

Archived: Friday, October 9, 2020 11:10:08 AM

From: [Gordon, Michael](#)

Sent: Thursday, August 27, 2020 1:02:57 PM

To: [Andrews, Edward S](#); [Crowder, Laura M](#)

Subject: [External] Monday's Meeting

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Ed and Laura,

Let me know if you invited Longview's Counsel so I can relay that to ours.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

Archived: Friday, October 9, 2020 11:10:08 AM

From: [Andrews, Edward S](#)

Sent: Thursday, August 27, 2020 2:49:00 PM

To: [Brian Hoyt](#)

Subject: Monday's Teams Meeting with EPA

Sensitivity: Normal

Brian,

Is Longview planning on having counsel on the Monday call with EPA?

EPA is wanting to know.

Thanks,

Ed

Archived: Friday, October 9, 2020 11:10:08 AM
From: [Andrews, Edward S](#)
Sent: Friday, August 28, 2020 8:19:00 AM
To: [McKeone, Beverly D](#)
Subject: FW: WVDEP/EPA Longview Draft Permit
Last modification date: Thursday, October 8, 2020 11:32:48 AM
Reply requested: Yes
Response requested: Yes
End: Monday, August 31, 2020 11:15:00 AM
Conversation: WVDEP/EPA Longview Draft Permit

-----Original Appointment-----

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Friday, August 28, 2020 8:00 AM
To: Gordon, Michael; Andrews, Edward S; Crowder, Laura M; Jennings, Laura M; Culligan, Kevin; Baker, Sarah; Swanson, Nicholas; Werner, Christopher; Honda, Gregory; Hutson, Nick; Entwistle, Paul; Bertram, Emily; Conrad, Daniel; Vijayan, Abi; Stoltzfus, Robert; Bigioni, Neil; Hogan, Stephanie; Santiago, Juan
Subject: WVDEP/EPA Longview Draft Permit
When: Monday, August 31, 2020 11:15 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Ed, Laura, and Laura,

We wanted to go over a couple things on the draft permit with you prior to Monday's call.

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Archived: Friday, October 9, 2020 11:10:08 AM
From: [Andrews, Edward S](#)
Sent: Friday, August 28, 2020 11:50:49 AM
To: [Brian Hoyt](#)
Subject: Re: [External] ANSI Standards No. C12.20
Sensitivity: Normal

Thanks. Ed

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From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, August 28, 2020 11:29:34 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] ANSI Standards No. C12.20

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, could you provide the full specifications listed here? **“These instruments must be using 0.2 class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20”** We purchased access to the documents but have as of yet been unable to open/access them and we need to review the specific standard to ensure compliance.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:08 AM
From: [Andrews, Edward S](#)
Sent: Friday, August 28, 2020 12:17:00 PM
To: [Brian Hoyt](#)
Subject: RE: [External] ANSI Standards No. C12.20
Sensitivity: Normal

I will check but I don't think we have a legal copy of it.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, August 28, 2020 11:30 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] ANSI Standards No. C12.20

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, could you provide the full specifications listed here? **“These instruments must be using 0.2 class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20”** We purchased access to the documents but have as of yet been unable to open/access them and we need to review the specific standard to ensure compliance.

Thanks!

-Brian



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Archived: Friday, October 9, 2020 11:10:08 AM
From: [Andrews, Edward S](#)
Sent: Friday, August 28, 2020 3:41:00 PM
To: [Brian Hoyt](#)
Subject: RE: [External] LVP Draft "ACE" Permit Comments
Sensitivity: Normal

I will set something up for 10:00.

Thanks.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, August 28, 2020 2:58 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP Draft "ACE" Permit Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed. Please find Longview's comments on the draft permit. We provide comment, revision, as well as some placeholders so as to not derail the discussion. Let's chat when you have a chance prior to the EPA meeting.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
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Archived: Friday, October 9, 2020 11:10:08 AM
From: [Andrews, Edward S](#)
Sent: Friday, August 28, 2020 3:49:00 PM
To: [Brian Hoyt](#); [Tipane, Frederick](#)
Cc: [Steve Nelson](#); [McKeone, Beverly D](#)
Subject: LVP Call regarding the Pre-draft
Last modification date: Thursday, October 8, 2020 11:32:51 AM
Reply requested: Yes
Response requested: Yes
End: Monday, August 31, 2020 10:00:00 AM
Conversation: LVP Call regarding the Pre-draft

Per Brian's request.

Ed

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Archived: Friday, October 9, 2020 11:10:09 AM

From: [Andrews, Edward S](#)

Sent: Thursday, September 3, 2020 1:57:00 PM

To: [Brian Hoyt](#)

Cc: [Steve Nelson](#); [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#)

Subject: Revised pre-draft for Permit Application R13-3495

Sensitivity: Normal

Attachments:

[061-00134_PERM_13-3495_draft_ver-6.docx](#)  [061-00134_PERM_13-3495_draft_ver-7.docx](#) 

Brian,

Here is a revised clean (ver-7) and edited version (ver-6).

Please look this over these changes and let me know if there is any questions about the changes.

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:09 AM
From: [Andrews, Edward S](#)
Sent: Friday, September 4, 2020 12:32:00 PM
To: [Brian Hoyt](#)
Cc: [Shrewsbury, Todd H](#); [Compston, Rex E](#); [Tipane, Frederick](#)
Subject: RE: Revised pre-draft for Permit Application R13-3495
Sensitivity: Normal

Brain,

Thanks for this additional point. We did realized that 30 might need to be reevaluated and revised. At this time, we left it at 30 as a place holder.

Hey, could you forward the exact spot that the preamble noted annual compliance testing.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, September 4, 2020 12:27 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Revised pre-draft for Permit Application R13-3495

One item for discussion. When evaluating the CAF data and the required less than or equal to 30 SD for the data to be valid, I see a potential issue as follows:

Method 1 - For each test day, take the hourly CO2 lb/MWHN values and calculate a daily average
Calculate a 7-day rolling SD for the daily averages (7 values)

OR

Method 2 - For each test day, take the hourly CO2 lb/MWHN values and calculate a 7-day rolling SD for the hourly values
(7x24=168 values)

As I analyze the last 4 quarters of data, it is not uncommon to see SD values as high as 68 for days at a time using Method 1, and above 100 using Method 2. Method 1 is "better" however both methods show real issues when looking at Q2 2020 data and that's some very key data and reflects the operating scenarios we would expect to see in the future. Now, we may be able to keep the data tighter during a test, but then again, due to the unfamiliarity of running the new fuel, we may not. I am concerned that 30 limit on SD is far too tight to be achievable especially during a test burn...

Mull that over if you would, perhaps do your own brief analysis, and see what you think. I realize the need to have good quality data, but as it stands, I don't think I could feel confident that we could achieve the current target in any reasonable timeframe, particularly on a new fuel.

-B

From: Brian Hoyt
Sent: Friday, September 4, 2020 10:45 AM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: RE: Revised pre-draft for Permit Application R13-3495

Ed, some brief comments on the clean version of the draft permit.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 3, 2020 1:58 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>; Crowder, Laura M <Laura.M.Crowder@wv.gov>
Subject: Revised pre-draft for Permit Application R13-3495

Brian,

Here is a revised clean (ver-7) and edited version (ver-6).

Please look this over these changes and let me know if there is any questions about the changes.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

The information contained in this electronic message is confidential and proprietary information of the sender and is intended only for the use of the individual or entity intended by the sender to be the recipient. If the recipient of this message is not the intended recipient, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited. If you have received this communication in error, please immediately notify the sender by return e-mail and purge the communication without making any copy or distribution.

Archived: Friday, October 9, 2020 11:10:09 AM
From: [Andrews, Edward S](#)
Sent: Friday, September 4, 2020 12:48:00 PM
To: [Brian Hoyt](#)
Subject: RE: Revised pre-draft for Permit Application R13-3495
Sensitivity: Normal

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, September 4, 2020 12:47 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: RE: Revised pre-draft for Permit Application R13-3495

<https://www.federalregister.gov/d/2019-13507/p-546>

“Another possible option to account for variable emissions is to set standards of performance based on a standard set of conditions. A state could establish a baseline of performance of a unit at specific load and operational conditions and then set a standard against those conditions via the application of the BSER. Compliance for the unit could be demonstrated annually (or by another increment of time if appropriate based on the level of stringency of the standard of performance set for the unit) at those same conditions. In the interim, between the demonstration of compliance under standardized conditions, a state could allow for the maintenance and demonstration of fully operational candidate technologies to be a method to demonstrate compliance as the standard of performance must apply at all times. The Agency believes that these approaches to providing flexibility (and possible others not described here) in establishing standards of performance are reasonable and appropriate by accounting for innate variable emission performance across EGUs and at specific EGUs while also limiting this flexibility to instances in which underlying variable factors are evaluated and linked to variable emission performance.”

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, September 4, 2020 12:32 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Revised pre-draft for Permit Application R13-3495

Brain,

Thanks for this additional point. We did realized that 30 might need to be reevaluated and revised. At this time, we left it at 30 as a place holder.

Hey, could you forward the exact spot that the preamble noted annual compliance testing.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, September 4, 2020 12:27 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Revised pre-draft for Permit Application R13-3495

One item for discussion. When evaluating the CAF data and the required less than or equal to 30 SD for the data to be valid, I see a potential issue as follows:

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-B

From: Brian Hoyt

Sent: Friday, September 4, 2020 10:45 AM

To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>

Subject: RE: Revised pre-draft for Permit Application R13-3495

Ed, some brief comments on the clean version of the draft permit.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, September 3, 2020 1:58 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Cc: Stephen Nelson <snelson@longviewpower.net>; Crowder, Laura M <Laura.M.Crowder@wv.gov>

Subject: Revised pre-draft for Permit Application R13-3495

Brian,

Here is a revised clean (ver-7) and edited version (ver-6).

Please look this over these changes and let me know if there is any questions about the changes.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer

West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:09 AM

From: [Andrews, Edward S](#)

Sent: Friday, September 4, 2020 5:29:00 PM

To: [Andrews, Edward S](#) [Andrews, Edward S \(Edward.S.Andrews@wv.gov\)](#); [Brian Hoyt](#); [Compston, Rex E](#); [Culligan, Kevin](#); [Honda, Gregory](#); [Jennings, Laura M](#); [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#); [MaryCate Opila](#); [Mckeone, Beverly D](#); [Mike Gordon](#); [Nick Hutson \(Hutson.Nick@epa.gov\)](#); [Shrewsbury, Todd H](#); [Steve Nelson](#); [Tipane, Frederick](#)

Subject: Longview ACE Permit Status

Last modification date: Thursday, October 8, 2020 11:32:50 AM

Reply requested: Yes

Response requested: Yes

End: Wednesday, September 9, 2020 11:00:00 AM

Conversation: Longview ACE Permit Status

Attachments:

[061-00134_PERM_13-3495_draft_ver-7.docx](#) 

I am still work my evaluation that goes with the attached draft permit.

I am hoping to make it available over the weekend.

Please forward this to anyone else in your organization that need to be on this call.

Ed

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Thursday, September 3, 2020 1:39 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Call

When: Wednesday, September 9, 2020 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

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Conference ID: 382 083 184#

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Archived: Friday, October 9, 2020 11:10:09 AM
From: [Gordon, Michael](#)
Sent: Tuesday, September 8, 2020 7:45:17 AM
To: [Andrews, Edward S](#)
Subject: RE: Longview ACE Permit Status
Sensitivity: Normal

Ed, Let me know if Longview will have counsel on the call.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

-----Original Appointment-----

From: Edward.S.Andrews@wv.gov <Edward.S.Andrews@wv.gov> **On Behalf Of** Adkins, Sandra K
Sent: Friday, September 04, 2020 5:30 PM
To: Andrews, Edward S; Brian Hoyt; Compston, Rex E; Culligan, Kevin; Honda, Gregory; Jennings, Laura M; Crowder, Laura M; Opila, MaryCate; McKeone, Beverly D; Gordon, Michael; Hutson, Nick; Shrewsbury, Todd H; Steve Nelson; Tipane, Frederick
Subject: Longview ACE Permit Status
When: Wednesday, September 09, 2020 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

I am still work my evaluation that goes with the attached draft permit.

I am hoping to make it available over the weekend.

Please forward this to anyone else in your organization that need to be on this call.

Ed

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>
Sent: Thursday, September 3, 2020 1:39 PM
To: Adkins, Sandra K; Andrews, Edward S
Subject: Longview ACE Call
When: Wednesday, September 9, 2020 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Join Microsoft Teams Meeting

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Conference ID: 382 083 184#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)

Archived: Friday, October 9, 2020 11:10:09 AM

From: [Andrews, Edward S](#)

Sent: Tuesday, September 8, 2020 8:06:00 AM

To: [Brian Hoyt](#)

Subject: Wednesday Meeting

Sensitivity: Normal

Brian,

Is Longview Power planning on having counsel on the Wednesday call?

Thanks,

Ed

Archived: Friday, October 9, 2020 11:10:09 AM
From: [Gordon, Michael](#)
Sent: Tuesday, September 8, 2020 9:54:45 AM
To: [Andrews, Edward S](#)
Subject: RE: Longview ACE Permit Status
Sensitivity: Normal

Thanks, Ed.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, September 08, 2020 9:54 AM
To: Gordon, Michael <Gordon.Mike@epa.gov>
Subject: RE: Longview ACE Permit Status

Mike,

Longview Power will have counsel on the call tomorrow. Our counsel will not be available during the call.

Thanks,

Ed

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Tuesday, September 8, 2020 7:45 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Longview ACE Permit Status

Ed, Let me know if Longview will have counsel on the call.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039

Gordon.Mike@epa.gov

-----Original Appointment-----

From: Edward.S.Andrews@wv.gov <Edward.S.Andrews@wv.gov> **On Behalf Of** Adkins, Sandra K

Sent: Friday, September 04, 2020 5:30 PM

To: Andrews, Edward S; Brian Hoyt; Compston, Rex E; Culligan, Kevin; Honda, Gregory; Jennings, Laura M; Crowder, Laura M; Opila, MaryCate; McKeone, Beverly D; Gordon, Michael; Hutson, Nick; Shrewsbury, Todd H; Steve Nelson; Tipane, Frederick

Subject: Longview ACE Permit Status

When: Wednesday, September 09, 2020 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

I am still work my evaluation that goes with the attached draft permit.

I am hoping to make it available over the weekend.

Please forward this to anyone else in your organization that need to be on this call.

Ed

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Thursday, September 3, 2020 1:39 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Call

When: Wednesday, September 9, 2020 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).


Where: Microsoft Teams Meeting

[Join Microsoft Teams Meeting](#)

[+1 681-245-6817](tel:+16812456817) United States, Charleston (Toll)

Conference ID: 382 083 184#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)

Archived: Friday, October 9, 2020 11:10:09 AM
From: [Andrews, Edward S](#)
Sent: Wednesday, September 9, 2020 10:29:00 AM
To: [Mike Gordon](#)
Cc: [Culligan, Kevin](#); [MaryCate Opila](#)
Subject: Working draft of Evaluation of LVP AE Permit
Sensitivity: Normal
Attachments:
[061-00134_EVAL_R13-3495_draft_ver1.docx](#) 

Mike,

Sorry about the delay. Here is a working draft of my evaluation of LVP ACE Permit.

I still need to proof myself and check it with Laura's plan to make sure one is not undermining the other.

I am still look at the degradation justification, proposed rate and past data if see if there is anything else we can add to it.

We need to discussion what mechanism should be used to incorporate these new requirements into the facility's title v permit.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:09 AM
From: [Gordon, Michael](#)
Sent: Wednesday, September 9, 2020 12:20:42 PM
To: [Andrews, Edward S](#)
Cc: [Tipane, Frederick](#); [Jennings, Laura M](#)
Subject: [External] Title V Requirements
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.


Ed, I found this useful and might give us clearer direction:

(f) *Reopening for cause.* (1) Each issued permit shall include provisions specifying the conditions under which the permit will be reopened prior to the expiration of the permit. A permit shall be reopened and revised under any of the following circumstances:

(i) Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than **18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire**, unless the original permit or any of its terms and conditions has been extended pursuant to §70.4(b)(10) (i) or (ii) of this part.

Looks like there is 18 months after PROMULGATION of the requirement (that is, effective date of the state plan – 30 or 60 days after approval). If the effective date is after permit expiration, this does not apply.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

Archived: Friday, October 9, 2020 11:10:10 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 10, 2020 8:46:00 AM
To: [Brian Hoyt](#)
Subject: Level 1 Limits with the UDAF applied out to 2035
Sensitivity: Normal
Attachments:
[Eval_3495_App_A.xlsx](#) 

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:10 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 10, 2020 8:59:00 AM
To: [Brian Hoyt](#)
Subject: RE: Level 1 Limits with the UDAF applied out to 2035
Sensitivity: Normal

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, September 10, 2020 8:58 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Level 1 Limits with the UDAF applied out to 2035

I re-ran the numbers and concur, your table matches mine.

-Brian

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 10, 2020 8:47 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: Level 1 Limits with the UDAF applied out to 2035

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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by return e-mail and purge the communication without making any copy or distribution.

Archived: Friday, October 9, 2020 11:10:10 AM

From: [Andrews, Edward S](#)

Sent: Thursday, September 10, 2020 9:38:00 AM

To: [Brian Hoyt](#)

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

Sensitivity: Normal

Hey,

Could you send us a copy of your excel file that you created this table.

I would like to use it as a appendix in my eval.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Thursday, September 10, 2020 8:59 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

Longview Power CO₂ Rate Degradation Table

Starting Year	2021	
Degradation	0.4%	annually
Recovery	0.7%	per 5 years

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Degradation	0.0%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Recovery	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%

Level 1 - Annual CO₂ Standard of Performance (lbs/MWHG)

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
0	9,864	9,903	9,943	9,983	9,953	9,992	10,032	10,073	10,113	10,082	10,123	10,163	10,204	10,244	10,213

Level 1 - Annual CO₂ Standard of Performance (lbs/MWHN)

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
------	---	---	---	---	---	---	---	---	---	---	----	----	----	----	----

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
1	2,230	2,239	2,248	2,257	2,250	2,259	2,268	2,277	2,286	2,279	2,288	2,298	2,307	2,316	2,309
2	2,108	2,116	2,125	2,133	2,127	2,135	2,144	2,153	2,161	2,155	2,163	2,172	2,181	2,189	2,183
3	2,050	2,058	2,066	2,075	2,068	2,077	2,085	2,093	2,102	2,095	2,104	2,112	2,121	2,129	2,123
4	2,002	2,010	2,018	2,026	2,020	2,028	2,036	2,044	2,052	2,046	2,054	2,063	2,071	2,079	2,073
5	1,958	1,966	1,974	1,982	1,976	1,983	1,991	1,999	2,007	2,001	2,009	2,017	2,025	2,034	2,027

Level 2 - Annual CO ₂ Standard of Performance (lbs/MWHN)															
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
1	2,453	2,463	2,473	2,483	2,475	2,485	2,495	2,505	2,515	2,507	2,517	2,527	2,537	2,548	2,540
2	2,319	2,328	2,337	2,347	2,340	2,349	2,358	2,368	2,377	2,370	2,380	2,389	2,399	2,408	2,401
3	2,255	2,264	2,273	2,282	2,275	2,284	2,293	2,303	2,312	2,305	2,314	2,323	2,333	2,342	2,335
4	2,202	2,211	2,220	2,229	2,222	2,231	2,240	2,249	2,258	2,251	2,260	2,269	2,278	2,287	2,280
5	2,154	2,162	2,171	2,180	2,173	2,182	2,191	2,199	2,208	2,201	2,210	2,219	2,228	2,237	2,230

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
 Sent: Thursday, September 10, 2020 8:47 AM
 To: Brian Hoyt <bhoyt@longviewpower.net>
 Subject: Level 1 Limits with the UDAF applied out to 2035

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks
 Ed

Edward S. Andrews, P.E.
 Engineer
 West Virginia Department of Environmental Protection
 Division of Air Quality
 601 57th Street, SE
 Charleston, WV 25304
 304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:10 AM

From: [Andrews, Edward S](#)

Sent: Thursday, September 10, 2020 10:07:00 AM

To: [Brian Hoyt](#)

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

Sensitivity: Normal

Thanks.
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Thursday, September 10, 2020 9:56 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

As requested.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, September 10, 2020 9:39 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: Level 1 Limits with the UDAF applied out to 2035

Hey,

Could you send us a copy of your excel file that you created this table.

I would like to use it as a appendix in my eval.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Thursday, September 10, 2020 8:59 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

Longview Power CO₂ Rate Degradation Table

Starting Year	2021	
Degradation	0.4%	annually
Recovery	0.7%	per 5 years

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Degradation	0.0%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Recovery	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%

Level 1 - Annual CO ₂ Standard of Performance (lbs/MWHG)															
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
0	9,864	9,903	9,943	9,983	9,953	9,992	10,032	10,073	10,113	10,082	10,123	10,163	10,204	10,244	10,213

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Bin															
1	2,230	2,239	2,248	2,257	2,250	2,259	2,268	2,277	2,286	2,279	2,288	2,298	2,307	2,316	2,309
2	2,108	2,116	2,125	2,133	2,127	2,135	2,144	2,153	2,161	2,155	2,163	2,172	2,181	2,189	2,183
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Level 2 - Annual CO ₂ Standard of Performance (lbs/MWHN)															
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
1	2,453	2,463	2,473	2,483	2,475	2,485	2,495	2,505	2,515	2,507	2,517	2,527	2,537	2,548	2,540
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5	2,154	2,162	2,171	2,180	2,173	2,182	2,191	2,199	2,208	2,201	2,210	2,219	2,228	2,237	2,230

Sent: Thursday, September 10, 2020 8:47 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: Level 1 Limits with the UDAF applied out to 2035

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:10 AM

From: [Andrews, Edward S](#)

Sent: Thursday, September 10, 2020 12:31:00 PM

To: [Brian Hoyt](#)

Subject: 061-00134_PERM_13-3495_draft_ver-7a

Sensitivity: Normal

Attachments:

[061-00134_PERM_13-3495_draft_ver-7a.docx](#) 

Brian,

Could you please review this draft? Mainly look at 4.3.1. to see if this would work for your Ops folks on tuning the unit.

Thanks,

Ed

Archived: Friday, October 9, 2020 11:10:10 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 10, 2020 5:58:00 PM
To: [Brian Hoyt](#)
Subject: Draft Evaluation for 13-3495
Sensitivity: Normal

Here is a draft copy of our evaluation.

Enjoy,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:11 AM

From: [Andrews, Edward S](#)

Sent: Friday, September 11, 2020 8:53:00 AM

To: [Brian Hoyt](#)

Subject: RE: Draft Evaluation for 13-3495

Sensitivity: Normal

Attachments:

[061-00134_EVAL_R13-3495_draft_ver1.docx](#) 

Here it is on the 2nd try.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Friday, September 11, 2020 12:25 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Draft Evaluation for 13-3495

[Missing the document.](#) =)

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, September 10, 2020 5:59 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Draft Evaluation for 13-3495

Here is a draft copy of our evaluation.

Enjoy,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:11 AM

From: [Andrews, Edward S](#)

Sent: Monday, September 14, 2020 1:32:00 PM

To: [Brian Hoyt](#)

Subject: WF Papers

Sensitivity: Normal

Attachments:

[supercritical-700-MW.pdf](#)  [enson-boiler.docx](#) 

Brian,

Here are the two papers that I found that WF did concerning your unit.

They are nearly the same paper but with different layouts.

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:11 AM
From: [Andrews, Edward S](#)
Sent: Tuesday, September 15, 2020 8:13:00 AM
To: [Brian Hoyt](#)
Subject: RE: [External] FW: LVP ACE Rule Engineering Evaluation Comments
Sensitivity: Normal

I did. I working with it this morning.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, September 15, 2020 8:05 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] FW: LVP ACE Rule Engineering Evaluation Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Did you get this? Still showing as "draft" in my outbox but I was sure it sent before we talked about the draft permit comments...

-B

From: Brian Hoyt
Sent: Monday, September 14, 2020 12:44 PM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: LVP ACE Rule Engineering Evaluation Comments

LVP comments attached. Additional info/diagrams (1 or 2 total, helpful but not required) incoming ASAP but this is about 99% complete.

-B



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:11 AM

From: [Andrews, Edward S](#)

Sent: Tuesday, September 15, 2020 10:02:00 AM

To: [Andrews, Edward S](#) [Andrews, Edward S \(Edward.S.Andrews@wv.gov\)](#); [Brian Hoyt](#); [Compston, Rex E](#); [Culligan, Kevin](#); [Honda, Gregory](#); [Jennings, Laura M](#); [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#); [MaryCate Opila](#); [Mckeone, Beverly D](#); [Mike Gordon](#); [Nick Hutson \(Hutson.Nick@epa.gov\)](#); [Shrewsbury, Todd H](#); [Steve Nelson](#); [Tipane, Frederick](#)

Subject: Longview ACE Permit Call

Last modification date: Thursday, October 8, 2020 11:32:50 AM

Reply requested: Yes

Response requested: Yes

End: Tuesday, September 22, 2020 9:00:00 AM

Conversation: Longview ACE Permit Call

This call is to going over comments/suggestions/remarks on the draft permit and engineering evaluation for LVP ACE Application.

We have received feed back from LVP on the evaluation and working on updating it.

A revised draft and evaluation will be forward to this group in the future.

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Wednesday, September 9, 2020 1:34 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Permit

When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

[Join Microsoft Teams Meeting](#)

[+1 681-245-6817](#) United States, Charleston (Toll)

Conference ID: 711 409 780#

Archived: Friday, October 9, 2020 11:10:11 AM
From: [Gordon, Michael](#)
Sent: Tuesday, September 15, 2020 11:04:24 AM
To: [Andrews, Edward S](#)
Subject: RE: Longview ACE Permit Call
Sensitivity: Normal

Ed,

I'll assume Longview's counsel will be present unless I hear from you.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

-----Original Appointment-----

From: Edward.S.Andrews@wv.gov <Edward.S.Andrews@wv.gov> **On Behalf Of** Adkins, Sandra K
Sent: Tuesday, September 15, 2020 10:03 AM
To: Andrews, Edward S; Brian Hoyt; Compston, Rex E; Culligan, Kevin; Honda, Gregory; Jennings, Laura M; Crowder, Laura M; Opila, MaryCate; McKeone, Beverly D; Gordon, Michael; Hutson, Nick; Shrewsbury, Todd H; Steve Nelson; Tipane, Frederick
Subject: Longview ACE Permit Call
When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

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West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Wednesday, September 9, 2020 1:34 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Permit

When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

[Join Microsoft Teams Meeting](#)

[+1 681-245-6817](#) United States, Charleston (Toll)

Conference ID: 711 409 780#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)

Archived: Friday, October 9, 2020 11:10:11 AM
From: [Andrews, Edward S](#)
Sent: Tuesday, September 15, 2020 11:07:00 AM
To: [Brian Hoyt](#)
Subject: FW: Longview ACE Permit Call
Response requested: No
Sensitivity: Normal

Hey,

Will Longview Power have their counsel on the September 22 Call with EPA?

Thanks,
Ed

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Tuesday, September 15, 2020 11:04 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Longview ACE Permit Call

Ed,

I'll assume Longview's counsel will be present unless I hear from you.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

-----Original Appointment-----

From: Edward.S.Andrews@wv.gov <Edward.S.Andrews@wv.gov> **On Behalf Of** Adkins, Sandra K
Sent: Tuesday, September 15, 2020 10:03 AM
To: Andrews, Edward S; Brian Hoyt; Compston, Rex E; Culligan, Kevin; Honda, Gregory; Jennings, Laura M; Crowder, Laura M; Opila, MaryCate; McKeone, Beverly D; Gordon, Michael; Hutson, Nick; Shrewsbury, Todd H; Steve Nelson; Tipane, Frederick
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-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Wednesday, September 9, 2020 1:34 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Permit

When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

[Join Microsoft Teams Meeting](#)

[+1 681-245-6817](#) United States, Charleston (Toll)

Conference ID: 711 409 780#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)

Archived: Friday, October 9, 2020 11:10:11 AM
From: [Andrews, Edward S](#)
Sent: Tuesday, September 15, 2020 12:25:00 PM
To: [Brian Hoyt](#)
Subject: RE: [EXTERNAL] FW: Longview ACE Permit Call
Sensitivity: Normal

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, September 15, 2020 12:24 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: Re: [EXTERNAL] FW: Longview ACE Permit Call

Yes

Sent from my iPhone

On Sep 15, 2020, at 11:09 AM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Hey,

Will Longview Power have their counsel on the September 22 Call with EPA?

Thanks,
Ed

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Tuesday, September 15, 2020 11:04 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Longview ACE Permit Call

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Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039

Gordon.Mike@epa.gov

-----Original Appointment-----

From: Edward.S.Andrews@wv.gov <Edward.S.Andrews@wv.gov> **On Behalf Of** Adkins, Sandra K
Sent: Tuesday, September 15, 2020 10:03 AM
To: Andrews, Edward S; Brian Hoyt; Compston, Rex E; Culligan, Kevin; Honda, Gregory; Jennings, Laura M; Crowder, Laura M; Opila, MaryCate; McKeone, Beverly D; Gordon, Michael; Hutson, Nick; Shrewsbury, Todd H; Steve Nelson; Tipane, Frederick
Subject: Longview ACE Permit Call
When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

This call is to going over comments/suggestions/remarks on the draft permit and engineering evaluation for LVP ACE Application.

We have received feed back from LVP on the evaluation and working on updating it.

A revised draft and evaluation will be forward to this group in the future.

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>
Sent: Wednesday, September 9, 2020 1:34 PM
To: Adkins, Sandra K; Andrews, Edward S
Subject: Longview ACE Permit
When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

[Join Microsoft Teams Meeting \[gcc01.safelinks.protection.outlook.com\]](https://gcc01.safelinks.protection.outlook.com)

[+1 681-245-6817](tel:+16812456817) United States, Charleston (Toll)

Conference ID: 711 409 780#

[Local numbers \[gcc01.safelinks.protection.outlook.com\]](https://gcc01.safelinks.protection.outlook.com) | [Reset PIN \[mysettings.lync.com\]](https://mysettings.lync.com) | [Learn more about Teams \[gcc01.safelinks.protection.outlook.com\]](#) | [Meeting options \[gcc01.safelinks.protection.outlook.com\]](#)

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Archived: Friday, October 9, 2020 11:10:11 AM

From: [Andrews, Edward S](#)

Sent: Tuesday, September 15, 2020 3:59:00 PM

To: [Brian Hoyt](#)

Subject: Remarks on the Draft Evaluation for the ACE Permit

Sensitivity: Normal

Brian,

Is LVP planning on supply addition information to add to the eval where Mr. Nelson questioned the eval or thought addition information should be add?

I have add some addition but I am limited to what I can add.

Thanks,

Ed

Archived: Friday, October 9, 2020 11:10:12 AM

From: [Gordon, Michael](#)

Sent: Thursday, September 17, 2020 8:05:58 AM

To: [Jennings, Laura M](#)

Cc: [Andrews, Edward S](#); [Tipane, Frederick](#); [Compston, Rex E](#); [Shrewsbury, Todd H](#)

Subject: RE: State Plan Requirement Question

Sensitivity: Normal

Hi Laura,

At first glance I think you are correct, but I am looping in HQ just to verify. I'll let you know the response.

-Mike

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Jennings, Laura M <Laura.M.Jennings@wv.gov>

Sent: Wednesday, September 16, 2020 11:38 AM

To: Gordon, Michael <Gordon.Mike@epa.gov>

Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>

Subject: State Plan Requirement Question

Hi Mike,

I have a question as I'm working on the draft partial State Plan in regard to the monitoring, recordkeeping, & reporting requirements of §60.5785a(a)(2)(vi) that I've copied below for the substitute data portion.

(vi) Data validation procedures for ensuring data are complete and calculated consistent with program rules, including procedures for determining substitute data in instances where required data would otherwise be incomplete.

We have mirrored the MRR requirements from 40 CFR 60, Subpart TTTT that include data validation requirements, but because Part 60 MRR requirements were not developed for trading program purposes, they do not include data substitution requirements. I've copied below the language from 4.2.4 of the pre-draft LVP permit addressing data validation. Does this meet the intention of §60.5785a(a)(2)(vi) above or is something else needed?

- 4.2.4. The permittee shall evaluate the data as required to be collected under Condition 4.2.1. to determine if the data is "valid data" using the criteria set forth in this condition. Each compliance period shall include only "valid operating hours" in the compliance period, i.e., operating hours for which:
- a. "Valid data" is defined as quality-assured data generated by continuous monitoring systems that are installed, operated, and maintained according to 40 CFR Part 75. For CEMS, the initial certification requirements in 40 CFR §75.20 and appendix A to 40 CFR Part 75 must be met before quality-assured data are reported under this permit. For on-going quality

assurance, the daily, quarterly, and semiannual/annual test requirements in sections 2.1, 2.2, and 2.3 of appendix B to 40 CFR Part 75 must be met and the data validation criteria in sections 2.1.5, 2.2.3, and 2.3.2 of appendix B to 40 CFR Part 75 apply. For fuel flow meters, the initial certification requirements in section 2.1.5 of appendix D to 40 CFR Part 75 must be met before quality-assured data are reported under this permit, and for on-going quality assurance, the provisions in section 2.1.6 of appendix D to 40 CFR Part 75 apply.

- b. "Valid data" are obtained for all of the parameters used to determine the hourly CO₂ mass emissions (lb) and,
- c. The corresponding hourly net energy output value is also valid data (Note: For hours with no useful output, zero is considered to be a valid value).
- d. The permittee must exclude operating hours in which:
 - i. The substitute data provisions of 40 CFR Part 75 are applied for any of the parameters used to determine the hourly CO₂ mass emissions; or
 - ii. An exceedance of the full-scale range of a continuous emission monitoring system occurs for any of the parameters used to determine the hourly CO₂ mass emissions or, if applicable, to determine the hourly heat input; or
 - iii. The total net energy output is unavailable.
- e. For each compliance period, at least 95 percent of the operating hours in the compliance period must be valid operating hours, as defined in paragraph a of this condition.
- f. The permittee must calculate the total CO₂ mass emissions by summing the valid hourly CO₂ mass emissions values from monitored data collected under Condition 4.2.1. for all the valid operating hours for each month within the compliance period.

Thanks,

Laura M. Jennings

Technical Analyst, Planning

WV Dept. of Environmental Protection

Division of Air Quality

(304)926-0499 x 41266 (NOTE: new extension)

(304) 414-1266 (Direct Dial)

Laura.M.Jennings@wv.gov

Archived: Friday, October 9, 2020 11:10:12 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 17, 2020 1:36:00 PM
To: [Brian Hoyt](#)
Subject: RE: [External] FW: WF Papers
Sensitivity: Normal

Yes it is.

I will be using some of it.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, September 17, 2020 1:24 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] FW: WF Papers

CAUTION: External email. Do not click links or open attachments unless you verify sender.

FYI, good info.

From: Chad Hufnagel <chufnagel@longviewpower.net>
Sent: Thursday, September 17, 2020 8:42 AM
To: Brian Hoyt <bhoyt@longviewpower.net>; Stephen Nelson <snelson@longviewpower.net>; Nasi, Michael J. <mnasi@jw.com>
Subject: RE: WF Papers

Brian,

This is the General Description of Boiler from Foster Wheeler Manual. It has some nice generic overview pictures of the plant that Ed could use if he wanted to provide a graphical representation of processes in technical document

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Archived: Friday, October 9, 2020 11:10:12 AM

From: [Gordon, Michael](#)

Sent: Thursday, September 17, 2020 2:22:09 PM

To: [Jennings, Laura M](#)

Cc: [Andrews, Edward S](#); [Tipane, Frederick](#); [Compston, Rex E](#); [Shrewsbury, Todd H](#)

Subject: [External] RE: State Plan Requirement Question

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Laura,

Here are our thoughts:

Can you confirm you're talking about the data for compliance and not the data used to define the standard? I'm pretty sure you're referring to data for compliance, but want to be sure we're talking about the same thing.

Re compliance data:

60.5785a(a)(2)(vi) directly states that **the data must be complete and that substitute data are required where measured data are unavailable**:

"(vi) Data validation procedures for ensuring data are complete and calculated consistent with program rules, including procedures for determining substitute data in instances where required data would otherwise be incomplete."

First part clearly states data must be complete. Second part says that for hours where required data would otherwise be incomplete, substitute data must be used.

The **default** reporting requirements listed in 60.5785a(1) follow reporting requirements in part 75.

"(a) Your plan must include monitoring, recordkeeping, and reporting requirements for designated facilities. To satisfy this requirement, you have the option of either:

(1) Specifying that sources must report emission and electricity generation data according to part 75 of this chapter; or"

On those bases, the rule appears to be written with the intention of following the completeness/reporting requirements in part 75, not TTTT. What 60.5785a(a)(2)(vi) does appear to provide is latitude for the state plan to define its own procedures for calculating substitute data. However, these would require sufficient justification (i.e., substituting with zero is likely not suitable).

Re defining the standard/limits (in case this is what you were asking for), ACE gives the latitude to define these however they want, but it'd likely be easier to justify if they follow the same methodology throughout (i.e., use the same data substitution method for incomplete data in determining the baseline/limit as in determining compliance).

Hope this helps...let me know if you have any more questions.

-Mike

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103

(215)-814-2039

Gordon.Mike@epa.gov

From: Jennings, Laura M <Laura.M.Jennings@wv.gov>

Sent: Thursday, September 17, 2020 9:06 AM

To: Gordon, Michael <Gordon.Mike@epa.gov>

Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>

Subject: RE: State Plan Requirement Question

Thanks Mike.

Laura M. Jennings

Technical Analyst, Planning

WV Dept. of Environmental Protection

Division of Air Quality

(304)926-0499 x 41266 (NOTE: new extension)

(304) 414-1266 (Direct Dial)

Laura.M.Jennings@wv.gov

From: Gordon, Michael <Gordon.Mike@epa.gov>

Sent: Thursday, September 17, 2020 8:06 AM

To: Jennings, Laura M <Laura.M.Jennings@wv.gov>

Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>

Subject: RE: State Plan Requirement Question

Hi Laura,

At first glance I think you are correct, but I am looping in HQ just to verify. I'll let you know the response.

-Mike

Mike Gordon

Environmental Engineer

Air Permits Branch

Air and Radiation Division

EPA Region 3

Mail Code: 3AD10

1650 Arch Street

Philadelphia, PA 19103

(215)-814-2039

Gordon.Mike@epa.gov

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To: Gordon, Michael <Gordon.Mike@epa.gov>

Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>

Subject: State Plan Requirement Question

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- a. "Valid data" is defined as quality-assured data generated by continuous monitoring systems that are installed, operated, and maintained according to 40 CFR Part 75. For CEMS, the initial certification requirements in 40 CFR §75.20 and appendix A to 40 CFR Part 75 must be met before quality-assured data are reported under this permit. For on-going quality assurance, the daily, quarterly, and semiannual/annual test requirements in sections 2.1, 2.2, and 2.3 of appendix B to 40 CFR Part 75 must be met and the data validation criteria in sections 2.1.5, 2.2.3, and 2.3.2 of appendix B to 40 CFR Part 75 apply. For fuel flow meters, the initial certification requirements in section 2.1.5 of appendix D to 40 CFR Part 75 must be met before quality-assured data are reported under this permit, and for on-going quality assurance, the provisions in section 2.1.6 of appendix D to 40 CFR Part 75 apply.
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Thanks,

Laura M. Jennings

Technical Analyst, Planning

WV Dept. of Environmental Protection

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(304)926-0499 x 41266 (NOTE: new extension)

(304) 414-1266 (Direct Dial)

Laura.M.Jennings@wv.gov

Archived: Friday, October 9, 2020 11:10:12 AM

From: [Andrews, Edward S](#)

Sent: Friday, September 18, 2020 9:24:00 AM

To: [Brian Hoyt](#)

Cc: [Steve Nelson](#)

Subject: Issues that we need help on

Sensitivity: Normal

Brian,

After our phone call on Thursday, there is another new issue that needs to be addressed to a process for substitute data/missing data. I didn't like the answer from Mike Gordon at the regional level and have forwarded it to Kevin Calligan for clarification on what EPA wants. I am not going to recommend a permit that uses the Part 75 Data substitution procedures other than using the average of the reading before and reading after to fill in the gaps, which would be hard to defend. I am going to do some additional research into Subpart TTTT in how data is substituted in it.

The other issues that we don't have any real basis for is the 10% increase for the Level 2 limits. I believe there is sufficient justification why to build the Level 2 into the permit. There is just not a whole lot of basis for using 10% as the acceptable increase for Level 2.

I will keep you posted on what I figure out on the substitution process.

Have a Great Weekend,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:12 AM
From: [Andrews, Edward S](#)
Sent: Monday, September 21, 2020 12:06:00 PM
To: [McClung, Jon D](#); [Brian Hoyt](#)
Cc: [Louis M. Militana](#)
Subject: RE: [External] LVP Unit II Draft Air Permit & Modeling Results
Sensitivity: Normal

I might be.

Ed

From: McClung, Jon D <Jon.D.McClung@wv.gov>
Sent: Monday, September 21, 2020 10:58 AM
To: Brian Hoyt <bhoyt@longviewpower.net>; Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Louis M. Militana <lmilitana@aaqsinc.com>
Subject: RE: [External] LVP Unit II Draft Air Permit & Modeling Results

All,
I am free tomorrow except for 10 am to 12:30 pm.
Thanks,
Jon.

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, September 21, 2020 10:17 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Subject: [External] LVP Unit II Draft Air Permit & Modeling Results
Importance: High

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Just wanted to catch up with everyone regarding the Unit II air permitting. We are rapidly heading towards the endgame here and I just wanted to make sure communications were good and the efforts matched the needs. Two main areas I wanted to talk about were:

Draft Permit Status – Draft permit for review from DAQ soon?

Air Modeling – Should be nearing completion on re-modeling items identified by DAQ, status?

Perhaps we could set up a Teams meeting this week to review status and discuss progress? Today or tomorrow would be best as our Management team will be asking for a status report by Wednesday.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power

Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:12 AM
From: [Andrews, Edward S](#)
Sent: Monday, September 21, 2020 12:27:00 PM
To: [Brian Hoyt](#); [Louis M. Militana](#); [McClung, Jon D](#)
Subject: RE: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results
Sensitivity: Normal

That would be fine.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, September 21, 2020 12:23 PM
To: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

CAUTION: External email. Do not click links or open attachments unless you verify sender.

How about 1p tomorrow?

-B

From: Louis M. Militana <lmilitana@aaqsinc.com>
Sent: Monday, September 21, 2020 12:09 PM
To: Jon McClung <jon.d.mcclung@wv.gov>
Cc: Brian Hoyt <bhoyt@longviewpower.net>; Edward S Andrews <edward.s.andrews@wv.gov>
Subject: RE: [External] LVP Unit II Draft Air Permit & Modeling Results

I am in the field but today and tomorrow but schedule the meeting and I will see if I could join while I'm traveling or in the field
Lou

Louis M. Militana
Ambient Air Quality Services, Inc.
(484) 224-6218 x101
(484) 653-0167

Sent from Windows Mobile Device

On Sep 21, 2020, at 10:57 AM, "McClung, Jon D" <jon.d.mcclung@wv.gov> wrote:

All,
I am free tomorrow except for 10 am to 12:30 pm.
Thanks,
Jon.

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Monday, September 21, 2020 10:17 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Cc: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>

Subject: [External] LVP Unit II Draft Air Permit & Modeling Results

Importance: High

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Thanks!

-Brian

Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
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<http://www.longviewpower.com>

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message is not the intended recipient, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited. If you have received this communication in error, please immediately notify the sender by return e-mail and purge the communication without making any copy or distribution.

Archived: Friday, October 9, 2020 11:10:12 AM

From: [Andrews, Edward S](#)

Sent: Monday, September 21, 2020 2:39:00 PM

To: [Brian Hoyt](#)

Subject: RE: [External] RE: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

Sensitivity: Normal

60.5535

(b) You must determine the hourly CO₂ mass emissions in kilograms (kg) from your affected EGU(s) according to paragraphs (b)(1) through (5) of this section, or, if applicable, as provided in paragraph (c) of this section.

(1) For an affected coal-fired EGU or for an IGCC unit you must, and for all other affected EGUs you may, install, certify, operate, maintain, and calibrate a CO₂ continuous emission monitoring system (CEMS) to directly measure and record hourly average CO₂ concentrations in the affected EGU exhaust gases emitted to the atmosphere, and a flow monitoring system to measure hourly average stack gas flow rates, according to §75.10(a)(3)(i) of this chapter. As an alternative to direct measurement of CO₂ concentration, provided that your EGU does not use carbon separation (e.g., carbon capture and storage), you may use data from a certified oxygen (O₂) monitor to calculate hourly average CO₂ concentrations, in accordance with §75.10(a)(3)(iii) of this chapter. If you measure CO₂ concentration on a dry basis, you must also install, certify, operate, maintain, and calibrate a continuous moisture monitoring system, according to §75.11(b) of this chapter. Alternatively, you may either use an appropriate fuel-specific default moisture value from §75.11(b) or submit a petition to the Administrator under §75.66 of this chapter for a site-specific default moisture value.

75.10

(3) The owner or operator shall determine CO₂ emissions by using one of the following options, except as provided in §75.13 and subpart E of this part:

(iii) The owner or operator shall install, certify, operate, and maintain, in accordance with all the requirements of this part, a flow monitoring system and a CO₂ continuous emission monitoring system that uses an O₂ concentration monitor to determine CO₂ emissions (according to the procedures in appendix F of this part) with an automated data acquisition and handling system for measuring and recording O₂ concentration (in percent), CO₂ concentration (in percent), volumetric gas flow (in scfh), and CO₂ mass emissions (in tons/hr) discharged to the atmosphere;

Appendix F

4.4.1 If the owner or operator elects to use data from an O₂ monitor to calculate CO₂ concentration, the appropriate F and F_C factors from section 3.3.5 of this appendix shall be used in one of the following equations (as applicable) to determine hourly average CO₂ concentration of flue gases (in percent by volume) from the measured hourly average O₂ concentration:

$$CO_{2d} = 100 \frac{F_c}{F} \frac{20.9 - O_{2d}}{20.9} \quad (\text{Eq. F-14a})$$

[View or download PDF](#)

Where:

CO_{2d} = Hourly average CO₂ concentration during unit operation, percent by volume, dry basis.

F, F_C = F-factor or carbon-based F_C-factor from section 3.3.5 of this appendix.

20.9 = Percentage of O₂ in ambient air.

O_{2d} = Hourly average O₂ concentration during unit operation, percent by volume, dry basis.

$$CO_{2w} = \frac{100}{20.9} \frac{F_c}{F} \left[20.9 \left(\frac{100 - \%H_2O}{100} \right) - O_{2w} \right] \quad (\text{Eq. F-14b})$$

[View or download PDF](#)

Where:

CO_{2w} = Hourly average CO₂ concentration during unit operation, percent by volume, wet basis.

O_{2w} = Hourly average O₂ concentration during unit operation, percent by volume, wet basis.

F, F_c = F-factor or carbon-based FC-factor from section 3.3.5 of this appendix.

20.9 = Percentage of O_2 in ambient air.

% H_2O = Moisture content of gas in the stack, percent.

For any hour where Equation F-14a or F-14b results in a negative hourly average CO_2 value, 0.0% CO_{2w} shall be recorded as the average CO_2 value for that hour.

Please tell Ron, I own him a him on PM CEMs.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, September 21, 2020 1:07 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Subject: [External] RE: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, I will give you a call in a sec but would you mind setting up a Teams meeting with call-in number for 1p tomorrow? The couple numbers I regularly may in use then...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, September 21, 2020 12:28 PM
To: Brian Hoyt <bhoyt@longviewpower.net>; Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Subject: RE: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

That would be fine.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, September 21, 2020 12:23 PM
To: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

CAUTION: External email. Do not click links or open attachments unless you verify sender.

How about 1p tomorrow?

-B

From: Louis M. Militana <lmilitana@aaqsinc.com>
Sent: Monday, September 21, 2020 12:09 PM
To: Jon McClung <jon.d.mcclung@wv.gov>
Cc: Brian Hoyt <bhoyt@longviewpower.net>; Edward S Andrews <edward.s.andrews@wv.gov>
Subject: RE: [External] LVP Unit II Draft Air Permit & Modeling Results

I am in the field but today and tomorrow but schedule the meeting and I will see if I could join while I'm traveling or in the field
Lou

Louis M. Militana
Ambient Air Quality Services, Inc.
(484) 224-6218 x101
(484) 653-0167

Sent from Windows Mobile Device

On Sep 21, 2020, at 10:57 AM, "McClung, Jon D" <jon.d.mcclung@wv.gov> wrote:

All,
I am free tomorrow except for 10 am to 12:30 pm.
Thanks,
Jon.

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, September 21, 2020 10:17 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Subject: [External] LVP Unit II Draft Air Permit & Modeling Results
Importance: High

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Just wanted to catch up with everyone regarding the Unit II air permitting. We are rapidly heading towards the endgame here and I just wanted to make sure communications were good and the efforts matched the needs. Two main areas I wanted to talk about were:

Draft Permit Status – Draft permit for review from DAQ soon?
Air Modeling – Should be nearing completion on re-modeling items identified by DAQ, status?

Perhaps we could set up a Teams meeting this week to review status and discuss progress? Today or tomorrow would be best as our Management team will be asking for a status report by Wednesday.

Thanks!

-Brian

Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:12 AM

From: [Andrews, Edward S](#)

Sent: Monday, September 21, 2020 3:34:30 PM

To: [Tipane, Frederick](#); [Compston, Rex E](#); [Shrewsbury, Todd H](#); [Jennings, Laura M](#); [Gordon, Michael](#); [Brian Hoyt](#); [Culligan, Kevin](#); Opila.MaryCate@epa.gov

Subject: Andrews, Edward S shared the folder "LVP Shared Doc w-EPA&LVP" with you.

Sensitivity: Normal

The latest version of the evaluation will exceed 50MB. We will be using this shared folder to share our drafts with the EPA and LVP. Please let me know if other individuals needs to be added.

I will send out a email when I post any document in this folder.

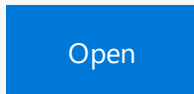
Ed Andrews



This link only works for the direct recipients of this message.



LVP Shared Doc w-EPA&LVP



 Microsoft OneDrive

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Microsoft Corporation, One Microsoft Way, Redmond, WA 98052

Archived: Friday, October 9, 2020 11:10:13 AM

From: [Gordon, Michael](#)

Sent: Monday, September 21, 2020 3:55:00 PM

To: [Andrews, Edward S](#)

Cc: [Vetter, Cheryl](#); [Santiago, Juan](#); [Honda, Gregory](#); [Baker, Sarah](#); [Hutson, Nick](#)

Subject: [External] FW: Andrews, Edward S shared the folder "LVP Shared Doc w-EPA&LVP" with you.

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Thanks, Ed. Adding a few other folks that will need access as well.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, September 21, 2020 3:34 PM

To: [Tipane, Frederick](mailto:Frederick.Tipane@wv.gov) <Frederick.Tipane@wv.gov>; [Compston, Rex E](mailto:Rex.E.Compston@wv.gov) <Rex.E.Compston@wv.gov>; [Shrewsbury, Todd H](mailto:Todd.H.Shrewsbury@wv.gov) <Todd.H.Shrewsbury@wv.gov>; [Jennings, Laura M](mailto:Laura.M.Jennings@wv.gov) <Laura.M.Jennings@wv.gov>; [Gordon, Michael](mailto:Gordon.Mike@epa.gov) <Gordon.Mike@epa.gov>; [Brian Hoyt](mailto:bhoyt@longviewpower.net) <bhoyt@longviewpower.net>; [Culligan, Kevin](mailto:Culligan.Kevin@epa.gov) <Culligan.Kevin@epa.gov>; [Opila, MaryCate](mailto:Opila.MaryCate@epa.gov) <Opila.MaryCate@epa.gov>

Subject: Andrews, Edward S shared the folder "LVP Shared Doc w-EPA&LVP" with you.

The latest version of the evaluation will exceed 50MB. We will be using this shared folder to share our drafts with the EPA and LVP. Please let me know if other individuals need to be added.

I will send out an email when I post any document in this folder.

Ed Andrews



This link only works for the direct recipients of this message.



[LVP Shared Doc w-EPA&LVP](#)

Open



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Microsoft Corporation, One Microsoft Way, Redmond, WA 98052

Archived: Friday, October 9, 2020 11:10:13 AM

From: [Hutson, Nick](#)

Sent: Tuesday, September 22, 2020 8:13:59 AM

To: [Andrews, Edward S](#); [Honda, Gregory](#); [Vetter, Cheryl](#); [Santiago, Juan](#); [Baker, Sarah](#)

Subject: [External] RE: Andrews, Edward S shared the folder "LVP Shared Doc w-EPA&LVP" with you.

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Unfortunately I'm not seeing any files in the folder. Do others?

Nick Hutson, PhD

Group Leader (Acting)
Energy Strategies Group
Office of Air Quality Planning & Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711
Office: 919 541 2968
Mobile: 919 864-1853
email: hutson.nick@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, September 21, 2020 4:22 PM

To: [Honda, Gregory](mailto:honda.gregory@epa.gov) <honda.gregory@epa.gov>; [Hutson, Nick](mailto:Hutson.Nick@epa.gov) <Hutson.Nick@epa.gov>; [Vetter, Cheryl](mailto:Vetter.Cheryl@epa.gov) <Vetter.Cheryl@epa.gov>; [Santiago, Juan](mailto:Santiago.Juan@epa.gov) <Santiago.Juan@epa.gov>; [Baker, Sarah](mailto:baker.sarah@epa.gov) <baker.sarah@epa.gov>

Subject: Andrews, Edward S shared the folder "LVP Shared Doc w-EPA&LVP" with you.

Mike Gordon has requested you to be added to this shared folder for WV ACE Permit for Longview Power.

Ed Andrews
WVDEP/DAQ



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[LVP Shared Doc w-EPA&LVP](#)

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Archived: Friday, October 9, 2020 11:10:13 AM
From: [Andrews, Edward S](#)
Sent: Tuesday, September 22, 2020 10:20:00 AM
To: [Brian Hoyt](#)
Subject: RE: [External] LVP CO2 Monitor Downtime - Annual Analysis
Sensitivity: Normal

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, September 22, 2020 10:18 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP CO2 Monitor Downtime - Annual Analysis

CAUTION: External email. Do not click links or open attachments unless you verify sender.

FYI, unofficial CO₂ CEMS downtime by year as we were talking about in regards to the data substitution conversation...

Year	CO2 Downtime Hours	OP Hours	% Downtime
2012	71	6500	1.09%
2013	15	6579	0.23%
2014	98	6780	1.45%
2015	17	4957	0.34%
2016	101	7988	1.26%
2017	17	6976	0.24%
2018	27	7653	0.35%
2019	11	7757	0.14%
2020	13	5563	0.23%

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Maidsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:13 AM
From: [Andrews, Edward S](#)
Sent: Tuesday, September 22, 2020 11:29:00 AM
To: [Compston, Rex E](#); [Shrewsbury, Todd H](#); [Tipane, Frederick](#)
Subject: FW: Longview ACE Rule Monitoring Requirements
Last modification date: Thursday, October 8, 2020 11:32:47 AM
Reply requested: Yes
Response requested: Yes
End: Wednesday, September 23, 2020 9:00:00 AM
Conversation: Longview ACE Rule Monitoring Requirements

-----Original Appointment-----

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Tuesday, September 22, 2020 10:53 AM
To: Gordon, Michael; Culligan, Kevin; Hutson, Nick; Honda, Gregory; Baker, Sarah; Vetter, Cheryl; Santiago, Juan; Schreifels, Jeremy; Parker, Barrett; Lessard, Patrick; Johnson, Steffan; Fellner, Christian; Entwistle, Paul; Bertram, Emily; Jennings, Laura M; Andrews, Edward S
Subject: Longview ACE Rule Monitoring Requirements
When: Wednesday, September 23, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Hi All,

Organizing a call with WVDEP to discuss WVDEP had questions on the monitoring requirements of the ACE rule and how they work in conjunction with subpart TTTT.

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Archived: Friday, October 9, 2020 11:10:13 AM

From: [Gordon, Michael](#)

Sent: Tuesday, September 22, 2020 4:03:59 PM

To: [Andrews, Edward S](#)

Cc: [Entwistle, Paul](#)

Subject: [External] 061-00134_EVAL_R13-3495_draft_ver1.docx

Sensitivity: Normal

Attachments:

[061-00134_EVAL_R13-3495_draft_ver1.docx](#)  [LongviewLanguageEdits\)061-00134_EVAL_R13-3495_draft_ver1.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Ed,

Following up from today's call, here are informal comments on the TSD you sent as well as Paul's document that should give you a head start on correcting any grammatical errors or typos. Let me know if you have any questions.

-Mike

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov


Archived: Friday, October 9, 2020 11:10:14 AM
From: [Gordon, Michael](#)
Sent: Thursday, September 24, 2020 10:26:59 AM
To: [Andrews, Edward S](#)
Subject: [External] Missed Call
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Ed,

Saw I had a missed call from you around 430 yesterday. Let me know if you need to talk. I'm free from 11-12.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

Archived: Friday, October 9, 2020 11:10:14 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 24, 2020 12:48:00 PM
To: [Brian Hoyt](#)
Cc: [Steve Nelson](#); [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#)
Subject: Decay Curves
Sensitivity: Normal
Attachments:
[Decay_Curves.xlsx](#) 

Brian,

We are concerned about moving forward with an open ended limit/standard caused by the unit degradation adjustment factor (UDAF) based on EPA's remarks from our Tuesday call. I have contact Black & Veatch regarding if the degradation rate would flatten out or approach zero at some point.

See attached excel file of decay curves of the proposed UDAF (with recovery factor) and decay rate based on Black & Veatch's experience.

Based on Black & Veatch experience, unit decay rate changes at 20-25 years. After the 20-25 years, a unit still degrades over time at a much slower rate but is not zero. We believe that EPA is seeing that with older EGUs. Because EPA is looking at these older units heat rate based on CAMD data, they cannot see the real degradation rate of the units due to the noise in the data.

I am inquiring to see if Longview Power would be interested in having a call with WV to discuss placing a cap on the unit degradation adjustment factor.

Should you have an questions about this, please contact me.

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:14 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 24, 2020 3:06:00 PM
To: [Brian Hoyt](#)
Subject: RE: [External] Re: Decay Curves
Sensitivity: Normal

Hey, Could you give me a call tomorrow?

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, September 24, 2020 1:54 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] Re: Decay Curves

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Seems reasonable. What are your thoughts on day/time?

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 24, 2020 12:48:40 PM
To: Brian Hoyt
Cc: Stephen Nelson; Crowder, Laura M
Subject: Decay Curves

Brian,

We are concerned about moving forward with an open ended limit/standard caused by the unit degradation adjustment factor (UDAF) based on EPA's remarks from our Tuesday call. I have contact Black & Veatch regarding if the degradation rate would flatten out or approach zero at some point.

See attached excel file of decay curves of the proposed UDAF (with recovery factor) and decay rate based on Black & Veatch's experience.

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Edward S. Andrews, P.E.

Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
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Archived: Friday, October 9, 2020 11:10:14 AM
From: [Andrews, Edward S](#)
Sent: Thursday, September 24, 2020 4:09:00 PM
To: [Brian Hoyt](#)
Cc: [Steve Nelson](#); [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#)
Subject: RE: [External] Re: Decay Curves
Sensitivity: Normal

Anytime Monday afternoon.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, September 24, 2020 1:54 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] Re: Decay Curves

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Seems reasonable. What are your thoughts on day/time?

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 24, 2020 12:48:40 PM
To: Brian Hoyt
Cc: Stephen Nelson; Crowder, Laura M
Subject: Decay Curves

Brian,

We are concerned about moving forward with an open ended limit/standard caused by the unit degradation adjustment factor (UDAF) based on EPA's remarks from our Tuesday call. I have contact Black & Veatch regarding if the degradation rate would flatten out or approach zero at some point.

See attached excel file of decay curves of the proposed UDAF (with recovery factor) and decay rate based on Black & Veatch's experience.

Based on Black & Veatch experience, unit decay rate changes at 20 -25 years. After the 20-25 years, a unit still degrades over time at a much slower rate but is not zero. We believe that EPA is seeing that with older EGUs. Because EPA is looking at these older units heat rate based on CAMD data, they cannot see the real degradation rate of the units due to the noise in the data.

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Should you have any questions about this, please contact me.

Edward S. Andrews, P.E.
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West Virginia Department of Environmental Protection
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601 57th Street, SE
Charleston, WV 25304
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Archived: Friday, October 9, 2020 11:10:14 AM
From: [Nowling, Una](#)
Sent: Friday, September 25, 2020 10:30:41 AM
To: [Andrews, Edward S](#)
Subject: [External] RE: [External] RE: Help on ACE
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Dear Ed,

I had included that recovery in my calculations, just not explicitly. So the 1% recovery I was assuming was actually a 1.25% recovery, that loses 0.25% from decay during that year. However I did not know if in the calculations you sent if decay was included – if that is the case, then you would need to include that as well in the spreadsheet.

Una

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, September 25, 2020 7:18 AM
To: Nowling, Una <NowlingUC@bv.com>
Subject: RE: [External] RE: Help on ACE

Una,

I more question based on your experience. During the recovery year. Would there be additional decay of the unit plus the recovery (e.g. $\text{New HR} = (\text{HR} + (1 + (\text{Degradation Rate}/100 - \text{Recovery Rate}/100)))$)?

Thanks again and have a great weekend,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

From: Nowling, Una <NowlingUC@bv.com>
Sent: Wednesday, September 23, 2020 12:49 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] RE: Help on ACE

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Dear Edward,

That is a complex question – the rate of decay of efficiency of a coal power plant depends on many factors, and is very difficult to predict. This can be further complicated by the fact that you can (and some have) replace every part of the plant except probably the drum. Boilers can have entire walls re-tubed, the turbine can be full upgraded, etc. You can't convert a subcritical plant to supercritical, nor add on a second reheat cycle without extreme effort, but much is possible.

In our experience, the efficiency of a coal power plant, even with frequent maintenance, goes on a decay curve that levels out at an age of about 15-20 years. Past that point, assuming that regular maintenance is conducted for the components that most strongly impact heat rate (steam turbine, air heater, condenser, etc.) the decay of efficiency slows greatly.

For a plant over 20 years of age, I think we would expect, all things being equal, for there to be more like a 0.20 to 0.25 percent loss per year, with a recovery that would be based on the boiler major outage and turbine major outage. There still be a small but steady loss, but it tends to be quite small. An example we used recently was a loss of 0.25% per year and with a turbine major outage at 7 years restoring 1%.

The math was $(1 + \%/100)^{(\text{years between turbine majors})}$.

The attached spreadsheet shows the difference between the method you were working with and the one we used, assuming a plant starts at year 0 with a NPHR of 10,500 Btu/kWh. Note too that many power plants (most I think) are pushing turbine major outages to a 10-year cycle, so there may be larger recoveries at 10 years.

DISCLAIMER: the State of West Virginia has not engaged Black & Veatch for assistance, so the attached graph does not represent professional engineering or consulting services. It is provided as an example only.

What do you think of the difference in calculations?

Una

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Wednesday, September 23, 2020 9:30 AM
To: Nowling, Una <NowlingUC@bv.com>
Subject: Help on ACE

Una,

We are at the cross-road with Longview Power ACE Permit in WV. The issue we is that EPA does not like how we are accounting for degradation in our standard. We have a degradation adjustment of 0.4% on a annual basis with a recovery adjustment of 0.7% once every 5 years. But, we left it open. We think it should be capped at some point.

I was wondering if there is a point in the age of unit that degradation rate approach to zero.

Your thoughts on this would be greatly appreciate.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:14 AM

From: [Andrews, Edward S](#)

Sent: Friday, September 25, 2020 1:20:00 PM

To: [Steve Nelson](#); [Brian Hoyt](#); [Chad Hufnagel](#); [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#)

Subject: FW: Longview ACE Permit Status

Last modification date: Thursday, October 8, 2020 11:32:49 AM

Reply requested: Yes

Response requested: Yes

End: Monday, September 28, 2020 2:00:00 PM

Conversation: Longview ACE Permit Status

This call is discuss the following:

Capping the Unit Degradation Adjustment Factor

Timing in moving Permit Application R13-3495 into the public review phase of the permitting process.

Timing of moving WV's ACE Partial Plan in the public review phase.

We can include other unidentified issues if need be.

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Friday, September 25, 2020 12:15 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Permit Status

When: Monday, September 28, 2020 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

[Join Microsoft Teams Meeting](#)

[+1 681-245-6817](#) United States, Charleston (Toll)

Conference ID: 500 886 9#

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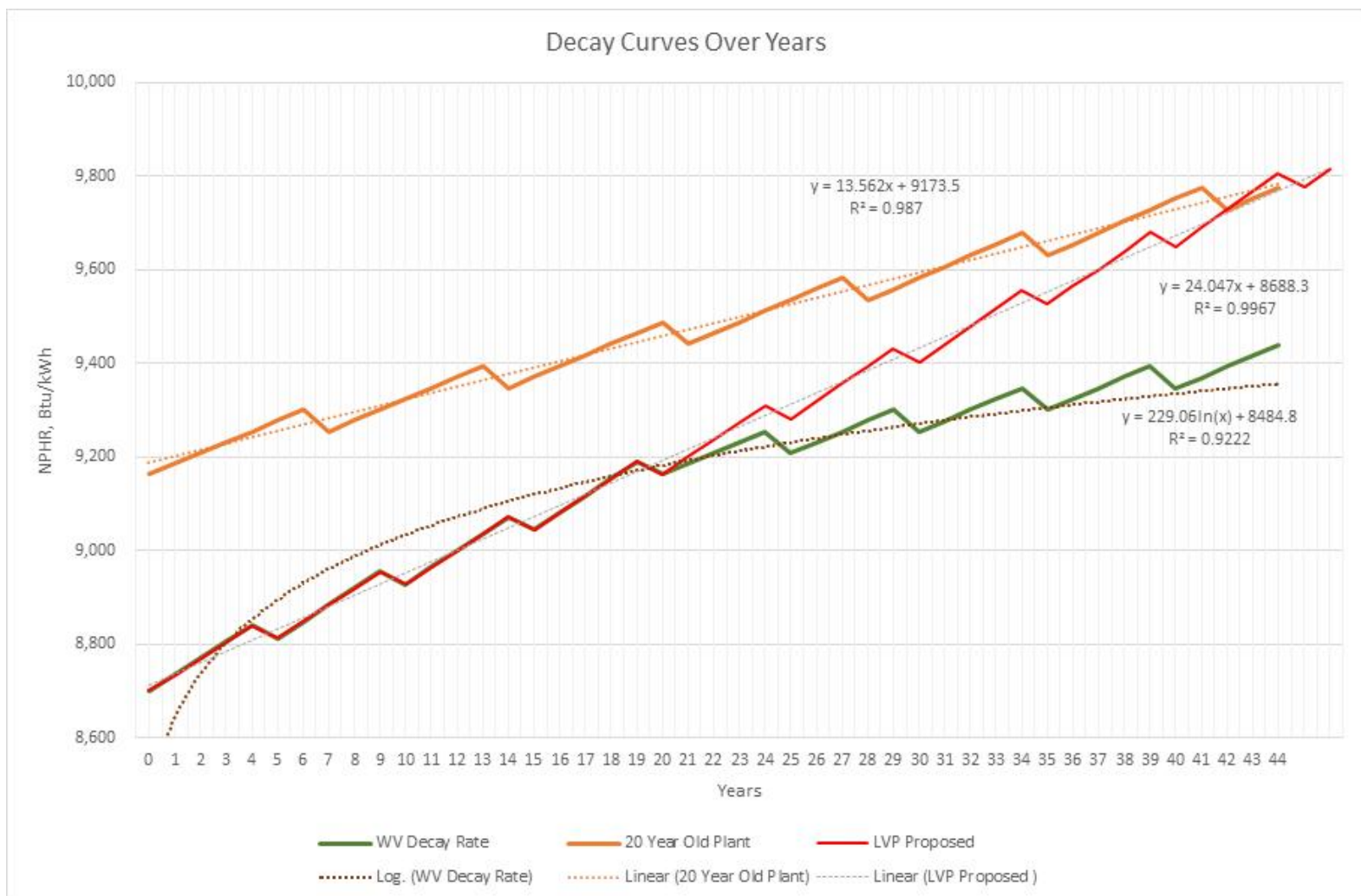
Archived: Friday, October 9, 2020 11:10:14 AM
From: [Andrews, Edward S](#)
Sent: Friday, September 25, 2020 1:47:00 PM
To: [Brian Hoyt](#)
Cc: [Chad Hufnagel](#)
Subject: FW: [External] RE: [External] RE: Help on ACE
Response requested: No
Sensitivity: Normal
Attachments:
[Decay_Curves.xlsx](#)

Brian,

Una really gave us something to consider.

“For a plant over 20 years of age, I think we would expect, all things being equal, for there to be more like a 0.20 to 0.25 percent loss per year, with a recovery that would be based on the boiler major outage and turbine major outage. There still be a small but steady loss, but it tends to be quite small. An example we used recently was a loss of 0.25% per year and with a turbine major outage at 7 years restoring 1%.”

Using Una’s experience, I develop the following chart.



I think this helps understand EPA position a little bit.

Ed

From: Nowling, Una <NowlingUC@bv.com>
Sent: Friday, September 25, 2020 10:31 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] RE: [External] RE: Help on ACE

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Dear Ed,

I had included that recovery in my calculations, just not explicitly. So the 1% recovery I was assuming was actually a 1.25% recovery, that loses 0.25% from decay during that year. However I did not know if in the calculations you sent if decay was included – if that is the case, then you would need to include that as well in the spreadsheet.

Una

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, September 25, 2020 7:18 AM
To: Nowling, Una <NowlingUC@bv.com>
Subject: RE: [External] RE: Help on ACE

Una,

I more question based on your experience. During the recovery year. Would there be additional decay of the unit plus the recovery (e.g. New HR = $(HR + (1 + (Degradation\ Rate/100 - Recovery\ Rate/100)))$)?

Thanks again and have a great weekend,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

From: Nowling, Una <NowlingUC@bv.com>
Sent: Wednesday, September 23, 2020 12:49 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] RE: Help on ACE

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Dear Edward,

That is a complex question – the rate of decay of efficiency of a coal power plant depends on many factors, and is very difficult to predict. This can be further complicated by the fact that you can (and some have) replace every part of the plant except probably the drum. Boilers can have entire walls re-tubed, the turbine can be full upgraded, etc. You can't convert a subcritical plant to supercritical, nor add on a second reheat cycle without extreme effort, but much is possible.

In our experience, the efficiency of a coal power plant, even with frequent maintenance, goes on a decay curve that levels out at an age of about 15-20 years. Past that point, assuming that regular maintenance is conducted for the components that most strongly impact heat rate (steam

turbine, air heater, condenser, etc.) the decay of efficiency slows greatly.

For a plant over 20 years of age, I think we would expect, all things being equal, for there to be more like a 0.20 to 0.25 percent loss per year, with a recovery that would be based on the boiler major outage and turbine major outage. There will be a small but steady loss, but it tends to be quite small. An example we used recently was a loss of 0.25% per year and with a turbine major outage at 7 years restoring 1%.

The math was $(1 + \%/100)^{(\text{years between turbine majors})}$.

The attached spreadsheet shows the difference between the method you were working with and the one we used, assuming a plant starts at year 0 with a NPHR of 10,500 Btu/kWh. Note too that many power plants (most I think) are pushing turbine major outages to a 10-year cycle, so there may be larger recoveries at 10 years.

DISCLAIMER: the State of West Virginia has not engaged Black & Veatch for assistance, so the attached graph does not represent professional engineering or consulting services. It is provided as an example only.

What do you think of the difference in calculations?

Una

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, September 23, 2020 9:30 AM

To: Nowling, Una <NowlingUC@bv.com>

Subject: Help on ACE

Una,

We are at the cross-road with Longview Power ACE Permit in WV. The issue we is that EPA does not like how we are accounting for degradation in our standard. We have a degradation adjustment of 0.4% on an annual basis with a recovery adjustment of 0.7% once every 5 years. But, we left it open. We think it should be capped at some point.

I was wondering if there is a point in the age of unit that degradation rate approach to zero.

Your thoughts on this would be greatly appreciate.

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:14 AM

From: [Andrews, Edward S](#)

Sent: Friday, September 25, 2020 2:04:00 PM

To: [Brian Hoyt](#)

Subject: EPA Degradation Data

Sensitivity: Normal

You have received any data from EPA on degradation?

Ed

Archived: Friday, October 9, 2020 11:10:14 AM
From: [Andrews, Edward S](#)
Sent: Friday, September 25, 2020 2:16:00 PM
To: [Brian Hoyt](#)
Subject: RE: [External] Re: [EXTERNAL] EPA Degradation Data
Sensitivity: Normal

Good response.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, September 25, 2020 2:15 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] Re: [EXTERNAL] EPA Degradation Data

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Negative Ghost rider...

Sent from my iPhone

On Sep 25, 2020, at 2:06 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

You have received any data from EPA on degradation?

Ed

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Archived: Friday, October 9, 2020 11:10:14 AM

From: [Opila, MaryCate](#)

Sent: Monday, September 28, 2020 12:44:51 PM

To: [Andrews, Edward S](#); [Jennings, Laura M](#); [Crowder, Laura M](#); [McKeone, Beverly D](#); [Brian Hoyt](#)

Cc: [Fernandez, Cristina](#); [Culligan, Kevin](#); [Honda, Gregory](#); [Gordon, Michael](#); [Hutson, Nick](#)

Subject: [External] Longview ACE Permit- Degredation Analysis

Sensitivity: Normal

Attachments:

[Degradation Analysis - 28SEP2020.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi All,

Please see attached for information regarding the degradation analysis.

Mary Cate Opila, P.E., Ph.D.

Chief, Permits Branch

Air & Radiation Division

EPA Region 3

Mail Code: 3AD10

1650 Arch Street

Philadelphia, PA 19103

215-814-2041



Archived: Friday, October 9, 2020 11:10:15 AM

From: [Opila, MaryCate](#)

Sent: Monday, September 28, 2020 12:48:01 PM


To: [Andrews, Edward S](#); [Jennings, Laura M](#); [Crowder, Laura M](#); [McKeone, Beverly D](#); [Brian Hoyt](#)

Cc: [Fernandez, Cristina](#); [Culligan, Kevin](#); [Honda, Gregory](#); [Gordon, Michael](#); [Hutson, Nick](#)

Subject: [External] RE: Longview ACE Permit- Degredation Analysis

Sensitivity: Normal

Attachments:

[Degradation Analysis - 28SEP2020.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

My apologies- I accidentally sent the previous email prior to finishing—

Please see attached for information regarding the degradation analysis. Please review and let us know as soon as you are ready to discuss. We will schedule a meeting as soon as WV and Longview are ready.

Regards,
Mary Cate

Mary Cate Opila, P.E., Ph.D.
Chief, Permits Branch
Air & Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
215-814-2041



From: Opila, MaryCate

Sent: Monday, September 28, 2020 12:45 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Jennings, Laura M <Laura.M.Jennings@wv.gov>; Crowder, Laura M <laura.m.crowder@wv.gov>; McKeone, Beverly D <Beverly.D.Mckeone@wv.gov>; Brian Hoyt <bhoyt@longviewpower.net>

Cc: Cristina Fernandez (Fernandez.Cristina@epa.gov) <Fernandez.Cristina@epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Gordon, Michael <Gordon.Mike@epa.gov>; Hutson, Nick <Hutson.Nick@epa.gov>

Subject: Longview ACE Permit- Degredation Analysis

Hi All,

Please see attached for information regarding the degradation analysis.

Mary Cate Opila, P.E., Ph.D.
Chief, Permits Branch
Air & Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
215-814-2041



Archived: Friday, October 9, 2020 11:10:15 AM

From: [Andrews, Edward S](#)

Sent: Monday, September 28, 2020 2:15:00 PM

To: [Brian Hoyt](#)

Cc: [Steve Nelson](#); [Chad Hufnagel](#)

Subject: Decay_Curves.xlsx

Sensitivity: Normal

Attachments:

[Decay_Curves.xlsx](#) 

Here is my latest on the decay curves.

Ed

Archived: Friday, October 9, 2020 11:10:15 AM

From: [Opila, MaryCate](#)

Sent: Monday, September 28, 2020 3:11:30 PM

To: [Andrews, Edward S](#); [Crowder, Laura M](#); [Brian Hoyt](#)

Cc: [Fernandez, Cristina](#); [Gordon, Michael](#)

Subject: [External] Meeting on Longview ACE Permit- Degredation Analysis

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Laura, Ed, and Brian,

Cristina asked that we schedule a meeting to discuss the degradation analysis information I sent earlier today. Does 10-11am this Wednesday work for you and your colleagues?

If not, is there another time in the next few days that would work better?

Thanks,
Mary Cate

Mary Cate Opila, P.E., Ph.D.
Chief, Permits Branch
Air & Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
215-814-2041



Archived: Friday, October 9, 2020 11:10:15 AM
From: [Andrews, Edward S](#)
Sent: Wednesday, September 30, 2020 7:53:00 AM
To: [Tipane, Frederick](#); [Shrewsbury, Todd H](#); [Compston, Rex E](#)
Subject: FW: EPA/WVDEP/Longview ACE Meeting
Last modification date: Thursday, October 8, 2020 11:32:48 AM
Reply requested: Yes
Response requested: Yes
End: Wednesday, September 30, 2020 10:00:00 AM
Conversation: EPA/WVDEP/Longview ACE Meeting

If you are available, you might want to join this call.

Ed

-----Original Appointment-----

From: Opila, MaryCate <Opila.MaryCate@epa.gov>
Sent: Tuesday, September 29, 2020 8:35 AM
To: Opila, MaryCate; Fernandez, Cristina; Gordon, Michael; Vijayan, Abi; Culligan, Kevin; Hutson, Nick; Honda, Gregory; Vetter, Cheryl; Santiago, Juan; Conrad, Daniel; Hogan, Stephanie; Scott.G.Mandirola@wv.gov; Crowder, Laura M; Andrews, Edward S; Jennings, Laura M; McKeone, Beverly D; Brian Hoyt
Cc: Baker, Sarah; Bertram, Emily; Entwistle, Paul; Nasi, Michael J.; Chad Hufnagel
Subject: EPA/WVDEP/Longview ACE Meeting
When: Wednesday, September 30, 2020 10:00 AM-11:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

We heard from most people that this time would work for a follow-up meeting. Please let me know if this time does not work. Please forward as appropriate.

[Join Microsoft Teams Meeting](#)

[+1 484-352-3221](#) United States, Philadelphia (Toll)

Conference ID: 737 498 019#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)

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Archived: Friday, October 9, 2020 11:10:15 AM
From: [Andrews, Edward S](#)
Sent: Thursday, October 1, 2020 2:57:00 PM
To: [Brian Hoyt](#)
Cc: [Laura Crowder \(Laura.M.Crowder@wv.gov\)](mailto:Laura.M.Crowder@wv.gov)
Subject: Latest version of Evaluation for R13-3495
Sensitivity: Normal

Brian,

The latest version of the eval is in the my shared folder.

C:\Users\A007709\OneDrive - State of West Virginia\Companies\LVP ACE R13-3495\LVP Shared Doc w-EPA&LVP

Please don't click update links. I still need to fix the data for figures 14 and 16.

Could you let me know if you can download it or not?

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:15 AM

From: [Andrews, Edward S](#)

Sent: Thursday, October 1, 2020 3:29:24 PM

To: [Brian Hoyt](#)

Subject: Andrews, Edward S shared the folder "LVP Shared Doc w-EPA&LVP" with you.

Sensitivity: Normal

Try this. I just updated the permit too in this folder too.

Ed



This link only works for the direct recipients of this message.



LVP Shared Doc w-EPA&LVP

Open



 Microsoft OneDrive

Sender will be notified when you open this link for the first time.

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Microsoft Corporation, One Microsoft Way, Redmond, WA 98052

Archived: Friday, October 9, 2020 11:10:15 AM

From: [Andrews, Edward S](#)

Sent: Thursday, October 1, 2020 4:43:00 PM

To: [Baker, Sarah](#); [Culligan, Kevin](#); [Honda, Gregory](#); [MaryCate Opila](#); [Mike Gordon](#); [Nick Hutson \(Hutson.Nick@epa.gov\)](#); [Santiago, Juan](#); [Vetter, Cheryl](#)

Subject: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

Sensitivity: Normal

Mike,

I have shared my latest version of the evaluation and draft permit for LVP ACE Permit.

Should anyone have any issues accessing the folder, please contact me.

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:16 AM

From: [Gordon, Michael](#)

Sent: Friday, October 2, 2020 9:00:48 AM

To: [Andrews, Edward S](#)

Subject: [External] RE: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Thanks, Ed.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, October 01, 2020 4:44 PM

To: Baker, Sarah <baker.sarah@epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Opila, MaryCate <Opila.MaryCate@epa.gov>; Gordon, Michael <Gordon.Mike@epa.gov>; Hutson, Nick <Hutson.Nick@epa.gov>; Santiago, Juan <Santiago.Juan@epa.gov>; Vetter, Cheryl <Vetter.Cheryl@epa.gov>

Subject: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

Mike,

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Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:16 AM

From: [Gordon, Michael](#)

Sent: Sunday, October 4, 2020 8:06:20 PM

To: [Andrews, Edward S](#)

Cc: [Entwistle, Paul](#); [Bertram, Emily](#)

Subject: [External] RE: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Ed,

When you get a chance, can you add Emily and Paul to the people who have access? Their emails are attached.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, October 01, 2020 4:44 PM

To: Baker, Sarah <baker.sarah@epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Opila, MaryCate <Opila.MaryCate@epa.gov>; Gordon, Michael <Gordon.Mike@epa.gov>; Hutson, Nick <Hutson.Nick@epa.gov>; Santiago, Juan <Santiago.Juan@epa.gov>; Vetter, Cheryl <Vetter.Cheryl@epa.gov>

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West Virginia Department of Environmental Protection
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601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:16 AM

From: [Gordon, Michael](#)

Sent: Monday, October 5, 2020 8:58:39 AM

To: [Andrews, Edward S](#)

Cc: [Vijayan, Abi](#); [Stoltzfus, Robert](#); [Bigioni, Neil](#)

Subject: [External] RE: [External] RE: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, Sorry to bug you again, but can you add a couple more:

Vijayan.abi@epa.gov

Stoltzfus.robert@epa.gov

Bigioni.neil@epa.gov

Thanks!

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, October 05, 2020 7:45 AM

To: Gordon, Michael <Gordon.Mike@epa.gov>

Cc: Entwistle, Paul <Entwistle.Paul@epa.gov>; Bertram, Emily <Bertram.Emily@epa.gov>

Subject: RE: [External] RE: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

Mike,

I just added them.

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Sunday, October 4, 2020 8:06 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Entwistle, Paul <Entwistle.Paul@epa.gov>; Bertram, Emily <Bertram.Emily@epa.gov>
Subject: [External] RE: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

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Hi Ed,

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Environmental Engineer
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Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
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Philadelphia, PA 19103
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Gordon.Mike@epa.gov

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, October 01, 2020 4:44 PM
To: Baker, Sarah <baker.sarah@epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Opila, MaryCate <Opila.MaryCate@epa.gov>; Gordon, Michael <Gordon.Mike@epa.gov>; Hutson, Nick <Hutson.Nick@epa.gov>; Santiago, Juan <Santiago.Juan@epa.gov>; Vetter, Cheryl <Vetter.Cheryl@epa.gov>
Subject: Updated Documents in the LVP Shared Doc w-EPA&LVP folder

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Should anyone have any issues accessing the folder, please contact me.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:16 AM
From: [Andrews, Edward S](#)
Sent: Tuesday, October 6, 2020 5:19:00 PM
To: [Brian Hoyt](#)
Subject: RE: [External] LVP ACE Permit and Technical Document Comments
Sensitivity: Normal

Brian,

What does NDE refer to?

I will add be adding in your remarks.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, October 6, 2020 2:15 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, some very minor feedback on the technical document and permit.

Permit

Page 15, 4.1.1.c “Starting after the year of 2046, the UDAF shall not be applied to CO₂ Load Bin limits.”

Technical Document

Page 4 - Design main steam conditions are 1,056 °F at 3,840 psi while the design reheat steam conditions are 1,052 °F at 824 psi.

Page 4 - The unit also has 4 air heater blowers. All blowers are controlled by the intelligent sootblowing system (Diamond Power Sentry Series™ control system). Didn't we request to take specific manufacture out of narrative

Page 5 - It refers to 'Titanium' sootblowing system – Should this be generic?

Page 7 - Table 2 regarding heat rate and potential reductions. It suggests ~8000 heat rate is achievable the way it reads to me so I think this needs some clarification and/or rewording to show that we have already achieved the reductions and it is reflected in our baseline heat rate. The math is backwards, pre-HRI heat rate should be more like 9300... Our “new” or perhaps current would be better, heat rate baseline is 8800.

Page 9 - The following figure is an illustration of LVP's adjustable seal design. – This should refer to figure 3

Page 19 - comment on heat rate performance, are we really #2 to Turk given the timeframe? We have a 2016 Power-Gen International plaque on the wall as a “Best Heat Rate” award. lol

Page 47-47 - the Title V re-opener once the State Plan is approved is still of concern, even if the re-opener only applies to the CO₂ standard. This is limited to only CO₂ and the ACE permit correct?



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:16 AM

From: [Andrews, Edward S](#)

Sent: Wednesday, October 7, 2020 8:15:00 AM

To: [Brian Hoyt](#)

Subject: RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

Sensitivity: Normal

It is in the 2nd Scenario.

L-0 blading (the last rotating row) in LP turbines has been an ongoing industry-wide design and reliability issue for OEMs and plant engineers for many years. This row experiences a unique range of operating conditions that place significant stresses on the material. LVP, as well as most facilities, has an extensive advanced **NDE** technologies program to monitor the condition of the blading. LVP utilizes an advanced phased array technique approximately every 25,000 hours of operation (approximately every 3½ years) or after a turbine trip with loss of condenser vacuum due to additional significant stresses on the LP turbine blading. This effort and expense are completed in hopes to identify an issue in a very early stage that can be corrected prior to a complete failure event, however, it is very **feasible** to find an indication that would require immediate action or mitigation.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Wednesday, October 7, 2020 7:47 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

What's the context or location? Not seeing the reference...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Tuesday, October 6, 2020 5:19 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] LVP ACE Permit and Technical Document Comments

Brian,

What does NDE refer to?

I will add be adding in your remarks.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Tuesday, October 6, 2020 2:15 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] LVP ACE Permit and Technical Document Comments

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-B



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
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1375 Fort Martin Rd Moundsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:16 AM

From: [Andrews, Edward S](#)

Sent: Wednesday, October 7, 2020 8:56:00 AM

To: [Brian Hoyt](#)

Subject: RE: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

Sensitivity: Normal

I guess non-destructive but I just couldn't figure the E out.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Wednesday, October 7, 2020 8:40 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Non-Destructive Examination (NDE)

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, October 7, 2020 8:16 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

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Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Wednesday, October 7, 2020 7:47 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

What's the context or location? Not seeing the reference...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, October 6, 2020 5:19 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP ACE Permit and Technical Document Comments

Brian,

What does NDE refer to?

I will add be adding in your remarks.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, October 6, 2020 2:15 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP ACE Permit and Technical Document Comments

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Ed, some very minor feedback on the technical document and permit.

Permit

Page 15, 4.1.1.c "Starting after the year of 2046, the UDAF shall not be applied to CO₂ Load Bin limits."

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Page 47-47 - the Title V re-opener once the State Plan is approved is still of concern, even if the re-opener only applies to the CO₂ standard. This is limited to only CO₂ and the ACE permit correct?

-B



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Archived: Friday, October 9, 2020 11:10:16 AM

From: [Andrews, Edward S](#)

Sent: Wednesday, October 7, 2020 9:34:00 AM

To: [Brian Hoyt](#)

Subject: RE: [External] RE: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

Sensitivity: Normal

Me too. That sneaky E tripped me up.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Wednesday, October 7, 2020 9:02 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

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No worries, I am used to NDT(esting) being used as an acronym, not NDE...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, October 7, 2020 8:56 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

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Archived: Friday, October 9, 2020 11:10:16 AM

From: [Brian Hoyt](#)

Sent: Wednesday, October 7, 2020 8:40:31 AM

To: [Andrews, Edward S](#)

Subject: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

Sensitivity: Normal

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Sent: Wednesday, October 7, 2020 8:16 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

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Sent: Wednesday, October 7, 2020 7:47 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] LVP ACE Permit and Technical Document Comments

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What's the context or location? Not seeing the reference...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Tuesday, October 6, 2020 5:19 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] LVP ACE Permit and Technical Document Comments

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Archived: Friday, October 9, 2020 11:10:17 AM

From: [Brian Hoyt](#)

Sent: Tuesday, October 6, 2020 2:15:11 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP ACE Permit and Technical Document Comments

Sensitivity: Normal

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Archived: Friday, October 9, 2020 11:10:17 AM
From: [Brian Hoyt](#)
Sent: Tuesday, September 22, 2020 10:18:32 AM
To: [Andrews, Edward S](#)
Subject: [External] LVP CO2 Monitor Downtime - Annual Analysis
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

FYI, unofficial CO₂ CEMS downtime by year as we were talking about in regards to the data substitution conversation...

Year	CO2 Downtime Hours	OP Hours	% Downtime
2012	71	6500	1.09%
2013	15	6579	0.23%
2014	98	6780	1.45%
2015	17	4957	0.34%
2016	101	7988	1.26%
2017	17	6976	0.24%
2018	27	7653	0.35%
2019	11	7757	0.14%
2020	13	5563	0.23%

-Brian



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Archived: Friday, October 9, 2020 11:10:17 AM

From: [Brian Hoyt](#)

Sent: Thursday, September 17, 2020 1:23:37 PM

To: [Andrews, Edward S](#)

Subject: [External] FW: WF Papers

Sensitivity: Normal

Attachments:

[Longview O and M, Section 1.pdf](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

FYI, good info.

From: Chad Hufnagel <chufnagel@longviewpower.net>

Sent: Thursday, September 17, 2020 8:42 AM

To: Brian Hoyt <bhoyt@longviewpower.net>; Stephen Nelson <snelson@longviewpower.net>; Nasi, Michael J. <mnasi@jw.com>

Subject: RE: WF Papers

Brian,

This is the General Description of Boiler from Foster Wheeler Manual. It has some nice generic overview pictures of the plant that Ed could use if he wanted to provide a graphical representation of processes in technical document

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Archived: Friday, October 9, 2020 11:10:17 AM

From: [Brian Hoyt](#)

Sent: Thursday, September 10, 2020 9:55:46 AM

To: [Andrews, Edward S](#)

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

Sensitivity: Normal

Attachments:

[LVP Degradation Table 2020-09-10.xlsx](#)

As requested.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, September 10, 2020 9:39 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: Level 1 Limits with the UDAF applied out to 2035

Hey,

Could you send us a copy of your excel file that you created this table.

I would like to use it as a appendix in my eval.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Thursday, September 10, 2020 8:59 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Level 1 Limits with the UDAF applied out to 2035

Longview Power CO₂ Rate Degradation Table

Starting Year	2021	
Degradation	0.4%	annually

Recovery **0.7%** per 5 years

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Degradation	0.0%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Recovery	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.7%

Level 1 - Annual CO ₂ Standard of Performance (lbs/MWHG)															
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
0	9,864	9,903	9,943	9,983	9,953	9,992	10,032	10,073	10,113	10,082	10,123	10,163	10,204	10,244	10,213

Level 1 - Annual CO ₂ Standard of Performance (lbs/MWHN)															
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
1	2,230	2,239	2,248	2,257	2,250	2,259	2,268	2,277	2,286	2,279	2,288	2,298	2,307	2,316	2,309
2	2,108	2,116	2,125	2,133	2,127	2,135	2,144	2,153	2,161	2,155	2,163	2,172	2,181	2,189	2,183
3	2,050	2,058	2,066	2,075	2,068	2,077	2,085	2,093	2,102	2,095	2,104	2,112	2,121	2,129	2,123
4	2,002	2,010	2,018	2,026	2,020	2,028	2,036	2,044	2,052	2,046	2,054	2,063	2,071	2,079	2,073
5	1,958	1,966	1,974	1,982	1,976	1,983	1,991	1,999	2,007	2,001	2,009	2,017	2,025	2,034	2,027

Level 2 - Annual CO ₂ Standard of Performance (lbs/MWHN)															
Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
1	2,453	2,463	2,473	2,483	2,475	2,485	2,495	2,505	2,515	2,507	2,517	2,527	2,537	2,548	2,540
2	2,319	2,328	2,337	2,347	2,340	2,349	2,358	2,368	2,377	2,370	2,380	2,389	2,399	2,408	2,401
3	2,255	2,264	2,273	2,282	2,275	2,284	2,293	2,303	2,312	2,305	2,314	2,323	2,333	2,342	2,335
4	2,202	2,211	2,220	2,229	2,222	2,231	2,240	2,249	2,258	2,251	2,260	2,269	2,278	2,287	2,280
5	2,154	2,162	2,171	2,180	2,173	2,182	2,191	2,199	2,208	2,201	2,210	2,219	2,228	2,237	2,230

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, September 10, 2020 8:47 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: Level 1 Limits with the UDAF applied out to 2035

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality


601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:17 AM
From: [Brian Hoyt](#)
Sent: Friday, September 4, 2020 10:44:45 AM
To: [Andrews, Edward S](#)
Subject: RE: Revised pre-draft for Permit Application R13-3495
Sensitivity: Normal
Attachments:
[WVDEP 061-00134_PERM_13-3495_draft_ver-7.docx](#) 

Ed, some brief comments on the clean version of the draft permit.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 3, 2020 1:58 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>; Crowder, Laura M <Laura.M.Crowder@wv.gov>
Subject: Revised pre-draft for Permit Application R13-3495

Brian,

Here is a revised clean (ver-7) and edited version (ver-6).

Please look this over these changes and let me know if there is any questions about the changes.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
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Archived: Friday, October 9, 2020 11:10:17 AM

From: [Brian Hoyt](#)

Sent: Friday, August 28, 2020 2:57:59 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP Draft "ACE" Permit Comments

Sensitivity: Normal

Attachments:

[LVP comments on August 27 pre-draft permit language 2020-08-28.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed. Please find Longview's comments on the draft permit. We provide comment, revision, as well as some placeholders so as to not derail the discussion. Let's chat when you have a chance prior to the EPA meeting.

Thanks!

-Brian



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bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:17 AM

From: [Brian Hoyt](#)

Sent: Monday, August 24, 2020 2:35:14 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP Statement of Basis for Coal Adjustment Factor

Sensitivity: Normal

Attachments:

[August 24 LVP Statement of Basis for Coal Adjustment Factor.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, updated Statement of Basis as discussed earlier.

-B



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Archived: Friday, October 9, 2020 11:10:18 AM

From: [Brian Hoyt](#)

Sent: Thursday, August 20, 2020 12:21:40 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP Fuel Change Narrative

Sensitivity: Normal

Attachments:

[LVP Statement of Basis for Coal Adjustment Factor 2020-08-20 rev1.docx](#) 

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As promised, please take a look and let me know if you have any questions or comments.

Based on what we discussed earlier today, LVP things that a 2% - 3% adjustment for Sewickley would be prudent, and the data supports that as a worst case fuel change. As was said, the Sewickley we burned came from our mine and was prepped by us, leading to a far better grade than could be bought off the open market, which would be our only option in the future. So actual performance would need to be checked by a test burn and the 2% - 3% margin is appropriate. Additionally, if LVP were to burn an Upper Ohio River Valley coal, while the heat content is excellent, the Sulphur is almost double the current fuel so in turn the additional AQCS aux load plus CO₂ generated from the additional limestone being fed would offer a similar challenge as Sewickley. We would like to preserve the ability to test burn and potentially make an adjustment, but still cap the overall change as above...

-B



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Archived: Friday, October 9, 2020 11:10:18 AM

From: [Brian Hoyt](#)

Sent: Thursday, August 20, 2020 11:14:39 AM

To: [Andrews, Edward S](#)

Subject: [External] FW: HRI Technologies

Sensitivity: Normal

Attachments:

[ppt pictures.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Please see questions/comments in red below, pictures attached.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, August 20, 2020 9:56 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] HRI Technologies

Brian,

I am looking for a little bit of assistance on your HRI technologies.

Your October presentation has some great info on your HRI. Could I get a copy of the Figures used (mainly of the ones of the air heater, turbine, and axial fan) in the presentation.

I am working on air leaks and air preheats seals HRI. When was the air heater upgrade(s) conducted?

- The base design of the Air Heater was BSER with leakage control system
- The leakage control system was upgraded in 2017 but not to improve efficiency but to make the system more reliable, reduce maintenance, and to sustain base design efficiency
- The baskets in Air heater were upgraded and replaced in 2018 with online water washing capability but this was focused on reducing air heater fouling while maintaining efficiency.

How is performance monitored (air leakage)?

- Periodic testing with last test in Fall 2018
- Annual visual inspection of sealing surfaces

Is your air heater baskets using a double seal design?

- Yes

For the economizer, what is your exit temperature of the feedwater?

- This is dependent on load but do you want economizer inlet temperature of water or economizer exit temperature of water

What is the location injection point of the DSI?

- Prior to SCR

What is the your acid gas dewpoint temperature and typical outlet temperatures from the economizer?

- Control for SCR requires 630F to 800F with optimal performance of system at 680F.

Should you have any questions about this, please contact me.

Thanks,
Ed

Edward S. Andrews, P.E.
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Archived: Friday, October 9, 2020 11:10:18 AM

From: [Brian Hoyt](#)

Sent: Wednesday, August 12, 2020 4:46:38 PM

To: [Andrews, Edward S](#)

Subject: [External] Fwd: Updated BV ACE study report

Sensitivity: Normal

Attachments:

[image003.jpg](#) [TT00001.htm](#) [Songview - EPA ACE Study Results - Final 2020 08 11.docx](#) [TT00002.htm](#)

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Archived: Friday, October 9, 2020 11:10:18 AM

From: [Brian Hoyt](#)

Sent: Wednesday, August 12, 2020 1:00:41 PM

To: [Andrews, Edward S](#)

Subject: [External] Emailing: Black and Veatch ACE Guidance Report

Sensitivity: Normal

Attachments:

[Black and Veatch ACE Guidance Report.pdf](#) 

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Ed, some additional information for review, in particular Section 8.2.2. Please take a look as it is pertinent to our fuel adjustment discussion in particular. However, in the event you haven't seen this document previously, it offers a ton of very useful information for consideration on all aspects of the ACE Rule.

-B



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From: [Brian Hoyt](#)

Sent: Wednesday, August 5, 2020 3:19:50 PM

To: [Andrews, Edward S](#)

Subject: [External] FW: ACE - Fuel Change Trigger

Sensitivity: Normal

Attachments:

[Fuel Change Trigger.xlsx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

As requested.

-Brian

From: Chad Hufnagel <chufnagel@longviewpower.net>

Sent: Tuesday, July 28, 2020 1:15 PM

To: Brian Hoyt <bhoyt@longviewpower.net>; Stephen Nelson <snelson@longviewpower.net>; Jared Custer <jcuster@longviewpower.net>; Nasi, Michael J. <mnasi@jw.com>; Wahl, Pete <pwahl@jw.com>; Carolyn Piccirilli <CPiccirilli@longviewpower.net>; Jeff Keffer <jkeffer@longviewpower.net>

Subject: ACE - Fuel Change Trigger

Brian,

Based on our current coal contract and fuel used in baseline results, we developed a 'draft' table to identify limits per coal properties that would trigger a fuel change evaluation.


Specification (As Received)	Monthly Typical Weighted Average Quality	Significant Fuel Change Triggers
Btu/lb	13,000	<12,500
Sulfur %	3.00%	>3.25%
Ash %	8.75%	>12%
Moisture %	7.00%	>8.50%
Chlorine %	0.10%-0.15%	>0.15%
Nitrogen %	1.55%-1.75%	>1.55%
HGI	>50	<45
Initial Deformation (reducing)	2100F-2150F	<2075F
Softening (reducing)	2200F	<2100F
Initial Deformation (oxidizing)	2375F	<2250F
Softening (oxidizing)	2470F	<2300F
Size	2 X 0	>2.5 x 0



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Archived: Friday, October 9, 2020 11:10:19 AM
From: [Brian Hoyt](#)
Sent: Tuesday, August 4, 2020 12:09:21 PM
To: [Andrews, Edward S](#)
Subject: [External] LVP Generation and Heat Rate Data - 2020 Q1 Q2
Sensitivity: Normal
Attachments:
[2020 thru June gross and net MW.xlsx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

FYI, 2020 LVP gross and net generation, and OPM heat rate as requested.

-B

From: Jared Custer <Jcuster@longviewpower.net>
Sent: Monday, August 3, 2020 7:49 AM
To: Chad Hufnagel <chufnagel@longviewpower.net>; Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: gross and net MW.xlsx

Please see attached and let me know if you need anything else.

Thanks,
Jared

From: Chad Hufnagel <chufnagel@longviewpower.net>
Sent: Monday, August 3, 2020 7:08 AM
To: Jared Custer <Jcuster@longviewpower.net>
Subject: RE: gross and net MW.xlsx

Can you do this data for Jan 1 – June 30 2020 for brian today

From: Jared Custer <Jcuster@longviewpower.net>
Sent: Thursday, June 25, 2020 9:47 AM
To: Chad Hufnagel <chufnagel@longviewpower.net>
Subject: RE: gross and net MW.xlsx

Set some filters on the data for the OPM HL heatrate. There are times that the model messed up.

From: Chad Hufnagel <chufnagel@longviewpower.net>
Sent: Thursday, June 25, 2020 9:08 AM
To: Jared Custer <Jcuster@longviewpower.net>
Subject: FW: gross and net MW.xlsx

Can you do OPM for same range for what we have available

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, June 25, 2020 8:40 AM

To: Chad Hufnagel <chufnagel@longviewpower.net>

Subject: RE: gross and net MW.xlsx

OPM heat rate hourly data? ;)

-B

From: Chad Hufnagel <chufnagel@longviewpower.net>

Sent: Wednesday, June 24, 2020 3:49 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: gross and net MW.xlsx

Brian

Attached is what is easily assessable in our PI system. Let Jared or I know if you need anything else.

This is the GMW and both of our Net MW meter outputs

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Archived: Friday, October 9, 2020 11:10:19 AM

From: [Brian Hoyt](#)

Sent: Friday, July 31, 2020 6:23:13 PM

To: [Crowder, Laura M](#); [Jennings, Laura M](#); [Andrews, Edward S](#); [Stephen Nelson](#); [Chad Hufnagel](#)

Subject: [External] UPDATED: LVP ACE Rule Documents As-Requested

Sensitivity: Normal

Attachments:

[26477486_1_JW comments on WV ACE State Plan-Partial-preDRAFT - July28 to EPA R3.docx](#)  [LVP ACE Rule Justifications for Fuel and Calc 2020-07-30.docx](#) 

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Providing the draft SIP document with comments, as well as an updated Standard of Performance document based on today's discussions.

Thank you.

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

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From: Brian Hoyt

Sent: Friday, July 31, 2020 10:13 AM

To: 'Crowder, Laura M' <laura.m.crowder@wv.gov>; 'Jennings, Laura M' <Laura.M.Jennings@wv.gov>; 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>; Stephen Nelson <snelson@longviewpower.net>; Chad Hufnagel <chufnagel@longviewpower.net>

Subject: RE: LVP ACE Rule Documents As-Requested

My apologies as we caught an error on page 6 of the Appendix C document. Yellow and green were switch in the description on lines 4 and 5, now corrected in the attached update.

Thank you.

-Brian



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<http://www.longviewpower.com>

From: Brian Hoyt

Sent: Friday, July 31, 2020 9:47 AM

To: Crowder, Laura M <laura.m.crowder@wv.gov>; 'Jennings, Laura M' <Laura.M.Jennings@wv.gov>; 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>; Stephen Nelson <snelson@longviewpower.net>; Chad Hufnagel <chufnagel@longviewpower.net>

Subject: LVP ACE Rule Documents As-Requested

Please find attached the updated narrative and justification documents that have been requested for today. We are in the process of reviewing the draft SIP and will provide comment shortly.

Thank you.

-Brian



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Archived: Friday, October 9, 2020 11:10:19 AM

From: [Brian Hoyt](#)

Sent: Friday, July 31, 2020 10:13:00 AM

To: [Crowder, Laura M](#); [Jennings, Laura M](#); [Andrews, Edward S](#); [Stephen Nelson](#); [Chad Hufnagel](#)

Subject: RE: LVP ACE Rule Documents As-Requested

Sensitivity: Normal

Attachments:

[Appendix C - 07.31.20 Draft LVP.docx](#) 

My apologies as we caught an error on page 6 of the Appendix C document. Yellow and green were switch in the description on lines 4 and 5, now corrected in the attached update.

Thank you.

-Brian



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From: Brian Hoyt

Sent: Friday, July 31, 2020 9:47 AM

To: Crowder, Laura M <laura.m.crowder@wv.gov>; 'Jennings, Laura M' <Laura.M.Jennings@wv.gov>; 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>; Stephen Nelson <snelson@longviewpower.net>; Chad Hufnagel <chufnagel@longviewpower.net>

Subject: LVP ACE Rule Documents As-Requested

Please find attached the updated narrative and justification documents that have been requested for today. We are in the process of reviewing the draft SIP and will provide comment shortly.

Thank you.

-Brian



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Archived: Friday, October 9, 2020 11:10:19 AM

From: [Brian Hoyt](#)







Sent: Friday, July 31, 2020 9:47:25 AM

To: [Crowder, Laura M](#); [Jennings, Laura M](#); [Andrews, Edward S](#); [Stephen Nelson](#); [Chad Hufnagel](#)

Subject: [External] LVP ACE Rule Documents As-Requested

Sensitivity: Normal

Attachments:

[Appendix C - 07.31.20 Draft LVP.docx](#)  [LVP EPA ACE Study Results - LVP.docx](#)  [Heat Rate Degradation Support - LVP.docx](#)  [Long Term Equipment Related Heat Rate Variability 45CSR44 -LVP.docx](#)  [LVP ACE Rule Justifications for Fuel and Calc 2020-07-30.docx](#)  [JM Supercritical Coal Fleet Heat Rate and Capacity Factor Degradation - LVP.xlsx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Please find attached the updated narrative and justification documents that have been requested for today. We are in the process of reviewing the draft SIP and will provide comment shortly.

Thank you.

-Brian



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Archived: Friday, October 9, 2020 11:10:19 AM

From: [Brian Hoyt](#)

Sent: Wednesday, July 29, 2020 11:13:46 AM

To: [Andrews, Edward S](#)

Subject: [External] LVP Dominion Post Invoice and Affidavit of Publication - ACE App

Importance: High

Sensitivity: Normal

Attachments:

[20200722134855518.pdf](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

As requested.

-Brian



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Archived: Friday, October 9, 2020 11:10:19 AM

From: [Brian Hoyt](#)

Sent: Tuesday, July 28, 2020 1:07:48 PM

To: [Andrews, Edward S](#)

Subject: RE: OPM Heat Rate Model

Sensitivity: Normal

Attachments:

[OPMDescription.pdf](#) 

Take a look at the attachment and let me know if that will work.

=B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Tuesday, July 28, 2020 10:45 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] OPM Heat Rate Model

Brian,

Could you give us a good definition/explanation that describes your OPM Heat Rate model?

We are working on writing up the evaluation and SIP.

Ed

Edward S. Andrews, P.E.

Engineer

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Archived: Friday, October 9, 2020 11:10:20 AM

From: [Brian Hoyt](#)

Sent: Tuesday, July 28, 2020 1:06:22 PM

To: [Andrews, Edward S](#)

Subject: [External] Updated LVP ACE Degradation Data & Narrative

Sensitivity: Normal

Attachments:

[PJM Supercritical Coal Fleet Heat Rate and Capacity Factor Degradation R1.xlsx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

FYI, upgraded degradation data, graphs, and narrative. I think this addresses what you had requested.

-B



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:20 AM

From: [Brian Hoyt](#)

Sent: Friday, July 24, 2020 4:59:55 PM

To: [Andrews, Edward S](#)

Cc: [Nasi, Michael J.](#); [Wahl, Pete](#); [Stephen Nelson](#)

Subject: [External] Draft Longview Degradation Schedule Support Document

Sensitivity: Normal

Attachments:

[DRAFT - Longview Power Heat Rate Degradation Support 2020-07-24.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, as I mentioned, here is the draft document in support of our proposed degradation rate as it relates to our CO2 permitting. Please take a look and we can discuss further next week.

Thank you.

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:20 AM

From: [Brian Hoyt](#)

Sent: Friday, July 24, 2020 2:04:52 PM

To: [Andrews, Edward S](#)

Subject: Accepted: [EXTERNAL] LB-0 and other item to address in the excel file

Last modification date: Friday, July 24, 2020 5:27:51 PM

End: Friday, July 24, 2020 2:30:00 PM

Conversation: [EXTERNAL] LB-0 and other item to address in the excel file

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Archived: Friday, October 9, 2020 11:10:20 AM

From: [Brian Hoyt](#)

Sent: Friday, July 24, 2020 1:39:41 PM

To: [Andrews, Edward S](#)

Subject: RE: Actual CO2 Emissions

Sensitivity: Normal

Attachments:

[LVP ACE Rule Data 2012 through 2020 Q2 - 2020-07-24 BH.xlsx](#) 

Ok, I got the export to work using some tricks. Somehow straight export thinks Excel can't handle so many rows...

As for the 2012 etc data quality, it wasn't just startups. The instrumentation had some major issues back then that apparently took years to resolve...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 24, 2020 1:08 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: Actual CO2 Emissions

Most of the years are off 1 to 4 pounds but 2014 is off by 24.

Thanks

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Friday, July 24, 2020 1:03 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Actual CO2 Emissions

I can try. It was challenging to do so before as Excel had issues...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 24, 2020 12:28 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Actual CO2 Emissions

Brian,

We have look at the actual emissions we are using in the tab to evaluate potential compliance and notice that the numbers do match up like they should for all of the years.

Is it possible you could send us a data file with 2012 through 2020 2nd Qtr?

We want to be on the same page. Also, we have been looking at Bin LB-0. The number is really high and the SD is close to it too. We are looking at it just the baseline period and with all years.

After 2 today, I am available to take a call from you.

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:20 AM

From: [Brian Hoyt](#)

Sent: Friday, July 24, 2020 1:19:20 PM

To: [Andrews, Edward S](#)

Subject: RE: Actual CO2 Emissions

Sensitivity: Normal

Attachments:

[LVP ACE Rule Load Bin Compliance Analysis Tool Snapshot 2020-07-24.xlsx](#) 

Working on data export as requested.

Here is my "compliance" tool. Please take a look and if everything seems ok, share with EPA...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 24, 2020 1:08 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: Actual CO2 Emissions

Most of the years are off 1 to 4 pounds but 2014 is off by 24.

Thanks

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Friday, July 24, 2020 1:03 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Actual CO2 Emissions

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-B

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Sent: Friday, July 24, 2020 12:28 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

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We have look at the actual emissions we are using in the tab to evaluate potential compliance and notice that the numbers do match up like they should for all of the years.

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We want to be on the same page. Also, we have been looking at Bin LB-0. The number is really high and the SD is close to it too. We are looking at it just the baseline period and with all years.


After 2 today, I am available to take a call from you.

Ed

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Archived: Friday, October 9, 2020 11:10:20 AM
From: [Brian Hoyt](#)
Sent: Wednesday, July 22, 2020 10:51:44 AM
To: [Andrews, Edward S](#)
Subject: [External] LVP ACE Data 2020 Q1 & Q2
Sensitivity: Normal
Attachments:
[LVP ACE Data 2020 Q1 Q2.xls](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.



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bhoyt@longviewpower.net | Cell: 304-376-7496

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From: [Brian Hoyt](#)

Sent: Wednesday, July 22, 2020 8:57:58 AM

To: [Andrews, Edward S](#)


Subject: Accepted: Call Developing Baseline Limits for Bins BL-1 through BL-5

Last modification date: Wednesday, July 22, 2020 11:38:00 AM

End: Wednesday, July 22, 2020 10:00:00 AM

Conversation: Call Developing Baseline Limits for Bins BL-1 through BL-5

Archived: Friday, October 9, 2020 11:10:20 AM

Archived: Friday, October 9, 2020 11:10:21 AM
From: [Brian Hoyt](#)
Sent: Thursday, July 16, 2020 9:40:42 AM
To: [Andrews, Edward S](#)
Subject: [External] LVP Heat Rate Degradation Basis
Sensitivity: Normal
Attachments:
[PJM SC COAL FLEET HEAT RATE PRES.xlsx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, as suggested, here is an analysis of LVP performance as well as what we are proposing, versus the applicable fleet in terms of degradation over time. Please take a look and we can discuss once you have digested what we are doing here.

Thanks!

-Brian



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From: [Brian Hoyt](#)

Sent: Monday, July 13, 2020 8:30:24 AM

To: [Andrews, Edward S](#)

Subject: Accepted: Call on LVP Inquiry Points

Last modification date: Monday, July 13, 2020 10:03:26 AM

End: Monday, July 13, 2020 11:00:00 AM

Conversation: Call on LVP Inquiry Points

Archived: Friday, October 9, 2020 11:10:21 AM

Archived: Friday, October 9, 2020 11:10:21 AM

From: [Brian Hoyt](#)

Sent: Friday, June 26, 2020 11:29:12 AM

To: [Andrews, Edward S](#)

Subject: [External] LVP Generation and OPM Heat Rate Data

Sensitivity: Normal

Attachments:

[LVP Generation and OPM Heat Rates 2020-06-26.xlsx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, per our phone discussion, here is the Gross Generation, Net Generation, and OPM Heat Rate data we discussed. Notes are at the bottom of the table. I did not do a great deal of analysis as I know you want to put this in a pivot table. As always, let me know if you have any questions.


-B



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Archived: Friday, October 9, 2020 11:10:21 AM
From: [Brian Hoyt](#)
Sent: Tuesday, June 23, 2020 12:03:42 PM
To: [Andrews, Edward S](#)
Cc: [Stephen Nelson](#); [Chad Hufnagel](#)
Subject: RE: Questions in ACE Application R13-3495
Sensitivity: Normal
Attachments:
[LVP ACE Data 2012-2019.xlsx](#) 

Ed, based on our discussion yesterday afternoon, please take a look at the attached spreadsheet. I believe the data in column E "BOILER01 HEATIN" is the appropriate heat input to use based on our discussion. I also tried to summarize the data so it would be as valuable and easy to use as possible for your upcoming discussions. Please recall, our CEMS heat rate and OPM heat rates correlate but do differ, and what you see here is CEMS heat rate.

Please see additional comments below in **blue**.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, June 22, 2020 12:16 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>
Subject: [EXTERNAL] Questions in ACE Application R13-3495

Brian,

I have a few questions that has came up during our review of your application.

Please note the method that the data in column "Boiler01 HEATINB" (column e of both excel files) is based on. **See above**

Is the reference to the condensate pumps under the VFD discussion of Attachment N referring to the pumps used to pump the condensate from the condensers to the holding tank/make-up tank or water treatment? **Yes**

Could you explain in further detail the heat rate benefit of using the VOITH variable speed hydraulic coupling for the feedwater pump. **The Variable speed hydraulic coupling changes the speed of the feedwater pump to the specific discharge pressure and flow required. This pressure requirement changes in operation and the speed constantly adjusts to maintain optimal operation. Without a variable speed coupling the drive would have to spend all the energy to increase the pump discharge pressure to the maximum required amount to only later be reduced via throttling valves to the required pressure. The varying of speed eliminates this throttling loss.**

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE

Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:21 AM

From: [Brian Hoyt](#)

Sent: Tuesday, June 9, 2020 9:28:25 AM

To: [Andrews, Edward S](#)

Subject: [External] B&V ACE Rule Contact

Sensitivity: Normal

Attachments:

[Una Nowling.vcf](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Per our discussion, Una would be a great start to any conversation with B&V regarding the ACE Rule, contact information attached.



-Brian



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Archived: Friday, October 9, 2020 11:10:22 AM

From: [Brian Hoyt](#)

Sent: Wednesday, October 7, 2020 9:02:02 AM

To: [Andrews, Edward S](#)

Subject: [External] RE: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

No worries, I am used to NDT(esting) being used as an acronym, not NDE...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, October 7, 2020 8:56 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

I guess non-destructive but I just couldn't figure the E out.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Wednesday, October 7, 2020 8:40 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Non-Destructive Examination (NDE)

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, October 7, 2020 8:16 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] RE: [External] LVP ACE Permit and Technical Document Comments

It is in the 2nd Scenario.

L-0 blading (the last rotating row) in LP turbines has been an ongoing industry-wide design and reliability issue for OEMs and plant engineers for many years. This row experiences a unique range of operating conditions that place significant stresses on the material. LVP, as well as most facilities, has an extensive advanced **NDE** technologies program to monitor the condition of the blading. LVP utilizes an advanced phased array technique approximately every 25,000 hours of operation (approximately every 3½ years) or after a turbine trip with loss of condenser vacuum due to additional significant stresses on the LP turbine blading. This effort and expense are completed in hopes to identify an issue in a very early stage that can be corrected prior to a complete failure event, however, it is very **feasible** to find an indication that would require immediate action or mitigation.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Wednesday, October 7, 2020 7:47 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] RE: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

What's the context or location? Not seeing the reference...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, October 6, 2020 5:19 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP ACE Permit and Technical Document Comments

Brian,

What does NDE refer to?

I will add be adding in your remarks.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, October 6, 2020 2:15 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, some very minor feedback on the technical document and permit.

Permit

Page 15, 4.1.1.c "Starting after the year of 2046, the UDAF shall not be applied to CO₂ Load Bin limits."

Technical Document

Page 4 - Design main steam conditions are 1,056 °F at 3,840 psi while the design reheat steam conditions are 1,052 °F at 824 psi.

Page 4 - The unit also has 4 air heater blowers. All blowers are controlled by the intelligent sootblowing system (Diamond Power Sentry Series™ control system). Didn't we request to take specific manufacture out of narrative

Page 5 - It refers to 'Titanium' sootblowing system – Should this be generic?

Page 7 - Table 2 regarding heat rate and potential reductions. It suggests ~8000 heat rate is achievable the way it reads to me so I think this needs some clarification and/or rewording to show that we have already achieved the reductions and it is reflected in our baseline heat rate. The math is backwards, pre-HRI heat rate should be more like

9300... Our “new” or perhaps current would be better, heat rate baseline is 8800.

Page 9 - The following figure is an illustration of LVP’s adjustable seal design. – This should refer to figure 3

Page 19 - comment on heat rate performance, are we really #2 to Turk given the timeframe? We have a 2016 Power-Gen International plaque on the wall as a “Best Heat Rate” award. lol

Page 47-47 - the Title V re-opener once the State Plan is approved is still of concern, even if the re-opener only applies to the CO₂ standard. This is limited to only CO₂ and the ACE permit correct?

-B



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Archived: Friday, October 9, 2020 11:10:22 AM
From: [Brian Hoyt](#)
Sent: Wednesday, October 7, 2020 7:46:46 AM
To: [Andrews, Edward S](#)
Subject: [External] RE: [External] LVP ACE Permit and Technical Document Comments
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

What's the context or location? Not seeing the reference...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, October 6, 2020 5:19 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP ACE Permit and Technical Document Comments

Brian,

What does NDE refer to?

I will add be adding in your remarks.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, October 6, 2020 2:15 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP ACE Permit and Technical Document Comments

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, some very minor feedback on the technical document and permit.

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Page 15, 4.1.1.c "Starting after the year of 2046, the UDAF shall not be applied to CO₂ Load Bin limits."

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Page 4 - The unit also has 4 air heater blowers. All blowers are controlled by the intelligent sootblowing system (Diamond Power Sentry Series™ control system). Didn't we request to take specific manufacture out of narrative

Page 5 - It refers to 'Titanium' sootblowing system – Should this be generic?

Page 7 - Table 2 regarding heat rate and potential reductions. It suggests ~8000 heat rate is achievable the way it

reads to me so I think this needs some clarification and/or rewording to show that we have already achieved the reductions and it is reflected in our baseline heat rate. The math is backwards, pre-HRI heat rate should be more like 9300... Our “new” or perhaps current would be better, heat rate baseline is 8800.

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Page 19 - comment on heat rate performance, are we really #2 to Turk given the timeframe? We have a 2016 Power-Gen International plaque on the wall as a “Best Heat Rate” award. lol

Page 47-47 - the Title V re-opener once the State Plan is approved is still of concern, even if the re-opener only applies to the CO₂ standard. This is limited to only CO₂ and the ACE permit correct?

-B



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Archived: Friday, October 9, 2020 11:10:22 AM

From: [Brian Hoyt](#)

Sent: Thursday, June 4, 2020 3:30:17 PM

To: [Andrews, Edward S](#)

Subject: Re: [EXTERNAL] ACE Call

Sensitivity: Normal

Would tomorrow morning be ok? Watching my boys right now

Sent from my iPhone

On Jun 4, 2020, at 3:24 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Would you be available for a phone call?

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:22 AM

From: [Brian Hoyt](#)

Sent: Tuesday, June 16, 2020 11:09:10 AM

To: [Andrews, Edward S](#)

Subject: RE: WV DAQ Permit Application Incomplete for Longview Power LLC - Madsville Facility

Sensitivity: Normal

Ed, any thoughts on what I should use for the "Startup" date for both the ad and application?

Thx!

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, June 12, 2020 2:55 PM

To: Stephen Nelson <snelson@longviewpower.net>; Brian Hoyt <bhoyt@longviewpower.net>

Cc: McKeone, Beverly D <Beverly.D.Mckeone@wv.gov>

Subject: [EXTERNAL] WV DAQ Permit Application Incomplete for Longview Power LLC - Madsville Facility

**RE: Application Status: Incomplete
Longview Power LLC – Madsville Facility
Permit Application No. R13-3495
Plant ID No. 061-00134**

Mr. Nelson:

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Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:22 AM

From: [Brian Hoyt](#)

Sent: Tuesday, June 16, 2020 11:29:11 AM

To: [Andrews, Edward S](#)

Subject: RE: WV DAQ Permit Application Incomplete for Longview Power LLC - Madsville Facility

Sensitivity: Normal

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Subject: RE: WV DAQ Permit Application Incomplete for Longview Power LLC - Madsville Facility

Sensitivity: Normal

So the July 8, 2022 deadline for SIP submission or July 8, 2024 given the 24 month deadline outlines in 40 CFR Part 60.24a(d)?

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Tuesday, June 16, 2020 11:43 AM

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Archived: Friday, October 9, 2020 11:10:22 AM

From: [Brian Hoyt](#)

Sent: Tuesday, June 16, 2020 1:14:36 PM

To: [Andrews, Edward S](#)

Subject: RE: WV DAQ Permit Application Incomplete for Longview Power LLC - Madsville Facility

Sensitivity: Normal

Lol So 2022?

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Tuesday, June 16, 2020 12:16 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: WV DAQ Permit Application Incomplete for Longview Power LLC - Madsville Facility

That sounds right.

Ed

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From: [Brian Hoyt](#)

Sent: Thursday, June 18, 2020 8:54:01 AM

To: [Andrews, Edward S](#)

Subject: Re: [EXTERNAL] Legal Ad

Sensitivity: Normal

Ah, I was waiting to talk to you to submit. So shall I calc pte ? Verbiage for ad?

-B

Sent from my iPhone

On Jun 17, 2020, at 2:41 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

Has you already scheduled to run your class I legal ad?

We would like a annual value of max potential to emit in the legal ad?

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

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From: [Brian Hoyt](#)

Sent: Thursday, June 18, 2020 11:26:08 AM

To: [Andrews, Edward S](#)

Subject: RE: [EXTERNAL] Legal Ad

Sensitivity: Normal

How does this look? Draft status.

Longview Power CO₂ Potential to Emit (PTE)

Operation	CO ₂ Rate	Generation			CO ₂ PTE	
		Gross MW	Conversion	*Net MW	lb/yr	tpy
hr/yr	lb/hr					
8,760	2,049	789	90%	710	12,743,960,400	6,371,980

*710 MW Net is interconnect limit and maximum limiting factor.

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, June 18, 2020 9:01 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [EXTERNAL] Legal Ad

Yes. You need to calculated based on maximum operating schedule possible (TPY) and insert it into the ad.

Ed

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Archived: Friday, October 9, 2020 11:10:22 AM

From: [Brian Hoyt](#)

Sent: Thursday, June 18, 2020 2:29:09 PM

To: [Andrews, Edward S](#)

Subject: RE: [EXTERNAL] Legal Ad

Sensitivity: Normal

Attachments:

[LVP ACE Rule Permit Publication 2020-06-18.docx](#)

Look good?

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, June 18, 2020 12:09 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [EXTERNAL] Legal Ad

I am good with the 6,371,980 tons CO2 per year.

Thanks,

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Thursday, June 18, 2020 11:26 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: [EXTERNAL] Legal Ad

How does this look? Draft status.

Longview Power CO₂ Potential to Emit (PTE)

Operation <i>hr/yr</i>	CO ₂ Rate <i>lb/hr</i>	Generation			CO ₂ PTE	
		<i>Gross MW</i>	<i>Conversion</i>	<i>*Net MW</i>	<i>lb/yr</i>	<i>tpy</i>
8,760	2,049	789	90%	710	12,743,960,400	6,371,980

*710 MW Net is interconnect limit and maximum limiting factor.

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, June 18, 2020 9:01 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [EXTERNAL] Legal Ad

Yes. You need to calculated based on maximum operating schedule possible (TPY) and insert it into the ad.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Thursday, June 18, 2020 8:54 AM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: Re: [EXTERNAL] Legal Ad

Ah, I was waiting to talk to you to submit. So shall I calc pte ? Verbiage for ad?

-B

Sent from my iPhone

On Jun 17, 2020, at 2:41 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

Has you already scheduled to run your class I legal ad?

We would like a annual value of max potential to emit in the legal ad?

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:23 AM
From: [Brian Hoyt](#)
Sent: Tuesday, June 23, 2020 2:25:05 PM
To: [Andrews, Edward S](#)
Cc: [Tipane, Frederick](#)
Subject: RE: Questions in ACE Application R13-3495
Sensitivity: Normal

Send me the Team link, I do have a few min

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, June 23, 2020 2:22 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Questions in ACE Application R13-3495

Are you available for a Skype or TEAMS call with Fred Tipane and myself?

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, June 23, 2020 12:03 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Stephen Nelson <snelson@longviewpower.net>; Chad Hufnagel <chufnagel@longviewpower.net>
Subject: RE: Questions in ACE Application R13-3495

Ed, based on our discussion yesterday afternoon, please take a look at the attached spreadsheet. I believe the data in column E "BOILER01 HEATIN" is the appropriate heat input to use based on our discussion. I also tried to summarize the data so it would be as valuable and easy to use as possible for your upcoming discussions. Please recall, our CEMS heat rate and OPM heat rates correlate but do differ, and what you see here is CEMS heat rate.

Please see additional comments below in **blue**.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, June 22, 2020 12:16 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>
Subject: [EXTERNAL] Questions in ACE Application R13-3495

Brian,

I have a few questions that has came up during our review of your application.

Please note the method that the data in column "Boiler01 HEATINB" (column e of both excel files) is based on. **See above**

Is the reference to the condensate pumps under the VFD discussion of Attachment N referring to the pumps used to pump the condensate from the condensers to the holding tank/make-up tank or water treatment? **Yes**

Could you explain in further detail the heat rate benefit of using the VOITH variable speed hydraulic coupling for the feedwater pump. ***The Variable speed hydraulic coupling changes the speed of the feedwater pump to the specific discharge pressure and flow required. This pressure requirement changes in operation and the speed constantly adjusts to maintain optimal operation. Without a variable speed coupling the drive would have to spend all the energy to increase the pump discharge pressure to the maximum required amount to only later be reduced via throttling valves to the required pressure. The varying of speed eliminates this throttling loss.***

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
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601 57th Street, SE
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Archived: Friday, October 9, 2020 11:10:23 AM
From: [Brian Hoyt](#)
Sent: Tuesday, June 23, 2020 2:26:49 PM
To: [Andrews, Edward S](#)
Cc: [Tipane, Frederick](#)
Subject: RE: Questions in ACE Application R13-3495
Sensitivity: Normal

The sooner the better

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, June 23, 2020 2:26 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Questions in ACE Application R13-3495

How about 3? I can be on there earlier if need be.

Ed

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Sent: Tuesday, June 23, 2020 2:25 PM
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Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
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Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Questions in ACE Application R13-3495

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To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
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Please see additional comments below in **blue**.

-B

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Sent: Monday, June 22, 2020 12:16 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>
Subject: [EXTERNAL] Questions in ACE Application R13-3495

Brian,

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Please note the method that the data in column "Boiler01 HEATINB" (column e of both excel files) is based on. *See above*

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Ed

Edward S. Andrews, P.E.
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Archived: Friday, October 9, 2020 11:10:23 AM
From: [Brian Hoyt](#)
Sent: Tuesday, June 23, 2020 2:33:30 PM
To: [Andrews, Edward S](#)
Cc: [Tipane, Frederick](#)
Subject: RE: Questions in ACE Application R13-3495
Sensitivity: Normal

Sounds good

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, June 23, 2020 2:31 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Questions in ACE Application R13-3495

I'll be on at 2:40. It will be a MS TEAMS invite set for 2:30.

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, June 23, 2020 2:27 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: RE: Questions in ACE Application R13-3495

The sooner the better

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, June 23, 2020 2:26 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Questions in ACE Application R13-3495

How about 3? I can be on there earlier if need be.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, June 23, 2020 2:25 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: RE: Questions in ACE Application R13-3495

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Sent: Tuesday, June 23, 2020 2:22 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Questions in ACE Application R13-3495

Are you available for a Skype or TEAMS call with Fred Tipane and myself?

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Tuesday, June 23, 2020 12:03 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Stephen Nelson <snelson@longviewpower.net>; Chad Hufnagel <chufnagel@longviewpower.net>
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Please see additional comments below in **blue**.

-B

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Sent: Monday, June 22, 2020 12:16 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>
Subject: [EXTERNAL] Questions in ACE Application R13-3495

Brian,

I have a few questions that has came up during our review of your application.

Please note the method that the data in column "Boiler01 HEATINB" (column e of both excel files) is based on. **See above**

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Could you explain in further detail the heat rate benefit of using the VOITH variable speed hydraulic coupling for the feedwater pump. **The Variable speed hydraulic coupling changes the speed of the feedwater pump to the specific discharge pressure and flow required. This pressure requirement changes in operation and the speed constantly adjusts to maintain optimal operation. Without a variable speed coupling the drive would have to spend all the energy to increase the pump discharge pressure to the maximum required amount to only later be reduced via throttling valves to the required pressure. The varying of speed eliminates this throttling loss.**

Ed

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Engineer
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Archived: Friday, October 9, 2020 11:10:23 AM

From: [Brian Hoyt](#)

Sent: Wednesday, June 24, 2020 1:36:14 PM

To: [Andrews, Edward S](#)

Subject: [External] March 2018 CO2

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

So I just did an analysis "manually" by summing the months tons CO2, multiplying by 2000, summing gross MW, converting to net at 90%, and I get a CO2 rate of 1974 lb CO2/ MWh net... You said you were seeing 4,000?



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:23 AM

From: [Brian Hoyt](#)

Sent: Wednesday, June 24, 2020 1:57:03 PM

To: [Andrews, Edward S](#)

Subject: RE: Andrews, Edward S shared "LVP_Data_Model_2012-2019" with you.

Sensitivity: Normal

Hmmm can't access that link

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, June 24, 2020 1:49 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Andrews, Edward S shared "LVP_Data_Model_2012-2019" with you.

Look at the 2012-2015 Monthly Tab. This is a rough looking table. I am still learning how to use power pivot in excel. You might have to add-in Power Pivot to see it.



This link only works for the direct recipients of this message.



[LVP_Data_Model_2012-2019](#)

Open

[\[westvirginiact.sharepoint.com\]](#)



Microsoft respects your privacy. To learn more, please read our [Privacy Statement](#). [[usgovtexasr-notifyp.svc.ms](#)]

Microsoft Corporation, One Microsoft Way, Redmond, WA 98052

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Archived: Friday, October 9, 2020 11:10:23 AM
From: [Brian Hoyt](#)
Sent: Friday, June 26, 2020 2:13:50 PM
To: [Andrews, Edward S](#)
Subject: RE: [External] LVP Generation and OPM Heat Rate Data
Sensitivity: Normal

Regarding the averaging period, we discussed annual monthly averages and think that could be discussed.

The heat rate data is from the B&V OPM model (ASME). It has assumptions based on plant characteristics... I do believe Una could be a good source helping to make sense of that data, particularly against other methods of heat rate calculation such as CEMS and Financial.

The ad has not been run, and I am waiting for the go ahead from my folks as that will kick off some serious public scrutiny. More to come on that one...

Have a great weekend!

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, June 26, 2020 12:34 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP Generation and OPM Heat Rate Data

Brian,

I am still working on Mike Gordon on the averaging period issue. No response yet.

Is the Heat Rate OPM data from Black & Veatch's model? If so, would Una be a good contact regarding this Heat Rate values?

Has the ad been schedule to run yet? We will need a scanned version of the affidavit once available.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, June 26, 2020 11:29 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP Generation and OPM Heat Rate Data

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, per our phone discussion, here is the Gross Generation, Net Generation, and OPM Heat Rate data we discussed. Notes are at the bottom of the table. I did not do a great deal of analysis as I know you want to put this in a pivot table. As always, let me know if you have any questions.

-B



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bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:24 AM

From: [Brian Hoyt](#)

Sent: Monday, June 29, 2020 12:41:17 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP ACE Discussion

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

We talked about this previously, but is there a good time in the very near future where you, Laura, Steve, and I could chat via a phone call on the ACE status and next steps?

Thx!

-B



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Archived: Friday, October 9, 2020 11:10:24 AM
From: [Brian Hoyt](#)
Sent: Monday, June 29, 2020 12:41:28 PM
To: [Andrews, Edward S](#)
Cc: [Jennings, Laura M](#); [Stephen Nelson](#)
Subject: [External] LVP ACE rule Application Status
Importance: High
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, just wanted to confirm that thus far, LVP has provided the requested data. Realizing our timeline states 7/29 as the due date for the initial data request, other than the CBI determination which we haven't heard back from the EPA on (if that data is even needed), I believe that as of Friday we have provided everything that has been requested (Generation and OPM heat rate data on Friday). Can you confirm? And if you feel anything is lacking, please let us know? It would seem that at this point, we are both waiting on feedback from the EPA to proceed with additional efforts here. We want to ensure that LVP is meeting the intent and deadlines previously laid out.

Thank you.

-Brian



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Archived: Friday, October 9, 2020 11:10:24 AM

From: [Brian Hoyt](#)

Sent: Monday, June 29, 2020 2:27:35 PM

To: [Andrews, Edward S](#)

Subject: RE: [External] LVP ACE Discussion

Sensitivity: Normal

What time tomorrow morning? Could work but Steve has a 10a or so... Tomorrow afternoon and Wed morning work as well. Similar 10a apt for Steve on Wed though...

Tuesday afternoon may end up being the best time...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, June 29, 2020 1:11 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] LVP ACE Discussion

Brian,

She has opening tomorrow morning. There are some times in the afternoon and Wednesday morning.

Send me some time slots that would work best for Steve and yourself.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Monday, June 29, 2020 12:41 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] LVP ACE Discussion

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We talked about this previously, but is there a good time in the very near future where you, Laura, Steve, and I could chat via a phone call on the ACE status and next steps?

Thx!

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Archived: Friday, October 9, 2020 11:10:24 AM
From: [Brian Hoyt](#)
Sent: Monday, June 29, 2020 3:12:13 PM
To: [Andrews, Edward S](#)
Subject: Re: [External] LVP ACE Discussion
Sensitivity: Normal

Works!

Sent from my iPhone

On Jun 29, 2020, at 3:08 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

How about a 9:30 tomorrow?
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, June 29, 2020 2:28 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: [External] LVP ACE Discussion

What time tomorrow morning? Could work but Steve has a 10a or so... Tomorrow afternoon and Wed morning work as well. Similar 10a apt for Steve on Wed though...

Tuesday afternoon may end up being the best time...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, June 29, 2020 1:11 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP ACE Discussion

Brian,

She has opening tomorrow morning. There are some times in the afternoon and Wednesday morning.

Send me some time slots that would work best for Steve and yourself.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, June 29, 2020 12:41 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP ACE Discussion

CAUTION: External email. Do not click links or open attachments unless you verify sender.

We talked about this previously, but is there a good time in the very near future where you, Laura, Steve, and I could chat via a phone call on the ACE status and next steps?

Thx!

-B

<image001.jpg>

Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:24 AM
From: [Brian Hoyt](#)
Sent: Monday, June 29, 2020 3:16:42 PM
To: [Andrews, Edward S](#)
Subject: Re: [External] LVP ACE Discussion
Sensitivity: Normal

That would be easier

Sent from my iPhone

On Jun 29, 2020, at 3:13 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Would you or Steve need a call in number?
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, June 29, 2020 3:12 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: Re: [External] LVP ACE Discussion

Works!

Sent from my iPhone

On Jun 29, 2020, at 3:08 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

How about a 9:30 tomorrow?
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, June 29, 2020 2:28 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: [External] LVP ACE Discussion

What time tomorrow morning? Could work but Steve has a 10a or so... Tomorrow afternoon and Wed morning work as well. Similar 10a apt for Steve on Wed though...

Tuesday afternoon may end up being the best time...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, June 29, 2020 1:11 PM
To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] LVP ACE Discussion

Brian,

She has opening tomorrow morning. There are some times in the afternoon and Wednesday morning.

Send me some time slots that would work best for Steve and yourself.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, June 29, 2020 12:41 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP ACE Discussion

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We talked about this previously, but is there a good time in the very near future where you, Laura, Steve, and I could chat via a phone call on the ACE status and next steps?

Thx!

-B

<image001.jpg>

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Archived: Friday, October 9, 2020 11:10:24 AM
From: [Brian Hoyt](#)
Sent: Tuesday, June 30, 2020 11:28:37 AM
To: [Andrews, Edward S](#)
Subject: RE: Longview Power app fee for DAQ
Sensitivity: Normal

Lol just called, no answer, will try again later...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, June 30, 2020 11:23 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] FW: Longview Power app fee for DAQ

Greg Null should be available to take payments today.

Ed

From: Null, Gregory L <Gregory.L.Null@wv.gov>
Sent: Tuesday, June 30, 2020 10:26 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>; Adkins, Sandra K <Sandra.K.Adkins@wv.gov>; Scott, Kimberly A (DEP) <Kimberly.A.Scott@wv.gov>
Subject: RE: Longview Power app fee for DAQ

Just me today.

*Greg Null
West Virginia Department of Environmental Protection
Business Operations Office
Accounts Receivable Manager
601 57th St SE
Charleston, WV 25304-2345
304-926-0499 x-41947*

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Tuesday, June 30, 2020 10:23 AM
To: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>; Null, Gregory L <Gregory.L.Null@wv.gov>; Scott, Kimberly A (DEP) <Kimberly.A.Scott@wv.gov>
Subject: RE: Longview Power app fee for DAQ

Sandra,

Could you find out who is available for Brian to call and make payment on his application fee?

Ed

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>
Sent: Tuesday, June 30, 2020 8:49 AM
To: Null, Gregory L <Gregory.L.Null@wv.gov>; Scott, Kimberly A (DEP) <Kimberly.A.Scott@wv.gov>
Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: Longview Power app fee for DAQ

Hello,

Ed needs to know if Longview ever made the credit payment of \$1,000.00 for their application fee. R13-3495 is the permit number.

He is having a meeting with folks this morning and would like to know. He hasn't received an email but we know Brian Hoyt called to make payment and we weren't sure if Kim was able to contact him.

Thanks!!

Sandie

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Archived: Friday, October 9, 2020 11:10:24 AM

From: [Brian Hoyt](#)

Sent: Monday, July 6, 2020 12:06:43 PM

To: [Andrews, Edward S](#)

Subject: [External] Good time to call?

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Maidsville, WV 26541
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Archived: Friday, October 9, 2020 11:10:24 AM

From: [Brian Hoyt](#)

Sent: Monday, July 6, 2020 12:08:11 PM

To: [Andrews, Edward S](#)

Subject: RE: [External] Good time to call?

Sensitivity: Normal

Lol ok. One sec...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, July 6, 2020 12:08 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] Good time to call?

Now is as good as it is going to get for today.

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Monday, July 6, 2020 12:07 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] Good time to call?

CAUTION: External email. Do not click links or open attachments unless you verify sender.



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bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:24 AM

From: [Brian Hoyt](#)

Sent: Tuesday, July 14, 2020 9:43:43 AM

To: [Andrews, Edward S](#)

Subject: RE: Longview Load Bins-2016-1Q 2020 (excludes 2014 and 2015) (Net Load).xlsx

Sensitivity: Normal

Hey, Unit 001 AO17 is wrong. Need to multiply by 21 not 27... FYI

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Tuesday, July 14, 2020 6:59 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Longview Load Bins-2016-1Q 2020 (excludes 2014 and 2015) (Net Load).xlsx

Brian,

Take a look at tab Unit 001 columns AI through AQ.

Ed

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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Wednesday, July 15, 2020 10:41:24 AM

To: [Andrews, Edward S](#)

Subject: Re: [EXTERNAL] Other Issues that the DAQ needs answers on as soon as possible

Sensitivity: Normal

Should be no issue. Side note, how did you analyze the hours with HI but no MWHN for the lowest load bin in your analysis?

Sent from my iPhone

On Jul 15, 2020, at 7:30 AM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

The DAQ will need answers on the following items shortly after our call with EPA this afternoon:

Publication date for your ad;

When will the 2nd Quarter CO2 and Heat Rate data be available to the DAQ?

Thanks

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:25 AM
From: [Brian Hoyt](#)
Sent: Thursday, July 16, 2020 10:20:16 AM
To: [Andrews, Edward S](#)
Subject: RE: [External] LVP Heat Rate Degradation Basis
Sensitivity: Normal

[Call or Teams to discuss?](#)

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 16, 2020 9:52 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP Heat Rate Degradation Basis

We have some new ideals.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, July 16, 2020 9:50 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: [External] LVP Heat Rate Degradation Basis

Let me talk to Steve but I would be available. We need to nail down how to handle Bin 1 (>313MW) as well as this concept of degradation and what is adequate backup for our numbers. We are actually more aggressive than what the fleet has shown by quite a substantial degree...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 16, 2020 9:48 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: [External] LVP Heat Rate Degradation Basis

Are you available today at 1 for a call with us and EPA?

Do you think Steve needs to be invited too?

These are technical folks from EPA + Fred T., Rex, Todd, and myself.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, July 16, 2020 9:41 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP Heat Rate Degradation Basis

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, as suggested, here is an analysis of LVP performance as well as what we are proposing, versus the applicable fleet in terms of degradation over time. Please take a look and we can discuss once you have digested what we are doing here.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Thursday, July 16, 2020 10:48:16 AM

To: [Andrews, Edward S](#)

Subject: [External] Join Teams meeting in progress

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

You're invited to join a Microsoft Teams meeting

Use the link below to join

https://teams.microsoft.com/l/meetup-join/19%3Ameeting_MWQxY2U5YjAtZGVmMi00MjAOLWFkY2MtNmFhMjkzNThkY2E5%40thread.v2/0?context=%7B%22id%22%3A%22f5a84f83-3845-4e2b-9b28-e68fb0cb425d%22%2C%22oid%22%3A%22237f2c7f-186f-4ff5-b4d2-dffd36692c19%22%7D

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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Thursday, July 16, 2020 10:52:43 AM

To: [Andrews, Edward S](#); [Gordon, Michael](#)

Subject: RE: Weighted Avg Equation

Sensitivity: Normal

We prefer the time-weighted approach but understand this one as well. However, the single biggest issue is how to calculate the lowest load bin "limit" for inclusion into the weighted average. How will that be done?

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, July 16, 2020 10:48 AM

To: Brian Hoyt <bhoyt@longviewpower.net>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>

Subject: [EXTERNAL] Weighted Avg Equation

Here is a weighted avg eq. that we can talk about at 1 today too.

Ed

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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Thursday, July 16, 2020 12:43:41 PM

To: [Andrews, Edward S](#)

Subject: RE: Weighted Avg Equation

Sensitivity: Normal

Is there a call-in number for the 1p? Steve doesn't have Teams...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, July 16, 2020 10:48 AM

To: Brian Hoyt <bhoyt@longviewpower.net>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>

Subject: [EXTERNAL] Weighted Avg Equation

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Ed

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Archived: Friday, October 9, 2020 11:10:25 AM
From: [Brian Hoyt](#)
Sent: Thursday, July 16, 2020 12:54:09 PM
To: [Andrews, Edward S](#)
Subject: Re: [EXTERNAL] RE: Weighted Avg Equation
Sensitivity: Normal

All set

Sent from my iPhone

On Jul 16, 2020, at 12:50 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Does he have a PC with internet?
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, July 16, 2020 12:44 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Weighted Avg Equation

[Is there a call-in number for the 1p? Steve doesn't have Teams...](#)

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 16, 2020 10:48 AM
To: Brian Hoyt <bhoyt@longviewpower.net>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>
Subject: [EXTERNAL] Weighted Avg Equation

Here is a weighted avg eq. that we can talk about at 1 today too.

Ed
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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Friday, July 17, 2020 2:27:59 PM

To: [Andrews, Edward S](#)

Cc: [Stephen Nelson](#)

Subject: RE: 95th Percentile

Sensitivity: Normal

So the second set of limits are the per bin averages of all the rolling 12 averages in the baseline data set?

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 17, 2020 2:24 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Cc: Stephen Nelson <snelson@longviewpower.net>

Subject: [EXTERNAL] 95th Percentile

For the Baseline Data by bin

BL-0 - 12551 lb/MW

BL-1 - 2801 lb/MW

BL-2 – 2185 lb/MW

BL-3 – 2090 lb/MW

BL-4 – 2032 lb/MW

BL-5 – 1967 lb/MW

From a 12 month rolling average by Bin (95th percentile). This what I think EPA is asking us to look when the mean smoothing it out.

BL-0 - 7157 lb/MW

BL-1 - 2273 lb/MW

BL-2 – 2093 lb/MW

BL-3 – 2029 lb/MW

BL-4 – 1992 lb/MW

BL-5 – 1942 lb/MW

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:25 AM
From: [Brian Hoyt](#)
Sent: Monday, July 20, 2020 8:43:45 AM
To: [Andrews, Edward S](#)
Subject: RE: DAQ LVP_Monthly_LB_Model
Sensitivity: Normal

Yes, appears so.

Any thoughts or math around instrument variability? These numbers have cut our compliance margin even further and we could easily go non-compliant simply due to allowable instrumentation shift. My gut feel is I am starting to think we are going to be penalized (based on the EPA "wants") for running so well thus far and other units are going to be way more loose on this simply based on data and instrumentation variability...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, July 20, 2020 8:00 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] DAQ LVP_Monthly_LB_Model

Brian,

Could you open this file and let me know if there is a column labeled "Rolling 12 Month Average" for each load bin?

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:25 AM
From: [Brian Hoyt](#)
Sent: Monday, July 20, 2020 10:49:36 AM
To: [Andrews, Edward S](#)
Subject: RE: DAQ LVP_Monthly_LB_Model
Sensitivity: Normal

One more thought. AS we look at realistic failure scenarios, one of which almost happened already, based on the rolling-12 averages, we have zero compliance margin. What is our thought on, and in turn where would EPA come in on, taking each monthly results and creating say a 95th confidence value, THEN taking the highest rolling 12 average of those? It does add a layer but one that we are starting to see is absolutely necessary. And this would not take the place of both an instrument variability factor and degradation in the final number. I ***think*** this will not sit well with everyone, but reality is what it is and we can only move so far before just basic compliance comes into question without any issues and we are already there. Essentially, we have nothing left to give if the facility wants to be able to operate without this regulation causing undue economic hardship.

So, in steps:

1. For each month in the baseline data set, for each bin, calculate a 95th (90%, 98, I am not sure the exact effect this has but likely minimal change from 95, needs to be assessed) percentile CO2 lbs/MWHN number
2. Do this for all months in the data set, all bins
3. Calculate the rolling 12 averages as we have done
4. Determine the highest rolling 12 average and set that as the target for each bin
5. Use the TWA approach to calculate the overall annual 12 month calendar CO2 standard for compliance
6. Apply the instrumentation variability factor to adjust that target
7. Apply the degradation table for years 1 and beyond..

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Monday, July 20, 2020 9:02 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] RE: DAQ LVP_Monthly_LB_Model

Brian,

Not yet that is one of my topics this morning with EPA.

Other topics is initial compliance time frame.

I am having PC issues too.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, July 20, 2020 8:44 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: DAQ LVP_Monthly_LB_Model

Yes, appears so.

Any thoughts or math around instrument variability? These numbers have cut our compliance margin even further and we could easily go non-compliant simply due to allowable instrumentation shift. My gut feel is I am starting to think we are going to be penalized (based on the EPA "wants") for running so well thus far and other units are going to be way more loose on this simply based on data and instrumentation variability...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, July 20, 2020 8:00 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] DAQ LVP_Monthly_LB_Model

Brian,

Could you open this file and let me know if there is a column labeled "Rolling 12 Month Average" for each load bin?

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Monday, July 20, 2020 10:52:04 AM

To: [Andrews, Edward S](#)

Subject: RE: Monthly CO2

Sensitivity: Normal

No rolling 12 on here that I can see. Definitely read my previous email before we float this to EPA. I don't think the rolling 12 approach works as-is and needs modification which I have suggested...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, July 20, 2020 10:42 AM

To: Honda, Gregory <honda.gregory@epa.gov>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>

Cc: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: Monthly CO2

I think this excel has the 12 month rolling next to each bin. I am working up another version with the heat rate included.

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Saturday, July 18, 2020 8:12 AM

To: Honda, Gregory <honda.gregory@epa.gov>

Cc: Compston, Rex E <Rex.E.Compston@wv.gov>

Subject: Re: Monthly CO2

Greg,

I just open my file on another PC and find the auto save did not save my file to the latest version. I used the moving average function in the Analysis ToolPak (Excel Add-in) in the next column after each of the powerpivot tables. I will try to work on it to save correct. Now I understand why LVP was not getting it either.

Thanks,

Ed

From: Honda, Gregory <honda.gregory@epa.gov>
Sent: Friday, July 17, 2020 4:12 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Monthly CO2

Hi Ed,

The calculation looks correct. As an alternative to the 12-month rolling average, you can calculate a 12-operating month rate (i.e. for bin 0 row 16 of the "Baseline Data by Bins by Month" sheet, this would be $2000 * \text{SUM}(C5:C16) / \text{SUM}(B5:B16)$) although I think the result would be similar. Have a good weekend!

Greg

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, July 17, 2020 2:23 PM
To: Honda, Gregory <honda.gregory@epa.gov>
Subject: Monthly CO2

Greg,

If you get a chance, could you look at tab "Baseline Data by Bin by Month" to see if we are on the right path using your suggestions.

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
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304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:25 AM

From: [Brian Hoyt](#)

Sent: Tuesday, July 21, 2020 9:09:11 AM

To: [Gordon, Michael](#); [Crowder, Laura M](#); [Andrews, Edward S](#); [Stephen Nelson](#); [Culligan, Kevin](#)

Subject: RE: New Call in # 215-814-2529 code 425101

Sensitivity: Normal

We can provide a call-in if needed. Just let us know, instant set-up.

-B

From: Gordon, Michael <Gordon.Mike@epa.gov>

Sent: Tuesday, July 21, 2020 9:04 AM

To: Crowder, Laura M <laura.m.crowder@wv.gov>; Andrews, Edward S <Edward.S.Andrews@wv.gov>; Brian Hoyt <bhoyt@longviewpower.net>; Stephen Nelson <snelson@longviewpower.net>; Culligan, Kevin <Culligan.Kevin@epa.gov>

Subject: [EXTERNAL] RE: New Call in # 215-814-2529 code 425101

Disregard...that # is taken. Apologies

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

From: Gordon, Michael

Sent: Tuesday, July 21, 2020 9:03 AM

To: Crowder, Laura M <laura.m.crowder@wv.gov>; Andrews, Edward S <Edward.S.Andrews@wv.gov>; Brian Hoyt <bhoyt@longviewpower.net>; Stephen Nelson <snelson@longviewpower.net>; Culligan, Kevin <Culligan.Kevin@epa.gov>

Subject: New Call in # 215-814-2529 code 425101

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

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From: [Brian Hoyt](#)
Sent: Thursday, July 23, 2020 12:46:14 PM
To: [Andrews, Edward S](#)
Subject: RE: Possible Limits for Longview's ACE Permit
Sensitivity: Normal
Archived: Friday, October 9, 2020 11:10:25 AM

Please add "bhoyt@longviewpower.net" to the secure permissions. Probably add "snelson@longviewpower.net" as well...

Thx!

-B

-----Original Message-----

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 23, 2020 12:32 PM
To: Tipane, Frederick <Frederick.Tipane@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Brian Hoyt <bhoyt@longviewpower.net>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Swanson, Nicholas <Swanson.Nicholas@epa.gov>
Cc: Crowder, Laura M <Laura.M.Crowder@wv.gov>; Stephen Nelson <snelson@longviewpower.net>
Subject: [EXTERNAL] Possible Limits for Longview's ACE Permit

Please read the "Read Me" tab in the file. These are possible limits that we would like to discuss this afternoon. I will be sending out an invitation for a TEAMS Meeting for 3 PM today.

https://westvirginiaot-my.sharepoint.com/:x:/g/personal/a007709_wv_gov/Ef9icQnyOghEtfZQxiugdVUB23RTqi9bNa_QZOCJC_RJiQ?e=xUU7nr

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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From: [Brian Hoyt](#)
Sent: Thursday, July 23, 2020 12:54:42 PM
To: [Andrews, Edward S](#)
Subject: RE: Possible Limits for Longview's ACE Permit
Sensitivity: Normal
Archived: Friday, October 9, 2020 11:10:25 AM

"Sorry, this email address isn't associated with this secure link. Please contact the person who shared it with you."

-----Original Message-----

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 23, 2020 12:50 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] RE: Possible Limits for Longview's ACE Permit

Please let me know if you cannot open the file.
Ed

-----Original Message-----

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, July 23, 2020 12:46 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Possible Limits for Longview's ACE Permit

Please add "bhoyt@longviewpower.net" to the secure permissions. Probably add "snelson@longviewpower.net" as well...

Thx!

-B

-----Original Message-----

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 23, 2020 12:32 PM
To: Tipane, Frederick <Frederick.Tipane@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Brian Hoyt <bhoyt@longviewpower.net>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Swanson, Nicholas <Swanson.Nicholas@epa.gov>
Cc: Crowder, Laura M <Laura.M.Crowder@wv.gov>; Stephen Nelson <snelson@longviewpower.net>
Subject: [EXTERNAL] Possible Limits for Longview's ACE Permit

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https://westvirginiaot-my.sharepoint.com/:x/g/personal/a007709_wv_gov/Ef9icQnyOghEtfZQxiugdVUB23RTqi9bNa_QZOCJC_RJiQ?e=xUU7nr

Thanks,
Ed

Edward S. Andrews, P.E.

Engineer
West Virginia Department of Environmental Protection Division of Air Quality
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From: [Brian Hoyt](#)
Sent: Thursday, July 23, 2020 1:10:15 PM
To: [Andrews, Edward S](#)
Cc: [Stephen Nelson](#)
Subject: RE: Possible Limits for Longview's ACE Permit
Sensitivity: Normal
Archived: Friday, October 9, 2020 11:10:25 AM

I am able to open it, thanks!

-B

-----Original Message-----

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 23, 2020 1:02 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>
Subject: RE: Possible Limits for Longview's ACE Permit

Please let mw know if you can open this file.

Ed

-----Original Message-----

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, July 23, 2020 12:55 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Possible Limits for Longview's ACE Permit

"Sorry, this email address isn't associated with this secure link. Please contact the person who shared it with you."

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From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, July 23, 2020 12:50 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] RE: Possible Limits for Longview's ACE Permit

Please let me know if you cannot open the file.

Ed

-----Original Message-----

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, July 23, 2020 12:46 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Possible Limits for Longview's ACE Permit

Please add "bhoyt@longviewpower.net" to the secure permissions. Probably add "snelson@longviewpower.net" as well...

Thx!

-B

-----Original Message-----

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Thursday, July 23, 2020 12:32 PM

To: Tipane, Frederick <Frederick.Tipane@wv.gov>; Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Brian Hoyt <bhoyt@longviewpower.net>; Gordon, Michael <Gordon.Mike@epamail.epa.gov>; Culligan, Kevin <Culligan.Kevin@epa.gov>; Honda, Gregory <honda.gregory@epa.gov>; Swanson, Nicholas <Swanson.Nicholas@epa.gov>

Cc: Crowder, Laura M <Laura.M.Crowder@wv.gov>; Stephen Nelson <snelson@longviewpower.net>

Subject: [EXTERNAL] Possible Limits for Longview's ACE Permit

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https://westvirginiaot-my.sharepoint.com/:x/g/personal/a007709_wv_gov/Ef9icQnyOghEtfZQxiugdVUB23RTqi9bNa_QZOCJC_RJiQ?e=xUU7nr

Thanks,
Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Friday, July 24, 2020 1:02:54 PM

To: [Andrews, Edward S](#)

Subject: RE: Actual CO2 Emissions

Sensitivity: Normal

I can try. It was challenging to do so before as Excel had issues...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 24, 2020 12:28 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Actual CO2 Emissions

Brian,

We have look at the actual emissions we are using in the tab to evaluate potential compliance and notice that the numbers do match up like they should for all of the years.

Is it possible you could send us a data file with 2012 through 2020 2nd Qtr?

We want to be on the same page. Also, we have been looking at Bin LB-0. The number is really high and the SD is close to it too. We are looking at it just the baseline period and with all years.

After 2 today, I am available to take a call from you.

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Friday, July 24, 2020 1:21:05 PM

To: [Andrews, Edward S](#)

Subject: RE: Actual CO2 Emissions

Sensitivity: Normal

And again, just a comment. I have zero faith in the 2012 and 2013 data due to a variety of factors. I don't think looking at the compliance margin for 2012-2015 is valuable and I actually exclude those years when I do assess this...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 24, 2020 1:08 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] RE: Actual CO2 Emissions

Most of the years are off 1 to 4 pounds but 2014 is off by 24.

Thanks

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Friday, July 24, 2020 1:03 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Actual CO2 Emissions

I can try. It was challenging to do so before as Excel had issues...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 24, 2020 12:28 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Actual CO2 Emissions

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We want to be on the same page. Also, we have been looking at Bin LB-0. The number is really high and the SD is close to it too. We are looking at it just the baseline period and with all years.

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Archived: Friday, October 9, 2020 11:10:26 AM
From: [Brian Hoyt](#)
Sent: Friday, July 24, 2020 1:41:34 PM
To: [Andrews, Edward S](#)
Subject: RE: Actual CO2 Emissions
Sensitivity: Normal

Yeah, I can do a Team call whenever you like.

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, July 24, 2020 1:35 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] RE: Actual CO2 Emissions

Brian,

I understand. Those years had significant number of startups, which kind improve the LB-0 numbers.

Are you at location that you can do a TEAMS Meeting call? I would like to share my screen regarding LB-0.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, July 24, 2020 1:21 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Actual CO2 Emissions

And again, just a comment. I have zero faith in the 2012 and 2013 data due to a variety of factors. I don't think looking at the compliance margin for 2012-2015 is valuable and I actually exclude those years when I do assess this...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
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Thanks
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From: Brian Hoyt <bhoyt@longviewpower.net>
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To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Actual CO2 Emissions

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-B

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Sent: Friday, July 24, 2020 12:28 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] Actual CO2 Emissions

Brian,

We have look at the actual emissions we are using in the tab to evaluate potential compliance and notice that the numbers do match up like they should for all of the years.

Is it possible you could send us a data file with 2012 through 2020 2nd Qtr?

We want to be on the same page. Also, we have been looking at Bin LB-0. The number is really high and the SD is close to it too. We are looking at it just the baseline period and with all years.

After 2 today, I am available to take a call from you.

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
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601 57th Street, SE
Charleston, WV 25304
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Archived: Friday, October 9, 2020 11:10:26 AM
From: [Brian Hoyt](#)
Sent: Monday, July 27, 2020 11:53:41 AM
To: [Andrews, Edward S](#)
Subject: [External] Afternoon Call - Counsel Present?
Importance: High
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

So per the title, is the expectation that counsel be present? Will DEP or EPA counsel be on the call? What is the goal of today's call so that we may discuss internally prior to the call start? Just trying to get all our ducks in a row internally and be as prepared as we can be from a decision making standpoint as LVP, DAQ, and EPA talk further.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Maidsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Friday, July 31, 2020 12:49:38 PM

To: [Andrews, Edward S](#)

Subject: RE: Are you available for a call this afternoon?

Sensitivity: Normal

We are reviewing the draft SIP further on a conference call in 12 min. Anything specific you have questions on? I can chat further likely around 2p...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 31, 2020 12:48 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Are you available for a call this afternoon?

Brian,

I'll be available till 3 today. I think we need to discuss the updated information and path going forward.

Thank,
Ed

Edward S. Andrews, P.E
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Friday, July 31, 2020 6:15:42 PM

To: [Andrews, Edward S](#)

Subject: RE: Are you available for a call this afternoon?

Sensitivity: Normal

We are going to need to chat first thing Monday. This sheet looks broken and I don't see the Rolling 12 Ave + 2 SD bin limits anywhere...

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 31, 2020 4:28 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: FW: Are you available for a call this afternoon?

Sorry I forgot to attach the file.

Ed

From: Andrews, Edward S

Sent: Friday, July 31, 2020 4:25 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: Are you available for a call this afternoon?

Brian,

Here is our excel file we are still redeveloping.

We still have not figure our how to fix the error in 2020.

I am done for the day. I will take to you tomorrow.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Friday, July 31, 2020 12:50 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: RE: Are you available for a call this afternoon?

We are reviewing the draft SIP further on a conference call in 12 min. Anything specific you have questions on? I can chat further likely around 2p...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Friday, July 31, 2020 12:48 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] Are you available for a call this afternoon?

Brian,

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Thank,
Ed

Edward S. Andrews, P.E
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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Wednesday, August 5, 2020 9:46:54 AM

To: [Andrews, Edward S](#)

Subject: [External] FW: Updated EPA-ACE Draft Report

Sensitivity: Normal

Attachments:

[Longview - EPA ACE Study Results - Final 2020 07 31.docx](#) 

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Archived: Friday, October 9, 2020 11:10:26 AM
From: [Brian Hoyt](#)
Sent: Wednesday, August 5, 2020 10:27:21 AM
To: [Andrews, Edward S](#)
Subject: RE: App_F_test-D.xlsx
Importance: High
Sensitivity: Normal

After looking over the spreadsheet you sent, I plugged in the Bin limits you calculated for Bins 1 – 5 as follows:

<u>Bin</u>	<u>CO2 Standard</u>
Bin 1	2184 lb/MWHN
Bin 2	2053 lb/MWHN
Bin 3	1984 lb/MWHN
Bin 4	1969 lb/MWHN
Bin 5	1917 lb/MWHN

From that I took the TWA and created CO2 lb/MWHN compliance limits for each year and compared it to our performance data. What I see is as follows:

<u>Year</u>	<u>Limit</u>	<u>Perf</u>	<u>Margin</u>
2016	1932	1943	-0.54%
2017	1921	1941	-1.03%
2018	1921	1918	0.18%
2019	1922	1895	1.39%
2020	1947	1934	0.66%

Everything look ok in terms of do my numbers match yours? Does this reflect the compliance margins you have seen? My analysis shows that the margin is far tighter than the previous Rolling 12 Ave + 2 SD data and in 2 of the compliance periods we don't even meet the limit. The obvious conclusions are obvious so I won't state them. Lol Thoughts?

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Wednesday, August 5, 2020 9:45 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: App_F_test-D.xlsx

Brian,

Here is my latest excel file.

Ed

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Archived: Friday, October 9, 2020 11:10:26 AM
From: [Brian Hoyt](#)
Sent: Wednesday, August 5, 2020 10:36:01 AM
To: [Andrews, Edward S](#)
Subject: RE: App_F_test-D.xlsx
Sensitivity: Normal

DISREGARD LAST. I see my error, missed the "new" limits with SD.

From: Brian Hoyt
Sent: Wednesday, August 5, 2020 10:27 AM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: RE: App_F_test-D.xlsx
Importance: High

After looking over the spreadsheet you sent, I plugged in the Bin limits you calculated for Bins 1 – 5 as follows:

<u>Bin</u>	<u>CO2 Standard</u>
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-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Wednesday, August 5, 2020 9:45 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: App_F_test-D.xlsx

Brian,

Here is my latest excel file.

Ed

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Archived: Friday, October 9, 2020 11:10:26 AM
From: [Brian Hoyt](#)
Sent: Wednesday, August 5, 2020 11:24:27 AM
To: [Andrews, Edward S](#)
Subject: Re: [EXTERNAL] RE: App_F_test-D.xlsx
Sensitivity: Normal

230 is great.

Sent from my iPhone

On Aug 5, 2020, at 11:18 AM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

Would 2:30 be to short notice or would 3 work best for setting up a call with LVP + legal and DAQ + legal?

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Wednesday, August 5, 2020 10:36 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: App_F_test-D.xlsx

DISREGARD LAST. I see my error, missed the "new" limits with SD.

From: Brian Hoyt
Sent: Wednesday, August 5, 2020 10:27 AM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: RE: App_F_test-D.xlsx
Importance: High

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From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Wednesday, August 5, 2020 9:45 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: App_F_test-D.xlsx

Brian,

Here is my latest excel file.

Ed

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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Friday, August 7, 2020 2:49:56 PM

To: [Andrews, Edward S](#)

Subject: Re: [External] Longview - PJM Fleet Degradation Spreadsheet Observations

Sensitivity: Normal

Sorry I didn't reply, was doing a security inspection of one of our sites due to report of unauthorized access... no cell signal.

Sent from my iPhone

On Aug 7, 2020, at 2:31 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

From: Honda, Gregory <honda.gregory@epa.gov>

Sent: Friday, August 7, 2020 2:20 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Cc: Gordon, Michael <Gordon.Mike@epa.gov>; Hutson, Nick <Hutson.Nick@epa.gov>

Subject: [External] Longview - PJM Fleet Degradation Spreadsheet Observations

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Hi Ed,

See attached for the spreadsheet I went over in the meeting today. Please let me know if you have any questions.

Best,

Greg

Gregory S. Honda, PhD
Physical Scientist
Energy Strategies Group
Office of Air Quality Planning & Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711
Phone: (919) 541-2034 | Email: honda.gregory@epa.gov

<PJM Supercritical Coal Fleet Heat Rate and Capacity Factor Degradation R1 - Observations 07AUG2020.xlsx>

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Archived: Friday, October 9, 2020 11:10:26 AM

From: [Brian Hoyt](#)

Sent: Wednesday, August 12, 2020 11:15:11 AM

To: [Andrews, Edward S](#)

Cc: [Stephen Nelson](#)

Subject: RE: Status Call concerning your ACE Permit Application and WV's State Plan

Sensitivity: Normal

I am available.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, August 12, 2020 11:14 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Cc: Stephen Nelson <snelson@longviewpower.net>

Subject: [EXTERNAL] Status Call concerning your ACE Permit Application and WV's State Plan

Brian or Steve,

Would you be available to take a call with WV and EPA this Friday from 10 to 11 to figure out the status of your application and WV's State Plan?

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:27 AM

From: [Brian Hoyt](#)

Sent: Wednesday, August 12, 2020 12:32:07 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP Updated ACE Rule Information

Importance: High

Sensitivity: Normal

Attachments:

[LVP ACE Supplemental Narrative 2020-08-12 rev2.docx](#)  [LVP WV ACE Pre-Draft State Plan Comments as of 2020-08-12.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, as discussed, I have attached both a "Supplemental Narrative" intended to address the conversations we have had over the last several weeks with WVDEP DAQ and EPA Region 3, as well as an amended commentary on the pre-draft State Plan. This commentary has been broken into comments to consider in the State Plan, as well as potential responses to public comment.

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Maidsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:27 AM

From: [Brian Hoyt](#)

Sent: Wednesday, August 19, 2020 1:04:40 PM

To: [Andrews, Edward S](#)

Subject: [External] ACE Fuel Ideas

Importance: High

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Some ideas...

After utilizing the Part 75 App G equation, it was unable to be validated either using past, or current fuels, as it is simply too simplistic and does not adequately model all the factors in determining unit CO₂ at the level of accuracy called for. CO₂ levels predicted by the model varied from measured CO₂ levels by +/- 10% or so on a monthly basis and this is far too great a variance to determine CO₂ limits given the very tight compliance margin contemplated in our Rule 13 permit.

The viable alternative we see is to conduct an actual test burn, say minimum 4 weeks, with an approved "Test Burn Protocol" outlining the test burn timeline, procedures, methods, deliverables, etc. I see this Test Burn Protocol as filling the same role as a RATA Protocol. It would essentially say that over the burn timing, LVP would have all applicable BSER in place and utilize the real-time heat rate, and other instrumentation, to optimize the unit efficiency on the test fuel as appropriate when considering Efficiency (Heat Rate & CO₂ Performance), Safety, and Reliability. i.e. Aggressive tuning for solely efficiency could lead to an unsafe or unreliable unit, and/or performance could not be maintained over time. The protocol would be reviewed and approved by DAQ prior to the burn. From there, LVP would demonstrate the need (or lack thereof) of a CO₂ standard modification. For instance, if week 4 data showed that the fuel was 3% above the Bin 5 standard for the particular year the burn occurred, then the Standard of Performance would be increased by 3% across all bins for the years moving forward. Degradation would be applied the same moving forward. Week 4 would be the most optimized performance given a 4 week test burn and would therefore be the most representative of long-term performance.

It is possible that DAQ would want to require some form of periodic certification that fuels had not changed, or a notification that they did. The "issue" of a plant test burning and modifying CO₂ standards on a poorer" fuel, then switching back to the original fuel to gain compliance margin could be a concern. Additionally, fuel blending is something that would need to be considered as that is a very real operational scenario LVP and others may consider, resulting in a mixed performance of tested fuels.

This is how we see the fuel change being best addressed at this time. Please consider and let's talk...

Would you and Laura C. be available tomorrow morning to chat on this?

-B



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bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:27 AM
From: [Brian Hoyt](#)
Sent: Thursday, August 20, 2020 12:25:43 PM
To: [Andrews, Edward S](#)
Subject: [External] EPA Tech Call for Friday, 8/21/2020
Sensitivity: Normal

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Ed, based on our progress today, would it be possible to set up an EPA technical call for tomorrow? That would give them a week to digest our fuel change methodology and provide comment. I think we are in a position where waiting further to talk to them on this would not provide us any benefit. Thoughts?

Thx!

-Brian



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Archived: Friday, October 9, 2020 11:10:27 AM

From: [Brian Hoyt](#)

Sent: Monday, August 24, 2020 11:19:29 AM

To: [Andrews, Edward S](#)

Subject: RE: LVP Fuel Change Narrative

Sensitivity: Normal

Ed, if you have not sent this to EPA please wait. We have a version incoming shortly that fills in the final "blanks". And perhaps, this should not go to EPA all, and rather this be used to guide the permit and State Plan development only. Let's discuss...

-B

From: Brian Hoyt

Sent: Thursday, August 20, 2020 12:22 PM

To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>

Subject: LVP Fuel Change Narrative

As promised, please take a look and let me know if you have any questions or comments.

Based on what we discussed earlier today, LVP things that a 2% - 3% adjustment for Sewickley would be prudent, and the data supports that as a worst case fuel change. As was said, the Sewickley we burned came from our mine and was prepped by us, leading to a far better grade than could be bought off the open market, which would be our only option in the future. So actual performance would need to be checked by a test burn and the 2% - 3% margin is appropriate. Additionally, if LVP were to burn an Upper Ohio River Valley coal, while the heat content is excellent, the Sulphur is almost double the current fuel so in turn the additional AQCS aux load plus CO₂ generated from the additional limestone being fed would offer a similar challenge as Sewickley. We would like to preserve the ability to test burn and potentially make an adjustment, but still cap the overall change as above...

-B



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bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:27 AM

From: [Brian Hoyt](#)

Sent: Tuesday, August 25, 2020 9:15:59 AM

To: [Andrews, Edward S](#)

Subject: RE: [External] LVP Statement of Basis for Coal Adjustment Factor

Sensitivity: Normal

Let me chat further with Steve and get you something on the credentials.

As for the cap, I think the increase we saw burning the cherry-picked Sewickely was 2.2% and since we know whatever we could get will not be that good in terms of heat content, ash, carbon, etc., 3% is a best engineering estimate as we have no burn data on the believed "worst" fuel we could run but we know the performance would be worse than the data we do have.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, August 24, 2020 3:17 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] LVP Statement of Basis for Coal Adjustment Factor

Brian,

I am going to need some help on defining the credentials for the third party firms.

And some help justifying the 3% cap.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Monday, August 24, 2020 2:35 PM

To: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] LVP Statement of Basis for Coal Adjustment Factor

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, updated Statement of Basis as discussed earlier.

-B



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Archived: Friday, October 9, 2020 11:10:27 AM

From: [Brian Hoyt](#)

Sent: Tuesday, August 25, 2020 9:54:06 AM

To: [Andrews, Edward S](#)

Subject: RE: [External] LVP Statement of Basis for Coal Adjustment Factor

Sensitivity: Normal

So, some further discussion on combustion tuning companies and qualifications. Here is a company we have used, and would use in the future for this sort of work.

<http://www.cleancombustionenergy.com/combustion-tuning/coal-fired-boilers/>

If I were to craft "permit words", I would say something along the lines of:

The company selected to oversee combustion tuning and optimization for the test burn must have experience and expertise in both EPA and ASME test methods and procedures. The company selected will certify that the Test Burn Protocol is appropriate and executable, and the data utilized in the performance analysis is indicative of proper unit tuning and operation.

Give the idea of pre and post test burn data analysis, I would suggest that the Test Burn Protocol include the data review and optimization for the pre-burn period as well. Need to ensure both data sets are apples to apples, and run properly optimized.

Please note, there is no key certification one may reference, rather it is a portfolio of experience based on their employees and company experience, with expertise in the appropriate fields and methods. You would also find that any of the big engineering firms (i.e. B&W, Black & Veatch, etc.) have this capability, as do most companies that conduct RATA testing (i.e. Weston). In my opinion, it is going to be in the generators best interests to have good firms oversee this as poorly optimized systems will produce poor quality data which in turn will be difficult to analyze. It should become apparent in the post-test analysis that data quality is lacking due to poor optimization and trying to justify a Standard of Performance change will be difficult.

I suggest taking a look at the CC&E website and processing how they present themselves. While no specific certification does make the language a bit more difficult, I believe referencing expertise is appropriate and consistent with other EPA programs requiring this sort of tuning.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, August 24, 2020 3:17 PM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: RE: [External] LVP Statement of Basis for Coal Adjustment Factor

Brian,

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And some help justifying the 3% cap.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, August 24, 2020 2:35 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] LVP Statement of Basis for Coal Adjustment Factor

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, updated Statement of Basis as discussed earlier.

-B



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Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Thursday, August 27, 2020 3:01:03 PM
To: [Andrews, Edward S](#)
Subject: Re: [EXTERNAL] Monday's Teams Meeting with EPA
Sensitivity: Normal

Yes

Sent from my iPhone

On Aug 27, 2020, at 2:49 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

Is Longview planning on having counsel on the Monday call with EPA?

EPA is wanting to know.

Thanks,
Ed

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Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Friday, August 28, 2020 11:29:47 AM
To: [Andrews, Edward S](#)
Subject: [External] ANSI Standards No. C12.20
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, could you provide the full specifications listed here? **“These instruments must be using 0.2 class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20”** We purchased access to the documents but have as of yet been unable to open/access them and we need to review the specific standard to ensure compliance.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Maidsville, WV 26541
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Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Friday, September 4, 2020 12:27:31 PM
To: [Andrews, Edward S](#)
Subject: RE: Revised pre-draft for Permit Application R13-3495
Sensitivity: Normal

One item for discussion. When evaluating the CAF data and the required less than or equal to 30 SD for the data to be valid, I see a potential issue as follows:

Method 1 - For each test day, take the hourly CO2 lb/MWHN values and calculate a daily average
Calculate a 7-day rolling SD for the daily averages (7 values)

OR

Method 2 - For each test day, take the hourly CO2 lb/MWHN values and calculate a 7-day rolling SD for the hourly values
(7x24=168 values)

As I analyze the last 4 quarters of data, it is not uncommon to see SD values as high as 68 for days at a time using Method 1, and above 100 using Method 2. Method 1 is "better" however both methods show real issues when looking at Q2 2020 data and that's some very key data and reflects the operating scenarios we would expect to see in the future. Now, we may be able to keep the data tighter during a test, but then again, due to the unfamiliarity of running the new fuel, we may not. I am concerned that 30 limit on SD is far too tight to be achievable especially during a test burn...

Mull that over if you would, perhaps do your own brief analysis, and see what you think. I realize the need to have good quality data, but as it stands, I don't think I could feel confident that we could achieve the current target in any reasonable timeframe, particularly on a new fuel.

-B

From: Brian Hoyt
Sent: Friday, September 4, 2020 10:45 AM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: RE: Revised pre-draft for Permit Application R13-3495

Ed, some brief comments on the clean version of the draft permit.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 3, 2020 1:58 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>; Crowder, Laura M <Laura.M.Crowder@wv.gov>
Subject: Revised pre-draft for Permit Application R13-3495

Brian,

Here is a revised clean (ver-7) and edited version (ver-6).

Please look this over these changes and let me know if there is any questions about the changes.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Friday, September 4, 2020 12:46:36 PM
To: [Andrews, Edward S](#)
Cc: [Shrewsbury, Todd H](#); [Compston, Rex E](#); [Tipane, Frederick](#)
Subject: RE: Revised pre-draft for Permit Application R13-3495
Sensitivity: Normal

<https://www.federalregister.gov/d/2019-13507/p-546>

“Another possible option to account for variable emissions is to set standards of performance based on a standard set of conditions. A state could establish a baseline of performance of a unit at specific load and operational conditions and then set a standard against those conditions via the application of the BSER. Compliance for the unit could be demonstrated annually (or by another increment of time if appropriate based on the level of stringency of the standard of performance set for the unit) at those same conditions. In the interim, between the demonstration of compliance under standardized conditions, a state could allow for the maintenance and demonstration of fully operational candidate technologies to be a method to demonstrate compliance as the standard of performance must apply at all times. The Agency believes that these approaches to providing flexibility (and possible others not described here) in establishing standards of performance are reasonable and appropriate by accounting for innate variable emission performance across EGUs and at specific EGUs while also limiting this flexibility to instances in which underlying variable factors are evaluated and linked to variable emission performance.”

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, September 4, 2020 12:32 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Shrewsbury, Todd H <Todd.H.Shrewsbury@wv.gov>; Compston, Rex E <Rex.E.Compston@wv.gov>; Tipane, Frederick <Frederick.Tipane@wv.gov>
Subject: [EXTERNAL] RE: Revised pre-draft for Permit Application R13-3495

Brain,

Thanks for this additional point. We did realized that 30 might need to be reevaluated and revised. At this time, we left it at 30 as a place holder.

Hey, could you forward the exact spot that the preamble noted annual compliance testing.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, September 4, 2020 12:27 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Revised pre-draft for Permit Application R13-3495

One item for discussion. When evaluating the CAF data and the required less than or equal to 30 SD for the data to be valid, I see a potential issue as follows:

Method 1 - For each test day, take the hourly CO2 lb/MWHN values and calculate a daily average
Calculate a 7-day rolling SD for the daily averages (7 values)

OR

Method 2 - For each test day, take the hourly CO2 lb/MWHN values and calculate a 7-day rolling SD for the hourly values (7x24=168 values)

As I analyze the last 4 quarters of data, it is not uncommon to see SD values as high as 68 for days at a time using Method 1, and above 100 using Method 2. Method 1 is "better" however both methods show real issues when looking at Q2 2020 data and that's some very key data and reflects the operating scenarios we would expect to see in the future. Now, we may be able to keep the data tighter during a test, but then again, due to the unfamiliarity of running the new fuel, we may not. I am concerned that 30 limit on SD is far too tight to be achievable especially during a test burn...

Mull that over if you would, perhaps do your own brief analysis, and see what you think. I realize the need to have good quality data, but as it stands, I don't think I could feel confident that we could achieve the current target in any reasonable timeframe, particularly on a new fuel.

-B

From: Brian Hoyt
Sent: Friday, September 4, 2020 10:45 AM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: RE: Revised pre-draft for Permit Application R13-3495

Ed, some brief comments on the clean version of the draft permit.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 3, 2020 1:58 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Stephen Nelson <snelson@longviewpower.net>; Crowder, Laura M <Laura.M.Crowder@wv.gov>
Subject: Revised pre-draft for Permit Application R13-3495

Brian,

Here is a revised clean (ver-7) and edited version (ver-6).

Please look this over these changes and let me know if there is any questions about the changes.

Thanks,

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:28 AM

From: [Brian Hoyt](#)

Sent: Tuesday, September 8, 2020 8:14:52 AM

To: [Andrews, Edward S](#)

Subject: Re: [EXTERNAL] Wednesday Meeting

Sensitivity: Normal

Yes

Sent from my iPhone

On Sep 8, 2020, at 8:06 AM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

Is Longview Power planning on having counsel on the Wednesday call?

Thanks,
Ed

The information contained in this electronic message is confidential and proprietary information of the sender and is intended only for the use of the individual or entity intended by the sender to be the recipient. If the recipient of this message is not the intended recipient, you are hereby notified that any dissemination, copy or disclosure of this communication is strictly prohibited. If you have received this communication in error, please immediately notify the sender by return e-mail and purge the communication without making any copy or distribution.

Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Thursday, September 10, 2020 8:57:49 AM
To: [Andrews, Edward S](#)
Subject: RE: Level 1 Limits with the UDAF applied out to 2035
Sensitivity: Normal

I re-ran the numbers and concur, your table matches mine.

-Brian

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 10, 2020 8:47 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: Level 1 Limits with the UDAF applied out to 2035

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bin															
1	2,453	2,463	2,473	2,483	2,475	2,485	2,495	2,505	2,515	2,507	2,517	2,527	2,537	2,548	2,540
2	2,319	2,328	2,337	2,347	2,340	2,349	2,358	2,368	2,377	2,370	2,380	2,389	2,399	2,408	2,401
3	2,255	2,264	2,273	2,282	2,275	2,284	2,293	2,303	2,312	2,305	2,314	2,323	2,333	2,342	2,335
4	2,202	2,211	2,220	2,229	2,222	2,231	2,240	2,249	2,258	2,251	2,260	2,269	2,278	2,287	2,280
5	2,154	2,162	2,171	2,180	2,173	2,182	2,191	2,199	2,208	2,201	2,210	2,219	2,228	2,237	2,230

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 10, 2020 8:47 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: Level 1 Limits with the UDAF applied out to 2035

Brian,

Due to the comments from yesterday call, we develop the following table to be added as a appendix to my evaluation of your application.

Could you please, review this table to confirm how we projected the Level 1 Limits with the appropriate degradation and recovery factors (UDAF) applied out to 2035?

Thanks
Ed

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Engineer
West Virginia Department of Environmental Protection
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Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Friday, September 11, 2020 12:24:54 AM
To: [Andrews, Edward S](#)
Subject: RE: Draft Evaluation for 13-3495
Sensitivity: Normal

[Missing the document.](#) =)

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 10, 2020 5:59 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] Draft Evaluation for 13-3495

Here is a draft copy of our evaluation.

Enjoy,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:28 AM
From: [Brian Hoyt](#)
Sent: Friday, September 11, 2020 12:06:00 PM
To: [Andrews, Edward S](#)
Subject: RE: Draft Evaluation for 13-3495
Sensitivity: Normal

Got it, sry was on the phone when you called. Team is reviewing this now and hope to have meaningful comment by Monday CoB.

Thx!

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Friday, September 11, 2020 8:54 AM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: RE: Draft Evaluation for 13-3495

Here it is on the 2nd try.

Thanks,
Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Friday, September 11, 2020 12:25 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Draft Evaluation for 13-3495

Missing the document. =)

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 10, 2020 5:59 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Subject: [EXTERNAL] Draft Evaluation for 13-3495

Here is a draft copy of our evaluation.

Enjoy,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
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601 57th Street, SE
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Archived: Friday, October 9, 2020 11:10:28 AM

From: [Brian Hoyt](#)

Sent: Monday, September 14, 2020 12:44:32 PM

To: [Andrews, Edward S](#)

Subject: [External] LVP ACE Rule Engineering Evaluation Comments

Sensitivity: Normal

Attachments:

[WVDEP Engineering Evaluation LVP Comments 2020-09-14.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

LVP comments attached. Additional info/diagrams (1 or 2 total, helpful but not required) incoming ASAP but this is about 99% complete.


-B



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
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Archived: Friday, October 9, 2020 11:10:29 AM
From: [Brian Hoyt](#)
Sent: Tuesday, September 15, 2020 8:05:29 AM
To: [Andrews, Edward S](#)
Subject: [External] FW: LVP ACE Rule Engineering Evaluation Comments
Sensitivity: Normal
Attachments:
[WVDEP Engineering Evaluation LVP Comments 2020-09-14.docx](#) 

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Did you get this? Still showing as "draft" in my outbox but I was sure it sent before we talked about the draft permit comments...

-B

From: Brian Hoyt
Sent: Monday, September 14, 2020 12:44 PM
To: 'Andrews, Edward S' <Edward.S.Andrews@wv.gov>
Subject: LVP ACE Rule Engineering Evaluation Comments

LVP comments attached. Additional info/diagrams (1 or 2 total, helpful but not required) incoming ASAP but this is about 99% complete.

-B



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:29 AM
From: [Brian Hoyt](#)
Sent: Tuesday, September 15, 2020 12:24:07 PM
To: [Andrews, Edward S](#)
Subject: Re: [EXTERNAL] FW: Longview ACE Permit Call
Sensitivity: Normal

Yes

Sent from my iPhone

On Sep 15, 2020, at 11:09 AM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Hey,

Will Longview Power have their counsel on the September 22 Call with EPA?

Thanks,
Ed

From: Gordon, Michael <Gordon.Mike@epa.gov>
Sent: Tuesday, September 15, 2020 11:04 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: RE: Longview ACE Permit Call

Ed,

I'll assume Longview's counsel will be present unless I hear from you.

Mike Gordon
Environmental Engineer
Air Permits Branch
Air and Radiation Division
EPA Region 3
Mail Code: 3AD10
1650 Arch Street
Philadelphia, PA 19103
(215)-814-2039
Gordon.Mike@epa.gov

-----Original Appointment-----

From: Edward.S.Andrews@wv.gov <Edward.S.Andrews@wv.gov> **On Behalf Of** Adkins, Sandra K
Sent: Tuesday, September 15, 2020 10:03 AM
To: Andrews, Edward S; Brian Hoyt; Compston, Rex E; Culligan, Kevin; Honda, Gregory; Jennings, Laura M; Crowder, Laura M; Opila, MaryCate; McKeone, Beverly D; Gordon, Michael; Hutson, Nick; Shrewsbury, Todd H; Steve Nelson; Tipane, Frederick
Subject: Longview ACE Permit Call

When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

This call is to going over comments/suggestions/remarks on the draft permit and engineering evaluation for LVP ACE Application.

We have received feed back from LVP on the evaluation and working on updating it.

A revised draft and evaluation will be forward to this group in the future.

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

-----Original Appointment-----

From: Adkins, Sandra K <Sandra.K.Adkins@wv.gov>

Sent: Wednesday, September 9, 2020 1:34 PM

To: Adkins, Sandra K; Andrews, Edward S

Subject: Longview ACE Permit

When: Tuesday, September 22, 2020 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).

Where: Microsoft Teams Meeting

Join Microsoft Teams Meeting [gcc01.safelinks.protection.outlook.com]

[+1 681-245-6817](tel:+16812456817) United States, Charleston (Toll)

Conference ID: 711 409 780#

[Local numbers \[gcc01.safelinks.protection.outlook.com\]](https://gcc01.safelinks.protection.outlook.com) | [Reset PIN \[mysettings.lync.com\]](https://mysettings.lync.com) | [Learn more about Teams \[gcc01.safelinks.protection.outlook.com\]](#) | [Meeting options \[gcc01.safelinks.protection.outlook.com\]](https://gcc01.safelinks.protection.outlook.com)

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Archived: Friday, October 9, 2020 11:10:29 AM

From: [Brian Hoyt](#)

Sent: Tuesday, September 15, 2020 5:31:00 PM

To: [Andrews, Edward S](#)

Subject: Re: [EXTERNAL] Remarks on the Draft Evaluation for the ACE Permit

Sensitivity: Normal

Let me check.

Sent from my iPhone

On Sep 15, 2020, at 3:59 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Brian,

Is LVP planning on supply addition information to add to the eval where Mr. Nelson questioned the eval or thought addition information should be add?

I have add some addition but I am limited to what I can add.

Thanks,

Ed

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Archived: Friday, October 9, 2020 11:10:29 AM
From: [Brian Hoyt](#)
Sent: Monday, September 21, 2020 10:17:38 AM
To: [Andrews, Edward S](#)
Cc: [Louis M. Militana](#); [McClung, Jon D](#)
Subject: [External] LVP Unit II Draft Air Permit & Modeling Results
Importance: High
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Just wanted to catch up with everyone regarding the Unit II air permitting. We are rapidly heading towards the endgame here and I just wanted to make sure communications were good and the efforts matched the needs. Two main areas I wanted to talk about were:

Draft Permit Status – Draft permit for review from DAQ soon?

Air Modeling – Should be nearing completion on re-modeling items identified by DAQ, status?

Perhaps we could set up a Teams meeting this week to review status and discuss progress? Today or tomorrow would be best as our Management team will be asking for a status report by Wednesday.

Thanks!

-Brian



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:29 AM
From: [Brian Hoyt](#)
Sent: Monday, September 21, 2020 12:23:24 PM
To: [Louis M. Militana](#); [McClung, Jon D](#)
Cc: [Andrews, Edward S](#)
Subject: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

How about 1p tomorrow?

-B

From: Louis M. Militana <lmilitana@aaqsinc.com>
Sent: Monday, September 21, 2020 12:09 PM
To: Jon McClung <jon.d.mcclung@wv.gov>
Cc: Brian Hoyt <bhoyt@longviewpower.net>; Edward S Andrews <edward.s.andrews@wv.gov>
Subject: RE: [External] LVP Unit II Draft Air Permit & Modeling Results

I am in the field but today and tomorrow but schedule the meeting and I will see if I could join while I'm traveling or in the field
Lou

Louis M. Militana
Ambient Air Quality Services, Inc.
(484) 224-6218 x101
(484) 653-0167

Sent from Windows Mobile Device

On Sep 21, 2020, at 10:57 AM, "McClung, Jon D" <jon.d.mcclung@wv.gov> wrote:

All,
I am free tomorrow except for 10 am to 12:30 pm.
Thanks,
Jon.

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Monday, September 21, 2020 10:17 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Subject: [External] LVP Unit II Draft Air Permit & Modeling Results
Importance: High

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Just wanted to catch up with everyone regarding the Unit II air permitting. We are rapidly heading towards the endgame here and I just wanted to make sure communications were good and the efforts matched the needs. Two main areas I wanted to talk about were:

Draft Permit Status – Draft permit for review from DAQ soon?

Air Modeling – Should be nearing completion on re-modeling items identified by DAQ, status?

Perhaps we could set up a Teams meeting this week to review status and discuss progress? Today or tomorrow would be best as our Management team will be asking for a status report by Wednesday.

Thanks!

-Brian

Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
1375 Fort Martin Rd Madsville, WV 26541
<http://www.longviewpower.com>

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Archived: Friday, October 9, 2020 11:10:29 AM

From: [Brian Hoyt](#)

Sent: Monday, September 21, 2020 1:06:36 PM

To: [Andrews, Edward S](#); [Louis M. Militana](#); [McClung, Jon D](#)

Subject: [External] RE: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, I will give you a call in a sec but would you mind setting up a Teams meeting with call-in number for 1p tomorrow? The couple numbers I regularly may in use then...

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Monday, September 21, 2020 12:28 PM

To: Brian Hoyt <bhoyt@longviewpower.net>; Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>

Subject: RE: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

That would be fine.

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>

Sent: Monday, September 21, 2020 12:23 PM

To: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>

Cc: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: [External] RE: [External] LVP Unit II Draft Air Permit & Modeling Results

CAUTION: External email. Do not click links or open attachments unless you verify sender.

How about 1p tomorrow?

-B

From: Louis M. Militana <lmilitana@aaqsinc.com>

Sent: Monday, September 21, 2020 12:09 PM

To: Jon McClung <jon.d.mcclung@wv.gov>

Cc: Brian Hoyt <bhoyt@longviewpower.net>; Edward S Andrews <edward.s.andrews@wv.gov>

Subject: RE: [External] LVP Unit II Draft Air Permit & Modeling Results

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Lou

Louis M. Militana

Ambient Air Quality Services, Inc.

(484) 224-6218 x101

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Sent from Windows Mobile Device

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Sent: Monday, September 21, 2020 10:17 AM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Cc: Louis M. Militana <lmilitana@aaqsinc.com>; McClung, Jon D <Jon.D.McClung@wv.gov>
Subject: [External] LVP Unit II Draft Air Permit & Modeling Results
Importance: High

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Just wanted to catch up with everyone regarding the Unit II air permitting. We are rapidly heading towards the endgame here and I just wanted to make sure communications were good and the efforts matched the needs. Two main areas I wanted to talk about were:

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Air Modeling – Should be nearing completion on re-modeling items identified by DAQ, status?

Perhaps we could set up a Teams meeting this week to review status and discuss progress? Today or tomorrow would be best as our Management team will be asking for a status report by Wednesday.

Thanks!

-Brian

Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

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Archived: Friday, October 9, 2020 11:10:29 AM

From: [Brian Hoyt](#)

Sent: Tuesday, September 22, 2020 11:05:01 AM

To: [Andrews, Edward S](#)

Subject: [External] Last Call Attendee List

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Ed, could DAQ provide the attendee list with pertinent organizational info for the call earlier today? Also, who was that from DAQ discussing the deadlines from the WV legislature?

Thx!

-B



Brian Hoyt | Compliance & Environmental Manager
bhoyt@longviewpower.net | Cell: 304-376-7496

Longview Power
Office: 304-599-0930 Ext: 2203 | Fax: 304-599-3829
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Archived: Friday, October 9, 2020 11:10:29 AM

From: [Brian Hoyt](#)

Sent: Tuesday, September 22, 2020 2:44:35 PM

To: [Andrews, Edward S](#)

Subject: [External] FYI Report on Degradation and Recovery

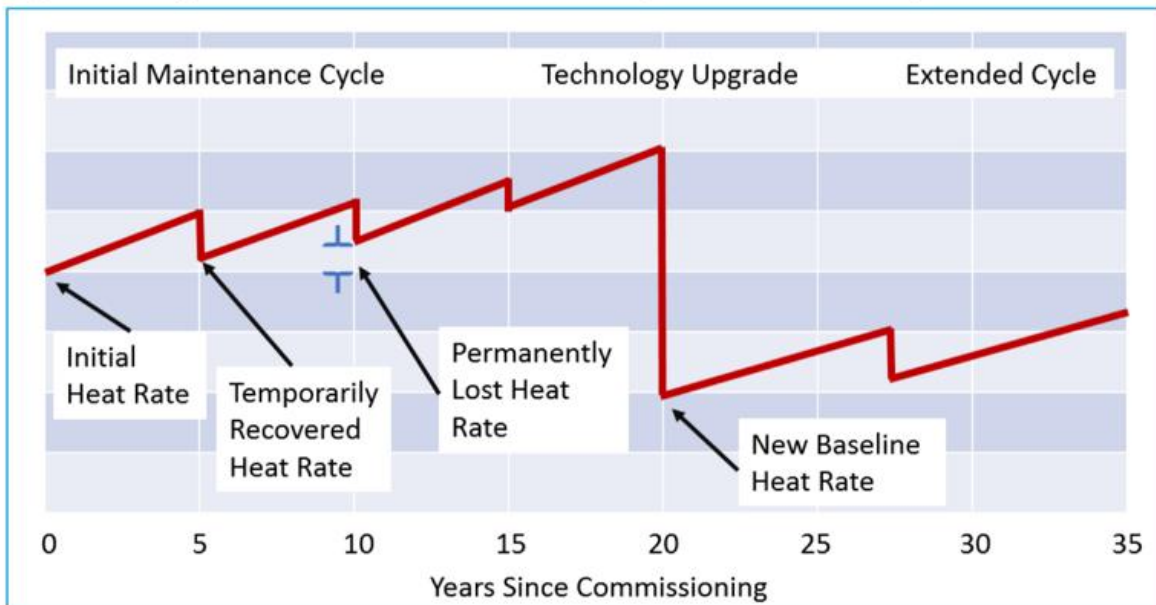
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Black & Veatch and NRECA info (below is a screen shot of the charts on the topic from page 4-22). EPA has this...



Figure 4-1 Hypothetical Steam Turbine Heat Rate Degradation and Recovery Curve



Some BSER HRI technologies will have similar degradation curves, but on different schedules and with different magnitudes of heat rate recovery during maintenance cycles. These performance curves will vary greatly with each deployment, based upon the specific technology chosen and the operating conditions of the power plant itself. At this point in time, only broad estimates may be made of the impacts of wear and tear on these technologies. Table 4-11 lists the expected time to loss of 50% of the heat rate improvement for each BSER HRI technology that is considered by ACE.

Table 4-11 Estimated Duration to Loss of 50% Benefit for BSER Heat Rate Improvements

BSER HRI TECHNOLOGY	TIME TO LOSS OF 50% IMPROVEMENT
O&M: On-Site Appraisals	6 to 12 Months
Air Heater / Duct Leakage Control	9 to 24 Months

O&M: Training	1 to 2 Years
O&M: Condenser Cleaning Upgrades	2 to 5 Years
Steam Turbine Blade Path Upgrades	4 to 6 Years
Boiler Feed Pumps	4 to 7 Years
Economizer Upgrades	> 10 Years
Neural Network/Intelligent Sootblowing	> 10 Years
Variable Frequency Drives	> 10 Years

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Archived: Friday, October 9, 2020 11:10:29 AM
From: [Brian Hoyt](#)
Sent: Thursday, September 24, 2020 1:54:25 PM
To: [Andrews, Edward S](#)
Subject: [External] Re: Decay Curves
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Seems reasonable. What are your thoughts on day/time?

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 24, 2020 12:48:40 PM
To: Brian Hoyt
Cc: Stephen Nelson; Crowder, Laura M
Subject: Decay Curves

Brian,

We are concerned about moving forward with an open ended limit/standard caused by the unit degradation adjustment factor (UDAF) based on EPA's remarks from our Tuesday call. I have contact Black & Veatch regarding if the degradation rate would flatten out or approach zero at some point.

See attached excel file of decay curves of the proposed UDAF (with recovery factor) and decay rate based on Black & Veatch's experience.

Based on Black & Veatch experience, unit decay rate changes at 20-25 years. After the 20-25 years, a unit still degrades over time at a much slower rate but is not zero. We believe that EPA is seeing that with older EGUs. Because EPA is looking at these older units heat rate based on CAMD data, they cannot see the real degradation rate of the units due to the noise in the data.

I am inquiring to see if Longview Power would be interested in having a call with WV to discuss placing a cap on the unit degradation adjustment factor.

Should you have any questions about this, please contact me.

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:30 AM
From: [Brian Hoyt](#)
Sent: Thursday, September 24, 2020 3:19:40 PM
To: [Andrews, Edward S](#)
Subject: [External] Re: [External] Re: Decay Curves
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Sure thing

Sent from my iPhone

On Sep 24, 2020, at 3:08 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

Hey, Could you give me a call tomorrow?

Ed

From: Brian Hoyt <bhoyt@longviewpower.net>
Sent: Thursday, September 24, 2020 1:54 PM
To: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Subject: [External] Re: Decay Curves

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Seems reasonable. What are your thoughts on day/time?

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, September 24, 2020 12:48:40 PM
To: Brian Hoyt
Cc: Stephen Nelson; Crowder, Laura M
Subject: Decay Curves

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Archived: Friday, October 9, 2020 11:10:30 AM

From: [Brian Hoyt](#)

Sent: Friday, September 25, 2020 2:15:28 PM

To: [Andrews, Edward S](#)

Subject: [External] Re: [EXTERNAL] EPA Degradation Data

Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Negative Ghost rider...

Sent from my iPhone

On Sep 25, 2020, at 2:06 PM, Andrews, Edward S <Edward.S.Andrews@wv.gov> wrote:

You have received any data from EPA on degradation?

Ed

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From: [Brian Hoyt](#)
Sent: Tuesday, September 29, 2020 11:36:37 AM
To: [Andrews, Edward S](#)
Subject: [External] Comment period
Sensitivity: Normal
Archived: Friday, October 9, 2020 11:10:30 AM

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Will the state permit and state plan comment periods run in parallel? Thought yes...

Sent from my iPhone

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Archived: Friday, October 9, 2020 11:10:30 AM
From: [Brian Hoyt](#)
Sent: Thursday, October 1, 2020 3:25:42 PM
To: [Andrews, Edward S](#)
Cc: [Crowder, Laura M](#)
Subject: [External] RE: Latest version of Evaluation for R13-3495
Sensitivity: Normal

CAUTION: External email. Do not click links or open attachments unless you verify sender.

Unfortunately it is looking like a local link and I cannot access it.

-B

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>
Sent: Thursday, October 1, 2020 2:57 PM
To: Brian Hoyt <bhoyt@longviewpower.net>
Cc: Crowder, Laura M <Laura.M.Crowder@wv.gov>
Subject: [EXTERNAL] Latest version of Evaluation for R13-3495

Brian,

The latest version of the eval is in the my shared folder.

C:\Users\A007709\OneDrive - State of West Virginia\Companies\LVP ACE R13-3495\LVP Shared Doc w-EPA&LVP

Please don't click update links. I still need to fix the data for figures 14 and 16.

Could you let me know if you can download it or not?

Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

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Archived: Friday, October 9, 2020 11:10:30 AM

From: [Brian Hoyt](#)

Sent: Wednesday, June 3, 2020 10:09:36 AM

To: [Andrews, Edward S](#)

Subject: RE: WV DAQ Permit Application Status for Longview Power, LLC; Madsville

Sensitivity: Normal

Thank you. I was going to call you on this later this morning and we had to take a stab in the dark. I looked at this as an amendment to the R14 permit lacking any other guidance. The submission feedback seemed to treat it as a new construction with a lot of documentation inconsistent with amendments we have done in the past. Let me take a look at what you sent, see how we fit into it, and get back to you with questions and overall thoughts...

Thank you for providing this, much appreciated.

-Brian

From: Andrews, Edward S <Edward.S.Andrews@wv.gov>

Sent: Wednesday, June 3, 2020 10:04 AM

To: Brian Hoyt <bhoyt@longviewpower.net>

Subject: [EXTERNAL] FW: WV DAQ Permit Application Status for Longview Power, LLC; Madsville

FYI.

We need to talk about it. Here are some documents that we having been working on that should help you in developing a sound application.

If there is something that does not make sense, please ask about it.

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244

From: Ernest, Nicole D <Nicole.D.Ernest@wv.gov>

Sent: Tuesday, June 2, 2020 2:36 PM

To: snelson@longviewpower.net

Cc: McKeone, Beverly D <Beverly.D.Mckeone@wv.gov>; Andrews, Edward S <Edward.S.Andrews@wv.gov>

Subject: WV DAQ Permit Application Status for Longview Power, LLC; Madsville

RE: Application Status

Longview Power, LLC; Madsville

Facility ID No. 061-00134

Mr. Nelson:

Your application for a construction permit for the Maidsville location was received by this Division on June 1, 2020, and was assigned to Ed Andrews. The following items were not included in the initial application submittal:

Affidavit for Class I legal advertisement not submitted.

Application fee of \$1,000.00 for a Construction Permit not included.

(You may contact the Accounts Receivable section at 304 926-0499 ext. 4888 or Kim Scott at ext. 1846 or Cathy Harless at ext. 1550 to pay via credit card. DEP accepts Visa and MasterCard only.)

Confidential Business Information is not properly identified and no Claim of Confidentiality form submitted.

Copy of current Business Registration Certificate not included.

Process description, including equipment and emission point identification numbers, not submitted.

Process flow diagram, including equipment and emission point identification numbers, not submitted.

Plot plan, including equipment and emission point identification numbers, not submitted.

Emission calculations not included or contains obvious errors in emission factors, references, sources identification numbers, etc.

These items are necessary for the assigned permit writer to continue the 30-day completeness review.

Within 30 days, you should receive a letter from Ed Andrews stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Ed Andrews, at 304-926-0499, extension 41902.

Nicole Ernest

Secretary

West Virginia Department of Environmental Protection

Division of Air Quality, NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41256

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From: [Andrews, Edward S](#)

Sent: Thursday, July 23, 2020 12:31:00 PM

To: [Tipane, Frederick](#); [Shrewsbury, Todd H](#); [Compston, Rex E](#); [Brian Hoyt](#); [Mike Gordon](#); [Culligan, Kevin](#); [Honda, Gregory](#); [Swanson, Nicholas](#)

Cc: [Laura Crowder \(Laura.M.Crowder@wv.gov\)](#); [Steve Nelson](#)

Subject: Possible Limits for Longview's ACE Permit

Sensitivity: Normal

Archived: Friday, October 9, 2020 11:10:30 AM

Please read the "Read Me" tab in the file. These are possible limits that we would like to discuss this afternoon. I will be sending out an invitation for a TEAMS Meeting for 3 PM today.

https://westvirginiaot-my.sharepoint.com/:x:/g/personal/a007709_wv_gov/Ef9icQnyOghEtfZQxiugdVUB23RTqi9bNa_QZOCJC_RJiQ?e=xUU7nr

Thanks,
Ed

Edward S. Andrews, P.E.
Engineer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
304.926.0499 ext. 41244

Archived: Friday, October 9, 2020 11:10:30 AM

From: [Andrews, Edward S](#)

Sent: Thursday, July 16, 2020 10:47:00 AM

To: [Brian Hoyt](#); [Mike Gordon](#)

Subject: Weighted Avg Equation

Sensitivity: Normal

Attachments:

[Weighted_Avg_eq.docx](#) 

Here is a weighted avg eq. that we can talk about at 1 today too.

Ed

Archived: Friday, October 9, 2020 11:10:30 AM

From: [Andrews, Edward S](#)

Sent: Wednesday, July 15, 2020 12:48:00 PM

To: [Mike Gordon](#); [Brian Hoyt](#)

Subject: Longview Load Bins-(OPM Heat Rate).xlsx

Sensitivity: Normal

Attachments:

[Longview Load Bins-\(OPM Heat Rate\).xlsx](#) 

Gentlemen,

Attached excel file is distribution plots of the OPM Heat Rate of Longview's unit by load bins.

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

304.926.0499 ext. 41244