

Mr. Bryce Bird – Director  
Department of Environmental Quality  
Division of Air Quality – P.O. Box 144820  
Salt Lake City, Utah 84114-4820

Attention: Thomas Gunter

RE: Comments on Notice of Proposed Rule, Section IX, Emission Limits and Operating Practices, Part H

Dear Mr. Gunter,

The Utah Division of Air Quality is submitting the following comments regarding the November 1, 2018 proposed rulemaking; Amend Utah State Implementation Plan, Emission Limits and Operating Practices, Serious Area PM2.5 SIP for the Salt Lake City, Utah Nonattainment Area, Section IX, Part H.

#### **Comment 1: Kennecott Utah Copper – Power Plant Unit #4**

Amendments made to H.2.h.i.D, H.12.j.i.A.I, and H.12.j.i.B for a fuel switch at Unit #4. These amendments specify that natural gas is required as a fuel source 12 months of the year and not 4 months of the year (November 1<sup>st</sup> through February exclusively). Additionally, amendments made to H.2.h.i.E and H.12.j.i.A.III remove emission limitation requirements from coal combustion.

#### **Unit #4 Fuel Switch**

BACT for NOx on Kennecott Boiler Unit #4 was determined based on the implementation of SCR for year round operation. Fuel switching to natural gas was not considered for BACT since the SIP (and past SIPs) prohibit coal as a fuel source during the winter inversion season. This is a common sense seasonal limit (not BACT related) that Kennecott accepted years ago. With natural gas as fuel for wintertime operation, the implementation of SCR is both technically and economically feasible. Since DAQ has not allowed seasonal limits on the use of control technology determined through BACT, SCR will also be required to control NOx emissions from coal operations during the summertime.

The DAQ did not require additional controls on modes of operation that exclusively occur during the non-inversion season and allowed coal during summertime operation. The DAQ is not required nor is it seeking to solve summertime pollution problems with this SIP, even though the controls implemented through this SIP will benefit the summertime air shed.

The Utah Air Quality Board has motioned that fuel switching be considered BACT for Unit #4 at the Kennecott Power Plant, based on the fact that this unit is capable of burning both natural gas and coal. The DAQ does not agree it should be considered BACT for this SIP. The DAQ worked to develop controls for the SIP that have a primary purpose of controlling emissions that contribute to the problem being solved. In this case, the BACT requirement to install SCR and the seasonal control prohibiting coal as a fuel source best address the problem. Fuel switching will have a considerable cost associated with it but will not improve the wintertime air shed.

DAQ believes that fuel switching would be an appropriate BACT determination under different circumstances. For instance, if the DAQ is required to develop a SIP to control seasonal emissions of ozone and additional NOx reductions would be needed, fuel switching could provide those reductions. Alternatively, if Kennecott makes a modification to Unit #4, then a BACT analysis would be required as per R307-401-8 and fuel switching would be evaluated in that analysis. Therefore, the DAQ solely supports the Part H requirements developed by DAQ engineers and proposed for public comment on July 1, 2018 in the Utah State Implementation Plan Section IX, Part H.

## **Comment 2: Three (3) year stack testing requirements**

Amendments were made to move all three year stack testing requirements to an annual requirement. This amendment was made to the following Part H sections:

H.1.g.i.B.II (page 4);	H.11.g.i.B.II (page 54);	H.12.f.iv.B (page 74);
H.2.a.i.B (page 7);	H.12.a.iii.A.II.c (page 58);	H.12.g.i.B (page 75);
H.2.c.ii.A (page 13);	H.12.a.iii.B.II.c (page 58);	H.12.h.i.C (page 80);
H.2.d.i.B (page 14);	H.12.b.i.B (page 59);	H.12.j.i.B.II (page 85);
H.2.d.v.B (page 18);	H.12.d.i.B (page 66);	H.12.j.ii.B (page 86);
H.2.f.i.B (page 20);	H.12.d.ii.B (page 68);	H.12.m.i.B (page 92);
H.2.i.B.II (page 31);	H.12.d.v.B (page 70);	H.12.n.i.B (page 97);
H.2.ii.B (page 32);	H.12.e.i (page 71);	H.12.o.ii (page 98)
H.2.k.i.B (page 35);	H.12.e.ii.A (page 71);	
H.2.l.ii.E (page 40);	H.12.e.iii.A (page 71);	

### **DAQ development of Stack Testing Standards**

Where specific testing requirements are not identified by a federal standard, the DAQ monitoring requirements for major sources of emissions are developed to provide an assurance of compliance. The monitoring standard must ensure appropriate pollutants are monitored, must accurately verify the source is operating below emission limits and specify a frequency that is adequate to show continual compliance. Measurements and sampling procedures must include specific test methods and protocols to provide representative and accurate emission data.

Utah rule R307-165-2 requires emissions testing at least once every five years for sources with approval orders or sources listed in section IX, Part H of the SIP. Three years ago the DAQ established a minimum testing frequency of once every three years for major sources.

NSR permitting engineers who develop the control plan have the responsibility to review emissions data and determine if the testing requirements meet the data goals. If the requirements for sampling demonstrate the data goals are being met, the permitting engineers will retain the monitoring requirements in the control plan. In most instances the minimum test frequency of once every three years is adequate. However, there are instances where more frequent monitoring is appropriate. Factors that are considered for requiring more frequent monitoring include variable emission streams, combustion of a variety or mixture of fuels, batch processes, or a history of operating close to permitted emission limits or even exceeding those limits. Specific sources required to conduct annual stack testing should be limited to Chemical Lime Company (Lhoist North America) (H.12.c), Compass Minerals (H.12.e), Kennecott Utah Copper – Power Plant (H.12.j), and Nucor Steel Mills (H.12.k). All of the remaining major sources do not meet the criteria for more frequent monitoring listed above, and emissions’ testing once every three years is appropriate to ensure compliance. Additionally, parametric monitoring requirements provide continuous additional data to demonstrate a source is operating within expected operating parameters. Examples of this are the refinery Fluid Catalytic Cracking Units. These parametric monitoring unit requirements are sufficient and are specifically listed under H.1.g.i.B.III, H.11.g.i.B.III and H.12.g.i.A.

With a requirement to perform annual stack testing, the Section IX, Part H listed sources would be subject to an estimated \$465,000 per year in added stack testing expenses. More frequent stack testing will also result in increased work load for sources in regards to employee time spent planning, scheduling, and attending emission tests. DAQ compliance staff will also see an increased work load due to review of the additional data and reports, such as stack testing protocols and stack testing results.

The DAQ believes that the stack testing frequencies developed by DAQ engineers and proposed for public comment on July 1, 2018 in the Utah State Implementation Plan Section IX, Part H are adequate for providing an assurance of compliance.

**Comment 3: Seasonal Limits – More stringent limit is held throughout the year.**

Amendments were made in several instances where there is a difference in seasonal limits. The Amendments are structured in that the more stringent limits (November 1<sup>st</sup> through February exclusively) are held throughout the year and no allowance of a more flexible limitation during the remaining 8 months of the year.

H.2.a.vi.A (page 11);  
H.2.i.D (page 27);  
H.2.j.iii (page 33);  
H.4.c.i.A, H.4.c.ii.A, and H.4.c.iii.A (pages 45 and 46);  
H.4.f.ii.A (page 50);  
H.12.a.i and H.12.a.ii (page 57);  
H.12.b.vi.A (page 63);  
H.12.l.iii.A and H.12.l.iii.B (page 89).

**DAQ SIP BACT Process and the Development of Seasonal Controls**

In accordance with the PM2.5 Serious area implementation rule, the DAQ is required to develop a control plan as an element of the SIP for addressing the 24-hour PM2.5 serious nonattainment situation in the Salt Lake nonattainment area. The purpose of the control plan is to control pollutants that contribute to the pollutant (NAAQS) in non-attainment. The process the DAQ follows to develop a control plan follows the requirements in the implementation rule. The control plan ensures the implementation of BACT. The control plan includes BACT limits for all major sources of PM2.5 and PM2.5 plan precursors in the nonattainment area. Each source submits a BACT evaluation for their operations. These evaluations require a detailed, written justification of each available control strategy, taking into account technological and economic feasibility, and including documentation to justify the elimination of any available controls. After the DAQ received the BACT evaluations from the major sources, DAQ engineers evaluated the submitted information and made BACT determinations.

In the nonattainment area, all major sources operate throughout the year, and so DAQ engineers evaluated the technical and economic feasibility of the available control technologies accordingly. The DAQ has used this standard in the development of all SIP control plans.

DAQ's attainment demonstration for this SIP is highly dependent on reducing emissions during the wintertime inversion season, when meteorological conditions are known to enhance formation of secondary PM2.5 and lead to elevated PM2.5 emission levels. DAQ based its modeling analysis upon the meteorology incurred during an episode transpiring from January 1-10, 2011. DAQ also used a seasonal-adjusted inventory in the model to represent emissions that are typically seen during the winter months. Although this SIP is not a seasonal SIP, DAQ is working to solve a wintertime problem. As such, there are some common sense seasonal limits that are appropriate for this SIP. These seasonal limits don't follow the BACT process, but are appropriate for sources where seasonal limits can fit within the source operation and where the limit will provide additional protection of the air shed during the wintertime inversion season. Examples of seasonal limits include operational limits (i.e. limiting boiler usage, limiting testing programs, limiting maintenance/waste management operations) and fuel limits (natural gas in lieu of coal).

There are no seasonal limits on the use of control technology determined through BACT. In other words, if a technology is determined to be BACT for a specific operation, this technology has to be applied year-round. Seasonal limits in this SIP are limited to the operating practices listed above, and are not technology-based.

The DAQ believes that the seasonal limits developed by DAQ engineers and proposed for public comment on July 1, 2018 in the Utah State Implementation Plan Section IX, Part H are appropriate for providing an assurance of compliance.

Sincerely,

Jon L. Black  
Major New Source Review Section Manager