UGRB Air Quality Citizens Advisory Task Force
Option Evaluation

Grandfathered and Permit-Exempt Sources		Count	Level 1	Level 2	Level 3	Sum	Std Dev
1.	Require grandfathered or unpermitted sources to meet current best available control technologies (BACT) as required for new sources in the Jonah and Anticline fields Four categories of types of sources make up the bulk of these emissions – pneumatic pumps, dehydration units, fugitives and tanks	20	13	7	0	47	0.482
2.	DEQ should regulate all existing oil and gas facilities in the UGRB, including "grandfathered" emissions sources. Regulation should be to the standards applicable in the JPAD, and the focus should be on VOC emissions from these sources as they are significant contributors to VOC emissions in the UGRB	20	9	7	4	55	0.766
3.	Control currently uncontrolled grandfathered sources through additional regulation and/or economic incentives	19	10	7	2	49	0.678
4.	Bring all facilities to the same control levels as is required for new wells	20	12	6	2	50	0.678
5.	Develop and implement a rule for reducing VOC emissions from grandfathered minor source categories that establishes RACT for selected sources (RACT – Reasonably Available Control Technologies required on existing sources in non-attainment areas)	20	12	7	1	49	0.595
6.	Require no-bleed pneumatics for grandfathered equipment	20	11	8	1	50	0.595
7.	Reduce emissions from old equipment/facilities/locations in LaBarge and other older project areas (retrofit)	20	10	9	1	51	0.591

Development							
8.	Reduce site preparation activity to reduce NOx and VOC	19	3	12	4	58	0.577
9.	Use SCR engines (Selective Catalytic Reduction – converts NOx to N2 and water) on drilling rigs	20	13	7	0	47	0.465
10.	Use natural gas engines on drilling rigs	20	11	8	1	50	0.595
11.	During well completion/workover, observe ozone action days	20	16	4	0	44	0.365
12.	Require "green completions" (systems to reduce VOC losses during well completion)	20	16	4	0	44	0.408
13.	Develop and implement a rule for NOx reduction from non-mobile sources specifying the use of most current technology - Specify tier 2 with SCR or better for drill rigs - Establish baseline for completions/frac equipment - Controls under this rule would be in place by the end of 2013 or 2014	20	13	6	1	48	0.465

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Production Operations							
14.	Establish work practices for equipment maintenance	20	12	6	2	50	0.678
15.	Bring electricity to production areas	20	5	11	4	59	0.649
16.	Minimize venting	20	16	4	0	44	0.408
17.	Reduce NOx and VOC emissions from tanks, dehydration units, engines and pneumatics	20	15	4	1	46	0.567
18.	Reduce VOC emissions from truck loading	20	11	9	0	49	0.494
19.	Centralize production facilities	20	10	8	2	52	0.674
20.	Reduce VOC fugitives during the production process	20	14	6	0	46	0.465
21.	Reduce NOx from compressor facilities – engines	20	14	6	0	46	0.465
22.	Since high NOx emissions are more associated with the JPDA versus the non-JPDA area, look at the categories of sources there with highest NOx emissions there and add controls for those (compressors, completions, heaters …)	20	10	9	1	51	0.591
23.	DEQ and BLM should require emission reduction measures (see Table 3 of the Joint Fact Finding Document) for all emissions sources in the UGRB and/or as record of decision components in NEPA analyses or conditions of approval for APDs	20	8	5	7	59	0.852
24.	Address emissions resulting from the handling of condensate	20	8	10	2	54	0.653
25.	The use of liquids gathering systems should be increased–they should be extended beyond the JPAD. The BLM has authority to supplement NEPA analyses to put these requirements in place.	20	6	7	7	61	0.795
Mobile Sources							
26.	Control permit-exempt non-road mobile emission sources through additional regulation and/or economic incentives	20	10	9	1	51	0.595
27.	Consider ways to control mobile sources including generator motors	19	8	10	1	50	0.497
28.	Require impeller engines on frac fleets	17	3	11	3	51	0.556
Leak Detection and Repair							
29.	Monitor liquids gathering system for leaks. Provide for a way to back track to find leaks (multiple meters)	20	11	5	4	53	0.748
30.	Leak detection and repair (LDAR) to verify emission levels in all areas	20	12	7	1	49	0.591

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Produced Water and Storage							
31.	Require pitless operations (everything in nonattainment area)	20	10	8	2	52	0.674
32.	DEQ should regulate produced water or storage facilities as potential air pollution sources, particularly the Pinedale Anticline Facility	20	10	7	3	53	0.674
33.	Reduce emissions from the Pinedale Anticline Disposal Site	20	12	5	3	51	0.678
34.	Reduce emissions from evaporation pits in the county as well as on Calpet Rd.	20	11	7	2	51	0.595
35.	DEQ should develop and enforce minimum emission and operation standards for exposed produced and drilling water ponds	20	11	7	2	51	0.595
Future Sources							
36.	Develop permitting strategies to [prevent, reduce] emissions from future sources such as the NPL, PXP, etc.	20	15	4	1	46	0.547
37.	Require that future development in the non-Jonah/Pinedale field area use SCRs on their drilling rigs, per the requirement now for the Anticline. This would address new NOx emissions from this area	20	14	4	2	48	0.666
Non-Oil & Gas Emissions							
38.	DEQ should require other emissions control measures for non-oil and gas emissions sources, such as gasoline vapor recovery technology, as determined by DEQ to be necessary, effective, practical, and economical	20	7	9	4	57	0.718
39.	Have retail and private gasoline refueling stations retrofit dispensing nozzles with vapor control boots	20	8	6	6	58	0.825
Offsets & Credits							
40.	Continue implementing the current interim emission offset policy for permitted ozone precursor emission sources in Sublette County	20	10	7	3	53	0.729
41.	DEQ should implement the offsets policy but it should be updated to ensure the offsets are still appropriate/valid based on current science and information. Apply the offsets policy to all permitted emissions sources in the UGRB	20	10	9	1	51	0.595
42.	Enhance the current interim emission offset policy for permitted ozone precursor emission sources in Sublette County by: - increasing the offset ratios, - "retiring" credits through buyback or other means to accelerate emission reductions while preserving and/or enhancing socioeconomic conditions in the area	19	11	4	4	50	0.762
43.	Retire all pre-March 2011 VOC/NOx “credits.”	19	9	1	9	57	0.970
44.	“Programmatic” offset policies and solutions need to be considered along with specific emissions control measures.	18	3	11	4	55	0.639

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Permitting Strategies							
45	DEQ should convert the minor source oil and gas presumptive BACT guidelines to LAER or RACT* requirements for minor source oil and gas emissions in the UGRB so as to achieve greater levels of emissions control	19	8	7	4	53	0.731
46	Upgrade Presumptive-BACT to eliminate routine venting and other upgrades. Then apply as RACT rule to grandfathered facilities	20	9	6	5	56	0.784
Monitoring & Reporting							
47	Improve monitoring and reporting of emissions (VOCs, NOX, and possibly other forms of potentially hazardous emissions) to motivate behavior change - Atmospheric scientists design a systematic monitoring scheme - Implement a public reporting mechanism (e.g., a report card) - Combine monitoring with graduated standards	20	10	8	2	52	0.674
48	DEQ and other agencies should improve current monitoring, inventory, and modeling systems and processes, including providing for public reporting of these data. Ensure source monitoring is done in the areas most likely to be contributing to the problems. Use these data to promote emissions reductions	20	10	8	2	52	0.674
49	DEQ should determine worst-case maximum wintertime VOC and NOx levels (expressed as concentrations and quantities) that can be reached before a NAAQS violation would occur. This information should be compared to inventoried or monitored ozone or ozone precursor levels and the results should be publicized. Use these data to promote emissions reductions	19	4	8	7	60	0.737
50	Use increased source monitoring to target and inform actions designed to reduce NOx and VOC emissions	20	12	7	1	49	0.591
51	Aggregate all minor (permitted and unpermitted mobile) sources within the UGRB.	20	6	7	7	61	0.795
Phasing & Staging							
52	Implement a staged development plan	20	9	6	5	56	0.784
53	Use a short-term strategy to reduce industrial sources of NOx and VOC	19	6	9	4	55	0.687
54	Use a phased-in approach for reducing VOC emissions from grandfathered minor source categories with retrofits occurring over several years. In this strategy focus first on the largest source categories and work in descending order. Additional reductions from this longer term initiative would focus on achieving 100% conversion on 100% of the top emission sources within 10 years	20	12	7	1	49	0.595

Other		Count	Level 1	Level 2	Level 3	Sum	Std Dev
55	Assess annual pollution emission fees for permitted sources in the non-attainment area of $20,000 per ton NOx, $10,000 per ton VOC (or higher if necessary)	20	5	7	8	63	0.788
56	The DEQ should determine maximum wintertime VOC and NOx levels (quantities) that can be reached before a NAAQS violation would occur. Treat this as a "cap"	20	5	9	6	61	0.725
57	Where possible, concentrate more on the VOC BTEX/aromatic spectrum of the VOC emissions	20	6	11	3	57	0.670
58	Develop and coordinate a cost sharing structure with State and County governments to facilitate the retrofitting of uncontrolled sources with updated technology - Prioritize cost sharing funds to the sources emitting the top % of VOCs within the non-attainment area regardless of location and owner - Schedule to address 15% of these sources within the first year, 25% of these sources within 2 years and 50% of these sources within 3 years	20	7	7	6	59	0.795
59	DEQ should announce rulemakings by fall 2012 to create incentives for voluntary reductions, such as pneumatics.	20	8	10	2	54	0.653
60	Hire another DEQ personnel solely to manage the UGRB air quality issues, perhaps for five years.	20	10	4	6	56	0.849
61	DEQ should present to the Task Force rough estimates for equipment changes and cost per ton of NOx and VOC reductions in 10% increments. The Task Force can then examine and evaluate these for reasonableness.	20	6	8	6	60	0.759

Key
Consensus: No Level 3 votes **8**
Consensus minus 1: 1 Level 3 vote **14**
Consensus minus 2: 2 Level 3 votes **12**
Std Dev: Indicates the "spread" of responses and is displayed in a color gradient from green through yellow to orange to red; green = agreement, red = disagreement