Talking Points for Janet's February XX, 2016 Existing Oil and Gas FIP Discussion with Ute Business Council

What is the purpose of this consultation?

- We are here today to continue the consultation we had with members of the Business Council on December 17, 2015 and January 14, 2016, where we discussed air quality in the Uinta Basin and EPA's drafting of a U&O Reservation specific rule to control emissions from existing oil and gas sources.

- We offered formal consultation to the Business Council on a Reservation-specific rule (or Federal Implementation Plan - FIP) on November 19, 2015.

What are the benefits of a reservation-specific rule or FIP?

- First, the reservation-specific rule (FIP) EPA is drafting would reduce VOC emissions from existing oil and gas sources. These emissions can react in the air and form ozone.

    - We have previously discussed with the Tribe the importance of taking proactive steps to protect air quality in the Uinta Basin, in order to avoid a potential ozone nonattainment designation for the Basin when the EPA makes its expected decisions in late 2017, or to lessen the severity of a future, potential nonattainment classification.

    - The EPA estimates that for the Uinta Basin as a whole, the draft Reservation-specific FIP would result in an almost 40 percent reduction of VOC emissions from oil and gas facilities. This corresponds to a reduction of VOC emissions of 41,000 tons per year.

    - In addition to those reductions, the EPA estimates that the proposed rule will result in the co-benefit reductions of about 8,700 tpy of hazardous air pollutants (benzene, toluene, xylene, etc.) and about 78,000 tpy of methane. EPA also estimates that over 1.8 billion cubic feet of gas per year would be returned to market. This is enough natural gas to meet the energy needs of more than 78,000 U.S. homes annually.

- Second, the draft FIP would be consistent with Utah's rules for existing oil and gas sources on state land and create a level playing field for industry. It would also be consistent with any requirements developed under EPA's national oil and gas rules.

    - Currently there is a discrepancy between what is required for oil and gas sources on the U&O Reservation and those required by Utah for controlling air emissions. Most emissions from existing oil and gas sources on the Reservation are currently not regulated by EPA.

- Additionally, given the current compromised air quality in the Uinta Basin, having enforceable restrictions in place to reduce emissions from existing sources will help industry demonstrate that new proposed sources will not cause or contribute to exceedances of the ozone standard, allowing us to continue to permit new sources of emissions within the U&O Reservation.
    - Notes if needed:
        - Total gas conserved on Indian country from FIP/Total gas produced from Uinta Basin (WRAP-def'n) = 0.41%
        - 1.8 billion cubic feet of gas x 1.028 MMBTU/ 1 Mcf) x 1 Mcf/1000 cf x current Henry Hub Natural Gas Spot Price ($1.74/MMBTU –Very LOW) x 12.5% royalty = **$403k/year in royalty** … we have not done the analysis on Tribal minerals to say all of that would go to the Ute Tribe.

What would be the cost of compliance with the draft FIP?

- Using EPA's control cost estimates, the total annualized cost of implementing all of the controls outlined in the proposed FIP is estimated to be approximately $78 million or $1,800 dollar per ton of VOC reduced, which is considered by states and EPA to within the range of reasonable and cost effective.
    - Notes if needed:
        - Overall cost of CO Reg 7 is **$300/ton**
        - Overall cost of implementing NSPS OOOO nationally is **$1,400/ton**
        - **CTG cost varies, from** Pneumatic Controller - Replacing high bleed with low bleed pneumatics: **$210/ton to** Pneumatic Pumps – Routing to a New VRU: **$27,094/ton** for diaphragm pump, **$245,860/ton** for piston pump
        - The capital cost of the rule is estimated to be $357 million.

Do the cost estimates include savings to the operator?

- As mentioned earlier, many of the strategies and controls required by the draft FIP would benefit operators by reducing the amount of gas vented to the atmosphere. These savings are not included in the cost analysis, but would increase the cost effectiveness of the rule as owners and operators would gain revenue from the sale of the gas not vented to the atmosphere. The complete cost analysis by the EPA to support this draft FIP would be included in a Technical Support Document for this rule.
    - Notes if needed: EPA relied on existing cost analyses done in support of the 2015 proposed New Source Performance Standard (NSPS) OOOO revisions, 2015 proposed Control Technique Guidelines (CTGs) for existing sources in nonattainment areas, and the 2012 Colorado Regulation Number 7. To estimate the number of facilities and equipment that could be impacted by the proposed FIP, EPA relied on the existing minor source registration forms submitted by

operators under the Federal Minor New Source Review (NSR) Program in Indian Country at 40 CFR Part 49 (Indian Country Minor NSR Program).

How does the schedule for the ozone standard that was revised in 2015 align with the draft FIP schedule and effective date?

- Initial recommendations for the 2015 ozone standard are due from states and tribes to EPA by October 1, 2016. States or tribes should base their recommendations on air quality data from the three most recent years of monitoring data available at that time, i.e., 2013 to 2015. However, states may also have preliminary information about 2016 monitoring data that could also help inform their recommendations. Based upon 2013-2015 monitoring data, the Uinta Basin would have a design values in the high 70s ppb, which would fall under the marginal nonattainment classification.
- Final ozone designations and classifications will be made by EPA in late 2017 based on the 2014-2016 monitoring data.
- We anticipate finalizing the draft FIP soon after the national oil and gas rulemakings proposed in September 2015 are finalized, which we expect will happen early summer 2016.
- We would propose providing 18 months for operators to retrofit their existing facilities, which allows for operators to distribute retrofits across that time for efficient resource management. We anticipate emission reductions beginning in late 2016 prior to the 2016/2017 winter ozone season. The requirements of the FIP will ultimately address the problem of degraded air quality in the Uinta Basin due to winter ozone.
- There are currently four monitors violating the ozone standard using 2014-2016 data. However, even though the Basin may likely be designated non-attainment for ozone in late 2017, efforts to lower VOC emissions through the FIP later in 2016 and 2017, may help lower the non-attainment classification to Marginal. A classification of Marginal has reduced CAA requirements compared to higher classifications, such as Moderate. For a Marginal area, an attainment plan and modeling would not be required. A Marginal area would need to be back into attainment in three years (2020) or it would be re-classified as a Moderate area. Implementing the FIP to get VOC reductions sooner rather than later will help to make attainment by 2020 more likely, if the Uinta Basin is designated non-attainment.

2016 Uinta Basin Ozone Exceedances to date (ppb)						
Monitor	**Ouray**	**Myton**	**Redwash**	**Whiteroc**	**Roosevelt**	**Dinosaur N**
Operator	Tribal	Tribal	Tribal	Tribal	Utah DEQ	NPS
1/28/2016	73	69	62	67	73	61
1/29/2016	79	56	72	64	74	65
2/7/2016	86	74	70	73	83	64
2/8/2016	94	74	73	81	84	67
2/9/2016	94	77	83	78	71	71
2/10/2016	101	85	83	81	88	75
2/11/2016	96	85	94	85	81	77
2/12/2016	120	92	96	86	94	80
2/13/2016	107	95	87	80	96	83
2/14/2016	85	61	56	66	71	67
2/15/2016	71	41	40	45	46	48
2/16/2016	66	48	46	46	46	44

As of 2-17-16

Site	Preliminary 2016 4th High	2014-2016 Prelim. DV
Ouray	96 ppb	81.0 ppb
Myton	85 ppb	72.7 ppb
Whiterocks	81 ppb	71.0 ppb
Redwash	83 ppb	71.0 ppb
Roosevelt	84 ppb	68.7 ppb
Dinosaur NM	75 ppb	69.3 ppb
Rangely, CO	59 ppb	62.3 ppb

Conclusions:

- Questions for us?

- Next Steps
    - Based on this information, is there additional information the Tribe would like to share or concerns that the Tribe would like to raise regarding EPA proceeding to propose the reservation specific FIP sometime in the early Spring? We will continue to consult with the Tribe, as requested, during the public comment process and prior to finalizing the rulemaking.

Background and Additional Information:

Air Quality:
High ozone levels have been observed over the last few years at numerous air monitors (tribal and state) in the Uinta Basin during winter inversions (as high as 134 ppb in 2013 – AQI very unhealthy context) ~98% of all VOCs and ~60% of all NOx emissions released in Uinta Basin, which mix to form ozone, are from oil and gas sources – it is estimated that ~75% of those sources are on the Reservation. There are ~10,000 existing oil and gas wells producing in the basin without federally required emission control.

Ozone NAAQS:
- EPA revised the ozone NAAQS from 75 ppb to 70 ppb in October 2015.

- Since the ozone standard has been revised it starts a non-attainment area designation process.
    - States/tribes submit recommended designation to EPA by October 2016 and EPA will finalize the designations by October 2017. State and federal plans for bringing areas into attainment would be required in late 2020 for areas designated "moderate" non-attainment and 2021 for serious and higher areas.

- With the extended implementation wait times (past 2017) for attainment plans, EPA does not want to wait to address the Basin's serious ozone problem.

- As part of the Tribe's enrollment in EPA's Ozone Advance program, EPA has been working with the Tribe's Air Program providing technical assistance and capacity building through various research efforts.

- A Reservation-specific FIP could prepare the basin to receive a lower nonattainment ozone classification, fewer restrictions on future oil and gas development, and more flexibility in returning to attainment status.

What Have We Previously Discussed with the Ute Tribe, the Oil and Gas Industry, and Other Stakeholders?
- EPA and the Ute Tribe co-hosted a meeting on April 14, 2015 with the oil and gas industry to discuss getting emission reductions on existing and new sources on the Reservation.

- As follow-up to that meeting, Western Energy Alliance (the industry's trade group) sent a June 18, 2015 letter to Chairman Chapoose that outlines what they are currently doing to address oil and gas emission controls on the Reservation, i.e. voluntary, discretionary strategies and what is required by regulations, NEPA Records of Decision, and consent decrees. In its letter, the Western Energy Alliance did not commit to any additional actions to reduce emissions from existing sources.

- Tribal staff have been included in stakeholder meetings EPA has held in September and October with the oil and gas industry, the state of Utah and other interested stakeholders. The purpose of these meetings was to get input on the concept of a U&O FIP for existing oil and

gas sources.

What are the National Rules for Oil and Gas Sources?

- EPA does have a permit rule for new minor air pollution sources in Indian country; however, the effective date that is specific to oil and gas sources has been delayed until late Summer of 2016 as EPA works on a national strategy for controlling emissions from oil and gas.

- As part of EPA's strategy for oil and gas, a national rule for new oil and gas sources in Indian county was proposed in mid-September 2015.

- The proposed national rule, as written, will only cover new sources and require compliance with other EPA oil and gas rules (such as the NSPS OOOO for oil and gas production sources). It will not have a requirement for reducing emissions from existing oil and gas sources.

- The proposed national rule will not require individual permits or a general permit for new oil and gas sources, so industry would not need to be concerned about delays in obtaining permits from EPA for new development.

- We have reviewed the comments the Ute Tribe submitted on the proposed national rule. We note that the Ute Tribe believes that the air quality issues in Uinta Basin are unique, and so, EPA should prepare a specific rule tailored for the Uintah and Ouray Reservation instead of just relying on a nationwide FIP.

- We know from reading the comments that the Tribe is aware that the proposed national rule mentions that EPA can do a Reservation-specific rule if the national rule is determined to not be adequate to address local air quality issues. An example would be a rule to reduce VOC emissions from existing oil and gas production sources on the U&O Reservation.

- We appreciate the support that the Tribe offers for a reservation specific rule, and appreciate the opportunity to continue to discuss our plan to develop such a rule.

- [**If the Tribe brings up:** We have reviewed the other comments the Tribe submitted. We are not ready to discuss those comments today, but EPA will be following up with your request for further consultation. We know that the definition of Indian country is of particular concern to the Tribe.]

What Would the FIP Would Require?

- The draft U&O FIP would apply to existing facilities that have over 5 tons per year of VOC emissions from glycol dehydrators, storage tanks, and pneumatic pumps (this is the same threshold Utah uses).

- Existing facilities over the threshold would be required to install a flare or other control device with 98% destruction efficiency for storage tanks, glycol dehydrators, and pneumatic pumps (consistent with Utah's air permit rules).

- Existing facilities would be required to retrofit flares with auto-igniters, use submerged-fill to load/unload oil from tanks/trucks, and replace high-bleed pneumatic controllers with low/no-bleed (consistent with Utah's rules for existing sources).

- Using existing Tribal Minor source registration data, we anticipate this to effect 5,000 facilities and reduce VOC emissions by 40,000 tons per year.

- A final FIP would allow time for industry to come into compliance with the requirements. [proposed 18 months after the effective date of a final rule.]

- The Tribe also provided a comment about interest in exploring the possibility of working toward a tribal plan to help protect air quality on the Reservation. We share that interest and wanted you to know that any FIP issued by EPA could be delegated to the Tribe to implement, once the Tribe has the capacity to implement such a program.

- We would like to finalize the reservation specific rule sometime after the national oil and gas rules are finalized in spring 2016.

Why Do We Want to Propose a U&O Reservation-Specific FIP?

- To reduce VOC emissions from existing oil and gas sources (these emissions can react in the air and form ozone).

- The draft FIP would be consistent with Utah's rules for existing oil and gas sources on state land and create a level playing field for industry. It would also be consistent with any requirements developed under EPA's national oil and gas rules.

- Currently there is a discrepancy between what is required for oil and gas sources on U&O Reservation and those required by Utah for controlling air emissions. Most emissions from existing oil and gas sources on the Reservation are currently not regulated by EPA.

- A Reservation-specific FIP could be implemented in advance of the 2017 ozone designations process, in time to achieve early reductions that could lead to lower winter ozone levels and improved air quality in the Basin. Ideally, with the help of a reservation specific rule to control VOC emissions from existing oil and gas facilities, ozone levels may be below EPA's revised standard so that the Basin does not need to be designated as non-attainment.

- EPA would have a public comment period and respond to comments before issuing a final rule.

Cost background/comparison

In preparation for our upcoming U&O FIP, EPA reviewed available control and cost information for regulating the oil and gas sector. The most comprehensive analyses were done by Colorado for their Reg 7, and by EPA for the NSPS OOOO revision and CTGs. The Fort Berthold FIP had an extremely high cost effectiveness due to the very large amount of uncontrolled VOCs being emitted – less than $17/ton. Our FIP for U&O will likely have higher values. Below is a

summary of $/ton of VOC controlled for different equipment from the Colorado Reg 7, OOOO RIA, and CTGs. The values generally assume a threshold of 6 tons per year and 95% control. The list is not comprehensive, but is intended to give a range of cost effectiveness values to inform our U&O FIP.

Note that for other states with O/G regulations, most didn't provide a cost analysis, or in the case of Utah, simply used Colorado's cost analysis. Texas provides estimated costs of reducing VOCs through various controls, but not a $/ton estimate.

Cost Analysis from CO Reg 7

Flares

- Condensate Tanks with Flares: **$716/ton**
- Produced Water Tanks with Flares: **$715/ton**
- Crude oil tanks with Flares: **$427/ton**
- First 90 days of controls with Flares: **$77/ton**

Storage Tank Emission Management Plan (STEM)

- Buffer Bottle: **$395/ton**
- High-low pressure (HLP) separator: **$443/ton**

LDAR (ongoing): **818$/ton**
Auto igniter: **$272/ton**
Replacing high bleed with low bleed pneumatics: N/A
Dehydrator control: **$632/ton**

Overall cost of CO Reg 7 is **$300/ton**

Cost Analysis from OOOO RIA

Oil Well Completions: **$1,100/ton**
Fugitive Emissions: **$1,400/ton**
Pneumatic Pumps: **$560/ton**
Compressors: **$5,600/ton**
Pneumatic Controllers: **$320/ton**

Overall cost of implementing NSPS OOOO nationally is **$1,400/ton** (not counting recovery savings)

Cost Analysis from CTG

VRU: **$1,189/ton to $14,858/ton** depending on number of tanks routed to VRU (not counting recovery savings)
Combustion: **$936/ton to $11,114/ton** depending on number of tanks routed to combustion device
Compressors – Rod Packing Replacement

- Gathering and Boosting: **$1,132/ton**
- Processing: **$334/ton**

Compressor – Replacing with a Dry Seal Compressor: **$1,931/ton**
Compressor – New Combustion Device: **$6,292/ton**
Compressor – Existing Combustion Device: **$183/ton**

Pneumatic Controller - Replacing high bleed with low bleed pneumatics: **$210/ton**
Pneumatic Pumps – Routing to a New Combustion Device: **$23,944/ton** for diaphragm pump, **$218,017/ton** for piston pump
Pneumatic Pumps – Routing to an Existing Combustion Device: **$312/ton** for diaphragm pump, **$2,840/ton** for piston pump
Pneumatic Pumps – Routing to a New VRU: **$27,094/ton** for diaphragm pump, **$245,860/ton** for piston pump
Pneumatic Pumps – Routing to an Existing VRU: **$312/ton** for diaphragm pump, **$2,840/ton** for piston pump
Leaks – LDAR: **$1,160/ton** to **$20,192/ton** depending on test approach, frequency, and site