BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING

IN THE MATTER OF:	)Docket No. 09-2801
MEDICINE BOW FUEL & POWER, LLC	)
IAR PERMIT CT-5873	)

DEPOSITION OF ANDREW KEYFAUVER
Taken October 29, 2009

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Pursuant to Notice and the Wyoming Rules of Civil Procedure, the deposition of ANDREW KEYFAUVER, taken by Plaintiff, was held at 11:20 a.m., on Thursday, October 29, 2009, at 122 West 25th Street, Cheyenne, Wyoming, before Jason T. Meadors, RPR, CRR, and Notary Public for the State of Colorado.

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ANDREW KEYFAUVER,

called as a witness, being first duly sworn, testified as follows:

EXAMINATION

BY MS. ISSOD:

Q Good morning, Mr. Keyfauver.

A Good morning.

Q Can you please state your full name and address for the record.

A It's Andrew Keyfauver. My work address is 122 West 25th Street, Cheyenne, Wyoming 82002.

Q And you're currently employed by the Wyoming Department of Environmental Quality, correct?

A Correct.

Q And have you appeared at a deposition before?

A No.

Q This is your first. So let me go over some ground rules. I'm basically just going to ask you a few questions about your job and about the permit for the Medicine Bow facility, the Medicine Bow Fuel and Power facility. If at any time you don't hear me or if you don't understand the question, then just say so. Ask me to repeat the question or tell me that you don't understand it, and I will rephrase it.

Try to state your answers clearly. A nod of

the head doesn't work for the record. He's going to take down your response. If you need to take a break at any time, please just say so. If we have a question pending, I'll ask you to answer the question before we take a break, but whenever you need to.

If you ever realize that an answer you gave was inaccurate or you'd like to add something, just tell me you'd like to supplement an earlier answer, that you just remembered something.

If you don't remember the information necessary to answer the question, just say so, that you don't recall.

And please do not answer a question unless you're 100 percent sure that you understand it. Okay. Do you understand all those instructions?

A Yes, I do.

Q Okay. Is there anything I should know about your physical health or mental state today that will impair your ability to respond to questions?

A I'm perfectly fine.

Q Great. Okay. In preparation for this deposition, did you review any documents?

A These documents I have in this folder.

Q Okay.

A It's pretty much the application, the

public -- the application, the public notice, the decision document, some of the other -- I think -- the decision document, yeah. That's -- that's as best as I recall --

Q Great.

A -- is currently in here.

Q Great. So is everything in here, in this folder, in the administrative record?

A I believe all but the Deseret permit. I looked at that.

Q Okay.

A I don't have a decision document.

Q Okay. So in the notice of this deposition, we asked for you to bring certain documents with you, including correspondence and notes. Did you bring any correspondence with you today?

A No.

MS. VEHR: I brought all the admin record stuff and that.

MS. ISSOD: Okay.

Q (By Ms. Issod) Do you have any handwritten notes with you, outside of what is in the administrative record already?

A No, I do not.

Q Okay. Do you have any handwritten notes

regarding this matter since the administrative record was assembled?

A No, I do not.

Q Okay. So how long have you been working at the DEQ?

A I've been working for Air Quality Division for just over nine years.

Q Nine years. And what is your current job title?

A I believe it is currently program engineer. It's -- it's changed like four times in the last year and a half.

Q Oh.

A That job classification status.

Q Can you discuss your responsibilities as a program engineer?

A I am a senior permit engineer in Air Quality Division. Reviews permit applications. Typically, PSD or what they call more complex technical applications, such as coal mines or synthetic minor type of applications in regards to NSR.

Q Okay. Did you have primary responsibility at DEQ for review of Medicine Bow's prevention of significant deterioration permit?

A Yes.

Q So we're going to call prevention of significant deterioration PSD.
A PSD.
Q Can you describe your responsibilities with respect to that permit.
A I was responsible for completing the completeness review and technical analysis outside of the modeling that was done.
Q Do you have general knowledge of the modeling aspect of the permit?
A I have just a little bit of knowledge, but -- for modeling, I'll refer you to somebody else.
Q And who was responsible for modeling?
A Be Josh Nall.
Q If you could spell his last name.
A It's N-a-l-l.
Q Okay. Where did you work before DEQ?
A I was a student at the University of Wyoming.
Q Okay. And did you obtain a master's degree?
A I have a bachelor's of science in chemical engineering.
Q Okay.
A That was in 2000.
Q Okay. And that was from the University of Wyoming.

A Correct.
Q Is that your highest degree, is a master's?
A It's bachelor of science.
Q I'm sorry. Bachelor's of science. So you don't have a master's or Ph.D.
A No, I do not.
Q Are you a licensed professional engineer?
A No, I am not.
Q Do you consider yourself an expert in air pollution control engineering?
MS. VEHR: Objection. Ambiguous as to what is expert.
A I have knowledge. I cannot say I'm an expert compared to others. But I have a fair knowledge of the regs in -- the PSD regs and the Wyoming air quality standards and regulations.
Q (By Ms. Issod) At the Department -- at the DEQ, would you consider yourself an expert?
A I am one of the senior engineers in the department.
Q Okay. What is the meaning of the term "potential to emit"?
A As I recall the definition, it is a maximum capacity of a unit to emit, taking into account the operational and physical limitations of the unit. If

those limits are Federally enforceable.

Q Is it true that you have said the facility's emission -- you assess a facility's potential to emit to determine whether it's a minor or major source of pollutants for PSD purposes?

A You base your determination on the potential to emit during normal operations of a facility.

Q You base your determination on whether it's a minor or major source based on -- let's go back. Strike that.

Do you base your determination on whether it's a major or minor source on the potential to emit?

A During normal operations of the facility.

Q So you're saying that you base your determination on whether it's a major or minor source of emissions based on the potential to emit under normal operations.

A Correct. As a company defines normal operations of the facility.

Q So you take the definition of potential to emit, and you add "under normal operations" as the facility defines it; is that correct?

A I don't think we add it. We follow what EPA has done or provided as guidance for potential to emit. And one of the documents we looked at was the Deseret

permit and how they also applied for potential to emit.

Q Well, earlier you said potential to emit is the maximum capacity of a source -- I'm paraphrasing you -- a maximum capacity to emit within these limitations. And then when I asked you about determining minor and major source, you added this normal operations clause. So I'm trying to understand the difference between the two.

A Like malfunctions, we would consider not a normal event. We would consider them under the Waxford to fall under Chapter 1. And that is something our district engineers would review and determine whether that would subject the company to some sort of provisions. Startup and shutdown; that is dependent on how a company defines what is in their process. Is it something routine or not.

Q Okay. So let's go back to potential to emit. Basically, you're estimating a source's potential emissions, correct?

A Correct.

Q Basic. And this estimate is used to determine whether or not the source has to meet certain permitting requirements; is that correct?

A Whether it's subject to PSD requirements or not. That would be correct.

Q Are you generally conservative with estimating and verifying the potential to emit estimate?

MS. VEHR: Objection. In terms of "conservative." It's not defined.

A We will verify the emission estimates that the company provides and determine whether we agree with what the company has estimated or not, based on what they've provided in their application.

Q (By Ms. Issod) Do you try to take a conservative approach to reviewing this estimate?

MS. VEHR: Same objection.

Q (By Ms. Issod) Let me ask it this way: Would you be concerned if an applicant overestimated their potential to emit?

A We try and narrow down what the company estimates based on engineering judgment with other -- or similar facilities that we've permitted.

Q Would you be concerned if a facility underestimated their potential to emit?

A Yes, we would.

Q Do you give the estimate a closer scrutiny if it's closer to the 40 tons per year threshold?

A Yes, we do.

Q Do you recall what the potential to emit sulfur dioxide is for the Medicine Bow facility?

A I do not recall exactly, but I believe it was around 36 tons.

Q So it's pretty close to the 40 tons per year threshold.

A Yes, it is.

Q So did you give this estimate a closer scrutiny?

A We reviewed their emission calculations and what they -- what Medicine Bow considered part of normal or routine operations at the plant.

Q Did you consider all potential emissions from the source?

A Yes, we did.

Q Do you believe that potential to emit estimate for Medicine Bow is accurate?

A To the best of my knowledge, I believe it is accurate.

Q Okay. Let's go back to the definition of "potential to emit." Do you agree that emissions from normal or routine operations should be included in the potential to emit?

A Yes, I do.

Q So what is a normal operation of the Medicine Bow facility?

A As far as I understand it from EPA -- I don't

recall all the guidance documents -- but it's events that are foreseeable and known on an annual basis.

Q There are EPA documents that define potential to emit as events that occur on an annual basis?

A There are guidance documents out there. I do not recall if they explicitly state that, but there are guidance documents out there.

Q So there are guidance documents, but you're not sure whether they say potential to emit is on an annual basis.

A The documents themselves may not directly say that, as I recall. But PSD regulations are on an annual basis.

Q Which PSD regulations are you referring to?

A EPA. Everything is done on a ton per year.

Q So emissions estimates are done on a ton per year basis.

A Correct.

Q Does the definition of "potential to emit" -- strike that. Is "potential to emit" defined on an annual basis?

A I do not recall that specifically being in the definition, but then I refer back to, PSD regs are done on an annual -- the significance levels and everything are on a ton-per-year basis.

Q So in contrast with the normal operation of the Medicine Bow facility, what would you consider to be not normal operation?

A I would probably -- based on other applications we reviewed, they do shutdowns every -- every five, ten years for replacement of equipment that may require large expenditures, would not fit in the definition of routine.

Q Okay. Anything else?

A Not that I recall.

Q Okay. The potential to emit includes normal -- includes emissions from normal operations, correct?

A That's been the Division's policy.

Q Okay. So let's explore that. Are monthly events normal?

A I believe we would consider it normal if the company says they do them on a routine basis. And based on experience from other facilities or -- it's known that it's done on a monthly basis, I'd say yes.

Q Yes, monthly events would be normal?

A If they have -- if they can demonstrate that this is routine for that type of facility.

Q Are annual events normal?

A Typically, there are planned events that --

based on my experience in permitting, typical events that companies usually do on an annual basis, such as turnarounds.

Q And those would be considered normal events for purposes of potential to emit.

A If that's how the company represented operation of the facility over -- over that year.

Q Okay. So what if -- what about emissions from events that occur once every two years?

A That -- that would probably factor in, as I recall, because there is a -- at least on an existing facility, there is a projected actual and baseline actual -- or baseline actual factors are average to over a two-year period. Over a ten-year time frame for non-EGEs.

Q Okay. So what about emissions from events that occur once every three to four years?

A Those get harder to define. Because without documentation or prior experience from -- maybe that facility category, I would -- I would probably have to review some regulations to be able to more specifically answer that.

Q Well, what regulations would you review?

A I would probably look at guidance documents EPA has out there on the PSD rules.

Q And what would you be looking for, specifically?

A How they define routine -- say, routine maintenance and repair.

Q Okay. What's the purpose of the flares at the Medicine Bow facility?

A The flares, as I recall they were represented in the application, were for startup, shutdown, and malfunction.

Q So the planned operation and the flares is during startup, shutdown, and malfunction events, correct?

A They would be a control device during those periods.

Q So would you say that the normal operation of the flares includes operation during startup, shutdown, and malfunction?

A Assuming it does not include commissioning activities, yes.

Q Emissions from the flares during startup, shutdown, and malfunction events were not included in Medicine Bow's potential to emit, correct?

A As I recall, they were represented during the cold start or commissioning activity: Here's what represents worst-case from the facility.

Q But the emissions from the cold start events were not included in the potential to emit estimate.

A Not during normal activities. Or routine activities.

Q Let's talk about your experience with PSD permits. How many permits have you worked on in your career?

MS. VEHR: Object. Could you clarify "permits"? PSD or minor source permits?

Q (By Ms. Issod) Yes, let's start with PSD permits. How many PSD permits have you worked on?

A As I recall, I could probably think of five.

Q Were they for coal plants?

A Oh, I recall one was, but it was never finalized. The applicant withdrew the application.

Q Have you ever seen a PSD permit application for a plant expected to have no malfunctions?

MS. VEHR: Objection in terms of what's expected.

A I do not recall.

Q (By Ms. Issod) Do you recall if the PSD permit applications you've reviewed discuss facility malfunction?

A The one that I know that was withdrawn had addressed it in a startup/shutdown malfunction plan

before they decided to withdraw the application.

Q Are you aware of any operating PSD plant that has never had a malfunction?

A I'm not an expert in that, so I don't know.

Q Based on your education and experience, do you think it would be possible to operate a large facility without malfunction?

MS. VEHR: Objection.

MR. COPPEDE: Calls for speculation.

A I'm -- I'm not an expert. I suppose anything's possible, but I'm not an expert. I'd just be guessing.

Q (By Ms. Issod) Will malfunctions occur at the Medicine Bow facility?

MS. VEHR: Objection.

MR. COPPEDE: Speculation.

A Again, I'm not an expert. It's possible, but I'd just be guessing.

Q (By Ms. Issod) But you have primary responsibility for reviewing the PSD application for the Medicine Bow facility, correct?

A Correct.

Q And it would still be speculation to answer the question whether or not the facility will malfunction.

MS. VEHR: Objection. He's already answered the question.

A Again, I'm not an expert, but companies do permit equipment for malfunctions.

Q (By Ms. Issod) Is one of your responsibilities as a permit engineer to determine whether or not a facility will malfunction?

A I'm not an expert, but companies do permit equipment for that event.

Q Is that one of your responsibilities, to determine whether or not the facility might malfunction?

MS. VEHR: Objection. He stated he was permitting engineer, not on the enforcement side.

A I do not know.

Q (By Ms. Issod) Are you aware of any design details of the Medicine Bow facility that would prevent malfunctions from occurring?

A I do not know, because I have not seen Medicine Bow's final design drawings. Just simplified bulk flow diagrams that they've provided to us.

Q Okay.

(Deposition Exhibit 1 marked.)

Q (By Ms. Issod) I've placed in front of you what we've marked as Exhibit 1. Can you tell me what this document is?

A It appears to be Medicine Bow's application submittal from December 31st, 2007.

Q I believe this is the most current copy of the permit application. The permit application was dated December 31st, but there's a few pages in front of it that incorporate page changes. And I believe this is the last update.

Can you roughly take a look at those revision dates and tell me if you think they're pretty close to the latest update?

A (Examines an exhibit.) I believe there was a revision provided during the public notice period by Medicine Bow Fuel and Power's consultant.

Q What would the approximate date of that revision be?

A I do not recall in the file, but the application was on notice for July to August 4th, I believe.

Q July 31st update.

A Yeah, that -- I'd have to look at the full record, but that July 31st could probably be the --

Q Yes.

A -- the last update.

Q Right. And I will confer with Nancy to confirm that the last application update is --

MS. VEHR: Did you print this out from the CD?

MS. ISSOD: From the CD.

MS. VEHR: Okay.

MS. ISSOD: It was -- I want to say it was 70 or 78.

MS. VEHR: The Bates number for the CD?

MS. ISSOD: Yes. I might be wrong.

MS. VEHR: Okay.

Q (By Ms. Issod) Okay. Let's assume we have a pretty close-to-final application here. Does that sound okay?

A Just part of the application?

Q Yes. That is correct. It is just part of the application. Trying to save paper. So do you think this is pretty close to final part of the application?

MS. VEHR: I think we'll have to just take a look at what's on --

THE WITNESS: I'd have to go through the record.

MS. ISSOD: Okay.

MS. VEHR: And we'll get you a Bates-stamped copy of what's on the CD, if that would help.

Q (By Ms. Issod) Okay. Well, let's see if you can answer the question and go from there. Can you turn

to Page 3-7. And take a look at the table of the top of the page, Table 3.6. Can you read the title of this table?

A Title is, Table 3.6, Criteria Pollutant Emissions Resulting from Malfunctions and Other Events.

Q Do you recall reviewing this table?

A Yes, I do.

Q At some point? Okay. Does this table contain an estimate of emissions for sulfur dioxide from the flare storing malfunctions, correct?

A I believe -- Medicine Bow Fuel and Power has represented them in this application, but I'm not sure that this is the final. I'd have to look at the record to verify that.

Q Okay. But this is an estimate of emissions from malfunctions from the Medicine Bow facility, although it might have been tweaked in a final application.

A It might have. I do not recall.

Q Okay. So why would Medicine Bow estimate emissions from malfunctions if they will never occur?

MR. COPPEDE: Objection. Calls for speculation. And the question lacks foundation.

MS. ISSOD: Is this your witness? I'm confused. I've never had more than one attorney retain

objections.

MR. COPPEDE: I'm here -- I'm making objections on behalf of our client.

MS. ISSOD: Is Mr. Keyfauver your client?

MR. COPPEDE: No. Medicine Bow is, and I'm making objections on behalf of Medicine Bow.

A I'd have to review the record, but I believe I recall these emissions that were in the table as being part of the cold startup emissions.

Q (By Ms. Issod) Okay. So I asked you a question: Why would Medicine Bow estimate emissions from malfunctions if they will never occur?

MR. COPPEDE: Same objection.

MS. VEHR: Objection.

A I'm not an expert, but I guess any -- any company can estimate the malfunctions if they believe they would occur.

Q (By Ms. Issod) I'll have you take a quick look at another document, and then we'll take a break.

(Deposition Exhibit 2 marked.)

Q (By Ms. Issod) Mr. Keyfauver, I'm giving you what we've marked as Exhibit 2. Can you read the title of this document for me?

A Response to Plaintiff's First Set of Discovery Requests to Medicine Bow.

Q Have you ever seen this document before?
A Yes, I have.
Q Okay. I'm going to have you turn to Page 3. Under the title Request for Admissions, can you read Request Number 1 and response out loud to us?
A Request Number 1. Please admit that malfunctions of the Medicine Bow facility will occasionally occur. Response is: Medicine Bow Fuel and Power objects to this request as "occasionally" and "malfunction" are vague and ambiguous and the request calls for speculation. Without waiving these objections, Medicine Bow Fuel and Power admits that malfunctions may occasionally occur, as with any operating facility.
Q Do you have any reason to disagree with this response?
MS. VEHR: Objection. No foundation for this.
A I'm not an expert, but --
MS. VEHR: The State already provided an answer on this request for admission, and that speaks for itself.
Q (By Ms. Issod) Do you have any reason to disagree with Medicine Bow's response?
A I'm not an expert. Malfunctions may or may

not occur. I don't know.

Q So it sounds like you have no reason to agree or disagree.

MS. VEHR: Objection. He's already answered the question. The State already provided its response in the answer to admissions. I don't appreciate you badgering him. He worked on the permit --

MS. ISSOD: Okay, okay, Nancy. Thank you.

Q (By Ms. Issod) Are malfunctions a normal event?

MS. VEHR: Objection. He's already answered the malfunctions.

MS. ISSOD: I don't believe he answered this question. This particular question.

MS. VEHR: There's -- in terms of "normal," you haven't defined "normal." He previously answered "normal," and he previously answered about malfunctions.

MS. ISSOD: We can move on more quickly if you allow your witness to answer a simple question.

MS. VEHR: If you ask the question appropriately, I won't object to it.

Q (By Ms. Issod) Okay. Are malfunctions a routine event?

MS. VEHR: Objection. It's undefined as to what malfunctions are, as to what is routine, as to what

universe you're looking at.

Q (By Ms. Issod) You testified that potential to emit includes emissions from the normal operations of the source, correct?

A Correct.

Q Is malfunctions included in this normal operations of the source?

MS. VEHR: Objection. As to this source or any source out there?

Q (By Ms. Issod) In general.

A One has to look at the emission inventories for existing facilities to see if malfunctions are a routine event, as they would show up in emission inventory. For a facility that's not constructed, I -- I would only be guessing if it's routine or not.

Q In your experience with the other PSD permits that you've worked on, were malfunctions normal events?

A I'm not an expert. You'd have to talk to district engineers.

Q Okay. So you're saying you're not sure whether malfunctions are routine events before a facility is constructed.

A For that source category, I do not know. For existing facilities, I'd have to refer to district engineers.

Q Okay. And you only take into account emissions from malfunctions if they're provided by the company in the permit application.

A As I recall, yes. I'm not -- we will ask as part of the application and review process if what they represent is what they can consider to be normal operations. I'll apply our best engineering judgment to what their response is.

Q Did you ask Medicine Bow if their potential to emit estimate represents normal operations? Represents emissions from normal operations?

A As I recall, we did.

Q Did you ask them whether malfunctions were included in that estimate?

A We had -- as I recall, we had them address it as a response to comment after the public comment period to ensure that all known events were included in their emission estimate.

Q Did you ask Medicine Bow whether cold starts were included as part of their potential to emit estimate?

A I believe that's reflected in the analysis of what cold start emissions are for the facility.

Q DEQ's permit analysis --

A Our technical analysis, which is based on

Medicine Bow Fuel and Power's application.

Q Did you ask whether emissions from cold starts are included in the potential to emit estimate?

A I do not recall asking them, as we did not consider them routine events for normal operations.

Q Do you recall that EPA commented on Medicine Bow's trap permit that cold starts should be included in the potential to emit estimate?

A Yes, I do.

MS. ISSOD: Do you want to take a short break?

MS. VEHR: Sure.

THE WITNESS: Sure.

(Recess from 12:10 p.m. to 12:30 p.m.)

MS. ISSOD: Let's go back on the record.

Q (By Ms. Issod) Mr. Keyfauver, when I was asking you about whether or not malfunctions should be included in the potential to emit estimate, I believe you responded at one point that I needed to talk to a district engineer? Do you remember that response?

A I do recall mentioning district engineers.

Q Okay. Did you talk to any of your district engineers during the course of your review of the Medicine Bow permit?

A Not that I recall.

Q Okay. You don't recall talking to the district engineer about what should or shouldn't be included in the potential to emit estimate.

A I did not talk to the district engineer regarding potential to emit.

Q Okay.

A As they deal with compliance issues.

Q You testified that the definition of potential to emit is the maximum capacity of a source to emit a certain pollutant, subject to certain enforceable limitations. Is that more or less accurate?

A As I recall, yes.

Q Okay. So do you believe the maximum capacity of a source to emit would include startup, shutdown, and malfunction events?

A They could if the company defines -- defines them as happening on a routine basis.

Q Okay.

(Deposition Exhibit 3 marked.)

Q (By Ms. Issod) Mr. Keyfauver, I'm giving you what we're marking as Exhibit 3. Can you read the title of this document?

A Report of Katrina Winborn, PE.

Q Have you seen this document before?

A Yes, I have.

Q Can you turn to Page 6 and read the first sentence under the title Unintended Consequences of Including Cold Start Emissions and PTE.

A A very practical and environmentally beneficial reason exists for an agency to emit coal startup emissions from a facility's PCE. If such emissions are included in the PTE, then those emissions have been permitted, and the facility is then allowed to emit up to that level established as the PTE.

Q Do you agree with that statement?

A Not as it's written.

Q Why?

A Because our -- our permit -- our technical analysis modeled emissions up to the levels that Katrina is referring to, but our emission -- but the emissions we permitted were based on normal, routine operation.

Q Okay. I'm a bit confused by your response, and I'm going to try to break down questions so I can try to understand. Do you agree, if the cold start emissions are included in the PTE, then the facility is allowed to emit up to that level?

A I disagree with that statement.

Q Can you tell me why you disagree with that statement.

A Because their emission limits were based on

normal operation. If they were to exceed those limits, it would be up to a district engineer to determine what those issues were.

Q Okay. Let me ask it this way: Is potential to emit an emissions limit?

A Only if Federally enforceable standards or conditions have been applied.

Q Is it true that the emission limits for Medicine Bow are all contained in the final permit?

A To the best of my recollection, yes.

Q Okay. Can you tell me generally what makes an emissions limit an emissions limit?

MS. VEHR: Objection.

MS. ISSOD: Yes, that was -- I strike the question.

Q (By Ms. Issod) Can you tell me what -- if I'm a citizen interested in the amount of pollution that will be emitted from the Medicine Bow facility, where would I go to find this information?

A You'd look -- you would go to the final permit for the facility.

Q Okay. Does the final permit contain all the emissions limits for the facility?

A As best as I recall, it does.

Q So is the potential to emit an enforceable

limit in the permit?

A If a permit condition has been established for -- for that pollutant. Because a potential to emit can be the same as an allowable.

Q Okay. Can you also read for us the second sentence in the second paragraph, starting, During cold startup years?

MS. VEHR: Are you on Page 6?

MS. ISSOD: Yes. On Page 6.

Q (By Ms. Issod) So the second paragraph under unintended consequences and then the second sentence starting, During cold startup years.

A I do not see where you're . . .

Q Okay. So do you see the paragraph that starts, PTE levels?

A Okay.

Q And if you follow that sentence and then get to the second sentence, it starts, During cold startup years?

A Okay.

MS. VEHR: Did you want him to read it out loud?

Q (By Ms. Issod) Can you read that sentence out loud?

A During cold startup years, Medicine Bow Fuel

and Power will be faced with a strong incentive to continually improve its cold startup procedures such that it -- emissions are minimized, since emissions occurring from cold startups are not permitted and must be reported as excess emissions in violation of the permit, subject to potential penalty.

Q Do you agree that -- do you agree with this sentence?

A I do not.

Q Why?

A The cold startup emissions were represented in the technical analysis, so they were, in a sense, permitted.

Q Okay. So a -- do you want to take a drink of water?

A No, I'm fine.

Q Okay. So emissions from a cold start will not subject Medicine Bow to a potential penalty?

MS. VEHR: Objection. Permitting. Not district engineer, compliance.

A That, I don't know. It's up to the -- or subject to the district engineer's review of the cold startup.

Q (By Ms. Issod) So would you say it's part of your responsibility as the permitting engineer to make

sure that the source can operate within its permitted limits?

A As a reviewing engineer, I set emission limits based on BACT requirements. Since I'm not an expert, I would say it's up to the district engineer to determine compliance with those established limits.

Q Okay. So you would be comfortable issuing a permit for a plant even if you thought the facility couldn't comply with the permit.

MS. VEHR: Objection. Calls for speculation.

A If we thought there was going to be an issue with emission limits, we would not go forward with the permit until we could resolve that matter.

Q (By Ms. Issod) You would work with the company --

A Correct.

Q -- and try to resolve it. Okay. So do you believe that emissions from cold starts at Medicine Bow will cause a problem with permit compliance in the future?

MS. VEHR: Objection. Calls for speculation.

MR. COPPEDE: Join in the objection on behalf of Medicine Bow.

A As a permit engineer, all I -- all I know -- I can say is -- just -- demonstrate a compliance with

the ambient air quality standards.

Q (By Ms. Issod) You felt comfortable enough to issue the permit without discussing this matter further with the company.

MS. VEHR: Objection. Andrew's the permitting engineer on it, and the permit was issued by the DEQ director and administrator. So just to clarify that.

MS. ISSOD: Okay.

A The application that Medicine Bow Fuel and Power submitted demonstrated compliance with the standards.

Q (By Ms. Issod) Okay. I apologize if I've already asked this, but did you speak -- I think I did ask. Still, one more time. Did you speak with the district engineer about the Medicine Bow permit at any time?

A Regarding the application, no.

Q No. Did you speak to the district engineer about the draft permit?

A The draft permit was sent to his office for review. If he submitted any comments, it should be in the administrative record.

Q When you submitted the permit to the district engineer for his review, did you highlight any concerns

about the permit?

A I did not, because he got the same version that went out to public comment.

Q Is there a way you could have drafted the permit to have sulfur dioxide emissions limit during normal operation and another emission limit for cold starts?

A I'm not sure what your question is focused on there.

Q Going back to the first sentence in the first paragraph that you read. Very practical, environmentally beneficial. Maybe if you could just review that paragraph for yourself, and then I'll ask you a question about it.

A (Examines an exhibit.)

Q Could you summarize that paragraph, in your own words?

MS. VEHR: I was going to say objection, because the last sentence talks about, "in my opinion," and he has no way to summarize somebody else's opinion.

A As I believe, Katrina is -- is getting at -- without having talked to her, I believe she's saying if you -- if you set the PTE based on cold start emissions, you will -- you will unintentionally have a higher emission limit than you would normally establish.

Q (By Ms. Issod) So what I'm asking, in reference to that opinion, is whether it's possible to set two separate emission limits: One for routine operations; and another one for cold startup events only.

MS. VEHR: Again, objection. In terms of possible, putting boundaries on it. Unlimited possibilities of anything.

A It would -- you can establish limits during what would be normal operation and startup and shutdown, which I believe we did for Medicine Bow Fuel and Power, with the SSM plan.

Q (By Ms. Issod) And you could, for malfunctions also? Could you establish separate limits for malfunctions also?

MS. VEHR: Objection. By definition, a malfunction is a malfunction.

A I don't know on that.

Q (By Ms. Issod) I believe you testified -- you just testified that you could set separate limits for startup and shutdown as part of the SSM plan. But you did not say "malfunction." That's why I asked whether you could set a separate limit for malfunction.

A Was that a question or --

Q Okay. Good job.

A Was that a question or a statement there?
Q Okay. Same response.
A (Nods head.)
Q Okay.
A Correct.
Q Okay. I believe you mentioned at one point that you considered the cold starts in the permitting process, and therefore emissions from cold starts wouldn't be a violation. Is that correct?
A I can say they were included in the ambient impact analysis and demonstrated compliance with the WAAQS NAAQS.
Q Do you know whether, included in the ambient impact analysis, an inclusion in the WAAQS and NAAQS would necessarily mean that emissions from cold starts are not a violation?
MR. COPPEDE: Objection. Foundation.
A I couldn't answer that. That's up to the district engineer to determine.
Q (By Ms. Issod) Okay. Can you tell me why, generally, sulfur dioxide is a pollutant of concern?
A It is one of the listed criteria pollutants by EPA.
Q And what is a criteria pollutant, generally? What makes a pollutant a criteria pollutant?

A That, I don't know.
Q Are criteria pollutants generally pollutants that cause human health impacts?
MR. COPPEDE: Objection. Foundation. Vague and ambiguous.
A That, I don't know. I don't know all the health risks of the pollutants.
Q (By Ms. Issod) Is 250 tons per year a large amount of sulfur dioxide?
MR. COPPEDE: Objection. Foundation.
A I -- I guess it depends on what you're comparing it against. For PSD purposes, I assume, yes, because it's one of the thresholds.
Q (By Ms. Issod) Again, I apologize if I've asked this question before, but to refresh my memory, do you recall whether emissions from startup were included in Medicine Bow's potential to emit?
A They were reflected in the cold startup table, in the analysis.
Q Were they included in the potential to emit estimate for sulfur dioxide?
A They were not reflected in the table that showed normal operations, as I recall.
Q Okay. Do you recall whether malfunction events were included in that table?

A I do not recall.
Q Okay. Do you recall approximately what the total potential to emit for sulfur dioxide was?
MS. VEHR: Objection. In what?
Q (By Ms. Issod) Do you recall approximately what Medicine Bow's sulfur dioxide potential to emit was?
A As I believe I said earlier, I believe it was around 36 tons.
Q Do you recall looking at the estimate of how much sulfur dioxide emissions would occur during malfunction in one of the exhibits that I gave to you before the break?
A I do not recall the number of that, no.
Q Okay. So which exhibit was that. I believe it's Exhibit 1, and it's Page 3-7 at the very end.
A (Examines an exhibit.)
Q Let me know when you've had a chance to look at it.
MS. VEHR: Andrea, I've got a question. Were you talking about normal operations or malfunctions? I've lost track of your question.
MS. ISSOD: Well, both.
MS. VEHR: Okay. So the normal operation SO2. I just lost track of your question.

MS. ISSOD: I'll ask more questions after he's answered this.

MS. VEHR: Okay.

MS. ISSOD: Yes.

MS. VEHR: I didn't know if you needed to look back at Page 3-3, which talks about normal operations or --

MS. ISSOD: No.

MS. VEHR: No. Okay.

MS. ISSOD: Just 3-7.

MS. VEHR: 3-7. Okay.

A Okay.

Q (By Ms. Issod) Okay. So after reviewing this table, do you know whether emissions -- whether sulfur dioxide emissions from malfunctions were included in the sulfur dioxide potential to emit?

MS. VEHR: I'm just going to object to the form of the question.

A (Examines an exhibit.) I don't recall.

Q (By Ms. Issod) Okay. This table estimates emissions associated with malfunctions, correct?

A As the table is labeled, yes.

Q Can you tell me the total amount of sulfur dioxide that's estimated in this table?

A Approximately 164 tons.

Q Tons per year?
A I would assume tons per year. That does not specify.
Q Okay. I believe you previously testified twice that you believe the total potential to emit sulfur dioxide permit for the Medicine Bow is approximately 36 tons per year; is that correct?
A As I recall, yes.
Q Okay. So therefore, were sulfur dioxide emissions from malfunctions included in Medicine Bow's sulfur dioxide potential to emit?
MS. VEHR: I'm going to object that he already answered that he doesn't recall, and there may be a document that would help his recollection. I don't know. But he stated he doesn't recall, based on looking at this table.
A I'll just reiterate that I do not recall. I mean, it's -- with the document in front of me, there is -- since it's not complete, I would assume there's other information available that I could potentially review. I notice it refers to appendices and everything else, and missing calculations, and without those, it's hard to give an answer without all the information.
Q (By Ms. Issod) Okay. So what documents would you need to review to respond to this question?

A I would look back at the appendices where the emission calculations and references are.

MS. ISSOD: Do you have a copy, Nancy, of the permit application?

MS. VEHR: I have the admin record.

MS. ISSOD: Can we get a copy of the permit application?

MS. VEHR: If you can tell me what Bates numbers and stuff. I've got the whole -- the whole record there.

MS. ISSOD: Okay. Well, let's do that after the next break, then.

MS. VEHR: Okay.

Q (By Ms. Issod) Would you prefer to see a hard copy or electronic copy? Which would be easier for you?

A Hard copy.

Q Move on to a different topic, then. I'd like to talk about the best available control technology analysis, or BACT analysis. It's my understanding that Wyoming has a BACT analysis that's different from the PSD's BACT analysis; is that correct?

MS. VEHR: I'm just going to object to in terms of PSD BACT analysis. Are you talking about Federal or State PSD?

Q (By Ms. Issod) Okay. It's my understanding that Wyoming has a BACT analysis that differs from the Federal five-step top-down BACT analysis; is that correct?

A I'd say we typically follow the NSR puzzle book which describes the five-step analysis.

Q Is there another name for the NSR puzzle book?

A I do not recall the name of it. I was just using the -- the common language for that book.

Q Is it -- is it the 1990 New Source Review Draft Workshop Manual?

A I -- I believe that is correct. I'm not absolutely certain about it.

Q Okay. Does this EPA document describe the five-step top-down BACT analysis?

A Yes, it does.

Q Okay. So the Wyoming BACT analysis follows the EPA's five-step top-down BACT analysis?

A We typically follow the five-step process.

Q Okay.

A To the best of our ability, where it fits appropriately.

Q And what do you do where it doesn't fit?

A In those cases, we're usually going to the

most stringent control technology.

Q So do you think the Wyoming BACT analysis and the top-down BACT analysis would typically yield the same results?

A I believe our Chapter 6, Section 4, and our Chapter 6, Section 2, BACT analysis would obtain the same control technology.

Q Did you review the best available control technology analysis for sulfur dioxide emissions from the Medicine Bow flare?

A The -- I guess, can you clarify, the flares are a control device for the emission units. So we -- we apply BACT for the emission units and not the control device. We can set emission limits where appropriate from the control device, but we do not do BACT on the control device. It is for the emission unit.

Q Okay. So the flares -- so you didn't consider the flares to be emission sources at the Medicine Bow facility.

A They are sources of emissions that can -- but they are control devices for process units.

Q So you didn't consider the flares to be emission sources for purposes of BACT.

A A top-down BACT analysis was not conducted for the flares, but was for the emission units at the

facility.

MS. VEHR: When you finish this line, if we could take a lunch break.

MS. ISSOD: How many minutes are you looking for?

MS. VEHR: It's been about 40 minutes, so sometime in the next 10 minutes, 15 minutes.

MS. ISSOD: Okay.

MS. VEHR: Whenever you come to a breaking point.

MS. ISSOD: Okay. Yes.

MS. VEHR: Unless you needed to break earlier.

THE WITNESS: I'm fine.

MS. ISSOD: Yes. Let's try to finish this section.

MS. VEHR: Appreciate it. Thank you.

Q (By Ms. Issod) Did you consider any other control options for the flares, other than the startup/shutdown emission minimization, or SSEM plan?

MS. VEHR: And I'm just going to object on "control option." I'm not sure what you mean by "control option."

A I believe SSM plan is one of the options allowed under BACT for applying some sort of work

practice standards.

Q (By Ms. Issod) Did you consider any other option for the flares?

A Not that I recall.

Q Did you consider strengthening the plan in any way?

A We reviewed that plan with our best engineering judgment. That plan could be addressed in the future, if a district engineer sees something, but that's beyond my expertise at this point in time.

Q Okay. Did you determine whether the plan was enforceable?

MR. COPPEDE: Objection. Foundation. But go ahead and answer.

A As part of reviewing that SSM plan, we reviewed it to ensure that there were areas where the district engineer could look at it and say, Did you meet the time frame in the SSM plan, or other thresholds that were established in the plan.

Q (By Ms. Issod) Did you consider making it more -- the plan more enforceable?

A I don't understand.

Q Okay. Did you consider limiting the number and durations of startups each year?

A As I understand it, that would be a judgment

call for the district engineer. If it's -- if it's not as represented in the application. In the permit.

Q So is it your primary responsibility to review the control options and the BACT determination in the permit application?

A As part of my job duties is to go through and evaluate the BACT as proposed by Medicine Bow Fuel and Power.

Q Okay.

A And make a determination based on all available information.

Q And if you're satisfied that the BACT controls and the application is proper, the draft permit then goes to the permit engineer for review. Is that accurate?

A No. I would review the BACT analysis provided, make a determination, and then it would go to the program supervisor and manager for their review.

Q Okay. So if at some point in the process, you weren't satisfied with an aspect of the BACT analysis or the control chosen, what would you do?

A We would go back to the company with our comments and concerns, with their BACT analysis, whether they need to address additional control technologies or evaluate additional control thresholds with the chosen

technologies.

Q Okay. So does part of your review of this SSEM plan includes a determination whether or not it was enforceable?

MS. VEHR: Objection as to the portion dealing with compliance. He's in permit, not in compliance.

A We reviewed the plan as provided by Medicine Bow Fuel and Power using our engineering judgment. And included that as part of our draft permit, which went to public notice. And as far as I recall, the district engineer did not make any comments regarding the startup/shutdown plan.

Q (By Ms. Issod) In terms of your responsibilities, is there something different about a work practice plan from a control -- from a BACT control option?

A It's just -- as far as I understand it, it is an available option under BACT if it's not feasible to establish an emission limit.

Q My understanding is, if there was a control technology chosen for BACT that you didn't think was a top control option, you would talk to the company about that; is that correct?

A We would ask them why they discarded that

control technology under technical or economic feasibility.

Q So I'm curious. It seems that you're testifying there's a different level of review with respect to this work practices plan.

A I disagree.

Q Okay. So would you say that you do the same level review of this plan as you would a control technology?

A I would say any BACT determination undergoes the same scrutiny, whether it's subject to PSD or some other source.

Q Is that you? Are you the responsible DEQ official for reviewing this plan?

A I was one of the engineers who reviewed that plan prior to public notice and permit issuance.

Q Okay. But you didn't review it to determine whether it was enforceable.

A Could you repeat the question?

Q Did you review the plan to determine whether it was enforceable?

A Yes, we did.

Q Okay. Did you determine it was enforceable?

A To the best of our engineering judgment, there were set points that the district engineer could

utilize for enforceability.

Q Okay. And did you consider any other option, like a permit condition that might limit the number of startups every year?

A I do not recall there being multiple startups in the application.

Q The purpose of this plan is to minimize emissions during startup, shutdown, and malfunctions, correct?

A Correct.

Q So my question was going to, did you consider any other option besides this work practice plan for limiting emissions from startup, shutdown, and malfunctions?

A Not as I recall.

MS. ISSOD: Should we break now? Because it's going to take a little bit longer.

MS. VEHR: Okay.

(Recess from 1:18 p.m. to 2:18 p.m.)

MS. ISSOD: Let's go back on the record.

Q (By Ms. Issod) Mr. Keyfauver, during the break, did you have a chance to review some documents to refresh your memory concerning the sulfur dioxide potential to emit for the Medicine Bow facility?

A Yes.

Q Okay. So were sulfur dioxide emissions from malfunction events included in the potential to emit?

A Those emissions were included in the cold startup year emissions. The application represented those emissions as upset events during the cold startup year. In Appendix B of the application.

Q Okay. So are you saying that emissions from malfunctions were included in cold startup emission?

A They were reflected in the cold startup emissions as represented from Medicine Bow Fuel and Power.

Q Okay. So are you saying there's a table in the application that references emissions from cold start year that includes emissions from malfunction?

A That includes -- yes.

Q Okay.

A That includes that table that you were referencing.

Q Okay. My understanding was, there were two separate tables in the permit application, one referencing cold startup emissions and one that referenced malfunction. Is that true?

A I believe that's also on the application.

Q Okay. So are you saying that -- do you agree, there were two tables in the application: one

for cold startup year emissions and one for malfunction emissions?

A Correct.

Q Okay. Are you saying that the cold startup year table includes malfunction emissions?

A From that table, correct.

Q Okay. So is the malfunction emissions table a subset, basically, of the cold startup year?

A Correct.

Q Okay. So does the application consider malfunctions to be a type of cold startup?

MS. VEHR: Objection. The application speaks for itself.

A It is representative, potentially occurring during a cold startup.

Q (By Ms. Issod) Okay. Were the emissions from cold startup included in the potential to emit for the Medicine Bow facility?

A The cold startup emissions were included in the ambient impact analysis for the facility, which should -- which is the highest emissions.

Q Okay.

A Demonstrate compliance with the WAAQS NAAQS.

Q Okay. My question is about the potential to emit. So let me try to define that further. We

discussed the potential to emit is used to determine whether a source is a minor or a major source for PSD purposes, correct?

A Correct.

Q And you testified that for that determination, Medicine Bow sulfur dioxide emissions are approximately 36 tons per year, correct?

A Correct.

Q Okay. Were emissions from cold starts used in that potential to emit estimate?

A Those emissions were not considered part of the normal or routine emissions. They were only reflected in the cold startup year.

Q Can you give me a yes or no answer to the question?

A Could you repeat it?

MS. ISSOD: Okay. Mr. Court Reporter, could you repeat the question.

THE REPORTER: "Okay. Were emissions from cold starts used in that potential to emit estimate?"

A For establishing emission limits, I would say no. They were included in the WAAQS NAAQS analysis.

MS. ISSOD: Could we go off the record for a second?

(Off the record.)

MS. ISSOD: We can go back on the record.

Q (By Ms. Issod) So you testified that emissions from cold starts were not included in the potential to emit for purposes of determining whether Medicine Bow was a minor or major source for PSD purposes; is that right?

A They were not considered because they were not routine emissions.

Q So you believe it was accurate not to include the cold start emissions as part of the potential to emit.

A Correct.

Q Okay. Did you speak to the district engineer about the Medicine Bow facility at all?

A As I recall, the only time I talked to the district engineer regarding the facility was during the public hearing process.

Q And what did you speak to him about, generally?

A Just -- as far as I recall, just the application and how many people we expected to attend.

Q A general conversation?

A (Nods head.)

Q Did he have any particular concerns about the application?

A As I recall, he hasn't mentioned anything.
Q Do you consider one of your job responsibilities to limit emissions of harmful pollutants to protect public health and welfare?
MS. VEHR: Objection. Undefined terms.
A My job duty's to limit emissions through the application of requirements under the WAAQS.
Q (By Ms. Issod) Do you believe one of your job responsibilities is to protect the public?
A I believe that's an inherent duty of the job.
Q Can you describe, in your words, what you think that duty is?
A I believe my job entails reviewing every application to ensure protection of the environment and to allow future growth for industry.
Q Are you aware of any large PSD facilities that have never had a malfunction?
A That's beyond my expertise, and I don't know.
Q Are you aware of any? Yes or --
A I don't know.
Q You don't know whether you're aware of any?
MS. VEHR: Objection. He's answered.
Q (By Ms. Issod) Okay.
A I don't know. I'm not in the compliance field.

Q Okay.

(Deposition Exhibit 4 marked.)

Q (By Ms. Issod) Mr. Keyfauver, I'm placing in front of you a copy of what we've marked as Exhibit 4. Does this document look familiar to you?

A Yes, it does.

Q What is it?

A It is the permit, final permit, issued to Medicine Bow Fuel and Power.

Q Okay. You can turn to Appendix A. It's DEQ 1421. At the top of the page, it's marked, Startup/Shutdown Emission Minimization Plan. Do you see that?

A Yes.

Q Okay. At the bottom of the page, under the term Gasifier, the first bullet under Gasifier, the one gasifier will be started at a time at 50 percent design flow rate. Do you see that sentence?

A Yes.

Q Can you explain how this 50 percent number was chosen?

A I cannot.

Q Moving to the top of the page, the second paragraph under the box reads, Specific startup and shutdown operating procedures for all process units in

the plant shall incorporate the elements of this plan to the greatest extent possible. Do you see that sentence?

A Yes.

Q Given that the plan requires Medicine Bow use it to the greatest extent possible, can you explain how this plan is enforceable?

MS. VEHR: Objection. Outside of his job description.

A I do not know. I'd have to defer to Chris Hanify, the district engineer.

Q (By Ms. Issod) I thought you testified that part of your responsibility was review of this plan to determine whether it was BACT; is that correct?

A Part of BACT, yes.

Q Okay. So as part of your BACT review, do you consider whether or not the plan is enforceable?

A Yes. I would consider it to be enforceable.

Q Okay. So with respect to this particular sentence, you're not sure.

A I'm not sure I can answer that, because I do not know the extent to which Chris Hanify will apply the provisions.

Q So you're testifying you're not sure whether or not he will enforce the plan.

A I -- I don't know how --

Q Okay.
A -- how he is -- how he does his compliance job.
Q But part of your job is to ensure that he can do his compliance job.
A I'd say that was part of my job, is to set conditions that he can enforce.
Q Okay. In the third bullet under Gasifier, it reads, A low pressure and normal operating pressure check are required. Do you see that sentence?
A Yes.
Q Is there any numerical specificity in the plan regarding this pressure check?
A I'd say no, there is not.
Q Okay. How are the pressure checks enforceable if there's no numerical specificity?
A I am not an expert, but I would -- I could only guess that the pressure checks are part of a safety procedure prior to sending the gas down to other units.
Q But if there's no limit on the outcome of those pressure checks, how is that -- is that an enforceable requirement of this plan?
A I believe the plan is to be reviewed in its entirety, not in pieces.
Q Okay.

A To arrive at whether it's practically enforceable.

Q Okay. So some aspects of the plan might not be enforceable; some aspects might be enforceable.

MS. VEHR: Objection.

MR. COPPEDE: Misstates his testimony.

A When it comes to certain line items like this well pressure, probably say that would be hard to enforce.

Q (By Ms. Issod) Okay. Move on to another subject. How do you estimate emissions from fugitive component leaks?

A Using -- the applicant used AP 42 emissions -- either AP 42 emission factors or SOCMI, as they're sometimes referred to.

Q What does SOCMI stand for?

A Synthetic -- I do not recall exactly, but synthetic organic chemical manufacturing industry, or something like that.

Q Okay. So what -- what does the applicant do with these emission factors to estimate fugitive component leaks?

A Could you reword . . .

Q Okay. In order to calculate fugitive component leaks, don't you need a count of the number of

components in the facility?

A As I recall, the applicant provided counts for components.

Q Is it true to estimate fugitive component leaks, you generally need three things: a component count; information about the design of each component; and emission factors for each component?

A I'd ask for clarification what you mean by "design."

Q Okay. Details about each component.

A I would say that there are multiple factors that go into fugitive emission calculations, such as the type of service that the component is in. Is it a valve, a flange. The emission factors is just one piece that comes in that AP 42.

Q Okay. So can you fully describe all the pieces that you need to calculate fugitive component leak emissions?

A I'll try and recall all of them. But you need a count of the equipment. Whether it be pumps. Need to know if it's a pump, a valve, a flange. What type of service it's in, whether it's gas service, liquid service, gas and liquid service. The VOC constituent. Based on the type of valve and service, you can use the AP 42 factors to arrive at emission

factors -- or emissions based on counts.

Q Okay. Do you recall the number of components Medicine Bow used to estimate its fugitive component leaks?

A No, I do not.

Q Is there a document that you could quickly look through to refresh your memory?

A It would be in the application. Probably in Appendix B where all the emission calculations were.

Q Okay. Well, regardless of the number, how did you verify this number?

A I verified the emission factors that they used, based on what they say is the service and the EOC content and compared those with the known EPA factors.

Q How did you verify the number of components?

A That was provided to us by the applicant, based on their -- their latest design drawings.

Q Did they provide to you their latest design drawing?

A No.

Q Did you ask for their latest design drawings?

A No.

Q Okay. Are emissions from fugitive component leaks a large source of volatile organic -- strike that; start over -- volatile organic compounds?

MS. VEHR: Objection. In terms of defining "large."

A I would say it's on a source category, by source category basis.

Q (By Ms. Issod) Are fugitive component leaks the primary source of hazardous air pollutants from the Medicine Bow facility?

A As I recall, a -- HAPs were from fugitives.

Q So let's agree to use the term VOCs for volatile organic compound and HAPs for hazardous air pollutants. Is that okay?

A Yes.

Q Do you recall the final estimates of total HAP emissions from the plant?

A After public comment, I believe that it is around 24 total.

Q So that's pretty close to the 25 ton per year threshold?

A One of the thresholds.

Q Yes. So isn't it true that 25 tons per year is a threshold to be a major source of HAPs?

A It's one of the thresholds.

Q Right. For total HAPs.

A Total.

Q Okay. Do you recall the estimate of methanol

emissions at the Medicine Bow plant?

A I believe it was less than 10 tons. After the permit was -- after public comment.

Q Do you recall that it's close to the ton -- the 10 ton per year threshold?

A Yes.

Q Okay. Given that the total HAPs number and methanol number were both close to the thresholds to be a major source, did you apply a closer scrutiny to the assumptions in the estimate of the fugitive component leaks?

MR. COPPEDE: Object to the form of the question as vague, ambiguous. Calls for a legal conclusion.

A After they submitted their revised information, after the public comment period when we were going back and forth, we went through that further and then established additional conditions based on their proposed estimates.

Q (By Ms. Issod) Have you permitted PSD facilities that are minor sources of HAPs previously?

A Did you mean PSD?

Q Yes.

A Yes, I permitted PSD facility for minor sources of HAPs.

Q Okay. Have you permitted coal facilities that are minor sources of HAPs?

A It depends on how you define "coal facilities." By permit -- I've permitted coal mines, and you could call those coal facilities.

Q Okay. Were they minor sources of HAPs?

A Yes.

Q Have you permitted any other coal facility besides coal mines?

A I had a coal facility that was going to be PSD'd when they went through the application.

Q Were they going to be a minor source of HAPs?

A As far as I recall, yes.

Q Are you aware of any facilities that are permitted as minor facilities of HAPs that turn out to have larger actual HAP emissions --

MS. VEHR: Objection.

Q (By Ms. Issod) -- once operating?

MS. VEHR: Objection. In terms of each.

Q (By Ms. Issod) Just, if you're aware.

A I'm not aware, but then I'm not in compliance, so I don't know what tests results have been.

Q Okay. Have you testified there was a number of factors that go into estimating fugitive component

leaks -- did you independently verify the assumptions using the estimates?

A Yes.

Q Can you describe, generally, what you -- what you did to verify the assumptions?

A We review all the information the applicant provides to make sure they've demonstrated adequately that those assumptions are valid for the process that they're using.

Q Okay. Does being a major source of HAPs generally require additional controls and costs?

MR. COPPEDE: Objection. Vague and ambiguous.

A NESHAPs standards are independent of costs for controls, but it depends on the source category, whether any additional costs would be incurred or not, but I am not an expert on what costs are incurred.

Q (By Ms. Issod) Before the final estimate of HAP emissions, previous estimates of HAP emissions from the facility estimate emissions over the minor source threshold; is that right?

A The analysis we went to public notice with showed them as being a major source of HAPs.

Q Right. And after the public comment period, you worked with Medicine Bow, and there was a

reevaluation of a number, and I believe, some design changes, to get that number under the major source threshold. Is that --

A The additional information they supplied showed that they were minor -- would be a minor source.

Q Okay. So it seems Medicine Bow was interested in coming in under the major source threshold.

MS. VEHR: Objection. No knowledge of Medicine Bow's plans.

A I don't know.

MR. COPPEDE: Calls for speculation.

Q (By Ms. Issod) Okay. Did you have a conversation with anyone at Medicine Bow regarding this issue after the public comment period?

A I believe I discussed the matter with Bob Moss, that they would need to address the major source question.

Q Okay.

A From the public comments.

Q Okay. And did he write you a letter in response to that conversation?

A I believe we wrote him a letter, and then they responded.

Q Okay.

A As I recall.

Q If you could turn back to Exhibit 3. At the bottom of Page 14. I think it's about the fourth sentence down. There's a sentence that starts, In this case, the WDEQ has taken a special interest. Do you see that sentence?

A Yes.

Q Can you read that sentence out loud?

A In this case, the WDEQ has taken a special interest in the equipment leak emission estimate due to the HAP emission rates, discussed later in this report, and has written a specific condition requirement of Medicine Bow Fuel and Power to conduct a final as-built component count following facility construction but prior to facility initial commissioning.

Q Do you agree with that statement?

A I would disagree with the "special interest," but the rest of it, I would agree.

Q Okay. Can you explain the specific permit condition that statement is referring to?

MS. VEHR: If you're looking from a certain document, if you could identify it just for the record.

A (Examines an exhibit.) In Exhibit 4, Condition 19.

MS. VEHR: What page are you on?

THE WITNESS: It is DEQ Bates number -- or Bates number DEQ 001415.

Q (By Ms. Issod) Can you explain that permit condition?

A That -- okay. That Medicine Bow Fuel and Power is supposed to demonstrate, when safe completed construction of the facility, that based on the as-built component count, they are to essentially estimate their HAP emissions to ensure that they're a minor source.

Q Okay. So how would DEQ verify the final equipment count?

A I don't --

MS. VEHR: Again, I'm going to object, just on, he's the permit engineer, not the person --

A I don't know -- I don't know what the district engineer decided he would do, but he could go to the plant and . . .

Q (By Ms. Issod) Okay. So is the permit essentially out of your jurisdiction at this point?

A I'd pretty much say yes, once it's finalized.

Q Okay.

A Unless they need to come in and do an amendment to it.

Q Okay. Well, this permit condition seems to -- it's a requirement prior to startup. It sounds

like you're saying that someone else is responsible for that review.

A That would be the district engineer.

Q Okay. Might the district engineer pass that responsibility to you?

MS. VEHR: Objection. Speculation.

A I would say it's entirely possible, but I don't know.

Q (By Ms. Issod) Okay. Would that be normal, if he passed this back to you to do some final review before startup?

A I don't know on that.

Q Okay. If he passes it to you, how would you verify?

MS. VEHR: Objection. Calls for speculation. Assumes all sorts of things.

MS. ISSOD: Well, he said it was a possibility, so . . .

A I would -- I would probably verify the -- probably component counts by asking for a P and IDs from the facility. They should be finalized by the time it is built.

Q (By Ms. Issod) What are P and IDs?

A Piping and instrument diagrams.

Q Would you give the public an opportunity to

review those documents?

MS. VEHR: Objection. Again, he's the permit engineer. Not the head of the department.

A Once Medicine Bow would be empowered to submit those documents, it's public record.

Q (By Ms. Issod) What would happen if the final component count results in HAP emissions above the minor source threshold?

A If they were -- if they were a major source based on the documentation required under this condition, we would see if they needed to do a 112 analysis.

Q Would it be too late to add on additional controls once the facility is already constructed?

A I don't know on that aspect.

Q Okay. If you can go back to Exhibit 3. Now I'm going to read from the very bottom of Page 14. Does everyone have the page? If the final exponent count results? Do you see that sentence at the bottom of Page 14?

A Yes.

Q Okay. If the final component count results in VOC or HAP PTE emission rates that are larger than those presented in the Medicine Bow Fuel and Power PSD permit application and WDEQ, CT-5873 decision document,

Medicine Bow Fuel and Power will be required to obtain a revised permit application and possibly conduct a MACT analysis prior to startup. Do you agree with that statement?

A Yes, I do.

Q Okay. How did you determine that the emission factors Medicine Bow used to estimate fugitive component leaks were appropriate?

A Since they used a -- the EPA emission factors, you look at the gas -- or the composition, the service. If it's gas service or liquid service, look through those tables, and you can come to the emission factors.

Q Did you verify the components for which the emission factors were developed resembled the components that will be used at Medicine Bow?

A I do not have sufficient knowledge to know what EPA used to develop those.

Q Okay. Did you verify the components at the Medicine Bow facility, and the components used to develop the emission factors have the same number of fugitive emission points?

A Component count doesn't factor into, I believe, what you're asking.

Q Okay. My understanding is there's different

emission factors for different components? Is that right?

A Correct.

Q Okay. So the emission factors were developed by looking at actual emissions from specific types of components; is that right?

A As I understand it, emission factors were generated for pumps, valves, flanges, if that's what you're asking.

Q So EPA would look at some pumps to develop the emission factors for pumps; is that right?

MS. VEHR: Objection, in terms of foundation, what knowledge he has of how EPA estimates.

A To the best of my engineering judgment, I would assume that's what they do, but I do not know.

Q (By Ms. Issod) Okay. So there's one emission factor for pumps, period. There's not -- let me strike that question.

Are there different emission factors for different types of pumps?

A As I recall, yes.

Q Okay. So what criteria do you need to look at to determine which pump emission factor you can use?

A Type of service -- type of service.

Q Okay?

A Light liquid, heavy liquid.
Q Okay. Is there any other characteristic that differentiates emission factors like number of possible fugitive emission points from a pump?
A Not that I recall.
Q Okay. Are you aware that EPA has determined that actual emissions from fugitive sources can be significantly greater than estimates from these 1995 factors?
A Not that I'm aware of.
Q Okay. Are you aware that the State of California has determined that actual emissions from fugitive sources can be significantly greater than estimates from these 1995 factors?
A Not that I'm aware of.
Q Okay. Did you conduct or review a BACT analysis for the fugitive component leaks?
A Yes.
Q Okay. Did you conduct a top-down analysis?
A That was the modified analysis. Because it's difficult to do a top-down BACT analysis for fugitive emissions.
Q Why is that?
A Because there is typically only one control strategy for fugitive emissions, as I understand, for

VOC emissions, VOC HAP emissions.

Q And what is that control strategy?

A An LDAR program.

Q And LDAR is leak detection and repair?

A Yes.

Q Is that modified analysis in the records?

A Yes.

Q Where would that be found?

A The BACT analysis for VOCs in the division's technical analysis.

Q Does that analysis include consideration of other control options?

A You mean besides an LDAR?

Q Uh-huh.

A No.

Q Okay. Did you consider a more stringent plan?

MS. VEHR: Objection to what you mean by "stringent."

A Can you rephrase that?

Q (By Ms. Issod) So did Medicine Bow propose an LDAR plan?

A Yes, they proposed an LDAR plan.

Q And did you have any concerns about that original proposal?

A With the December 2007 submittal?
Q Yes.
A No.
Q No. Did you have any concerns about a subsequent submittal?
A The original submittal that Medicine Bow Fuel and Power submitted, we did have concerns with, but that was superseded by the December '07 application.
Q And what were the concerns with the original submittal?
A Reusing 10,000 ppm emission rates for VOC fugitive emissions.
Q And what was your concerns about that number?
A That those emission rates did not reflect BACT.
Q Okay. So would -- the December 2007 submittal was your final determination that that plan represents BACT?
A Correct.
Q Okay. Did you conclude that the chosen LDAR levels are BACT because they are consistent with new source performance standards?
A They were consistent with both new source performance standards and NESHAPs.
Q Is that why you determined the plan would

represent BACT?

A Correct.

Q Okay. I'm going to use NSPS to refer to new source performance standards. Is that okay?

A That's fine.

Q Is NSPS used so they can be met by all new sources in the category?

MS. VEHR: And are you talking about Wyoming or EPA NSPS?

Q (By Ms. Issod) Let's talk about both, and if you think there's a difference, then let me know. Are -- so I'll repeat the question. Are new source performance standards selected so they can be met by all new sources in the category?

MS. VEHR: And again, are you asking him why he knows EPA chose new source performance standards? I mean --

MS. ISSOD: I'm asking if he's aware.

A I would assume that most new sources would be able to beat -- meet NSPS standards.

Q (By Ms. Issod) Don't all new sources need to meet NSPS standards?

A If they trigger the applicability for that standard.

Q Right. So isn't it true that individual

sources can achieve lower emissions than NSPS?

MR. COPPEDE: Objection. Calls for speculation. And foundation.

A I don't know if I have enough knowledge to say all new sources can.

Q (By Ms. Issod) Okay.

A Because EPA is constantly revising their --

Q Okay. Let me repeat the question. My question was, isn't it true that individual sources can achieve lower emissions than NSPS?

MS. VEHR: Same objection.

MR. COPPEDE: Join in the objection.

A I believe that some possibly can. If BACT has been -- and could be lower than an NSPS estimate.

Q (By Ms. Issod) Okay. Got it. Do you use NSPS to determine BACT for other emission sources like boilers, for example?

A Do we -- I'd say no. It's not -- it's not our end point for BACT.

Q Okay. Is it your starting point for BACT?

A It is typically a starting point.

Q What particular characteristics about the Medicine Bow facility made the NSPS BACT for fugitive component leaks?

MS. VEHR: Objection as to form of the

question.

MR. COPPEDE: Object on the grounds of foundation.

A I believe as described in our analysis, it was combination of NSPS and NESHAPs standards.

Q (By Ms. Issod) And what were the particular characteristics of the plan that made you determine that these were appropriate?

A The 500 ppm and the 5,000 level were consistent with NSPS and NESHAPs standards. And NESHAPs standards are set irregardless of costs to the company.

Q Was there anything about the design of the facility that factored into your determination?

A I do not recall.

Q Okay. Is there anything you could look at to refresh your memory on that?

A I do not think there is. I don't think there is.

Q Okay. Are you aware that there are some LDAR programs that control to 200 parts per million?

A I am not aware.

Q Did you research into other LDAR programs?

A We do look at the RBLC database that the EPA keeps.

Q Did you look at the RBLC database to research

LDAR programs for the Medicine Bow facility?

A We -- we did look at the RBLC for the -- for determinations. But there wasn't any other known -- or I did not find, or recall finding, any other coal-to-liquid plants entered into the RBLC.

Q And that's RBLC?

A Yes.

Q And do you know what that stands for?

A RACT/BACT/LAER Clearinghouse.

Q So did you find anything in the RBLC about LDAR programs that you used in your determination?

A I don't recall if we looked at other source categories or not.

Q Did you consider leakless components of the BACT option?

A I do not believe that was part of our evaluation.

Q Okay. Did you account for HAP emissions from the flares during shutdown and malfunction events?

MS. VEHR: Objection as to what you mean by "account."

Q (By Ms. Issod) Okay. Did you account for HAP emissions from the flares during SSM events in the HAP potential to emit?

MS. VEHR: Same objection.

A I -- I don't recall. I'd have to look at that Appendix B of the application there.

Q (By Ms. Issod) Would the flares destroy VOCs and HAPs, including methanol?

A Flares are a known control device for VOC and HAP emissions.

Q Okay. What's your understanding based on?

A Engineering judgment.

Q Okay.

A And that's standard practice under our oil and gas BACT, but I'm not an expert in that program.

Q Okay. With regards to the Medicine Bow facility, did you look at any documents or evidence to verify that the flares will destroy VOCs and HAPs?

A I did not -- I did not have the design specifications for the flares. But it's generally assumed that flares will destroy VOCs.

Q Okay. What conditions are necessary to destroy VOCs and HAPs via combustion in the flares?

MR. COPPEDE: I have to object. The question's vague and ambiguous. It lacks foundation.

A Using engineering judgment, I would assume temperature and residence time.

Q (By Ms. Issod) Okay. Would you agree turbulence is also --

A Proper mixing. Yes.
Q Okay. How did you verify that the minimum residence time for combustion will be achieved at Medicine Bow?
A I do not recall that.
Q Did you verify that the minimum residence time for combustion of VOCs and HAPs will be achieved at Medicine Bow?
A We didn't -- we did not verify that, but I believe the flare's subject to the smokeless provisions.
Q And what is a smokeless provision?
A They are requirements under Chapter 5, Section 2. They require a minimum BTU content and velocity.
Q So do these requirements -- you believe that you did not have to verify some assumptions about VOCs and HAPs combustion because of these provisions?
A I didn't verify.
Q Okay. Is the reason that you didn't verify because of these smokeless provisions?
A It has been a practice of the division to assume that flares will destroy VOCs and HAPs if they're properly designed.
Q Okay. What assumptions underlie the methanol estimate? The methanol emissions estimate for the

Medicine Bow facility?

MR. COPPEDE: I object. The question lacks foundation. Go ahead and answer.

A Methanol emissions.

MS. VEHR: Is there something you need to --

A I just need to look where they came from. The majority of methanol emissions were from fugitive emissions, so they would follow the same methodology used to estimate the VOC estimate from emissions using the EPA's emission factors.

Q (By Ms. Issod) Okay. Would a minor change in any of the assumptions underlying this estimate increase methanol potential to emit over 10 tons per year?

MS. VEHR: Objection as to what you mean by "minor." Calls for speculation. Facts not in evidence.

A I don't know. It would depend on what has changed.

Q (By Ms. Issod) Are any of the assumptions underlying the emission calculation enforceable?

MR. COPPEDE: Object to form of the question. Vague and ambiguous.

MS. VEHR: I'll join in that.

A My guess is they could use Condition 2 of Exhibit 4.

Q (By Ms. Issod) Condition 2 of the final permit?

A Yes. It all has descriptions set forth in the application.

Q Okay.

A Then we also do have that Condition 19, of Exhibit 4, what I could verify.

MS. ISSOD: Okay. Can I take a short break?

THE WITNESS: Sure.

MS. VEHR: Yes.

(Recess from 3:18 p.m. to 3:33 p.m.)

Q (By Ms. Issod) Did you get a chance to review some documents during the break?

A (Shakes head.)

Q No.

A No.

MS. VEHR: He didn't come around to look at your computer. I'm sorry.

MS. ISSOD: Sure. Can we go off the record.

(Off the record.)

Q (By Ms. Issod) Did you have a chance to review documents during the break?

A Yes, I did.

Q Can you answer the question now? Did you account for HAP emissions from the flares during SSM

events?

A No.

Q Why not?

A The applicant didn't provide any emissions during those events.

Q Do you recall asking for emissions during those events?

A No. As far as I recall, we did not, because the gasifiers and stuff did not -- the syn gas had not made it down to the other processes, which would have gone back to the flares. As I recall.

Q Is the syn gas -- if it did make it down to the flares, does that mean there would be no HAP emissions?

A The syn gas hadn't made it through the process to BACT which -- say the MPG process or the methanol process, where it would be sent to the flares.

Q I'm just trying to understand the response, being a nonexpert myself. So if you could try to explain again why --

A As I recall -- as I recall during startup, syn gas from the gasifiers will go to the flares, until downstream units are able to accommodate the syn gas. And syn gas is primarily composed of CO and hydrogen. And possible amounts of hydrogen sulfide, but that's

not . . .

Q Okay. So are you saying that you didn't account for HAP emissions during the flares because you don't believe there will be any HAP emissions?

A I do not recall there being HAP emissions during startup and shutdown from those emission units.

Q And the reason you believe there's no HAP emissions is because of where the syn gas --

A Where the streams are coming from, the process streams.

Q So what stream is going to the flares during SSM events?

A I -- I would need to look at the simplified process flow diagram that was in the analysis. It was reflected there.

Q In the DEQ permit analysis?

A Yes, and the application.

(Deposition Exhibit 5 marked.)

Q (By Ms. Issod) Giving you a copy of Exhibit 5. Is that the DEQ permit application analysis?

A Correct.

MS. VEHR: Can I interrupt for just a second while Andrew is looking at this. In the back of this, Appendix A and Appendix B, and there's something that looks like Section 4? I don't know if that's part of

the permit application or not.

MS. ISSOD: Okay. There might be some extra pages --

MS. VEHR: Okay.

MS. ISSOD: -- in the exhibits that correspond to the Bates numbers.

MS. VEHR: Okay.

MS. ISSOD: Yes.

MS. VEHR: I just wanted to reflect that on the question.

MS. ISSOD: Okay.

Q (By Ms. Issod) Did you have a chance to refresh your memory?

A Yeah.

MS. ISSOD: Could the court reporter read back the pending question.

(Testimony read.)

Q (By Ms. Issod) What streams are going to the flares during SSM events?

A As I recall, the streams from the GE gasification block and potentially the syn gas-up as it reflects acid and gas removal.

Q (By Ms. Issod) Does that change your previous understanding that there won't be HAP emissions from the flares during SSM events?

A No.
Q Okay.
A No, it doesn't change my understanding.
Q Okay. So those streams don't contain HAP emissions?
A I do not know the exact composition of those streams, but those -- they primarily consist of carbon monoxide -- carbon monoxide, hydrogen, with some CO2 and hydrogen sulfide, and hydrogen sulfide is not considered a HAP.
Q Okay. Are VOCs a HAP?
A That is difficult to answer, because HAPs are a subset of VOCs.
Q Okay. That's a good answer. All right. Did you account for VOC emissions from the flares during SSM events?
A I do not recall.
Q Okay. And you would need to look --
A Appendix B.
Q -- Appendix B again. Okay. Are you aware of, Medicine Bow modeled short-term fugitive emissions of particulate matter?
A If we can go back to the previous one.
Q Sure.
A Because I'm looking at --

Q Sure.
A -- the analysis. In the cold startup table with VOCs from the high pressure and low-pressure flare, so, yes, we did account for.
Q Okay. Did you account for VOC emissions from the flares in the potential to emit estimate?
A I'd say the VOC emissions are as reflected in the cold startup.
Q Okay. Are you aware if Medicine Bow modeled short-term fugitive emissions of particulate matter?
A To the extent of which I know of, they had fugitive emissions in the annual model.
Q And not in the short-term model.
A As far as I understand, but I would defer that to Josh Nall.
Q Do you know why they wouldn't model short-term fugitive emissions of particulate matter?
MS. VEHR: Objection. It's argumentative.
A I'd defer to Josh.
Q (By Ms. Issod) All right. Were you involved in the permitting process for the Dry Fork generating facility?
A No, I was not.
Q Okay. Does the record contain a BACT analysis of PM 2.5?

A No, it does not, because we use a PM 10 surrogate policy.

Q Does the record contain a modeling analysis of PM 2.5?

A Not that I'm aware of, but you'd have to talk to Josh.

Q Does the record contain an analysis of why PM 10 is a reasonable surrogate for PM 2.5 at the Medicine Bow facility?

MS. VEHR: Objection. Modeling. He already said that he needs to talk to -- the question would have to be directed to Josh.

MR. COPPEDE: We will object on foundation grounds.

A I do not believe that it does, but I have to defer to Josh.

Q (By Ms. Issod) Okay.

A It's outside my area of expertise.

Q Did you conduct an analysis of why PM 10 is a reasonable surrogate for PM 2.5 at the Medicine Bow facility?

A No, I did not.

Q Did you review an analysis of why PM 10 is a reasonable surrogate for PM 2.5 at the Medicine Bow facility?

A I do not recall that being in the application.

Q Okay. Did you analyze the relationship between PM 10 and PM 2.5 emissions from Medicine Bow?

A No, I did not.

Q Did you determine that the control technologies selected for PM 10 is at least as effective as the technology that would have been selected if a PM 2.5 BACT analysis were conducted?

MS. VEHR: Objection to form of the question.

A Would you repeat that? Was that "review" or "conduct"?

Q (By Ms. Issod) Okay. Well, let's say "conduct."

A No.

Q Did you review?

A No.

Q Can you explain why the PM 10 control at the Medicine Bow facility will control PM 2.5?

A I cannot.

Q Do you believe the PM 10 control at the Medicine Bow facility will control PM 2.5 emissions?

A I do not know.

Q Do you know of any controls that are available for PM 2.5 emissions at the Medicine Bow

plant?

A I do not, because I'm not familiar with PM 2.5 controls.

Q Do you know whether PM 2.5 is a separate pollutant from PM 10 under the Clean Air Act?

A I know it has a separate NAAQS standard from PM 10.

Q Okay. Anything else?

A No.

Q Okay. Do you think there's technical impediments to conducting a PM 2.5 BACT analysis at the Medicine Bow plant?

A That, I don't know, because I'm not familiar with the controls or the emission estimates for the plant. So it would be guessing.

Q Do you know whether there's PM 2.5 monitoring stations currently in operation?

A In Wyoming, there is a PM 2.5 network. I do not know their precise locations. I'd have to defer to the monitoring program.

Q Do you know whether there's PM 2.5 measurement methods available?

A Not that I'm aware of. It's -- I have not done an analysis of PM 2.5.

MS. ISSOD: Okay. Take a quick break.

(Recess from 3:52 p.m. to 3:56 p.m.)

MS. ISSOD: So I have no further questions, Mr. Keyfauver. Thank you for your time today.

THE WITNESS: Thank you.

EXAMINATION

BY MS. THRONE:

Q Mr. Keyfauver, I just have a couple of questions. I don't have this printed as an exhibit, but I'll represent to you that I'm showing him Section 3.1 of the decision document.

MS. ISSOD: I handed you that as an exhibit.

MS. THRONE: The decision document? I don't think so. You had the permit --

MS. ISSOD: I might have it, if you want it.

MS. THRONE: If you have a hard copy.

MS. ISSOD: It includes the public hearing in the front but then it has the decision document.

MS. VEHR: I don't think this one has the decision --

MS. THRONE: That's not the decision document.

MS. ISSOD: That's not the one you're talking about.

MS. THRONE: No, I'm talking about the March 12th, 2009 decision document that we issued with the

permit.

MS. ISSOD: This (indicating).

MS. VEHR: Yes.

MS. ISSOD: Yes. Page 30. Not in the copy?

MS. VEHR: Not in this.

MS. ISSOD: Well, I have it. I have a hard copy, if you want to use it. Either way. I don't mind either way. If you want to show it on the computer screen.

MS. ISSOD: What page are we looking at?

MS. THRONE: I'm not sure of the page number. Page 37? No, that's not right. It's Section 3.1 of the decision document. P of FC, applicability for SO2.

Q (By Ms. Throne) Mr. Keyfauver, earlier in the deposition, you were asked to testify regarding what emissions were included in the potential to emit or PTE for sulfur dioxide. If I could just give a second to review this paragraph, then I'll ask you a few questions.

A (Examines a document.) Okay.

Q I believe earlier, you were asked about whether cold start emissions were included in the PTE for sulfur dioxide, and I believe your answer was no. Is that correct?

A Correct.

Q In this table, it refers to planned maintenance emissions for the gasifiers. Do you know what those emissions are?

A As I recall, the planned emissions were emissions from when they had to take down the gasifier change out nozzle or replace in the factory, and during -- when they bring that gasification unit back on line, those emissions would go over to the flare until it met specifications.

Q So are these emissions included in the PTE, the gasifier change-out emissions?

A Planned maintenance, yes.

Q And do you know those were included?

A Because they identified those as routine, foreseeable emissions happening during a year.

Q And would this involve any startup or shutdown for the gasifier?

A Those involve startup for the gasifiers.

Q So is it fair to say that routine startup emissions are included in the PTE for sulfur dioxide?

A Yes.

MS. THRONE: I don't have any more questions.

MS. VEHR: Did you guys have any more questions?

MR. COPPEDE: No.

EXAMINATION

BY MS. VEHR:

Q Okay. I just had a couple of questions on PM 2.5. Are you familiar with the term PM 2.5 precursors?

A Yes, I am.

Q And would you tell me what a PM 2.5 precursor is?

A As I understand, EPA has identified PM 2.5 precursors as SOX and NOX emissions which can form sulfates and nitrates downstream in a facility.

Q Okay. And does the Medicine Bow permit account for SOX emissions?

A It -- yes.

Q And does the Medicine Bow facility account for NOX emissions?

A Yes, it does.

Q And the permit contains emission limits for those precursor pollutants?

A Yes, it does.

Q You were handed today five exhibits. Are there other documents that you reviewed in processing this permit?

A Yes, there were.

Q Okay. And when you were asked questions, that was based on your best recollection as of today?

A Yes.

Q Okay. And are there any points you want to clarify in responses to any of the questions you've been asked today?

A I think I'm good.

Q Okay. Could you just generally explain who else would have been involved in the permitting process for this --

A Permitting process? I was involved as the application reviewer. Josh Nall was involved as the modeler for the application. Darla Potter and Chad Schlichtmeier were involved as the NSR program supervisor and manager. Let's see. Kimberly Metz was involved, as she is the NSR program administrative assistant, so she was involved with the public notice and assigning AP numbers, put the final permit together. And Dave Finley and John Corra were involved in assigning final permits.

Q So somebody reviewed your work before the final permit got issued?

A There were a couple layers of review prior to.

MS. VEHR: That's all the questions I have. Thanks again.

MS. ISSOD: Dan?

SPEAKER: Yes.

MS. ISSOD: Redirect? Anything?

SPEAKER: No, I'm fine.

MS. ISSOD: Great.

MS. VEHR: Thank you.

(The deposition adjourned at 4:05 p.m.)

* * *

STATE OF COLORADO)
) REPORTER'S CERTIFICATE
COUNTY OF LARIMER)

I, Jason T. Meadors, RPR, CRR, and Notary Public, State of Colorado, hereby certify that the foregoing deposition of ANDREW KEYFAUVER, taken in the case of Medicine Bow Fuel & Power, LLC, Air Permit CT-5873, Docket No. 09-2801, was taken on Thursday, October 29, 2009, at 122 West 25th Street, Cheyenne, Wyoming; that prior to testifying, the witness was duly sworn by me; that said testimony was taken down by me in stenotype notes and reduced under my supervision to the foregoing 98 pages; that deponent reserved reading and signing; that said transcript is an accurate and complete record of the proceedings so taken.

I further certify that I am not related to, employed by, nor of counsel to any of the parties or attorneys herein nor otherwise interested in the outcome of the case.

Attested to by me this 8th day of November, 2009.

_____

Jason T. Meadors, RPR, CRR
Hansen & Meadors, LLC
109 East 17th Street, Suite 46
Cheyenne, Wyoming 82001
(307)432-4061

My commission expires January 26, 2013.

I, ANDREW KEYFAUVER, do hereby certify that I have read the foregoing transcript, consisting of 99 pages, and that said transcript, including any changes noted below, constitutes a true, accurate, and complete record of my testimony.

Page	Line	Changes	Reason for Change

_____
ANDREW KEYFAUVER

STATE OF

COUNTY OF

Signed and sworn to before me this _____ day of _____, 20___.

_____
Notary Public

My commission expires:

Page	Line	Changes	Reason for Change

_____
ANDREW KEYFAUVER

STATE OF

COUNTY OF

Signed and sworn to before me this _____ day of _____, 20___.

_____
Notary Public

My commission expires:

Page	Line	Changes	Reason for Change

_____
ANDREW KEYFAUVER

STATE OF

COUNTY OF

Signed and sworn to before me this _____ day of _____, 20___.

_____
Notary Public

My commission expires: