan Lietz	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - SOUTH DAKOTA (TransCanada) James Odum	Approval (Y/N)	Y	Y
	Comments		
	Signature		
PROJECT MANAGEMENT - NEBRASKA (TransCanada) Robert Bradley	Approval (Y/N)		
	Comments		
	Signature		
KEYSTONE XL MANAGER (TransCanada) Steve Marr	Approval (Y/N)		
	Comments		
	Signature		

PROPOSED VALVE RELOCATION (MLV-18 - RV-0315-01)



LEGEND

- MILEPOST
- KEYSTONE XL CL (2012-03-14)
- PROPOSED ROUTE VARIATION
- SECTION LINE
- ACCESS ROAD
- PUMP STATION
- X VALVE
- SURVEYED FENCE
- PROPERTY PARCEL
- CULTURAL SITE
- WETLAND
- WATERBODY
- 500FT MDEQ CORRIDOR
- HDD ENTRY / EXIT

KEYSTONE XL PROJECT PROPOSED VALVE RELOCATION (MLV-18 - RV-0315-01)		
COUNTY: MEADE	DRAWN BY: PD	
STATE: SOUTH DAKOTA	CHECKED BY: JP	
REV. NO.:	REVISION	DATE
0	ISSUED FOR REVIEW.	2012-08-13
PRELIMINARY		
DATE: 2012-08-13	PROJECTION: NAD83   UTM13 N	

PREPARED BY:  
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DWG: XL-30-P-9200	SHEET: 1	
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