# Response to Comments for Minor Permit AQ1227MSS02

# August 18, 2011

# **Introduction:**

This document is the Alaska Department of Environmental Conservation's (Department) analysis and response to the public comments received during the March 11, 2011 through May 11, 2011 public comment period, for Minor Permit AQ1227MSS02. The Department received 780 public comments, from 636 distinct commenters on its preliminary decision to issue Minor Permit AQ1227MSS02 to Usibelli Coal Mine, Inc for the Wishbone Hill Coal Mining and Processing Operation. The Department also received additional comments after this period closed. However, the Department is unable to consider these comments.

The vast majority of the comments were submitted via either e-mail or hand delivered paper forms from various public interest group web-sites with "ready-to-go" form letters. A significant portion of the remaining comments also match or reflect the wording suggested by these public interest groups, and are therefore essentially identical in nature. The Department has therefore organized this response-to-comment document by topic, rather than commenter.

Each topic is either described and/or presented with a paraphrased statement, unless otherwise noted through the use of quotation marks for direct quotes of comments. The topics are also organized under general categories, to make them easier for the reader to find. This organizational structure for the comments does not mean that the sub-categories are not interrelated. Air quality is a complex topic and the various sub-categories do affect one another.

The **categories** are designated by **14-point bold font**. The **topics** are designated by **12point bold font**. The comments are in regular 12-point font. The Department's *responses are in 12-point italics*.

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# Categories:

# **General Comments Not Related to the Permit Action**

The Department will only respond to comments that are within the confines of its statutory authority and the regulatory process. Comments that reflect personal opinions, but do not state whether the Department's preliminary decision is consistent with the regulatory provisions in Title 18 of the Alaska Administrative Code – Chapter 50 (18 AAC 50), are beyond the scope of what the Department will address through a permit-specific public notice. General issues of this type should be addressed through other means, such as the legislative/regulatory process, local land-use rules, etc. The Department has confined this response to comment document to those comments that specifically address whether the applicant and the Department has or has not complied with the air quality permitting requirements contained in 18 AAC 50.

# **Comments Received via Form Letters**

The Department received a significant number of form letter comments. The form letter had two distinct paragraphs.

The first paragraph of the form letter stated:

"Pollution from Usibelli Coal Mine, Inc.'s (Usibelli) proposed Wishbone Hill strip mine will be harmful to the public health of the Matanuska-Susitna Valley. Open pit coal mines and the transportation of coal create fugitive dust that is harmful to our water, lungs, property values, and our communities."

# Department Response:

Minor permits protect public health by ensuring that the emissions from the permitted facility will not violate ambient air quality standards. The commenter provides no evidence to show that emissions will be different from what the applicant estimates or that these emissions will be of such concentration to harm public health. Therefore, the Department can give no weight to the commenter's opinion, other than to acknowledge their desire that public health is protected. Concerns about the evidence provided by the permit applicant are addressed elsewhere in this document.

The commenter is correct that mine and transport operations create fugitive dust. The harm caused by fugitive dust is directly related to the concentration of the dust in the ambient air. Fugitive dust concentrations typically decrease with distance as the dust plume disperses and the particulate matter falls out – due to gravity (dry deposition) and atmospheric moisture (wet deposition). Therefore, the maximum levels occur very near the point of release. The commenter does not provide any evidence that the fugitive emissions predicted for this facility will have the harmful effects alleged. Concerns about the evidence provided by the permit applicant (computer modeling) are addressed elsewhere in this document.

Regarding the mine's affect on property values, the Department is limited to preventing the permitted source from unreasonably interfering with the enjoyment of life or property. The commentator provides only a vague statement of concern about property values. The

commentator provided no evidence that the proposed source would unreasonably interfere with the enjoyment of life or property.

The second paragraph of the form letter stated:

"The data in Usibelli's air permit is out of date and needs to be updated before a decision on the permit can be made. Also, the fugitive dust prevention plan does not protect the hundreds of families living within two miles of the mine site. We urge you to stand up for our health and property values by denying Usibelli's Air Quality Control Permit."

# Department Response:

The use of the word "data" is very general and vague, since it could regard any or all of the various data sets used by the applicant. The comment regarding the fugitive dust prevention plan is likewise very general. It does not state why the commenter believes the plan is inadequate or what should be done to make the plan adequate for purposes of this permitting action.

The Department nevertheless believes these comments reflect issues that were more fully addressed by other commenters. The reference to "data" likely regards the meteorological data used in the ambient assessment. The Department will therefore address the presumed issues raised in this comment under the applicable sections of this document (meteorological data and fugitive dust control plan).

# **Comments Regarding Usibelli's Meteorological Data**

The Department received numerous comments regarding the meteorological data that Usibelli used to support their air quality modeling analysis. While not always worded as such, the comments essentially questioned whether the data were representative of the meteorological conditions at the proposed mine site. The specific concerns are described in the following subsections.

# • Quantity of Missing Data

A large number of commenters stated Usibelli's 1990 meteorological data is unreliable due large data gaps, and that Usibelli's air quality modeling analysis is therefore invalid. Some specifically stated that 40-percent of the data is missing, and that the data therefore does not meet the 90-percent data capture threshold described in the Department's *Modeling Review Procedures Manual*. To resolve this issue, commenters suggested that the Department require Usibelli to obtain/provide adequate data prior to permit issuance.

# Department Response:

The stated concerns about large data gaps are valid. The Department is therefore unable to issue minor permit AQ1227MSS02 since it is based on a modeling analysis with insufficient meteorological data.

While the Department agrees with the concern, the commonly stated cause for the data gaps is incorrect. Usibelli obtained a data capture rate in 1990 that exceeded 90-percent (on an annual basis) for all meteorological parameters. The substantive data gaps occurred in the Palmer National Weather Service (NWS) cloud cover data. This resulted in 3,538 hours with some type of missing parameter – 40 percent of the 8,760 hours that occurred in 1990. This is too large of a data gap for conducting a permit-related modeling analysis. However, since Usibelli demonstrated that their modeling results are insensitive to variations in cloud cover data, Usibelli could still use their 1990 site-specific data if they first fill-in the missing cloud cover data with surrogate values.<sup>1</sup>

#### • Quantity of Calm Data

One commenter stated the "onsite meteorological data has 2,445 hours of calm hours (27.91% of possible 8760 hours)." This commenter expected the maximum impacts to occur during calm conditions and that the modeling therefore underestimated the maximum impact since AERMOD ignores calm hours. This commenter recommended the use of either current site-specific or Palmer Airport NWS data as a solution to their concern.

#### Department Response:

The measurement of calm winds is not a basis for rejecting a dataset since calm conditions do occur (i.e., the data can be valid). The collection of newer data likewise would not resolve this commenter's concern for the same reason – calms occur each year. The use of Palmer NWS data would not resolve this commenter's concern since Palmer data also contains large periods of calms. For example, the 2010 data for Palmer contains almost 36% calms (which is even greater than what occurred at Wishbone in 1990).

#### • Modeled Violation of the 24-hour PM-10 Standard

Some commenters stated that due to the large amount of missing data, Usibelli should have compared the high first high (h1h) rather than the high second high (h2h) modeled impact to the 24-hour PM-10 Alaska Ambient Air Quality Standard (AAAQS). They further stated that using the h1h value results in a modeled violation of the 24-hour PM-10 AAAQS.

#### Department Response:

The Department agrees. Per 18 AAC 50.215(b), modeling demonstrations submitted in support of an air quality control permit application must follow the requirements specified in EPA's "Guideline on Air Quality Models" (Guideline). Section 7.2.1.1b of the Guideline allows applicants to use the h2h 24-hour PM-10 value when using at least one year of site specific meteorological data. However, per Section 7.2.1.1c, the h1h value should be used when there is less than a full continuous year of site specific data. Given the large quantity of "missing" data in Usibelli's analysis, the h1h value should have been used in the 24-hour PM-10 AAAQS analyses. Because Usibelli's modeling was inadequate for other reasons, no conclusion can be drawn from h1h calculated in this analysis.

<sup>&</sup>lt;sup>1</sup> The Department's findings regarding Usibelli's cloud cover sensitivity analysis are described in the "Sky Cover Sensitivity" section of the Department's March 10, 2011 memorandum, *Review of Usibelli's Ambient Assessment*.

# Age of Usibelli's Meteorological Data

A large number of commenters expressed concerned about the use of 21 year old meteorological data in Usibelli's ambient air quality modeling analysis. Many commenters referred to the data as "stale." Some commenters felt the Department misrepresented an EPA discussion in their *Guideline on air Quality Models* (Guideline) in justifying the use of this data. For example, one of the commenters stated:

"The Guideline cites seventeen years with respect to how many years of data is necessary to obtain a representative sample of years to account for yearly variation, not the age of the data that a permit applicant may rely on for its modeling. The mention of seventeen years in the Guideline has nothing to do with the age of acceptable data..."

# Department Response:

None of the commenters provided an argument or evidence that the data is unrepresentative of current conditions. The only factual statement provided was that the data is roughly 20-years old. The data is older than what is typically provided for modeling new stationary sources. However, the Guideline does not state or imply that older meteorological data is unacceptable or unrepresentative. Section 8.3.1.2a of the Guideline even allows reviewing agencies to consider the use of older NWS data over newer NWS data – due to limitations with the cloud cover data collected by the NWS at their Automated Surface Observing Stations (ASOS). Based on a conversation Department staff had with staff from EPA's Office of Air Quality Planning and Standards (OAQPS),<sup>2</sup> The Department believes it is acceptable to use site-specific data from the 1990s for current permitting projects.

Section 8.3.1.2 of the Guideline states that "[t]he use of 5 years of NWS meteorological data or at least 1 year of site specific data is required." Section 8.3.3 of the Guideline notes that applicants may use site specific data because the "[s]patial or geographical representativeness is best achieved by collection of all the needed model input data in close proximity to the actual site of the source(s). Site specific measured data are therefore preferred as model input..." Usibelli complied with the Guideline by using 1 year of site specific data.

The commenter is correct that the Guideline discussion does not directly indicate whether 17 year old data is good or bad, and the Department did not intend to imply otherwise. The Department believes that EPA's use of all the data for the 17 year period to develop the size of a representative sample does indicate that they did not reject the oldest data due to it being "stale" or "too old" for consideration. This fact does suggest that seventeen-year old data could be considered for use in a modeling analysis and provides additional support to the Department's conclusion that the meteorological data used by Usibelli are acceptable.

<sup>&</sup>lt;sup>2</sup> Informal conversation during the *EPA Regional/State/Local Modelers Workshop* (June 2011) between Alan Schuler (Department), Krystin Bablinskas (Department) and Roger Brode (OAQPS) regarding Usibelli's meteorological data.

# • Lack of Local Data

Some commenters felt that Usibelli did not acknowledge the unique meteorological environment of the Wishbone Hill area, especially in regards to the severe "Matanuska Wind" that can occur.

# Department Response:

The basis for this comment is unclear. While Usibelli may not have specifically discussed "Matanuska Winds" in their permit application, they collected and used surface meteorological data from the Wishbone Hill mine site. Usibelli discussed the wind patterns, including the movement of air masses in the Matanuska drainage, in their quarterly data reports.

Usibelli's data includes high wind events. Usibelli even experienced data loss during their first year of monitoring due to high wind events – the winds rotated the tower cross arm out of alignment. It is partly for this reason (along with other monitoring problems) that they were unable to utilize their first year of meteorological data. Usibelli did not record wind gusts (it's not required for modeling), but the highest <u>hourly</u> average wind speed Usibelli measured in 1990 was 18.98 meters per second (42 miles per hour).

# • Use of Meteorological Data from Other Locations

Due to the various stated concerns with Usibelli's 1990 meteorological data, some commenters recommended the use of meteorological data from other locations. One commenter stated:

"There are several weather stations in the area that have long term data sets, including the Palmer airport, the USGS in Palmer, and numerous personal weather stations found at Weather Underground (<u>www.wunderground.com</u>), including one at the Sutton airport that is reliable enough to be posted on the Palmer Police department website as a link to local forecasts. Indeed, there are at least 14 weather stations between Palmer and King's River, with PAJV (Sutton airport) and KAKPALME18 (Moose Range) being the closest to Wishbone Hill..."

Other commenters stated the exact opposite – that data from other locations should *not* be used. For example, one commenter stated:

"Using substitute data from Palmer, Anchorage, or other locations in the state is an unacceptable substitute as these areas, due to the geography, are not subject to even similar weather patterns..."

# Department Response:

As correctly noted by some commenters, the meteorological data used in a modeling analysis must comply with the requirements of Section 8.3 of Guideline. It is also important to note that the adequacy of each variable must be judged separately (per paragraph "c" of Section 8.3), and that the spatial scope of each variable could be different. For example, the modeled impacts from low level releases – as is the case with the Wishbone project – will

likely be sensitive to variations in surface winds, but not to variations in upper air (rawinsonde) data. It is for this reason that the Department accepted, and continues to accept, the use of Anchorage NWS upper air data for this analysis. Usibelli also demonstrated that their modeling results are essentially insensitive to variations in cloud cover data. Therefore, the use of Palmer NWS cloud-cover data is acceptable.

While not always stated, the concerns and recommendations expressed by most commenters likely regard surface meteorological data, especially wind data. Some of the commenters correctly noted that geographical factors must be considered in selecting representative wind data. Other factors include data completeness (see earlier discussion) and data quality. None of the off-site wind data sets suggested by commenters meet all of these criteria.

The "personal" weather stations suggested by at least one commenter are stations operated under a cooperative agreement with the NWS. Cooperative stations provide general information that meets the typical needs of local residents, but the data does not undergo the same level of quality assurance review as data collected by the NWS. Therefore, they do not meet the quality assurance requirements referenced in Section 8.3.2.2d of the Guideline.

The Sutton data set, which was recommended, is also incomplete. While there are numerous years of data, there is not around-the-clock hourly data, as is needed for air quality modeling purposes.

The Palmer NWS airport data cannot be used because it does not represent the wind conditions experienced at Wishbone. This can best be illustrated by comparing the wind roses from both locations (see Figure 1 and Figure 2 below).<sup>3</sup> As illustrated in these figures, the predominate winds at the Palmer airport are from the north, while the predominate winds at Wishbone are from the east. The differences are due to the presence of nearby terrain features (see Figure 3), which channel and direct the surface winds.

<sup>&</sup>lt;sup>3</sup> The Palmer and Usibelli wind roses are from two different calendar years (2010 and 1990, respectively). While concurrent wind roses are preferred, the Department could not use the 1990 data from Palmer since there is no recorded wind data for roughly half of the hours. While some year-to-year variation is expected, the figures are adequate for noting the substantive difference in predominate wind directions.



# Figure 1 - Wind Rose for 1990 Wishbone Data

WRPLOT View - Lakes Environmental Software



# Figure 2 - Wind Rose for 2010 Palmer Airport Data

WRPLOT View - Lakes Environmental Software



Figure 3 - Topographical Affects on Nearby Winds 2010 Palmer Airport Windrose and 1990 Wishbone Hill Windrose

# • Usibelli Should Use Additional Years of Meteorological Data

A number of commenters stated that Usibelli should use all of their meteorological data, not just a single year of data. Many of these commenters also stated that Usibelli had four years of data (1988 - 1992).

#### Department Response:

The commenters correctly noted that Section 8.3.1.2b of the Guideline states, "If one year or more (including partial years), up to five years, of site specific data is available, these data are preferred for use in air quality analyses." This statement is a preference, not a requirement. The following statement in Section 8.3.1.2b must also be considered, "Such data should have been subjected to quality assurance procedures as described in subsection 8.3.2.2."

The site specific meteorological data was collected by Usibelli's predecessor, McKinley Mining Consultants, Inc. (MMCI). MMCI operated the meteorological monitoring station for three years (mid-October 1988 through October 1991). The frequently made statement, that there are four years of meteorological data is incorrect.

MMCI only submitted the October 1988 through December 1990 data to the Department for review and approval. The initial year was plagued with large periods of data loss due to high wind events or power loss. It therefore cannot be used for modeling purposes. MMCI did not have these types of problems during 1990. Therefore, there is only one year of available data (1990) – which is what Usibelli used in their modeling analysis.

# • Claim of an Erroneous Predominate Wind Direction

Several commenters stated the application erroneously claims that the primary wind direction is from the south.

# Department Response:

The basis for this comment is unclear. The Department has not found any mention of a south wind in the application. The wind rose provided in Usibelli's application clearly shows that the primary wind direction is from the east.

# • Inconsistent Statements Regarding Precipitation

Several commenters felt Usibelli made unsubstantiated statement in-regards to the benefits from possible snow cover. In discussing the modeled impacts, Usibelli stated, "Furthermore, the time that these few higher wind speeds occurred (all in November and most on a single day) coincides with likely snow cover in the area which tends to mitigate dust erosion." Commenters contrasted this statement with the lack of precipitation data in Usibelli's modeling files.

# Department Response:

Usibelli collected precipitation data with their site-specific wind data (even though they did not include it in their modeling files) so they do have access to local precipitation data.

# **General Modeling Concerns**

General Concerns Regarding Eagle River and Palmer Data

Several commenters expressed concerned about the use of Palmer and Eagle River "data" in Usibelli's modeling analysis.

# Department Response:

The term "data" is extremely very broad. Each type of data must be evaluated by what it represents. There are substantive differences between background pollutant data and meteorological data. Background data is added to the modeled result to account for emissions not expressly modeled. Various types of meteorological data is also needed to represent the transport conditions experienced. The Guideline states that the background at the stationary source. The Guideline does not state the same information regarding representativeness for met data as it does for background because the background is not part of the dispersion model. Furthermore, there were commenters who were concerned that the Department allowed only PM-10 from Eagle River to be used and did not accept the Palmer met data for use. This is because the Department determined the Eagle River PM-10 was representative for Wishbone Hill, but the Palmer met data was not representative.

# Concerns Regarding Access Road Modeling

Some commenters stated Emission Unit 36 ("Off Source – coal truck haul – access road") was not included in the modeling analysis. Many commenters also felt Usibelli underestimated PM-10 impacts due to certain modeling assumptions.

# Department Response:

EU 36, the Off-Source Coal Truck Haul Access Road, was included in the modeling as model IDs "ROAD1" through "ROAD21." This is a series of volume sources with a total PM-10 emission rate that matches the emissions listed under EU 36.

Usibelli correctly applied emission rates to each emission unit throughout the modeling. Any assumptions made about emission rates were investigated by the Department in the form of sensitivity analyses provided in the modeling memorandum. The commenters did not provide any additional information as to why the PM-10 emissions may be underestimated and did not offer alternative emission rates.

# • Concerns Regarding Impacts from Erosion

Some commenters stated Usibelli should have included the potential particulate emissions from stockpile erosion in their modeling analysis.

# Department Response:

The Department agrees that the application and technical analysis report (TAR) did not adequately address the PM-10 impacts associated with erosion during high wind events.

# • Claims that Additional Pollutants Should be Modeled

#### Ozone

Several commenters stated Usibelli should demonstrate compliance with the ambient ozone standard. The stated reason is summarized in the following quote from one of the commenters:

"The proposed project will emit NOx (67.8 tpy) and VOC (0.7 tpy). Both NOx and VOC are known ozone precursors. These emissions will react in sunlight to form ozone, which may be especially problematic given the long hours of daylight in the summer months. Thus, the proposed project will increase ozone levels in the region and may interfere with the attainment and/or maintenance of the ozone standard. Yet, neither the Permit Application nor the TAR analyzed the potential ozone impacts. Notably, violations of the *current* 8-hour ozone standard of 0.075 ppm have been recorded in Denali National Park. The EPA recently announced that the current ozone standard may be lowered to 0.06 -0.07 ppm. Given that the project will emit ozone precursors, the potential for these emissions to cause or contribute to violations of the ozone AAAQS should be evaluated before DEC issues a permit."

#### Department Response:

The Department disagrees with the commenters. Minor permit applicants are not required to assess ambient ozone impacts, and the quantity of precursors emissions are not large enough to warrant requesting an analysis under 18 AAC 50.540(c)(2)(D),

Ozone is inherently a regional pollutant – the result of chemical reactions between emissions from <u>many</u> sources over a large area. EPA does not have a recommended modeling approach for assessing the ozone impact from an individual stationary source. Individual source impacts are generally within the range of "noise" of regional ozone models (i.e., the individual impacts are within the range of uncertainty within the regional model.) Section 5.2.1(a) of the Guideline reflects this understanding: "Simulation of ozone formation and transport is a highly complex and resource intensive exercise." It is therefore very rare for EPA or State reviewing agencies to require ozone modeling for individual sources – especially from a minor permit applicant.

The Department further notes that the quoted comment misstates the status of the ozone measurements at Denali. There have <u>not</u> been any measured violations. A violation of the 8-hour standard occurs when the <u>three-year average</u> of the annual <u>fourth highest</u> daily maximum 8-hour average ozone concentration exceeds 0.075 ppm. While there have been individual measurements that have exceeded 0.075 ppm, the average measurements within the form of the standard have always been less than 0.075 ppm.

The measured exceedances at Denali are likely due to stratospheric intrusion events (i.e., natural causes) rather than anthropogenic causes. Stratospheric intrusion (the folding of the stratosphere, which mixes ozone rich air into the lower levels of the atmosphere) is a well documented event that occurs each spring in northern latitudes, including Alaska. It is not a basis for requiring ozone modeling from a source with relatively small NOx and VOC emissions.

#### I-Hour NO<sub>2</sub>

Several commenters stated Usibelli should demonstrate compliance with the 1-hour NO<sub>2</sub> ambient air quality standard.

#### Department Response:

The Department disagrees. Alaska has not yet adopted the federal 1-hour  $NO_2$  standard. While it is still an applicable federal standard, the Department cannot require minor permit applicants to submit a <u>demonstration</u> with a standard that does not yet exist at the State level.

#### • 24-hour PM2.5

Several commenters stated the PM-2.5 emissions should be calculated and assessed for compliance with the ambient PM-2.5 air quality standard. One commenter stated, "In 2010, multiple violations of the 24-hour PM-2.5 AAAAQS were recorded in the Matanuska-Susitna Borough" and that Usibelli should therefore evaluate the PM-2.5 impacts from all project sources.

#### Department Response:

The Department disagrees. The Department has not yet developed PM-2.5 permitting thresholds, or ambient demonstration thresholds, for minor source applicants. The expected PM-2.5 emissions from the Wishbone project are also small compared to the PM-10 emissions. For example, according to the coal composition data that Usibelli used for developing their particle deposition parameters for the open pit, only 4-percent of the open pit particulate emissions are PM-2.5. The remaining 96-percent are PM-10. The Department therefore continues to hold that PM-10 is the pollutant of concern from this stationary source.

The statements regarding existing PM-2.5 violations within the Mat-Su borough is also incorrect. A violation of the 24-hour PM-2.5 standard occurs when the <u>three-year</u> average of the annual <u>98<sup>th</sup> percentile</u> 24-hour concentration exceeds 35 micrograms per cubic meter ( $\mu$ g/m<sup>3</sup>). It is therefore impossible to claim a violation using just one year of data.

The high values referenced by the commenters are likely the PM-2.5 values measured at the Butte monitoring station. While there have been individual measurements that have exceeded the 35  $\mu$ g/m<sup>3</sup> standard, there has not been a three-year average that violates this standard. It also appears that the high values are related to wood smoke from the houses surrounding the monitor.

The extent or range of these high concentrations us currently unknown. What is known is that the concentrations measured at the Palmer monitoring station do not track the

concentrations measured at Butte, i.e. Palmer does not see the same high PM-2.5 concentrations. Therefore, the high concentrations measured at Butte may be very localized and may not be representative of the expected concentrations at Wishbone.

# • Request for a Cumulative Ambient Impact Analysis

Commenters were concerned that the application and the Department did not conduct a cumulative analysis that includes nearby (regional) sources. The Jonesville Mine was cited as a future mining operation that should have been included.

#### Department Response:

The Department disagrees that a cumulative impact analysis is warranted. The modeling of off-site sources is typically limited to those sources that are expected to cause a significant concentration gradient in the vicinity of the applicant's source – per Section 8.2.3b of the Guideline. Since there are no sources in the area that are large enough to have an air quality control permit, it is unlikely that this condition would be met. The Jonesville Mine does not have an air quality control permit, and there is no readily available information regarding its emissions (quantity or release characteristics) – which would be needed in order to model this source. Usibelli instead accounted for off-site impacts through the use of ambient monitoring data – as allowed under Section 8.2.2 of the Guideline.

# Background Data Concerns

Some commenters questioned Usibelli's approach for deriving the 24-hour PM-10 background concentration. They felt the approach resulted in the use of an annual average rather than a 24-hour average, and that the Alaska Ambient Air Quality Standard (AAAQS) would be violated if Usibelli had used a background concentration that more accurately reflected "actual" conditions that could occur.

#### Department Response:

The Department disagrees. The Guideline does not require applicants to use the highest measured concentration as the background concentration. Section 8.2.2 of the Guideline states a "mean" background concentration may be used. For purposes of the short-term averaging periods, the Guideline states, "concentrations for meteorological conditions of concern, at monitors not impacted by the source in question, should be averaged for each separate averaging time to determine the <u>average</u> background concentration." Usibelli used this approach for deriving a 24-hour PM-10 background concentration.

The details of Usibelli's approach are described in the Department's March 10, 2011 modeling review memorandum and therefore, will not be repeated here. However, the Department will add the following comments.

- The basic steps used by Usibelli were originally developed under guidance from EPA Region 10 for processing PM-10 data collected in support of the Alpine satellite project. Therefore, Usibelli's approach is consistent with EPA Region 10's interpretation of EPA's modeling guidance.
- 2) The approach results in a small sub-set of the annual data set. The resulting average is <u>not</u> an "annual" average of the 24-hour concentration (or the 1-hour concentration since Usibelli used the 1-hour values as a surrogate of the 24-hour concentrations).

# • Use of a Coarse Receptor Grid

Some commenters stated Usibelli should use a 25-meter grid spacing, as discussed in the Department's *Modeling Review Procedures Manual*, instead of the larger spacing used in their analysis.

# Department Response:

The Department disagrees. Usibelli used a typical receptor spacing for modeling geographically large sources, such as mines. The tighter spacing suggested in the "Modeling Review Procedures Manual" presumes the more common modeling scenario: a downwash dominated source (with relatively short exhaust stacks) located near their ambient boundary.

# • Plume Blight

Several commenters stated Usibelli should provide a plume blight analysis using VISCREEN.

Department Response:

Visibility assessments are not required of minor permit applicants.

# **Health Issues:**

# • Request for CDC Health Study

Commenters requested a comprehensive CDC health study and research be conducted before the mine can be permitted.

# Department Response:

The commenters provided no regulatory basis for these requests. The permit is being processed through the applicable regulations which do not require an outside health study.

# • Asthma, Black Lung and West Virginia Health Study

Commenters' provided examples of studies in West Virginia recently accomplished about the possible health effects of coal mining.

# Department Response:

This is outside of the permitting process as established here in Alaska. The regulations being applied are what we as an agency need to apply to this permitting actions.

The proposed minor permit allows for the stationary source to be in compliance with the applicable NAAQS adopted in Alaska's regulations under 18 AAC 50, therefore it is adequate for ensuring that the pollutants of concern are at an acceptable level. These health based ambient standards were evaluated as part of the processing of the permit and ensure the air quality is suitable for the more sensitive groups (asthmatics, children, elderly, etc...). It follows that these standards also protect the normal healthy population.

# • Chemical composition of the coal

Commenters requested that the chemical composition of the coal must be determined through an independent lab and be published, with the levels of arsenic (and other heavy metals) as well as other toxic substances present in this coal.

#### Department Response:

The pollutant of concern with coal dust is particulate matter, and the appropriate standard for this pollutant is evaluated. The operation will not burn the coal and will not emit any toxic compounds as hazardous air pollutants. Therefore, an analysis of the coal for these compounds is not necessary.

# Permit Issuance Criteria under 18 AAC 50

# • Claims of an Incomplete Application

Several commenters made claims that the application is incomplete and that a permit should not be issued because of this.

#### Department Response:

The Department disagrees with the commenters. The commenters have not provided a regulatory basis for why the application should be deemed incomplete.

# • Claims of the Department "Rubber Stamping" the Permit

Commenters claim that the Department is just rubber stamping this permit.

#### Department Response:

The Department disagrees with the commenters. The Department has conducted a careful review in accordance with applicable regulations as shown by the technical analysis report and has proposed conditions not requested by the applicant.

# • Claims of Fraudulent Information

Some commenters claimed that the application was fraudulent, inaccurate and purposefully misleading.

#### Department Response:

The commenters have not provided any facts or data to establish that the information provided was false, inaccurate or fraudulent. The data provided for this application meets the normal data requirements for this type of permit. Therefore a new application is not warranted.

# • Permit Should be Renewed before Usibelli can Operate

Commenters requested that the permit be renewed before they are allowed to operate.

#### Department Response:

A minor permit includes all conditions necessary for the construction and operation of a minor source, and have no expiration; therefore, renewal of a minor permit is unnecessary.

A separate operating permit is not required because the source will emit less than 100 TPY of each regulated air pollutant and less than 100,000 TPY  $CO_2e$  of Greenhouse gases.

# • Include EPA in the Decision

A commenter asked that the U.S. Environmental Protection Agency (EPA) be invited for their input over this decision.

# Department Response:

The EPA is free to comment on the proposed permit during the public comment period if they so desire. This is a State issued permit and not a Federal issued permit.

If EPA were reviewing this project under federal permitting rules, there would be no air quality permit required at all.

# • Fails to include PM-10 from Operation of Vehicles

Commenters are concerned that the vehicle emissions were omitted.

# Department Response:

The vehicle exhaust is included in the background for the modeling which is an acceptable method, so it is accounted for in the ambient analysis. In regards to the vehicle exhaust as part of the permit applicability or requiring permit conditions, the commenter provided no regulatory basis for this request. Vehicle emissions do not count towards permit applicability, and may not be regulated under the stationary source permit program, although their ambient air quality effect is evaluated in the ambient air quality analysis.

# • The PM-10 Emissions are Underestimated and the Source Should Actually be a Major Source

A commenter believes that several fugitive sources should be characterized as point sources, which would thereby change the stationary sources classification.

# Department Response:

The Department disagrees with the commenter on all parts of the comment. The commenter has provided no proof that the rock crusher, conveyors 1-5, the jig plant, the grader and other equipment emissions are "captured and vented". This is an assumption by one commenter and they have provided no facts showing this to be the case. None of the units listed, as proposed, are designed with capture or stacks.

Therefore they are defined as fugitive emissions sources. Additionally in 40 CFR 51.166(b) Major Source Definition under 40 CFR 51.166(b)(1)(b)(iii) states "The fugitive emissions of a stationary source shall not be included in determining for any purposes of this section whether it is a major stationary source, unless the source belongs to one of the special source categories in 40 CFR 51.166(b)(1)(b)(iii)(a)-(z)" Wishbone Hill's source category is not listed, therefore the fugitive emissions are not counted. If the stationary source were to use thermal dryers in the preparation of the coal, that would change. The commenters expert Dr. Tran, in his report agrees with the Department's position, listed as comment 1 in Dr. Tran's report. The commenter referred to these sources as "point sources." Point source is a term used specifically in modeling to describe sources with a single exhaust point, such as a stack. The definition of point source is not a defined source category for permitting. Since these sources do not have a stack they are modeled as volume a source which is an acceptable method for characterizing fugitive emissions.

• **PM-10 Emissions are Underestimated Due to Lack of Off- Site Sources** Several commenters believe that the PM-10 emissions in the permit application are underestimated by 61.4 tpy due to an omission of offsite sources-coal truck haul-access road (Source #36).

# Department Response:

The Department disagrees that the applicable emissions are underestimated by the lack of inclusion of Source 36. Offsite emissions are not part of the stationary source and therefore are not included in determining permit applicability as described in the TAR. Although the TAR does not clearly identify these offsite sources, Usibelli's modeling does directly include access road traffic. The impact from public roads is also included through the background data.

# • Industrial Process under 18 AAC 50.055

Commenters are concerned about the lack of provisions in the permit in regards to the particulate matter state standards in 18 AAC 50.055(b)(1), as they apply to industrial processes (such as transfer points). The commenters also believe that if they are industrial processes that they should then be listed as point sources and not fugitive sources, which would change the stationary source classification, as the emissions would be used in determining permit classification.

# Department Response:

The Department disagrees that the conveyors and other associated equipment require particulate matter demonstrations for 18 AAC 50.055(b)(1) or that their emissions should be included in permit applicability. The Department had a typographical error in the TAR. Instead of "All transfer points and other like sources are industrial processes subject to the state standard for PM in 18 AAC 50.055(b)(1)" the TAR should have stated "All transfer points and other like sources are <u>not</u> industrial processes subject to the state standard for PM in 18 AAC 50.055(b)(1)." The transfer points do not meet the definition of industrial process as Industrial process is defined as "(49) "industrial process" means the extraction of raw material or the physical or chemical transformation of raw material in either composition or character;".

In regards to the emissions of the rock crushers, these emission units produce fugitive emissions, and fugitive emissions are not counted in determining permit applicability. The emissions are considered fugitive because the Wishbone Hill rock (coal) crusher does not have a functional stack or similar opening, which can be used to measure particulate matter emissions. The Department has determined that applying the particulate matter standard to a rock crusher that does not have a stack or similar opening, is not practically feasible.

# • State Emission Standard Demonstration for Oil-fired Heaters

Commenters are concerned that the state standards for visible emissions in 18 AAC 50.055(a)(1) applies to the diesel fire engines and heaters should be revised in the permit to ensure visibility standards are met.

Department Response:

The Department disagrees that ongoing MR&R for the heaters is required. The Department has found no instances in the past 10 years of visible emissions violations for similar type equipment. The permit contains a condition requiring maintenance to be performed on the units; in the draft permit it was included as follows:

**39.** Good Air Pollution Control Practice. The Permittee shall do the following for all fuel burning equipment contained in Table 1:

39.1 perform regular maintenance as require by either the manufacturer's or the Permittee's established written maintenance procedures.

39.2 maintain a copy of the maintenance procedures for each piece of equipment listed in

Table 1, in an easily accessible place for use during maintenance as well as it should be readily available for inspection by the Department.

39.3 maintain copies of all maintenance records, where the maintenance may have an effect on the emissions of a given emission unit, per the requirements of Condition 21.

# • Does the Project Trigger a Minor Permit or a PSD Permit for PM-2.5?

Several commenters stated the PM-2.5 emissions should be included in the permit applicability analysis for evaluating for PSD and Minor permit applicability.

# Department Response:

The Department disagrees that PM-2.5 emissions from this source would require a PSD permit. Usibelli inputs for the open pit source include a breakdown of the PM-10 and PM-2.5 composition for coal from technical data. Approximately 4% of the fugitive emissions from this source are PM-2.5 while the remaining 96% translates to PM-10. The commenter sites background concentrations for PM-2.5 but does not include a breakdown of the contributions to PM-2.5. The Department's past experience with PM-2.5 shows that most sources of PM-2.5 are from combustion emission units such as cars, power plants, and wood-fired stoves. Given that Wishbone Hills has primarily fugitive emission units and has provided information regarding the particulate make-up of the coal, there is no evidence that a PSD permit would be triggered for PM-2.5.

In regards to minor permitting, the Alaska Minor Permit Program has no PM-2.5 thresholds for minor permitting and therefore it does not apply to this permit. There is not a current trigger for a minor permit for PM-2.5 in Alaska, therefore it is not required. Additionally PM-2.5 is primarily caused by combustion sources to which this proposed stationary source has only a single backup emergency diesel generator and some small space heaters.

• The Chuitna coal storage pile has different emissions calculated in its EIS Commenters are concerned about differences in fugitive emissions between the Chuitna EIS, the Seward Coal Terminal, and the Wishbone Hill mine, and that the Department did not assess the emissions correctly because of this.

Department Response:

The Department disagrees that the Wishbone Hill emissions are in error due to any inconsistencies between this project and other projects in the state. The Department reviews everypermit action and each permit action will differ because of various site specific circumstances.

Additional information for the Wishbone Hill Emission Factors:

Usibelli used the most recent version of the EPA-provided methodology for determining industrial wind erosion for open aggregate storage piles, specifically Section 13.2.5 of AP-42, dated November 2006. In using this methodology, Usibelli correctly applied the appropriate algorithms and functions.

The cited methods used for the Chuitna project and the Seward port facility fugitive PM emission calculations relied on AP-42 methodology from 1985 and 1998. The methodology that was used for the Wishbone Hill calculations is from the 2006 version of AP-42, which supersedes those earlier versions and uses a different methodology. Comparing fugitive PM emissions calculated using various methods is not appropriate because the different methods use different inputs. Therefore, the Department concludes that Usibelli used the correct emission factors and methodology for characterizing emissions at Wishbone Hill despite the difference in calculations for Chuitna and Seward.

# • Re-vegetation or pit plan

Commenters asked if there is a re-vegetation or pit plan.

#### Department Response:

The re-vegetation and pit plan are not an air quality permit requirement. These types of provision would only be included as fugitive dust control measures. The Permittee included the necessary activities that they plan to do for re-vegetation and in the pit as fugitive dust measures. These activities are in the proposed dust control plan and their effect is used to estimate the emissions for the ambient analysis. In addition to any effect the activities have on the air quality modeling, the Department also ensures dust control plan activities include reasonable precautions to prevent dust.

# • Request to Use Extra Scrutiny

Some commenters stated the Department should use extra scrutiny to evaluate this source, since it is so close to a neighborhood.

#### Department Response:

The Department conducts a thorough review of each permit application regardless of how many or how few people live nearby.

# • On-Site Electrical Generator Set Concerns

• Federally Enforceability of requirements on the generator and other fuel burning equipment

A commenter asked that the use of federally or practically enforceable requirements be included in the permit to ensure the source stays as a minor stationary source.

#### Department Response:

The Department disagrees with the commenter. This stationary source is a true minor source that is not capable of emitting major amounts of air pollutants. It is not necessary to have an enforceable limit to ensure a facility does not do what it is physically incapable of doing.

Commenters cited an EPA memorandum cited as footnote 7 in the Trustee for Alaska's comments, and it says that the quoted provisions "The term "federally enforceable" means "federally enforceable or legally and practicably enforceable by a state or local air pollution control agency." Therefore, "a proposed facility that is physically capable of emitting major levels of the relevant pollutant is to be considered a major emitting facility under the Clean Air Act (CAA) unless there are legally and practicably enforceable mechanisms in place to make certain that the emissions remain below the relevant levels."" Since the Wishbone Hill stationary source is not physically capable of emitting major levels of pollutants, the cited EPA memorandum does not apply. Therefore this memo and its contents do not apply to this situation.

#### Minor source status questioned

Commenters questioned that after the backup diesel generator was reviewed that the emissions would be greater than major thresholds, from the unrestricted 100 % load emissions calculated.

#### Department Response:

The Department disagrees with the commenters on all parts of their comment. The commenters have not provided any evidence that the emissions of the proposed source could ever exceed the estimates proposed for the source in the permit application.

The commenters have cited that 18 AAC 50.502(e)(2) requires actual emissions to include fugitive emissions and emissions associated with start-up, shut-down, and malfunction. That regulation, however, applies only when evaluating increases from a facility modification under 18 AAC 50.502(c)(3). It does not apply to this permitting action for a new source under 18 AAC 50.502(c)(1) and 18 AAC 50.502(b)(5).

#### • The use of SSM and CEMS

Commenters were concerned about the generator emissions. One concern was that the potential emissions of the proposed project have been underestimated and must be amended. The commenter believed that if this were corrected it will likely result in the source having a potential to emit ("PTE") above the major source threshold, subjecting the proposal to the PSD, Title V and National Emission Standards for Hazardous Air Pollutants ("NESHAP") programs of the CAA. There was a question of federally or practically enforceability, and the use of Startup, Shutdown, and Malfunction (SSM) emissions.

# Department Response:

The potential emissions from the diesel-fired engine (Emission Unit 1) as stated in the Technical Analysis Report (TAR) are representative of normal operations as well as start up, shutdown, and malfunction conditions. A discussion of each of these cases is provided below.

- Normal Operations: Potential emissions were calculated using vendorprovided not-to-exceed emission factors (lb/hr) for the worst-case (highest) emission rate regardless of load. As a result, all possible normal operating scenarios have been addressed.
- Start up: In the preamble to promulgating changes to 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, EPA stated the following with respect to periods of startup. (See FR Vol. 75, No. 41, Wednesday, March 3, 2010, page 9656).

"EPA has determined it is not feasible to finalize numerical emission standards that would apply during startup because the application of measurement methodology to this operation is not practicable due to technology and economic limitations."

Consistent with this determination, quantifying emissions from Emission Unit 1 during startup is not technically feasible. However, the calculated potential  $NO_X$  emissions conservatively include startup emissions for the following reasons:

- The highest vendor-provided NO<sub>X</sub> emission rate occurs at 100 percent load, the emission rate used to calculate potential emissions.
- Very few startups will occur because reliable, purchased line power from an existing regulated utility will be used to provide electricity to the operation. Emission Unit 1 will be used only if line power is not available due to some unforeseen event.
- The engine will be operated and maintained consistent with the manufacturer's written instructions, which will minimize the actual time each startup requires.
- Shutdown: Shutdown of the engine occurs almost instantaneously with virtually no emissions being created after the engine is turned off. As a result, assuming that the engine operates constantly throughout the year

results in a conservatively high potential emission calculation with respect to shutdown emissions.

• Malfunction: The engine will be operated and maintained consistent with the manufacturer's written instructions. Given this practice, malfunctions (and the associated emissions) will occur rarely, if at all. Consistent with good operating practice, the engine will be shut down immediately upon a malfunction being detected. Assuming that the engine operates constantly throughout the year results in a conservatively high potential emission calculation with respect to malfunction emissions.

The Department has looked at the increases in emissions that would be required to trigger PSD Review, and they are summarized below. The emissions would need to increase by the following to reach PSD for the following criteria pollutants:

- For CO for this source to approach and exceed the PSD threshold it would require a lb/hr rate of 57.07 lb/hr, which is an increase in the vendor not to exceed max rate, by 3,124%, for it to be operated that way for a full year (8760 hours).
- For NOx to exceed the PSD threshold for NO<sub>x</sub>, would require a 375% increase in emissions factors for a full year (8760 hours) of operation.
- For VOC's it would require an increase in emissions of 40,771% increase in emission factor for a full year at 8760 hours, to trigger the 250 tpy PSD threshold
- For PM-10 to trigger the 250 tpy PSD threshold, it would require an increase in emissions of 32,051% increase for a full year (8760 hours).
- All of these increases are all beyond reasonable assumptions for increases in emission factors on a lb/hour basis.

Based on its expertise and experience with the operation of equipment and associated emission factors, the Department does not believe this source is capable of exceeding the PSD threshold for NOx. Exceeding the PSD thresholds for other pollutants is even more unlikely.

# • Discussion about the emissions from the generator

Several commenters asserted that the listing in the application by Usibelli of the Caterpillar C-18 engine as a "baseload" unit, while the manufacturer information describes it as a "standby" unit as being a factual error in the application.

# Department Response:

The difference between being listed as a Baseload or a standby unit has no appreciable affect on the emission unit or the applicable emissions. There was not a factual error in the application. The unit was identified in the application as a baseload unit versus being a standby unit, and the Permittee ran their emissions calculations based on 8,760 hours of operation to show that the unit in worst case, continueous outage of highline power, would not cause or contribute to a violation of the NO<sub>2</sub> AAAQS. However the intended use of this emission unit is to provide backup power when highline power is interrupted. Because the calculations were based on full annual operations, the Department is not placing any restriction on the operation of the emission unit. There is no reason to restrict its use as it has shown to comply with the applicable AAAQS using 8760 hours of operation.

#### • Discussion about the emissions from the generator

Several commenters were concerned about the Caterpillar C-18 engine not being representative of the actual emission unit that could be purchased now, because the commenter did not see it listed on the CAT website. One commenter questioned whether the Caterpillar C-18 came in an engine in the 900 bhp range.

Department Response:

The Department has no evidence that the unit intended for this location is anything other than the unit identified by the applicant. The permit authorizes to install and operate the specific unit identified or one with similar emission characteristics.

• Emissions calculations need to account for the engines deterioration curve: A commenter believes that the permit application and emissions calculations fail to account for the engine's deterioration curve and associated increases in emissions especially after 8000 hours of operation, the solution recommended is to require a

continuous emissions monitoring system ("CEMS") to monitor emissions.

#### Department Response:

The Department disagrees with the commenter. This engine is a standby backup and for emergency use. This is not a non road engine and it is a stationary engine which under 18 AAC 50 requires a permit that contains a condition requiring that the engine be maintained per a maintenance plan and that the Permittee maintain maintenance records.

The Permittee performed the emission calculations at 8,760 per year was to demonstrate that at 100% unlimited operation there was still no  $NO_X$  ambient exceedances, and that there is no reason for any restriction on the unit. The reason the Permittee requested that the emission be calculated at 8760 per year was to demonstrate that at 100% unlimited operation there was still no ambient exceedances. To exceed the PSD threshold would require a 375% increase in the NOx emissions factor for 8760 operation. The CO emissions from the vendor are at a maximum of 1.77 lbs at maximum load (lb/hr basis). For this source to approach and exceed the PSD threshold it would require an increase in the emission factor by 3,124%. These kinds of increases are not reasonable assumptions. The Department sees no rationale for requiring a CEMS, when there is no reasonable chance of a permit threshold or limit being violated associated with this unit.

#### • Use of vendor data to account for the emissions

Commenters were concerned that the Permit Application relies on "vendor" data for the emission factor. The commenter was concerned about the use of an engine designated by the manufacturer as standby and checked in the application as baseload.

#### Department Response:

The Department finds that the application used the correct emission factor for evaluating the engine emissions. The baseload vs. standby designation of the unit has no effect on the emission factor for the NOx emissions at 100% load. The application did not use the non-road weighted average as the emission factor, but based the 100% load emissions on the measured emissions at the tested loads. This emission factor is independent of the baseload and standby "nomenclature" used in the non-road tier-2 certification weighted average numbers. Request to Require a

# • CEMS on the Generator Set

Commenters stated that to prevent the proposed project from becoming a major source after a minor source permit has issued the minor source permit must impose enforceable emission limitations on each source, including CEMS monitoring and reporting.

#### Department Response:

The Department disagrees with the commenter. The commenter has not presented any data or calculations that show that the emissions will be any more than what is in the proposed permit. Additionally, this unit does not approach the Title V or the PSD thresholds even if operated at 8,760 hours per year.

This stationary source does not have emissions that would trigger major status for hazardous air pollutants.

# • Request to conduct experiments on dust generation from trucks

Commenters requested that Usibelli perform experiments on the trucks, to test of timing how long it takes dust to dissipate after a vehicle passes will be greatly affected by additional variables such as wind speed, other weather conditions, the speed of the vehicle, the weight of the vehicle, etc.

#### Department Response:

Under AS 46.14.180 the Department may not require an owner or operator to monitor emissions or ambient air quality solely for the purposes of scientific investigation and research. Monitoring activities must be consistent with the applicable emissions standards and their permit or permit application requirements.

The proposed experiments are not consistent with the applicable emission standards and permit or application requirements. The fugitive emissions are accounted for by consistent methods used across the country and in many other permits.

# • Fugitive Dust

• House dust producing activities in buildings

Commenters said Usibelli should house some or all coal dust generating activities in a structure.

#### Department Response:

The impacts from these types of sources are near field and not far field impacts. The Permittee has assessed the ambient impacts using the assumptions that the activities were not housed in a structure. Unless this measure would be necessary to comply with an ambient standard, there is not a compelling reason to require additional controls beyond what the permittee has provided in the fugitive dust control plan. The commenter has not provided any compelling reason for the Department to house dust producing activities in a structure.

#### • Lessons learned from Seward

Commenters asked the Department apply lessons learned from Seward Alaska and the Coal Terminal there

#### Department Response:

The impacts from these types of sources are near field and not far field impacts. The dust producing activities are at a significantly greater distance away from the residents than in Seward. This makes these two locations very different in the dust control measures required. The Permittee has assessed the ambient impacts using the assumptions of the dust control measure provided in the Fugitive Dust Control Plan. Unless additional measures would be necessary to comply with an ambient standard, there is not a compelling reason to require additional controls beyond what the permittee has provided in the fugitive dust control plan. The commenter has not provided any compelling reason for the Department to require any additional level of control beyond what was proposed. The Department will make no changes to the permit based on this comment.

#### • The fugitive plan should require public input for any future changes

The Fugitive Dust Control Plan can be modified in the future, subject to DEC approval. As the modification can be "approved" merely by DEC's silence, it appears that the public will have no opportunity to comment — or even know about — any proposed changes. Any future modifications of the Fugitive Dust Control Plan should be subject to public notice and comment given the interest of, and impact to, the public in this project.

Commenters were concerned about the ability of the Department to update the fugitive dust plan to quickly implement changes necessary to protect the public, the commenter asked that each change be public noticed.

#### Department Response:

The Department agrees with the commenter that the fugitive dust control plan should not be modified simply by Department silence on a proposed change. The Department will remove the language about approval being via Department silence, and add language that any plan changes require written Department approval.

In regards to the Departments ability to modify the Fugitive Dust Control Plan that is a permit attachment, the Department implemented this to ensure that if the Department received complaints and found any inadequacies during mine operation, the Department could effectively provide public protection promptly by requiring that the fugitive dust control plan be more stringent or better address issues that arise during operation. Based on this the Department will modify the permit to ensure that the Department can implement more stringent requirements without hindrance, but at its discretion can public notice a less stringent fugitive dust control plan.

#### • Fugitive dust plan seemingly only focuses on the roads

Commenters were concerned that the primary area of focus of the dust control plan was on the roads.

#### Department Response:

The Department has determined that the roads are the primary source of PM-10 emissions from the operations at the Wishbone Hill Coal Mine and therefore are the appropriate primary area of dust control focus. The plan included with the application and then supplemented upon Department request was what Usibelli believes was required to show compliance with the ambient standard for PM-10.

#### • The affect of fugitive dust on the quality of life

Commenters were concerned about the affects windblown coal dust on their quality of life.

#### Department Response:

- Regarding the mine's affect on quality of life, the Department is limited to preventing the permitted source from unreasonably interfering with the enjoyment of life. The commentator provides only a vague statement of concern about quality of life. The commentator provided no evidence that the proposed source would unreasonably interfere with the enjoyment of life.
- The affect of the mine and fugitive dust concerns on local property values

Commenters were concerned about the decline of property values in their neighborhood, and that banks have refused to give residents loans on their properties because of the proposed mine.

# Department Response:

Regarding the mine's affect on property values, the Department is limited to preventing the permitted source from unreasonably interfering with the enjoyment of life or property. The commentator provides only a vague statement of concern about property values. The commentator provided no evidence that the proposed source would unreasonably interfere with the enjoyment of life or property.

#### • Coal storage piles

Commenters are concerned about coal storage piles being a major source of dust.

#### Department Response:

The comment received was a statement. The emissions from the coal piles are included in the emissions for the stationary source.

# • Control for heavy wind days

Commenters requested that UCM should be required to cease operations when winds pose a risk to the residents, greater than 5 mph sustained and 15 mph gust.

# Department Response:

The Department disagrees with the commenter. The measured wind speed does not take into account all the variables necessary for determining if fugitive dust is being generated in unhealthy levels. The Department believes that the use of Method 22 during windy days is an appropriate measure and operations should be curtailed or stopped based on the Method 22 observations and not simply by an arbitrary wind speed.

#### • Coal transfer between trucks and railcars

Commenters were concerned about people living downwind of the mine site and the transfer of the coal from the trucks to the rail cars is another site for coal dust to escape and be distributed around the Valley.

Department Response:

The Department disagrees with the commenter. The offsite possible transfer site for coal transfer from the trucks to the railcar is not part of this stationary source and is therefore is not included in this minor permit application.

#### • Dust and possible water quality issues from operations

Commenters are concerned about possible affects on their well water and other local sources of water.

#### Department Response:

The minor permit addresses only the air quality issues. Discharges to surface water are regulated under the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity. For more information on the Multi-Sector General Permit please contact:

William Ashton, Storm Water and Wetlands Manager Division of Water – Alaska Department of Environmental Conservation 555 Cordova Street Anchorage, AK 99501 Telephone: 907-269-6283 Fax Number: 907-269-3487 Email Address: william.ashton@alaska.gov

#### • Blasting Dust

Commenters are concerned about the fugitive dust from blasting.

#### Department Response:

The permittee included blasting in their ambient modeling assessment. The ambient assessment showed this activity will not cause or contribute to an ambient standard violation. However, as addressed earlier, the ambient assessment had deficiencies which prevent the Department from issuing a permit based on that assessment.

#### • Noise from Blasting

Commenters were concerned about the noise from the blasting

#### Department Response:

Noise and other concerns not related to air quality are not part of the by air quality permit.

# • Plan doesn't control all dust

Commenters were concerned that the Fugitive Dust Control Plan and Air Quality Minor Source Permit are inadequate when addressing the management of fugitive dust from a coal mine operation. Since coal dust as a toxin (OSHA), and it should require extra scrutiny because it is located next to a neighborhood.

#### Department Response:

A fugitive dust control plan describes the procedures that a Permittee will use to prevent particulate matter from being emitted into ambient air. The procedures must represent "reasonable precautions," per 18 AAC 50.045(d). There is no requirement to eliminate all fugitive emissions or to apply a "maximum" level of controls. The commenter does not identify any additional reasonable precautions that the dust control plan fails to include.

The OSHA determination is for workers in mine shafts, a confined space with very high concentrations, and it is not applicable in this permitting decision.

#### • Winter Snow Cover is not true and does not help control dust

Commenters stated that it is a dubious contention that because wind blows mostly in winter, snow cover "should" diminish erosion.

# Department Response:

The Department disagrees with the commenters. The Permittee did not take credit for the snow in its ambient analysis. Additionally, the Department has found no evidence that snow cover is non-existent in the winter and therefore we believe that it will help control dust during that time, therefore making the ambient analysis during these periods more conservative.

# • Newly mined coal in piles will not be covered in snow

Commenters were concerned that exposed coal in the winter would still produce dust and even if the snow as in surrounding areas it would not be on the newly exposed coal.

#### Department Response:

The emissions are accounted for as requested. The emissions used to evaluate the stationary source for ambient purposes account for the fugitive particulate matter emissions as if the snow were not there and therefore provides a conservative overestimate.

• The Fugitive dust plan should be more than just a road plan, as transfer points, stockpiles and other items should be addressed

Commenters asked that the dust control plan include the various transfer points where coal will be dumped from one place to another and on the conveyers, which will be

carrying coal from one site to another. There also is no mention of wind erosion from coal stockpiles.

# Department Response

The impacts from these types of sources are near field and not far field impacts. The Permittee has assessed the ambient impacts using the assumptions that no controls would be required. Unless they are required to comply with an ambient standard, there is not a compelling reason to require additional controls beyond what the permittee has provided in the fugitive dust control plan. The commenter has not provided any compelling reason for the Department to include additional controls.

# • Watering as dust control is absurd for Alaska

Commenters were concerned that controlling the dust by simply "watering" is absurd in Alaska, as watering is not possible in the winter.

# Department Response:

The Department disagrees with the commenter. The dust control plan contains provisions for using a caking agent to seal the road for periods of the year when watering is not feasible.

# • Covered Vehicles (Trucks transporting the coal)

Commenters asked that the trucks should require covers

#### Department Response:

The Mat-Su Borough has required that the coal trucks are coverd, as part of the agreement to allow Usibelli to use the access road. .

# • Long Distance Concerns

Several Commenters' are worried about aggravation of their asthma condition in Wasilla and at Mat-Su Regional Hospital.

# Department Response:

Looking at the deposition characteristics of "windblown coal dust", airborne particles have short field deposition. This is why the highest impacts from the mine are along the mine boundary. The AAAQS is a health based standard that protects the most sensitive members of society, and therefore protects the average citizen by default. Additionally, the chance of any appreciable particles reaching to Mat-Su Regional Hospital or points within Wasilla is negligible.

# • Public Access Plan

Relocation of the trails on the mine property has not happened yet. Additionally the planned relocation is still within the mine boundary.

# Department Response:

The ambient analysis takes in to account that the trail is part of the ambient air.

Moose Creek is navigable waters therefore it must be out of the boundary

#### Department Response:

The ambient analysis takes in to account that portions of moose creek as part of the ambient air.

- Perceived Problems with the Application:
- Determination of the Community Closest to Wishbone Hill, it is Moose Creek – Soapstone not Palmer

Commenters were concerned that in a place in the application it stated that Palmer was the closest community and not the Moose Creek – Soapstone Community.

#### Department Response:

The Department agrees that a document provided by the Permittee states that the closest community is 8 miles away. However the Department disagrees with the Commenter on that it in anyway did not use the Moose Creek – Soapstone community as being part of the ambient air is evaluated as such. The analysis and the ambient boundary takes into account the Moose Creek – Soapstone community.

#### • Extra Permit Requirements

#### • Bonding of Operations

Commenters asked that Usibelli should be bonded to cover damages and cleanup

#### Department Response:

The Borough is requiring bonding for cleanup. Bonding is beyond the scope of an air quality permit.

#### • Compliance and Enforcement

• Require that independent monitors to oversee operations

Commenters asked that Department require independent monitors for oversight.

#### Department Response:

The Department oversees compliance with the permit conditions and is independent of the permittee..

#### • Call for specific fines

Commenters presented compliance and enforcement strategies for the Department including fines they believe are appropriate.

# Department Response:

The Department believes its regular compliance and enforcement strategies and fines determined based on consideration of federal penalty policy are adequate to enforce compliant operations. 18 AAC 50.110

# • Economic effect of the surrounding residents, loss of property values, impacts of dust on quality of life

Commenters cited 18 AAC 50.110.: "No person may permit any emission which will be injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property." Since the dust generated by the coal mine is injurious to human, animal, and plant life, and since coal dust covering our homes and property will interfere with its enjoyment, it is imperative that a real plan be in place to prevent the dust from leaving the mine boundary.

#### Department Response:

The department does not require applicants to demonstrate compliance with this regulation before issuing a permit, because it is generally impossible to prove a a source is in non compliance in advance. In permitting, the Department presumes compliance with other air quality standards ensures compliance with 18AAC 50.110 unless there is evidence to the contrary.

The commenter did not provide any evidence that the mine will cause an emission that is injurious to human health or welfare, or animal or plant life. Nor was any evidence presented to show that the mine would <u>unreasonably</u> interefere with the enjoyment of life or property. There is no evidence that dust will cover any homes, and there is adequate evidence that the source will use reasonable precautions and comply with air quality standards.

The mine will undoubtedly have an impact, but the air quality related impacts do not appear to be unreasonable. The coal seam was a known producer of coal in 1932. It is reasonable to assume that coal mining could return to a known coal deposit. Therefore it is not unreasonable that the mine is being looked at to be brought back on line. Without specific evidence, the Department can not conclude that the interference such operation has with the enjoyment of life or property is unreasonable.

If evidence develops after the mine is operating that 18AAC50.110 is being violated, the department will take appropriate enforcement action to correct the problem. The Department reviews each instance to determine if there is sufficient evidence that a violation of the applicable statues and regulations has occurred. The State acts on each violation in a comprehensive and serious way.

# • Zoning Issues

#### • Relocation of the mine

Commenters asked that the Department not allow these types of industries to be located where they have an impact on an established community, in an area accessible to a large population for recreation, as well as habitat for wildlife and humans.

#### Department Response:

This is a Land Use and Zoning Issue not an Air Permit issue, and therefore the Department is unable to deal with this as part of this permitting action.

#### Valley tourism negatively impacted

Commenters were concerned about the negative impact on valley tourism due to the coal mine.

Department Response:

This is local land use issue, and not an Air Permit issue. Typically, local jurisdictions use zoning and land use planning to address such concerns.

#### **The Chickaloon Village's Comments**

#### • Full Text Version (Verbatim)

#### • The Proposed Permit Undermines the Purpose of the Clean Air Act

The Proposed Permit undermines the purpose of the Clean Air Act. Congress declared that one of the primary purposes of the CAA is "to **protect and enhance the quality** of the Nation's air resource so **as to promote the public health and welfare** and the productive capacity of its population." 42 USC 7401(b)(1) (emphasis added). Allowing an industrial operation in the middle of a Tribal community and residential, and in an area that includes critical salmon and moose habitat, and with a short distance of schools, homes, elders facilities. Prisons, and youth camps, critical cultural resources, utterly fails to protect the public health and welfare. Rather than protecting and enhancing air quality, the Proposed Permit will increase Matanuska Valley air pollution with the introduction of coal dust – recognized by the EPA as containing mercury and other deadly toxins – as well as carbon monoxide and other toxic emissions from mining vehicles and hauling trucks.

#### Department Response:

The minor permit is proposed pursuant to the federally-approved State Implementation Plan (SIP) for Alaska. The minor permit protects the public health and welfare by ensuring that the impacts from the proposed mine will not exceed ambient air quality standards.

The Proposed Permit also fails to take into account air pollution from the burning of coal seams from mining operations. Air pollution from these burning seams, visible miles away, is not just a probability, but a fact as neither DEC, or any other division of the State of Alaska has undertaken to extinguish the seams, left burning for years and years. Whether lightening started these fires or careless mining practices, the failure to include these pollutant sources in the permit, nor adequately plan for increases in coal burning in the permit area in the future, renders the permit invalid. DEC should require landowners under its jurisdiction to immediately undertake to put out the toxic fires before it considers permitting

further mining activities. It should also require Usibelli Coal Mine, inc. to provide air quality monitoring and data at or near the burn sites.

#### Department Response:

The fires at the Jonesville Mine are not associated with this proposed stationary source, are not under the control of the Permittee, and are not part of this permitting action.

When creating the Clean Air Act, more than 40 years ago, Congress found "that the growth in the amount and complexity of the air pollution brought by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including...damage to and the deterioration of property" 42 USC 7401(a)(2). There is no question that the proposed permit will result in mounting danger to public health and welfare" to Tribal citizens and community members living nearest to the project. Allowing the introduction of a 900 hp generator, numerous constantly running and mining vehicles, in addition to fugitive dust from stockpiled and mined coal in the dry and windy conditions of the Matanuska River Valley will damage and deteriorate Tribal property in close proximity to the mine. This blowing dust will increase sediments and toxins in Moose Creek and impact salmon populations that are just beginning to rebound from previous damage from coal mining.

#### Department Response:

The Department's analysis shows that the expected emissions from the mine will comply with ambient air quality standards, and that reasonable precautions will be taken to prevent fugitive dust. The commenter provides no evidence to contradict the Department's analysis.

Neither the State, nor the Federal government, nor any of the previous private operators of Matanuska area mines have ever taken remedial measures for the damage that coal mining has caused to the Tribe, and its way of life. There has never been acknowledgement of the damage, nor has there ever been the slightest show of remorse or apology.

#### Department Response:

This comment deals with past actions at other projects and is not relevant to the permitting action for the project under review.

# Human Rights Obligations of the State of Alaska Violated by the Proposed <u>Permit</u>

The Proposed Permit violates basic human rights and therefore requires DEC rejection of the Proposed Permit as written until and unless the State provides adequate remedy. As a political subdivision of the United States, the State of Alaska is under the same obligation to meet human rights obligations to its citizens and the Indigenous Peoples of Alaska as the Federal government. The Federal government because of its special government-to-government relationship with Indian Tribes always retains trust obligations and fiduciary duties. But, when the State of Alaska wields delegated federal power, as it does in issuing Clean Air Act permits, it must exercise the corresponding duties of care and responsibilities of consultation and protection of its citizens best interests. By failing to secure free, prior and informed consent of the Village, by failing to meaningfully and beneficially consult, and failing to adequately protect the health, welfare, and cultural, spiritual, and religious practices of the Village, the State has fallen short of these duties and should immediately undertake actions to fulfill its human rights obligations.

In order to meet its human rights obligations, the State of Alaska should immediately take steps to increase respect and incorporate Tribal selfdeterminations into its permitting process. In its 2006 examination of the United States under International Covenant on Civil and political Rights (ICCPR) the Human Rights Committee (HRC) recommended that the United States should take further steps in order to secure the rights of all indigenous peoples under articles 1 and 27 of the Covenant to give them greater influence in decisionmaking affecting their natural environment and their means of subsistence as well as their own culture."

ICCPR Article 1 refers to the right of all peoples, including Indigenous Peoples to Self Determination. Article 1 (in common) also requires that, "In no case may a people be deprived of their own means of subsistence." Both of these human rights obligations are particularly relevant to the air quality issues raised by the Proposed Permit. Article 27 recognizes the right to practice language, culture and religion. The HRC has determined that for Indigenous Peoples, their rights to practice culture includes the right to control land and natural resources as elements necessary to the maintenance of their cultures (HRC Recommendation 23.7). This right requires that it not be denied, and that positive measures of protection, as well as measures to ensure the effective participation of community decisions affecting them be taken. The State of Alaska has failed to ensure such participation in developing and considering the Proposed Permit.

The Committee on the Elimination of Racial Discrimination ("CERD" or "the Committee") has come to the similar conclusions and made similar recommendations. In their examination of the United States under the International Convention on the Elimination of all forms of Racial Discrimination (ICERD) in 2008, the committee voiced its concerns "… about reports relating to activities such as nuclear testing, toxic and dangerous waste storage, mining, logging, carried out or planned in areas of spiritual and cultural significance to Native Americans, and about the negative impacts that such activities allegedly have on the enjoyment by the affected indigenous peoples of their rights under the Convention (arts. 5(d)(v), 5(e)(iv) and 5(e)(vi)).

"The Committee recommends that the State party take all appropriate measures, in consultation with indigenous peoples concerned and their representatives chosen in accordance with their own procedure, - to ensure that activities carried out in areas of spiritual and cultural significance to Native Americans do not have a negative impact on the enjoyment of their rights under the Convention. The Committee further recommends that the State party recognize the right of Native Americans to participate in decisions affecting them, and *consult and cooperate* in good faith with the indigenous peoples concerned before adopting and implementing any activity in areas of spiritual and cultural significance to Native Americans."

In an Urgent Action/Early Warning decision the CERD made recommendations to the United States regarding the Western Shoshone's rights to their lands and resources, specifically calling upon the United States to "freeze any plan to privatize Western Shoshone ancestral lands for transfer to multinational extractive industries and energy developers and desist from all activities planned and/or conducted on the ancestral lands of Western Shoshone or in relation to their natural resources, which are being carried out without consultation with and despite protests of the Western Shoshone peoples." In its 2008 examination of the United States the CERD regretted the lack of compliance with its decision: "The Committee reiterates its decision 1 (68) in its entirety, and urges the State party to implement all the recommendations contained therein." (At fn, 3, Para 19). It should also be noted that the CERD, in its 2008 Concluding Observations, noting the negative position of the United States on the United Nations Declaration on the Rights of Indigenous Peoples (A/RES/61/295)("UN Resolution" or "Resolution") recommends that the UN Declaration be used as a guide to interpret the Sate party's obligations under the Convention relating to indigenous peoples.

#### Department Response:

The proposed source will not be located on tribal land and the emissions from the source will not cause a violation of the ambient air quality standards anywhere outside the source boundary. The Department has provided an opportunity for the Chickaloon Village residents to participate in the permitting by including their comments on the proposed permit.

# Failure to Obtain the Free Prior and Informed Consent of CVTC

The right of Indigenous Peoples to Free, Prior and Informed Consent is found in several articles of the UN Declaration: with regard to displacement (Art. 10); with regard to legislation and regulation that may affect them (Art. 19); with regard to preparations for the loss of traditional lands, territories and resources, taken without the free, prior and informed consent (Art. 28); with regard to storage or disposal of hazardous materials on their lands, affecting their right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources (Art. 29); and most relevant to the right of clean air, Art. 32:

States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.

The State of Alaska failed to obtain any measure of consent from CVTC before undertaking development of the Proposed Permit. In fact, the permit makes no mention of CVTC, the tribe, tribal jurisdiction, Tribal governance, nor any acknowledgement that the State of Alaska does not

possesses full, certain and exclusive jurisdiction over the entire Matanuska Watershed. Alaska does not possess such jurisdiction and has failed to secure the consent of a separate and sovereign, CVTC, before approving a project with cumulative and direct affects on that jurisdiction's territory and people.

#### Response:

"The United States has stated that it does not consider the Declaration to be legally binding or a statement of current international law."

# • Failure to Meaningfully Consult and Health Impacts of the Permit

The Proposed Permit would allow emissions and fugitive dust, including toxic coal dust within a close proximity to Tribal and Trust property including a Tribal school, Native Allotments, and tribal salmon restoration projects. Coal dust is a recognized source of mercury and other toxins, and the Matanuska River Valley, with its increasingly dry and windy climate is an especially poor candidate for coal mining, storing and hauling. Additionally, the wasteful burning of coal contributes to climate change, which disproportionately affects Alaska Native Villages. Many Alaska Native Village faces erosion problems connected to climate change. As the world endeavors to wean itself from fossil fuels and their destructive affects on our atmosphere and planet, the State of Alaska should do the same and commit t ending coal's contribution to the irreversible effects of climate change.

Yet, no consultation or conversation has taken place regarding these cumulative, direct and indirect impacts to Tribal health and welfare. Tribal citizens, including tribal children will bear most of the externalities and costs of local and global atmospheric pollution from coal burning, with little or no benefits. The failure to consult undermines the principal and policy goals to self-determination and self-governance, which the State should support and engender.

The State of Alaska and DEC as a matter of practice, has not meaningfully consulted in good faith with Indian Tribes concerning mining and large-scale development projects on Traditional Tribal Lands, even though many of these Sacred Areas are of great cultural and spiritual significance to Native Peoples. The failure to meaningfully and beneficially consult with CVTC on the Proposed Permit, impermissibly allowing Usibelli Coal Mine, Inc. to desecrate Sacred Areas and degrade the air quality and the viewshed---- vital and necessary for cultural and religious practices, violates the basic human rights of the village in favor of private corporate interests. The balancing required by article 18 of the ICCPR on the right to religious practice has never been undertaken by the State, and the permit gives no indication that it will do so in the future.

Both the Human Rights Committee and the CERD Committee, as cited above, have reminded the United States and its political subdivisions--- of which the State of Alaska is one--- of their obligation to consult in good faith with indigenous Peoples in matters that concern their resources, including their right to atmospheric resources and its subsistence, spiritual and cultural decisions. <u>DEC should withdraw the Proposed Permit, and immediately engage in full and meaningful consultation with CVTC regarding the impacts of the Wishbone Hill proposal.</u>

#### Department Response:

The United States has stated that it does not consider the Declaration to be legally binding or a statement of current international law. Anyone potentially affected by the

proposed source has been given an opportunity to review and comment on the proposed permit.

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In all other respects, CVTC joins, repeats and incorporates the comments submitted by Trustees for Alaska.

Department Response:

The Department has already responded to the Trustee's comments.