Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:31 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: FW: Ameren Dumping Hot water into Missouri River NO

Public comment for Labadie hearing. Thanks!

Krista

From: Ericca Thornhill
Sent: Sunday, August 23, 2020 4:31 PM
To: Welschmeyer, Krista
Subject: Ameren Dumping Hot water into Missouri River NO

Please don't allow them to dump hot water into the Missouri River. The healthy river keeps us all healthy and allows us to maintain our resources for the future!

Sincerely,
Ericca Thornhill
Columbia, MO
--

Ericca
Ericca Thornhill
National Center for Science Education
Nature of Science Ambassador

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:33 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: MO River, proposed changes to heated water dumping

Additional public comment regarding Labadie. There are more that I will be forwarding, just going to send the others without additional comments from myself. Thanks all!

Krista

From: Jody Carroll
Sent: Sunday, August 23, 2020 5:05 PM
To: Welschmeyer, Krista
Subject: MO River, proposed changes to heated water dumping

Hi Krista,

I'm not able to attend the Zoom meeting regarding this issue, so I wanted to take a few minutes and comment on the amazing times I've spent with my immediate and my "river family" paddling on the MO river. As a lifelong resident of the Kansas City area, I've found the river to be a wonderful recreational resource as well as a consistent and reliable source of water for human consumption. For both of these I am always grateful!

Because of the quality kayak/canoe/SUP opportunities, our Mighty MO also has an ever-growing awareness across the country and internationally. Every year, racers come from all over the US as well as outside our country, to race and enjoy the experience of our river, this also provides economic benefits to many small towns across the state.

However, individuals must rely on governmental organizations, in this case the DNR, to protect these resources so that all can learn of them and enjoy them to the fullest. **Balancing the needs of existing commercial endeavors with an eye to the importance of providing clean water and the opportunity for recreational activities that support communities across the state is critical for the health and longevity of this amazing resource.**

Please consider carefully the request to alter the standards on the volume of heated water that can be dumped into our river. I understand that changing the standard might be the easiest solution for the firm requesting the change, but easiest is rarely best for all. Your effort matters to the life within the river as well as a lot of folks downstream.

Thanks for your work, I appreciate it.

Jody Carroll

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:33 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Subject: LABADIE COMMENT: FW: Ameren

-----Original Message-----
From: Brian Immethun <bimmethun@yahoo.com>
Sent: Sunday, August 23, 2020 5:10 PM
To: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Cc: LEOenvironmentalorg@gmail.com
Subject: Ameren

Please do not let Ameren dump additional super heated water into the Missouri River. We need to protect our natural resources for generations to come. Let Ameren pay for cooling towers.
Sent from my iPhone

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:34 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Labadie hot water dumping by Ameren

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From: Jay Doty
Sent: Sunday, August 23, 2020 5:22 PM
To: Welschmeyer, Krista
Cc: Rachel Bartels ; Dan Burkhardt ; Ralph Pfremmer ; Shane Camden
Subject: Labadie hot water dumping by Ameren

https://dnr.mo.gov/env/wpp/permits/pn/docs/0004812_hearingnotice.pdf

Dear Ms Welschmeyer,

As a representative of the Department of Natural Resources, we, the citizens of Missouri trust in you to stand for protecting those precious natural resources of our state.

Allowing Ameren (formerly UE, a company my father worked for 40+ yrs) to dump heated water into a natural system will have dramatic impacts on the Missouri River. You must STOP this from happening.

The Missouri River can no longer be thought of as just a barge channel! It is the life blood for more & more Missourians.

This impacts me deeply. I have put together a design team and a production group to create MORT, the Missouri River Trail, a water trail companion to the KATY. The Trail is documented by a DNR website all across the state, but our group's focus is Hermann-New Haven-Washington-Klondike-Weldon Springs-St. Charles. This stretch is EXTREMELY popular with paddlers especially St Louisans training for the MR340, Race for the Rivers and several other events that pass directly by these Ameren outlets that you may allow if you do not do your job well.

This region is not a backwater of Missouri! It encompasses the BEST of Missouri's Natural & Cultural Resources. It hosts Missouri's Wine Country, the Missouri's prorected Riverhills region, Missouri's German Heritage District, the world renown Rails-to-Trails project-the KATY Trail and the life blood that connects all of this historically and even more so now, the Missouri River Valley. This region is being advertised nationally as the 'Missouri River Country' through the collaboration of communities up and down the River from Labadie.

You may negate millions of $ of future income to this region if you cave into saving a few dollars for a utility that is supposed to serve this region, not cripple it by disregard of its greatest assets you are charged with protecting.

We NEED you to do your job right and well. Do not let Ameren tell you what you should allow!

If you do your job, I will thank you profusely, if you don't, you will have cursed us all,

As directly as I can speak,
Jay Doty pla
Applied Conservation llc
MORT-Missouri River Trail

Sent from my mobile ph

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:34 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Amaren Request

From: James Kipper
Sent: Sunday, August 23, 2020 5:30 PM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Amaren Request

Good afternoon,

I've recently heard that Amaren has asked the DNR to change standards that will make it easier for them to dump a billion gallons of super-heated water into the Missouri river on a daily basis.

That action would obviously change the environment of the river, as the increase in temperature affects all living things in the vicinity. The hot water they dump would begin a domino effect by killing fish and larvae, creating blooms of oxygen-depleting algae, and turning water downstream into a biohazard for humans. That's why I'm asking you to please block and deny this action.

My family and I are Kayakers and have experienced the river up close and personally. We care deeply about preserving and protecting her and hope that the DNR also values the river and the resources that she provides above the need for a corporation's profits. Amaren certainly has other options and should not be allowed to poison such a valuable and beautiful public resource in order to increase it's profit margin.

Thank you very much for your time,

Sincerely,

James Kipper

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:35 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren and the Missouri River

From: Dan Voss
Sent: Sunday, August 23, 2020 6:26 PM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Ameren and the Missouri River

Dear Ms. Welschmeyer,

Ameren is asking your department for a change to the standards that make it easier to dump billions of gallons of super-heated water into the Missouri River on a daily basis.

I, as well as most Missourians, value the river and the resources it provides (i.e., fish, recreation, clean water). The hot water Ameren intends to dump will change what can live in the river, and it will certainly change the characteristics of the river by killing fish, larvae, etc.

Please do the right thing and DO NOT grant Ameren's request to allow billions of gallons of public water to be used by the plant, and then dumped into the river, threatening wildlife and damaging our beloved resource. Ameren has another options that are financially viable for its business. DENY THIS VARIANCE REQUEST.

Thank you,
Dan Voss

Daniel J. Voss, Attorney at Law
4723 Terrace Street
Kansas City, Missouri 64112
(816) 522-3536 (Office-Cell)
Website: www.danvosslaw.com
E-Mail: dan@danvosslaw.com

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Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:36 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: I don't approve a change in use for Ameren of the Missouri River

From: Kris Dodson
Sent: Sunday, August 23, 2020 7:32 PM
To: Welschmeyer, Krista
Cc: leoenvironmentalorg@gmail.com
Subject: I don't approve a change in use for Ameren of the Missouri River

My family and I boat, swim, play, and fish in the Missouri River. I absolutely disapprove of any additional access to the Missouri River. It is an already delicate echo system, because of what is already allowed is far as discharges and pollutants. This is something that will also affect everything downstream far beyond Missouri borders. DNR should not grant the request and allow billions of gallons of public water to be used by the plant that then dumped hot into the river threatening wildlife and damaging our beloved resource. Ameren has another choice - DNR can and should defend our public resources.

Respectfully,
Kris Dodson

Hackler, Pam

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:35 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Subject: LABADIE COMMENT: FW: Ameren Variance on Hot Water dump into Missouri River

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From: Dan Strieker
Sent: Sunday, August 23, 2020 7:01 PM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Re: Ameren Variance on Hot Water dump into Missouri River

DNR,
Officially am voicing my concern about the plans for additional hot water dump into the Missouri River from the coal-fired electrical plant in Labadie.

I am a frequent user of the Missouri River for recreational paddling. I am an everyday user of the Missouri for the water I drink.

The concern is that this plan is being rushed through without research and yes, without proper regulation. In this day and age, we should be working towards making coal-fired plants a smaller part of our energy needs. Instead Ameren is seeking more latitude with thermal pollution.

Opposed,
Sincerely
Dan Strieker
St. Louis MO

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:36 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Labadie Permit

From: Scott Mansker
Sent: Sunday, August 23, 2020 10:09 PM
To: Welschmeyer, Krista ; DNR Clean Water Permits
Subject: Labadie Permit

Hello Ms. Welschmeyer,

Please consider this my public comment against any variance in the permit for Ameren to increase thermal pollution on the Missouri River.

Cooling towers were planned for the expansion of the plant. Of course they are trying to avoid the expense of these towers and move the cost onto the back of the Missouri River and the people and wildlife that use it.

This is unacceptable for the public good. Coal is a dead end. Allowing them to skirt the permit just puts off the inevitable. It's time to start generating electricity responsibly.

Thank you.

Scott Mansker
Race Director
Missouri River 340

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:37 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren

-----Original Message-----
From: Nancy Koehler <koehlernancy@gmail.com>
Sent: Sunday, August 23, 2020 10:43 PM
To: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Subject: Ameren

I am a Missouri citizen who lives near the Missouri River. I was terribly concerned to hear about the request from Ameren to dump super heated water into the river. Our Department of Natural Resources should be working to protect the precious waterways in the state.

DNR should not grant the request and allow billions of gallons of public water to be used by the plant then dumped hot into the river threatening wildlife and damaging our beloved resource. Ameren has another choice - DNR can and should defend our public resources.

Ameren has other choices that will not destroy the life of our river. Please deny this variance request.

Thank you.

Nancy Koehler
Wildwood. MO

Sent from my iPhone

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:37 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Subject: LABADIE COMMENT: FW: Heated water dumping

From: Tina Brooke
Sent: Sunday, August 23, 2020 11:21 PM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Heated water dumping

Hello Krista,
My name is Tina Brooke in 2017 I paddled the length of the Missouri solo in a canoe. The way the river is used and loved as it traverses its 2600 miles is different as night and day. I am manager and guide for a local Kansas City Kayak rental business. I have spent most of my life trying to introduce people to the Missouri River. Trying to get them over their fears of not wanting to touch the boats water, not wanting to be in the water. We can not allow our Missouri River to be hated and abused. We need to respect and help her. Do why us thus even being considered. Why "dump" anything into the Missouri River. Use that water to help the area outside the river. It is time to stop this nonsense and stop abusing our rivers. The recreational increased use on our Missouri River is a great thing for our community. Don't let it be destroyed by killing what lives and calls our river home.

Thank You
Tina Brooke

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 6:38 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE HEARING: FW: Ameren Varience request (CWC-V-4-20)

From: Karl Collier
Sent: Monday, August 24, 2020 12:07 AM
To: Welschmeyer, Krista ; DNR Clean Water Permits
Cc: LEOenvironmentalorg@gmail.com; James Collier
Subject: Ameren Varience request (CWC-V-4-20)

Dear Ms. Welschmeyer and Ms. Hacker:

I understand you are the DNR contacts for public feedback regarding Ameren's variance request CWC-V-4-20. Ameren is requesting that your department approve a permit for a thermal variance, revising the current standards and making it easier for the corporation to dump billions of gallons of super-heated water into the Missouri River on a daily basis.

I value the river and the resources it provides (i.e., fish, recreation, clean water). The hot water Ameren intends to dump will change what can live in the river, and it will certainly change the characteristics of the river by killing fish, larvae, etc.

I ask you to please DENY the permit to Ameren's variance request (CWC-V-4-20) to allow billions of gallons of public water to be used by the plant, and then dumped into the river, threatening wildlife and damaging our beloved resource and drinking source. Ameren has another options that are financially viable for its business. Relying on Ameren's models and community studies and approving this variance could result in irreversible and long term damage to our environment and ecomony.

Thank you,
James Karl Collier
2200 S Vermont Ave
Independence, MO, 64052

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 8:22 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: MO River

From: Angela Palmer
Sent: Monday, August 24, 2020 8:10 AM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: MO River

I am writing to urge the DNR to not change the standards that protect our river and all of the life that it contains so that Ameren can dump super heated water into it unnecessarily.

At some point, as humans, we have to realize that our destruction to our environmental systems will eventually destroy us. These actions pile up and there will be a tipping point. Please do the right thing for the river, the life within it, and the humans that enjoy it.

Sincerely,
Angela Palmer
Warrensburg, MO

Sent from Yahoo Mail on Android

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 9:59 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Missouri River

From: piedrayak@me.com
Sent: Monday, August 24, 2020 9:40 AM
To: DNR Clean Water Permits ; Welschmeyer, Krista
Subject: Missouri River

Dear Ms. Welschmeyer and Ms. Hacker,

In its variance request CWC-V-4-20, Ameren is seeking your department to permit a thermal variance and revise its standards making it easier for the corporation to dump billions of gallons of super-heated water into the Missouri River on a daily basis.

I, as well as most Missourians, value the river and the resources it provides (i.e., fish, recreation, clean water). The hot water Ameren intends to dump will change what can live in the river, and it will certainly change the characteristics of the river by killing fish, larvae, etc.

Please do the right thing and DO NOT grant Ameren's variance request (CWC-V-4-20) to allow billions of gallons of public water to be used by the plant, and then dumped into the river, threatening wildlife and damaging our beloved resource and drinking source. Ameren has another options that are financially viable for its business. Relying on Ameren's models and community studies and approving this variance could result in irreversible and long term damage to our environment and ecomony.

DENY THIS VARIANCE REQUEST.

Thank You and Best Regards,

Patrick Dreiling

Lee's Summit, MO

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 8:56 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren

From: Besa Schweitzer
Sent: Monday, August 24, 2020 8:45 AM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Ameren

I'm sad to hear that you are considering allowing Ameran to dump more waste hot water into our river. Increasing the temperature of the water will be detrimental to many organisms in the water. Missouri is the great rivers state. We need to give priority to protecting our rivers to keep them great.
Besa Schweitzer
St Louis MO

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 9:57 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: CWC-V-4-20

From: Mark Fingerhut
Sent: Monday, August 24, 2020 9:46 AM
To: DNR Clean Water Permits ; Welschmeyer, Krista
Subject: CWC-V-4-20

Dear Ms. Welschmeyer and Ms. Hacker,
In its variance request CWC-V-4-20, Ameren is seeking your department to permit a thermal variance and revise its standards making it easier for the corporation to dump billions of gallons of super-heated water into the Missouri River on a daily basis.

I am a frequent user/recreator of the Missouri River. I've kayaked thousands of miles on the river and value the river as a natural resource. The hot water Ameren intends to dump will change what can live in the river, and it will certainly change the characteristics of the river by killing fish, larvae, etc.

Please do the right thing and DO NOT grant Ameren's variance request (CWC-V-4-20) to allow billions of gallons of public water to be used by the plant, and then dumped into the river, threatening wildlife and damaging our beloved resource and drinking source. Ameren has another options that are financially viable for its business. Relying on Ameren's models and community studies and approving this variance could result in irreversible and long term damage to our environment and ecomony.

DENY THIS VARIANCE REQUEST.
Thank you,
Mark Fingerhut
markfingerhut@gmail.com

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 11:53 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren and the River

From: Dan Foldes
Sent: Monday, August 24, 2020 10:53 AM
To: Welschmeyer, Krista
Subject: Ameren and the River

Hello Krista,

Ameren is asking DNR (represent us) for a change to the standards that make it easier to dump a billion gallons of super-heated water into the river daily.

DNR should not grant the request and allow billions of gallons of public water to be used by the plant that then dumped hot into the river threatening wildlife and damaging our beloved resource. Ameren has another choice - DNR can and should defend our public resources.

Thank you for protecting our river,

Dan

Peters, Heather

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 11:52 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Hot water discharge
Attachments: IMG_20200822_155448837.jpg

From: Dana Kee
Sent: Monday, August 24, 2020 10:53 AM
To: Welschmeyer, Krista
Subject: Hot water discharge

Please vote to protect the Missouri River. I am time there are other methods of coooling discharge water from the plant that will better protect the Missouri River. Please protect Missouri's Natural Resources. Attached is a picture taken on Saturday of some of my family enjoying the Missouri River on mile marker 213, Jameson Island. We only have one of these Rivers!
Thanks kindly, Dana Kee

Hackler, Pam

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 11:52 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Labadie Energy Center (LEC) Section 316(a) Thermal Variance

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From: Hogan Haake
Sent: Monday, August 24, 2020 10:53 AM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Labadie Energy Center (LEC) Section 316(a) Thermal Variance

Krista,

As a concerned citizen and Missouri River paddler, I wanted to write my objection to Ameren taking more Missouri River Water to cool their power plant. I understand the delicate balance between our privileged lives of convenience and the need to generate that power. However, we must be responsible when generating this power to protect our resources. Endangering fish and other wildlife by changing the river temperature is an irresponsible solution. Ameren should invest the community's future and find a better solution. I would rather pay a higher monthly electric bill than endanger the river.

Thanks for your consideration.

Hogan Haake, Electric user and Solar Panel Owner.

Hackler, Pam

From: Welschmeyer, Krista
Sent: Monday, August 24, 2020 1:29 PM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Dumping super heated water in Labadie, MO

From: Susan Giger
Sent: Monday, August 24, 2020 1:27 PM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Dumping super heated water in Labadie, MO

Please do not dump billions of gallons of hot water into our water ways. My family and I enjoy boating, fishing, kayaking and enjoying natural wildlife and clean water. Dumping hot water will surely affect our natural ecosystems and wildlife that live in or around the water. Please find a way to cool the water first or another way to live symbiotically with the earth and waterways that support humans and wildlife.

Thank you,

Sue Giger

Hackler, Pam

From: Welschmeyer, Krista
Sent: Tuesday, August 25, 2020 7:43 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren variance request

-----Original Message-----
From: David Myers <dmyers4@swbell.net>
Sent: Monday, August 24, 2020 7:58 PM
To: DNR Clean Water Permits <CleanWaterPermits@dnr.mo.gov>
Cc: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Subject: Ameren variance request

Dear Ms. Welschmeyer and Ms. Hacker

In its variance request CWC-V-4-20, Ameren is seeking your department to permit a thermal variance and revise its standards making it easier for the corporation to dump billions of gallons of super-heated water into the Missouri River on a daily basis.
I, as well as most Missourians, value the river and the resources it provides (i.e., fish, recreation, clean water). The hot water Ameren intends to dump will change what can live in the river, and it will certainly change the characteristics of the river by killing fish, larvae, etc.
Please do the right thing and DO NOT grant Ameren's variance request (CWC-V-4-20) to allow billions of gallons of public water to be used by the plant, and then dumped into the river, threatening wildlife and damaging our beloved resource and drinking source. Ameren has another options that are financially viable for its business. Relying on Ameren's models and community studies and approving this variance could result in irreversible and long term damage to our environment and ecomony.
DENY THIS VARIANCE REQUEST.
Thank you,
David Myers
18730 Wild Horse Farm Ct.
Wildwood, MO 63038

Hackler, Pam

From: Welschmeyer, Krista
Sent: Tuesday, August 25, 2020 7:44 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW:

From: Cara Artman
Sent: Monday, August 24, 2020 11:37 PM
To: Welschmeyer, Krista
Subject:

Dumping hot water in bodies of water changes what can live in the water and certainly changes the characteristics of the water by killing fish, larvae, etc. DNR should not grant any request and allow billions of gallons of public water to be used by the Ameren plant that then dumped hot into the river threatening wildlife and damaging our beloved resource. Ameren has another choice - DNR can and should defend our public resources.

If this pandemic has taught us anything it's that we have to stop messing with Mother Nature and wildlife. You stop protecting our natural resources and you will be to blame for the next outbreak.

Thank you,
Cara Artman
-a taxpayer

Hackler, Pam

From: Welschmeyer, Krista
Sent: Tuesday, August 25, 2020 1:12 PM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Please Deny Ameren's Variance Request

From: blue@iland.net
Sent: Tuesday, August 25, 2020 12:06 PM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: Please Deny Ameren's Variance Request

Higher temperature water is not conducive to life and should not be allowed into the living water system of the river.

Please deny the Ameren variance request.

Melody Irle

239 SW BB HWY

Warrensburg, Mo 64093

Hackler, Pam

From: Hackler, Pam
Sent: Wednesday, August 26, 2020 12:37 PM
To: Hackler, Pam
Subject: FW: LABADIE COMMENT

From: Hackler, Pam
Sent: Wednesday, August 26, 2020 12:34 PM
To: 'Pam Hackler'
Subject: FW: LABADIE COMMENT

From: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Sent: Tuesday, August 25, 2020 4:57 PM
To: Abbott, Michael <michael.abbott@dnr.mo.gov>; Peters, Heather <heather.peters@dnr.mo.gov>; Hackler, Pam <pam.hackler@dnr.mo.gov>
Cc: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Subject: LABADIE COMMENT: FW: NO to the variance request allowing up to a billion gallons a DAY being dumped into the Missouri River.

From: Brett Dufur <pebblepublishing@gmail.com>
Sent: Tuesday, August 25, 2020 4:31 PM
To: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Cc: leoenvironmentalorg@gmail.com
Subject: NO to the variance request allowing up to a billion gallons a DAY being dumped into the Missouri River.

Hi Krista, I am emailing to support DNR saying NO to the variance request allowing up to a billion gallons a DAY being dumped into the Missouri River.

Please DO NOT SUPPORT A VARIANCE. Ameren has another choice. DNR can and should defend our public resources.

As the author of the book Exploring Lewis and Clark's Missouri, author of The Complete Katy Trail Guidebook, and river guide and founder of Mighty Mo Canoe Rental - I have been promoting and supporting eco-tourism and river valley tourism for the past 25 years.

The Missouri River is a beloved resource by cyclists, naturalists, paddlers and fishermen.

Threatening the overall health of the Missouri River ecosystem especially when we know so much and have done so much to restore habitat would be sacrilege.

We need wild places to recreate - we need to allow nature places to reign supreme. We need to ensure the Missouri River remains as healthy as possible. That is our highest good for the sake of future generations.

Please vote NO to the variance.

Sincerely,

Brett Dufur
River Guide and Missouri Author
101 Gaw Street, Rocheport, MO 65279

Hackler, Pam

From: Wieberg, Chris
Sent: Wednesday, August 26, 2020 12:28 PM
To: Peters, Heather; Hackler, Pam; Abbott, Michael
Subject: FW: Ameren wanting to dump a billion gallons of hot water into river at labadie

FYI

Thanks,

Chris Wieberg
Director
Water Protection Program
573-522-9912

We'd like your feedback on the service you received from the Missouri Department of Natural Resources. Please consider taking a few minutes to complete the department's Customer Satisfaction Survey at https://www.surveymonkey.com/r/MoDNRsurvey. Thank you.

From: DNR WEB Contact
Sent: Wednesday, August 26, 2020 12:26 PM
To: Wieberg, Chris
Subject: FW: Ameren wanting to dump a billion gallons of hot water into river at labadie

Please respond as appropriate, no need to copy me on the response. Thanks

From: cherl Fritz <cdfyellow@gmail.com>
Sent: Wednesday, August 26, 2020 12:15 PM
To: DNR WEB Contact <DNRWEBContact@dnr.mo.gov>
Subject: Ameren wanting to dump a billion gallons of hot water into river at labadie

I absolutely do not want Ameren to be allowed to do such a destructive act on our waterways. Please hold them accountable to a terrible idea.

They don't want to pay to properly build a holding plan for this water.

I vote and I say no.
Cfritz

Hackler, Pam

From: Welschmeyer, Krista
Sent: Wednesday, August 26, 2020 3:14 PM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren plan to dump hot water into the Missouri River

-----Original Message-----
From: Susanna Bullock <thewoods1@mindspring.com>
Sent: Wednesday, August 26, 2020 12:54 PM
To: Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov>
Subject: Ameren plan to dump hot water into the Missouri River

In what universe, would it be sensible to dump heated water into the Missouri River that contains and supports so much life—including our own? Doing so would endanger fish, frogs, insects, etc. Why would the Department of Natural Resources allow a business to use our states (as well those above and below Missouri) for it's own financial gain? I ask these questions because I firmly believe allowing Ameren to taint billions of gallons of Missouri water is not in the best interest of the people who live here.

Susanna Bullock
thewoods1@mindspring.com

Hackler, Pam

From: Welschmeyer, Krista
Sent: Friday, August 28, 2020 11:53 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: My comment on Ameren

Follow Up Flag: Follow up
Flag Status: Flagged

From: Tamara Szabo
Sent: Friday, August 28, 2020 11:35 AM
To: Welschmeyer, Krista
Cc: LEOenvironmentalorg@gmail.com
Subject: My comment on Ameren

PLEASE do not allow the standards to change so that Ameren can dump a billion gallons of super- heated water into the Missouri River.

I am a Missouri native and have spent countless hours paddling on our beautiful rivers. I care deeply about our environment and work on environmental issues. I hate the thought of how millions/billions of super-heated water can/will devastate the fish, ecosystems and other wildlife the river supports.

Once again, please do NOT allow the standards to change so that Ameren can dump millions or billions of super-heated water into the Missouri River.

Thank you so much!

Tamara Szabo
Rolla, MO
573-578-9250

Hackler, Pam

From: Welschmeyer, Krista
Sent: Thursday, August 27, 2020 9:05 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Ameren's variance request

From: Interpetra
Sent: Thursday, August 27, 2020 9:04 AM
To: Welschmeyer, Krista
Subject: Ameren's variance request

Good morning, I am writing to you today out of my great concern over Ameren's request for a variance that will allow them to vastly increase the volume of water and the temperature of the water the company discharges back into the Missouri River.
It is no secret that the hot water released into the river negatively impacts the ecosystem and health of the river in the Labadie area. My family lived in Labadie for many years and have kept a close eye on the way Ameren runs its plant in Labadie. One takeaway has been that the company always tries to push the envelope when it comes to following regulations and invests lots of money in lobbying our state government and agencies to ease environmental regulations to benefit their bottomline. Ameren would like us to believe that they are a good neighbor when in fact they want a 22-year variance (likely the remaining life of the Labadie plant) to discharge their waste water into the Missouri with impunity, instead of investing in clean technology at the plant as they have done at other plants, namely in Illinois, which has stricter environmental laws.
The Missouri River is an important natural resource for our state and those downstream and our government agencies should do all they can to protect it instead of giving polluters like Ameren a carte blanche.

Respectfully,

Petra Haynes
Washington, MO (formerly Labadie)

Hackler, Pam

From: Welschmeyer, Krista
Sent: Wednesday, September 2, 2020 9:05 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: FOR THE OFFICIAL RECORD: FW: Ameren-Labadie hearing

Follow Up Flag: Follow up
Flag Status: Flagged

From: Lloyd Klinedinst
Sent: Tuesday, September 1, 2020 6:55 PM
To: Welschmeyer, Krista
Subject: Re: Ameren-Labadie hearing

Please enter this text into the public hearing statements. It is what I would have read if I had more time.
It also includes a point which involves transparency - I can't find exactly where I could enter this statement.
So here it is and thanks for moderating a very civil hearing.
Lloyd

+++ BEGIN+++

My name is Lloyd Klinedinst, resident of Villa Ridge in Franklin County since 1978.
My statement is in reference to Ameren Missouri – Labadie Energy Center Section 316(a) Thermal Variance Public Notice and Hearing. Will MDNR reject this request in the interest of the common good of Franklin County citizens or will it aid and abet the corporate interests of a local industry?

I am a citizen of Franklin County and with my family, children, grandchildren and great-grandchildren near the Labadie Energy Center and more importantly, we all enjoy the Missouri River and value the fish and species that live in the river.

Labadie Energy Center violates the health and well being of all living beings human and animal on land, in the air, and in the water. I am arguing against the variance request and for and in defense of the unique river ecosystem that is the Missouri River.

My lines of argument are: environmental, economic, technical on two fronts, and legal. I will not discuss related historic preservation and tourism concerns.

Environmental
Labadie Energy Center sucks in 1 billion gallons of water each day from the Missouri River, circulates water through its plant, and spews the heated water directly back into the river — effectively cooking aquatic life in the surrounding area. For many years the pallid sturgeon (a ray-finned fish found in Missouri waters) has been #1 on the U.S. Fish and Wildlife Service receiving about $280 million dollars toward the preservation of this iconic species which is highly heat

sensitive. Other species are similarly endangered although we have little information from DNR or Ameren about the impacts of current operations and/or the impacts of the variance Ameren seeks.
I certainly hate to see my tax dollars wasted by Labadie Energy Center's actions in direct destruction of what has been developed over the past years.
Please require Labadie Energy Center to stick to current schedules of reporting AND please enforce the penalties consequent to their violation of these permit requirements.

Economic
The Ameren plant sucks in that free 1 billion gallons of water each day from the Missouri River as well as taking in earnings of short of a billion dollars a year. And they say they can't afford to pay for cooling towers which could reduce the intake of water by as much as 95%. What kind of corporate welfare is MDNR aiding and abetting by possibly allowing these loose variances?
Please require Labadie Energy Center to install the best available technology to minimize endangering the Missouri River water quality.

Technical On Two Fronts
1 The Ameren plant is allowed to do their own testing ("Thermal Discharge Parameter" (TDP)) and is not transparent in sharing the data or the means by which it was collected. Further, Ameren is allowed to report their own interpretation of data, seemingly without external verification. Please require independent testing or MDNR testing.
2 MDNR has not created the most accessible means of public access to information about the request or about how to appeal it. In these pandemic times, the public should be offered more alternatives both in how they receive information of such importance to their welfare and how they can make their voice as citizens count in the decisions about such matters. Please make public hearing materials more transparently available and the actual hearings more generally accessible by our rural citizens who don't have a number of the technologies used for these meetings.

Legal
MDNR seems to have done nothing to enforce even the current permit requirements. Clearly, Ameren is requesting a variance because they cannot meet the limits in the current permit. If you approve Ameren's variance request you are admitting that Ameren has operated under a permit allowing thermal discharges above what you thought was safe for life in the river. Don't let Ameren continue to discharge very hot water, likely impacting the quality of the river and endangering the ecosystem of the river, and avoid making changes that would protect the river for all Missourians. From the public's perspective, IF you approve the variance - you are allowing Ameren to pollute unabated for the life of the plant.

-
The questioned collaboration of government and big business (even a public utility business) is a too frequent occurrence in our daily news . We don't think protecting our welfare has to be in conflict with our economic welfare and growth. In fact, the need we are facing for resolving this problem of managing our potentially hazardous waste really represents an opportunity for searching widely and deeply for alternative solutions. We hope you choose the path of accountability and technology readily available to solve Ameren's hot water discharge exceedances.

I URGE YOU TO CONSIDER OUR CONCERNS, DENY AMEREN THEIR VARIANCE REQUEST, AND REQUIRE AMEREN TO USE BEST AVAILABLE TECHNOLOGY TO REDUCE USE OF RIVER WATER AND TO MINIMIZE DISCHARGING TO THE RIVER.

I THANK YOU FOR PROVIDING THIS OPPORTUNITY FOR US TO LET YOU KNOW OUR CONCERNS.

+++ END+++

On Sep 1, 2020, at 15:50, Welschmeyer, Krista <Krista.Welschmeyer@dnr.mo.gov> wrote:

If you have any questions or concerns please email me at krista.welschmeyer@dnr.mo.gov or call (573) 751-6721

Dr. Lloyd Klinedinst
10 Dover Lane
Villa Ridge, MO 63089-2001
HomeVoice: (636) 451-3232
Lloyd Mobile: (314)-609-5571
email: lloydk@klinedinst.com
website: http://www.klinedinst.com
www.facebook.com/lklinedinst www.twitter.com/lloydk

Please consider the environment before printing this email

Hackler, Pam

From: Welschmeyer, Krista
Sent: Tuesday, September 8, 2020 8:38 AM
To: Abbott, Michael; Peters, Heather; Hackler, Pam
Cc: Welschmeyer, Krista
Subject: LABADIE COMMENT: FW: Protection Of Our Rivers

Follow Up Flag: Follow up
Flag Status: Flagged

From: Dr. Whitney Postman
Sent: Sunday, September 6, 2020 11:56 PM
To: Welschmeyer, Krista
Subject: Protection Of Our Rivers

To whom it may concern at the Missouri Department of Natural Resources,
As a clinical researcher invested in public health, I value our rivers and the natural resources (such as clean water) that they provide. Hot water dumping will undoubtedly damage our rivers' natural characteristics forever.
Please consider public health and safety of Missourians by protecting the integrity of our rivers.
Respectfully yours,

Dr. Whitney Anne Postman, Ph.D./CCC-SLP
Assistant Professor (Tenure Track)
Director of the Neuro-Rehabilitation of Language Laboratory
Saint Louis University Research Growth Fund Recipient & Rapid Response COVID-19 Seed Fund Awardee
Advocacy & Outreach Committee Chair for the Nasrallah Center for Neuroscience at Saint Louis University
Department of Communication Sciences and Disorders
Doisy College of Health Sciences, Saint Louis University
Office: McGannon Hall 241 Phone: 314-977-2825
drwhitney.postman@health.slu.edu

SLU RESEA

Igniting Discovery, Trans

Washington University in St. Louis
SCHOOL OF LAW

Interdisciplinary Environmental Clinic

July 27, 2020

Ms. Pam Hackler
Water Protection Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102 Via email: cleanwaterpermits@dnr.mo.gov

Re: Ameren Labadie Energy Center CWC Variance CWC-V-4-20

Dear Ms. Hackler:

On behalf of the Sierra Club, the Washington University Interdisciplinary Environmental Clinic submits these comments on the Proposed Variance CWC-V-4-20 (the "Proposed Variance") for the thermal discharge at Ameren Missouri's ("Ameren") Labadie Energy Center (the "Labadie Plant").

The 50-year old Labadie Plant, with a capacity exceeding 2,400 MW, is the largest coal-fired power plant in Missouri and one of the largest in the nation. Unfortunately, the Labadie Plant lacks modern pollution controls, and as a result it has significant and negative impacts on the environment and public health. The impact at issue here, however, surrounds the Labadie Plant's daily discharge of one billion gallons of hot wastewater into the Missouri River, without limit.

The Labadie Plant operates under a National Pollutant Discharge Elimination System ("NPDES")[1] permit that the Missouri Department of Natural Resources ("MDNR") most recently renewed in 2015. Prior to that renewal, the Labadie Plant operated for 21 years under a permit issued in 1994. Since it began operating in 1970, the Labadie Plant has discharged enormous amounts of heated water without any meaningful limits. The Proposed Variance does nothing to change that. Rather than requiring Ameren to modernize the plant's pollution control, MDNR proposes to continue business as usual until the plant is retired.

This comment letter addresses the following concerns with the Proposed Variance:

I. The Proposed Variance fails to comply with the Clean Water Act.
II. The Proposed Variance's 22-year term is unlawful.
III. The form of the variance should be an hourly average with an annual hours limit rather than a daily average.
IV. The effluent limit lacks sufficient information to allow for public comment or to determine Ameren's compliance.

[1] 40 C.F.R. §§ 122.1, *et seq*.

V. The Proposed Variance unlawfully failed to consider the cumulative effects of other significant impacts on affected species.
VI. The 316(A) final demonstration is inadequate and does not comply with federal guidance especially with respect to endangered species.
VII. MDNR failed to obtain concurrence from other agencies reviewing the final demonstration.
VIII. The Labadie Plant's thermal discharge will increase its impact on the aquatic community in the Missouri River as climate change increases river temperatures.
IX. Ameren has not demonstrated, and MDNR has not determined, that the effluent limitation is more stringent than necessary.
X. MDNR failed to give the public sufficient opportunity for notice and comment.

I. The Proposed Variance Fails to Comply with the Clean Water Act.

The goal and purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," eliminate discharge of pollutants into the navigable waters," ensure the "protection and propagation of fish, shellfish, and wildlife," and to make our waters are safe for recreation.[2] As a result, variances are intended to be the exception rather than the rule. And when granted, they are to be narrow in scope and duration. That is not what we have before us.

The Proposed Variance neither accomplishes this purpose nor meets this standard. Instead, it allows Ameren to continue with its current operations — making no progress towards improvement — for the rest of the Labadie Plant's useful life. In the process, Ameren is killing aquatic life, harming state and federal endangered species, disrupting the river's ecosystem, and making the Missouri River inaccessible to human recreation.

The Labadie Plant is an old, outdated facility that has been decimating its environs — and particularly the Missouri River — for decades, often without permit or variance. MDNR's duty under the CWA is to: (1) restore and maintain the Missouri River, (2) eliminate the discharge of pollutants into the Missouri River, (3) ensure the protection and propagation of fish, shellfish, and wildlife in and around the Missouri River, and (4) ensure the Missouri River is safe for recreation. MDNR has the authority and the mandate to achieve this. The Proposed Variance undermines the purpose of the CWA and should be rejected.

II. The 22-Year Term of the Variance is Unlawfully Long and Inhibits Public Participation in the Administrative Process.

The Proposed Variance is purportedly "limited" to a term of 22-years. Not only is it overlong and imprecise but it also provides cover for what is, in truth, an unlimited variance.

[2] CWA § 101(a), 33 U.S.C. § 1251(a).

A 22-year variance, on its face, is unlawfully long. NPDES permits issued by the states must be "for fixed terms not exceeding five years."[3] Because the variance is a permit condition, the variance expires with the permit.[4] As such, the Proposed Variance is unlawfully long.

In reality, the Proposed Variance has not true term limit. Instead, it is designed to provide cover for Ameren and allow the Labadie Plant to continue dumping untreated, heated water into the Missouri River until the facility closes in 2042. In earlier drafts of the Proposed Variance, MDNR was more honest with its intentions, stating that the variance was "indefinite" and "unlimited."[5] Ultimately, MDNR did not want to "say it like that" and rephrased, tying the term limit to the "'useful' life of the facility."[6] In so doing, MDNR's only concern was: "Would this be an issue with Ameren?"[7] Regardless of how MDNR chooses to phrase it, the Proposed Variance is invalid. The CWA requires that variance terms be "for no greater time than is reasonably necessary for the violator to comply with the provisions of the Clean Water Act,"[8] not for as long as necessary for the violator to avoid its duties under the Clean Water Act.

Even if MDNR has the power to grant a 22-year long, effectively indefinite variance (which it does not), the termination date is impermissibly vague and imprecise, preventing effective enforcement. The variance must be tied to a specific date (*i.e.*, January 1, 2025) or reference point (*i.e.*, 5-years from MDNR approval).

Moreover, there is no evidence that MDNR examined or considered the long-term effect of a 22-year variance on the balanced, indigenous community of shellfish, fish and wildlife, endangered species, or the Missouri River itself. Instead, MDNR arbitrarily concluded "the river conditions (flow or invasive species elements) should not change significantly over the next 22 years."[9] As set forth below, Ameren's historical studies were deficient, and therefore provide a faulty basis for drawing conclusions about the future. Moreover, there is no evidence that Ameren studied or MDNR considered the effect of climate change on water temperature, water levels, or on the ecosystem of the Missouri River. Given the extreme length of the Proposed Variance, the failure to consider this factor undermines the entire demonstration.[10] Climate change must be considered to "assure the projection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife" in the Missouri River.[11] In truth, the safety of the Missouri River's inhabitants

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[3] CWA § 402(b)(1)(B), 33 U.S.C. § 1342(b)(1)(B).

[4] James Hanlon, Office of Wastewater Mgmt, U.S. EPA, *Memo: Implementation of Clean Water Act Section 316(a) Thermal Variances in NPDES Permits (Review of Existing Permits)* (Oct. 28, 2008) (citing 40 C.F.R. § 125.72, Note), *available at* https://www3.epa.gov/region1/npdes/merrimackstation/pdfs/ar/AR-338.pdf; U.S. EPA NPDES Permit Writers' Manual (EPA-833-K-10-001) at 111 (Sept. 2010), *available at* https://19january2017snapshot.epa.gov/npdes/npdes-permit-writers-manual-0_.html.

[5] Labadie_MO0004812_20200000_Var_ThermalVarianc.docx at 2 (on file with author).

[6] May 5, 2020 Draft of Proposed Variance at 2 (on file with author).

[7] May 5, 2020 Draft of Proposed Variance at 2 (on file with author).

[8] *Hammack v. Missouri Clean Water Comm'n*, 659 S.W.2d 595, 600 (Mo. Ct. App. 1983).

[9] Proposed Variance at 2.

[10] *See* U.S. EPA NPDES Permit Writers' Manual (EPA-833-K-10-001) at 111 (Sept. 2010), *available at* https://19january2017snapshot.epa.gov/npdes/npdes-permit-writers-manual-0_.html.

played no role in MNDR's choice of term limit. Instead, the only factor considered was the convenience of Ameren in relation to the Labadie Plant's useful life.[12]

MDNR's plan to "reevaluate the conditions of the alternate limit upon each permit renewal" does not cure the above failings, and is in itself deficient.[13] MDNR provides: no specific date for reevaluation (*i.e.*, within 5 years of variance approval); no explanation of what the reevaluation will entail; no promise of public notice or involvement in the evaluation process; and no explanation of what will occur if MDNR and Ameren fail to timely conduct this review. Instead, MDNR's reevaluation plan is a black box, with no defined conditions and no public accountability.

EPA recognized these issues and, during the review process, suggested that Ameren submit annual reports and data on the Thermal Discharge Parameter and temperature at the edge of the Required Mixing Zone when the variance is utilized.[14] These reports could provide data to determine whether the variance should be renewed.[15] Ameren agreed to prepare these reports. But, strangely, MDNR did not require them. The failure to properly incorporate EPA's request, even when Ameren acceded to the request, is arbitrary and capricious. And the lack of required data further muddles an already insufficient process for variance renewal.

The Proposed Variance invites abuse. Given Ameren's and MDNR's poor track record — including a 15-year period in which MDNR allowed the Labadie Plant to discharge super-heated water without permit or limitation — this is inexcusable. There must be a method to hold MDNR and Ameren to account. At the bare minimum, the Proposed Variance must: (i) terminate on a specific date no longer than five years from the time it is approved; (ii) consider the long-term effects of climate change; (iii) provide clear guidelines and standards; (iv) provide specific dates of reevaluation; (v) contain consequences for a failure to conduct a timely reevaluation; and (vi) specify the procedure for public notice and public involvement in the reevaluation process. Missouri's citizens demand and deserve transparency and accountability.

III. <u>The Form of the Variance Must Reflect An Hourly Average with An Annual Hours Limit.</u>

The water quality standard for temperature for the Missouri River is 90ºF.[16] The standard is not a daily, weekly, or monthly average. It is a maximum temperature that is not to be exceeded. The Proposed Variance, as drafted, does not properly account for this fact.

The Proposed Variance would allow the Labadie Plant to exceed its permit limit for the thermal discharge 22 days per year when the river flow is less than 40,000 cubic feet per second (cfs) or

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[11] CWA § 316(a), 33 U.S.C. §1335(a)

[12] Proposed Variance at 2.

[13] Proposed Variance at 2.

[14] Proposed Variance, Response to Agency Preliminary Comments at 37 (Cmts. from EPA Region VII, question 10).

[15] Proposed Variance, Response to Agency Preliminary Comments at 37 (Cmts. from EPA Region VII, question 10).

[16] 10 CSR 20-7.031(5)(D)1.

the ambient river temperature exceeds 87º F.[17] The Proposed Variance would calculate the river flow and ambient temperature using daily averages. This is flawed and will mask ambient water temperature short-term excursions above 87ºF. On days when the ambient river temperature exceeds 87ºF for only portions of the day, Ameren's thermal discharge would still cause the river to exceed its 90ºF limit. But if the average temperature remained below 87ºF for the 24-hour period, MDNR would ignore the violation and not count it towards one of Ameren's 22 allowed exceedance days. The Proposed Variance would effectively allow more exceedances of the temperature standard than the stated 22-day limit. MDNR cannot ignore exceedances simply because they last for less than 24-hours.

As an example, on July 11, 2020, the Missouri River's 24-hour average of ambient water temperature was 86.5ºF.[18] However, ambient hourly average temperatures were above 87ºF for the final 8 hours of the day. The Labadie Plant's thermal discharge likely caused the river to exceed its 90ºF limit for those 8 hours. And aquatic life was likely harmed during those 8 hours. But under the Proposed Variance, this day would not count as one of the 22 days triggering the variance conditions. MDNR is ignoring exceedances of the water quality standard.

Sierra Club suggests that MDNR base the thermal limit on hourly ambient water temperatures. This more accurate method would properly account for these periods of time when the ambient river temperature exceeds 87ºF and would be more protective of aquatic life. At a minimum, MDNR should restate the Proposed Variance in an hourly average with a total annual hours limit (528 hours). This is a common practice. In fact, Ameren's Sioux Energy Center and Meramec Energy Centers have NPDES permits that include annual hourly limits for their thermal discharges. Sioux's annual thermal limits for Outfall 001 are stated in Table A-2 and Note 4 which limit exceedances to no more than 438 hours annually.[19] Similarly, the Meramec plant's permit limits its thermal discharge to 87.6 hours per year.[20] MDNR's failure to provide similar protections to the Missouri River is arbitrary and capricious.

Sierra Club is not alone in this concern. EPA also supports establishing an annual hourly limit for the Proposed Variance. EPA expressed its concern about the 22-day form of the variance months ago stating: "basing the duration of the variance period on a percentage of days in the calendar year is imprecise and not the norm in other states or in existing MDNR permits."[21] MDNR had sufficient time to consider this concern and establish an appropriate form of the

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[17] Proposed Variance at 1-2.

[18] The data used to calculate the daily average temperature is from the USGS Gauge 06934500 at Hermann, MO available at https://waterdata.usgs.gov/usa/nwis/uv?site_no=06934500 .

[19] Ameren Missouri Sioux Energy Center, MO-0000353, Table A-2, p 5 and Note 4, p 12 (Apr. 1, 2017, as modified Apr. 1, 2019). Table A-2 shows the units of measure for the limit as hours/year. Note 4 states: "Temperature cap (designated as Tcap in Table A-2 of the permit) is the effluent temperature limitation applicable in the receiving stream at the edge of the thermal mixing zone. It may be exceeded for no more than 5% of the year (438 hours)."

[20] Ameren Missouri Meramec Energy Center, MO-0000361, Table A-2, p 5 and Note 4, p 7 (Jan. 1, 2018). Note 4 states: "Temperature cap (designated as Tcap in tables of the permit) is the effluent temperature limitation applicable in the receiving stream at the edge of the thermal mixing zone. It may be exceeded for no more than 1% of the year (87.6 hours)."

[21] Email from John Dunn, U.S. EPA, to Pam Hackler, MDNR (Mar. 9, 2020) (on file with author).

variance. Instead of considering the issue and coming to a reasoned conclusion, MDNR ignored its prior practice, ignored EPA's guidance, and ignored the practice of other states.

Given the lack of analysis by MDNR and blind acceptance of Ameren's variance request, MDNR should withdraw the Proposed Variance and reconsider the proposal.

IV. The Effluent Limit Lacks Sufficient Information To Allow for Public Comment or To Determine Ameren's Compliance.

A. The Form of the Proposed Effluent Limit Is Opaque, Inhibiting the Public's Ability To Determine if the Facility Is in Compliance.

The Proposed Variance calculates Ameren's compliance using a modeling equation and thermal discharge parameter (TDP) limit.[22] The TDP and associated calculation is confusing, preventing the public from understanding its terms and limiting permittee accountability.[23] Effluent limits should be directly relatable to the water quality standard, which in this case is a maximum value that is not to be exceeded and is expressed in degrees Fahrenheit. This form of measurement also happens to be one with which the public is familiar. The use of unnecessarily complex TDP calculations serves only to inhibit the public's ability to comprehend. As such, we restate our objection to the proposed form of the presumptive effluent limitation in the Proposed Variance.

A member of the public concerned with Ameren's thermal discharge will have no basis to understand what a TDP is or what a TDP limit of 0.95 means. Neither is recognizable — even to those familiar with NPDES permits and water pollution regulation. Prior to the 2015 renewal of the Labadie Plant's NPDES permit, MDNR employed straightforward formulas to calculate the thermal mixing zone and compliance with water quality standards. The pre-2015 permit's formulas were based on four readily available parameters: river temperature; effluent temperature; stream flow; and effluent flow. The simplicity of the formulas, coupled with the simple temperature difference calculation, allowed interested but non-expert members of the public to see whether the Labadie Plant is complying with its permit. By contrast, the formulas for calculating the TDP and the mixing zone are extremely complex and difficult to comprehend.

The TDP concept obscures the relationship between the river's water flow and temperature and the plant's effluent flow and temperature. In addition to the complexities associated with calculating the mixing zone as a percentage of river flow, determining whether Ameren is in compliance with its permit becomes more difficult with the expression of the discharge limit as a TDP. It is inappropriate to use this unknown "TDP" concept in lieu of the state's water quality standards. And it is inappropriate to require unnecessarily complex and confusing calculations to determine whether the Labadie Plant's thermal discharge is complying with its limits at the edge of the mixing zone. The effluent limit in the Proposed Variance virtually precludes the public from understanding the thermal discharge limits, let alone holding Ameren accountable for compliance with them.

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[22] Proposed Variance at 1-2.

[23] Sierra Club Comment Letter to MDNR on Draft Modification of NPDES Permit No. MO-0004812 at 8 (Apr. 10, 2017).

B. The Public Notice for the Proposed Variance Is Improper Because It Failed To Include Supporting Documentation for the Proposed TDP Effluent Limitation.

MDNR makes no attempt in the Proposed Variance to demonstrate the origin of the 0.95 TDP effluent limit or the formula on which the limit is based. The publicly noticed Proposed Variance contains neither the derivation of the TDP nor the modeling on which it is based, depriving the public of the opportunity to comment on the basis for the effluent limits in the Proposed Variance. Only a brief reference to TDP supporting documentation is to be found.[24] Nowhere does MDNR explain the derivation of the TDP, its underlying model, or its appropriateness in the context of the Proposed Variance. MDNR should withdraw the Proposed Variance due to the improper public notice.

C. The Proposed Variance Must Be Denied Because It Fails To Provide a Description of the Alternative Effluent Limit.

The overcomplicated nature of TDP and lack of supporting documentation are not the only significant problems with the alternate effluent limit. In fact, Ameren failed to provide — and MDNR failed to require — the underlying formulas for the calculation. The public can neither comment upon nor determine compliance with the effluent limit without specific information as to how it is calculated.

Federal regulations establish the basic requirements for a § 316(a) variance. The first requirement that an applicant must submit is "a description of the alternative effluent limitation requested."[25] The Proposed Variance identifies the requested alternative effluent limitation as 0.95 TDP when the river flow is less than 40,000 cfs or the ambient river temperature is greater than 87°F, with the thermal zone of influence never to exceed 40% of the river volume based on modeling.[26] The TDP can be exceeded 22 days per year. However, MDNR provides none of the underlying formulas. As such, the effluent limitation limit lacks the specific information needed to determine compliance, and therefore is wholly insufficient. The TDP is a concept derived by Ameren specifically for the thermal discharge at the Labadie Plant. No other wastewater discharges in the entire State of Missouri, including those from Ameren's three other power plants, utilize this concept. Thus, there are no outside sources from which to learn the underlying formulas. MDNR's failure to provide these underlying formulas renders the limit useless: a unitless concept without context. The Proposed Variance clearly does not provide adequate "description of the effluent limitation requested."[27] MDNR must withdraw the proposed variance because it violates federal regulations.

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[24] Labadie Energy Center § 316(a) Final Demonstration, ASA Analysis & Communication, Inc. at § 2.4 (Apr. 2020) ("Final Demonstration").

[25] 40 C.F.R. § 125.72(a)(1).

[26] Proposed Variance at 1-2.

[27] 40 C.F.R. § 125.72(a)(1).

V. **The Proposed Variance Unlawfully Failed To Consider the Cumulative Effects of Other Significant Impacts on Affected Species.**

Federal regulations require that any demonstration in support of a 316(a) variance must also consider cumulative impacts.

> This demonstration must show that the alternative effluent limitation desired by the discharger, *considering the cumulative impact of its thermal discharge together with all other significant impacts on the species affected*, will assure the protection and propagation of a balanced indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made.[28]

Ameren did not meet this requirement. The Proposed Variance and Final Demonstration do not provide an analysis of the cumulative impacts on the balanced indigenous population from sources other than the thermal discharge. Ameren did not even include the effect of its own cooling water intake structure, an obvious, related, and significant impact on the aquatic life in the vicinity of the Labadie Plant. As discussed further below, Labadie Plant's thermal discharge impacts the endangered pallid sturgeon. The cooling water intake also has the potential to adversely impact this endangered species. Impingement and entrainment of larval, juvenile, and adult pallid sturgeon threatens the recovery of the species.[29] Ameren's own impingement data from 2005–2006 show that 9 lake sturgeon and 11 shovelnose sturgeon were killed by impingement on the intake structure in just two sampling days over a two-year period.[30] Ameren estimated that 167 shovelnose sturgeon and 121 lake sturgeon are impinged annually by the plant's intake structure. However, the larval stage and juvenile shovelnose and pallid sturgeon are nearly identical, absent genetic review, and the species remain difficult to distinguish throughout their life cycles.[31] Ameren, however, failed to engage in sufficiently protective collection techniques or preserve the samples for genetic review.[32] One must therefore presume that some of the impinged "shovelnose sturgeon" were actually the endangered, pallid sturgeon.[33]

Pallid sturgeon embryos begin drifting downstream immediately after hatching, and may drift from 245-530 km during the initial 9 to 11 day post-hatch dispersal period.[34] This dispersal drive

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[28] 40 C.F.R. § 125.73(a) (emphasis added).

[29] *Revised Recovery Plan for the Pallid Sturgeon*, U.S. Fish and Wildlife Service at 29–31 (Jan. 2014).

[30] Updated NPDES Permit MO-0004812 Renewal Application, Index of Attachments, Table G1, p. 17 (Dec. 2011).

[31] D.E. Snyder, *Pallid and shovelnose sturgeon larvae – morphological description and identification*, 18:4-6 JOURNAL OF APPLIED ICHTHYOLOGY 240–65 (Dec. 2002); *How to identify sturgeon*, MDC, *available at* https://huntfish.mdc.mo.gov/fishing/species/shovelnose-sturgeon/shovelnose-sturgeon-identification.

[32] Email from Jane Ledwin, USFWS, to John Dunn, U.S. EPA, et al. (May 9, 2018) (on file with author).

[33] *See id.* (USFWS believes "take of pallid sturgeon may be occurring").

[34] P.J. Braaten, D.B. Fuller, L.D, Holte, R.D. Lott, W. Viste, T.F. Brandt, & R.G. Legare, *Drift Dynamics of Larval Pallid sturgeon and Shovelnose Sturgeon in a Natural Side Channel of the Upper Missouri River, Montana*, 28 NORTH AMERICAN JOURNAL OF FISHERIES MANAGEMENT at 808–26 (2008).

is innate in sturgeon and evolved by early life intervals to carry the sturgeons from the egg deposition site to a suitable rearing area. As a result of their long distance and duration drift and dispersal requirement, pallid sturgeon are particularly vulnerable in their early life stages and during ontogenetic development. As discussed in more detail below, larval pallid sturgeon drift in the main channel current until they are sufficiently developed to overcome the current. The main channel identified by the thalweg flows directly past the Labadie Plant's cooling water intake structure.

The Labadie Plant's cooling water intake structure draws over one billion gallons of water from the river every day. Thus, there is strong potential for larval pallid sturgeon to be entrained and killed in the cooling water intake structure. If they manage to survive the intake structure, their survival is then again threatened a bit downstream by the Labadie Plant's thermal discharge. The 2015 discovery of two larval pallid sturgeon in the lower Missouri River reinforces the threat that the Labadie Plant poses to the recovery of the species.[35] The Proposed Variance fails to consider the cumulative impacts of the cooling water intake structure and the thermal discharge on the pallid sturgeon as well as on other constituents of the balanced indigenous population of aquatic life, and therefore should be denied.

VI. <u>The 316(A) Final Demonstration Is Inadequate and Does Not Comply with Federal Guidance.</u>

A. Ameren failed to establish the list of Representative Important Species in consultation with the appropriate government agencies.

Ameren did not consult with agencies when developing the Representative Important Species ("RIS"), as required by Ameren's approved Study Plan.[36] Federal regulations require that any initial application for a section 316(a) variance shall include "such data and information as may be available to assist the Director in selecting the appropriate representative important species."[37] Ameren's failure to consult with MDNR on the list of RIS is a fatal flaw; the RIS form the basis for determining whether the Labadie Plant affects the balanced, indigenous population in the river. MDNR and the Missouri Department of Conservation ("MDC") noted this failure in their written comments on the initial Demonstration, yet Ameren did not address the concern.[38] Ameren admits that it failed to consult with the proper agencies. Instead of correcting its error by modifying the RIS, Ameren simply apologizes.[39] This, standing alone, should have caused MDNR to deny the variance request.

The failure to determine an appropriate list of RIS is not a mere administrative oversight. Instead, it sets the baseline "species which are representative, in terms of their biological needs,

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[35] See US Army Corps of Engineers press release at: https://www.nwk.usace.army.mil/Media/News-Releases/Article/560464/confirmed-collection-of-larvalpallid-sturgeon-on-the-missouri-river/

[36] Comments on the Labadie Energy Center § 316(a) Draft Demonstration, Comment 13 (Aug. 8, 2019).

[37] 40 C.F.R. § 125.72(d)

[38] Comments on the Labadie Energy Center §316(a) Draft Demonstration, Comments 24 and 43 (Aug. 8, 2019).

[39] Response to Agency Preliminary Comments on Labadie Energy Center §316(a) Draft Demonstration Study Report at 18.

of a balanced, indigenous community of shellfish, fish and wildlife in the body of water into which a discharge of heat is made."[40] The failure to select an appropriate list significantly affects the contour and outcome of the required aquatic life studies.

Ameren's final RIS included channel catfish, emerald shiner, gizzard shad, pallid sturgeon, walleye/sauger, and white crappie.[41] MDC noted that Ameren's RIS selection was deficient. As explained in its comments to the Proposed Variance, had MDC been consulted, it "would have recommended including commercial fish (bigmouth buffalo, etc.)."[42] Since MDC is the fish and wildlife management agency for Missouri, Ameren should have reconsidered the list of RIS. Instead, Ameren summarily dismissed inclusion of the bigmouth buffalo and failed to address MDC's concerns about other commercial species.[43] Based on the record, it appears that MDNR did not consult with MDC beyond the initial comments on the draft demonstration, and therefore never determined whether MDC accepted this response before approving Ameren's variance request.

Ameren's failure to establish a list of RIS in consultation with MDC and its failure to satisfy MDC's concerns regarding the lack of important commercial species are both fatal flaws. MDNR should deny the Proposed Variance.

B. Ameren's studies do not demonstrate that federal and state endangered species are protected.

Federal and state endangered fish species live in the Missouri River in the vicinity of the Labadie Plant and its thermal discharge. These species are threatened by the thermal discharge from the Labadie Plant.

1. <u>The federally endangered pallid sturgeon is at risk from the thermal discharge.</u>

The pallid sturgeon was listed as endangered in 1990.[44] Since that time, multiple government agencies spent significant resources studying this unique fish and developing recovery plans. The pallid sturgeon inhabits the lower Missouri River, including the segment flowing past the Labadie Plant.[45] Early life stages, especially the larval stage of the pallid sturgeon, are susceptible to impacts from the Labadie Plant.

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[40] 40 C.F.R. § 125.71(b).

[41] Final Demonstration, Executive Summary at IV.

[42] Comments on the Labadie Energy Center §316(a) Draft Demonstration, Comment 43 (Aug. 8, 2019).

[43] Response to Agency Preliminary Comments on Labadie Energy Center §316(a) Draft Demonstration Study Report at 29.

[44] U.S. Dept. of the Interior, Fish and Wildlife Service, Final Rule, Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Pallid Sturgeon, 55 Fed. Reg. 36641 (Sept. 6, 1990).

[45] Revised Recovery Plan for the Pallid Sturgeon, U.S. Fish and Wildlife Service at pp 3-4 (Jan. 2014).

Larval pallid sturgeon are typically 6-35 millimeters in length,[46] and drift in the river's current usually along the thalweg.[47] Larvae can drift for hundreds of kilometers over many days until they mature and become strong enough to swim out of the current.[48] Both the cooling water intake structure and the thermal discharge of the Labadie Plant can injure or kill larval stage pallid sturgeon. This constitutes the "taking" of an endangered species,[49] and is a violation of the federal Endangered Species Act as well as an indicator that a balanced indigenous population of aquatic life is not maintained due to the thermal discharge.

Field studies indicate that larval sturgeon originating in the lower Missouri River drift more than 589 kilometers during their larval phase, reaching as far as the Mississippi River.[50] During the drifting period, young sturgeon are highly vulnerable due to "decreased mobility and sensory ability," placing them at high risk for mortality.[51] Pallid sturgeon embryos undergo a relatively long period of drift which lasts approximately 11–17 days, a much longer timeframe than Shovelnose sturgeon.[52] It is only toward the end of this drift period that sturgeon begin to develop "[b]enthic orientation and feeding."[53] In 2012, the U.S. Geological Survey ("USGS") confirmed that larval sturgeon drift in the lower Missouri River.[54] USGS sampled the river near St. Charles, around river mile 33.3.[55] Sampling occurred over 65 days and larval sturgeon were collected in April, May, June, August and September.[56] These larval sturgeon drifted past the Labadie Plant. This study particularly demonstrates that pallid larvae are threatened by the thermal discharge.

Ameren's demonstration fails to adequately characterize the threat that the Labadie Plant's thermal discharge poses to larval pallid sturgeon. Despite including pallid sturgeon as a RIS, the study's methodology is defective. During 2017, Ameren's consultant collected a larval pallid sturgeon approximately 1 mile downstream from the plant.[57] Unfortunately, Ameren's consultant did not properly preserve the sample so genetic confirmation was not possible. However, U.S.

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[46] Ecological Requirements for Pallid Sturgeon Reproduction and Recruitment in the Missouri River—A Synthesis of Science, 2005 to 2012, U.S. Geological Service, Scientific Investigations Report 2015–5145, 2016, Appendix 7, Field Studies of Scaphirhynchus Sturgeon Embryo, Larvae, and Young-of-Year Dispersal, Distribution, and Habitat Use in the Lower Missouri River at 201.

[47] USGS Ecological Requirements, Appendix 7 at 198.

[48] Braaten P.J., D.B. Fuller, L.D, Holte, R.D. Lott, W. Viste, T.F. Brandt, R.G. Legare. *Drift Dynamics of Larval Pallid sturgeon and Shovelnose Sturgeon in a Natural Side Channel of the Upper Missouri River, Montana*, 28 NORTH AMERICAN JOURNAL OF FISHERIES MANAGEMENT at 808-26 (2008).

[49] 50 C.F.R. § 17.3.

[50] USGS Ecological Requirements at 89.

[51] USGS Ecological Requirements, Appendix 7, Field Studies of Scaphirhynchus Sturgeon Embryo, Larvae, and Young-of-Year Dispersal, Distribution, and Habitat Use in the Lower Missouri River at 198.

[52] USGS Ecological Requirements, Appendix 7 at 198.

[53] USGS Ecological Requirements, Appendix 7 at 198.

[54] USGS Ecological Requirements, Appendix 7.

[55] USGS Ecological Requirements, Appendix 7 at 198 and Figure 7-1.

[56] USGS Ecological Requirements, Appendix 7, at Table 7-2 through 7-8.

[57] Email from Jane Ledwin, USFWS, to John Dunn, U.S. EPA, & Pam Hackler, MDNR (May 9, 2018).

Fish & Wildlife Serves ("USFWS") indicated that they believe "take of pallid sturgeon may be occurring" and that the study should be modified to ensure that any future collections would be preserved for genetic testing.[58] Despite USFWS's findings that Ameren's study protocol was insufficient, there is no indication that Ameren corrected its study plan.

USFWS also provided comment on Ameren's Final Demonstration, indicating their ongoing concerns with the Proposed Variance and the underlying study. USFWS indicated that

> the Service continues to have concerns regarding the effectiveness of the sampling gear used by [Ameren's environmental consulting firm] to detect benthic species such as sturgeon, as described in our comments provided in March and April of 2020 on the draft CWA 316(a) variance request and the CWA 316(b) permit renewal for [the Labadie Plant].[59]

USFWS clearly raised issues regarding sampling and take of pallid sturgeon by the Labadie Plant several times, going back to 2018. Ameren had ample time to correct its sampling methods but instead chose to ignore the valid and significant concerns of the agency with specific expertise on the pallid sturgeon.

MDNR is aware of the sampling problems related to pallid sturgeon (and other benthic species). Ameren's failure to address USFWS's endangered species concerns is a major flaw in the demonstration. As a result, MDNR should deny the variance.

2. <u>Larval and juvenile pallid sturgeon are impacted by the Labadie Plant's thermal discharge.</u>

The Final Demonstration ignores the temperature impacts of the thermal discharge to larval and juvenile pallid sturgeon. As mentioned earlier, larval stage pallid sturgeon drift in the river's current usually along the thalweg. The thalweg passes directly in front of the Labadie Plant's cooling water intake structure and the thermal discharge canal. A drifting larval sturgeon is unable to avoid the thermal plume and would suffer adverse impacts. MDC raised this concern in their comments on the draft Demonstration, asking Ameren to "describe how pallid sturgeon larvae drifting in the thalweg/outside bend where Labadie discharges will be addressed."[60] Instead of responding, Ameren dismissed MDC's concern, stating: "Most drifting sturgeon larvae would not be exposed to the potentially lethal temperatures long enough to be affected, particularly during the high river flows and current velocities in the thalweg during their prime spawning months."[61] Ameren's response is dismissive despite the MDC's expertise in fish and

[58] Email from Jane Ledwin, USFWS, to John Dunn, U.S. EPA, & Pam Hackler, MDNR (May 9, 2018) (on file with author).

[59] Email from Valerie A. Hentges, USFWS, to Pam Hackler, MDNR (May 6, 2020) (on file with author).

[60] Comments on the Labadie Energy Center § 316(a) Draft Demonstration, Comment 41 (Aug. 8, 2019).

[61] Response to Agency Preliminary Comments on Labadie Energy Center § 316(a) Draft Demonstration Study Report at 28. Note that comment numbering is not consistent between this response to comments and the original

wildlife management. Ameren provides no evidence to refute MDC's concern. In fact, the predictive assessment notes: "These data indicate that there might be very short-term exceedances of both safe temperatures and UILT for larvae of this species."[62] This admission confirms the MDC's concern.

Ameren also fails to address studies demonstrating temperature impacts to juvenile sturgeon, such as those documented by Kappenman's 2009 study.[63] Juvenile shovelnose sturgeon were exposed to a range of temperatures from 46 – 86ºF to determine the effects of temperature on growth, condition, feed efficiency, and survival. Warmer temperatures were more beneficial, but temperatures above 79ºF demonstrated statistically higher mortality rates. Mortality for temperatures between 82 – 86ºF were approximately 10%. Though this model cannot accurately predict mortality for temperatures above 86°F (30°C), the data suggest that mortality rates would continue to increase. Furthermore, as Kappenman notes, even small increases in annual mortality can have huge impacts on the long-term survival and health of the shovelnose sturgeon population.[64]

Phelps conducted a comprehensive four-year study examining the effects of water temperature and river stage on the mortality, abundance, hatch timing, and growth rates of 1,256 age-0 sturgeon in the Middle Mississippi River. The study concluded that temperature played a key role in sturgeon survival, and similar optimal temperature ranges were discovered.[65] Total mortality of age-0 shovelnose sturgeon was lowest at 57 – 64°F, and the highest mortality occurred between 82 – 86°F. Mortality increased with the number of days during which water temperature exceeded 82°F.

The Final Demonstration's predictive assessment fails to address thermal impacts to the pallid sturgeon. Both USFWS and MDC have raised concerns. Ameren, despite lacking expertise on pallid sturgeon and without evidence, dismissed their concerns. Ameren's failure to address the agencies' concerns on endangered species is ample evidence that the Final Demonstration is fatally deficient. MDNR should deny the Proposed Variance.

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comment document. In this case Ameren's response is listed as a response to comment 39. The original comment document listed MDC's comment as comment 41.

[62] Final Demonstration at 6-25.

[63] Kevin M. Kappenman, William C. Fraser, Matt Toner, Jan Dean and Molly A. H. Webb, *Effect of Temperature on Growth, Condition, and Survival of Juvenile Shovelnose Sturgeon*, 138:4 TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY at 927–37 (2009).

[64] *Id.*

[65] Quinton E. Phelps, Sara J. Tripp, William D. Hintz, James E. Garvey, David P. Herzog, David E. Ostendorf, Joseph W. Ridings, Jason W. Crite, & Robert A. Hrabik, *Water Temperature and River Stage Influence Mortality and Abundance of Naturally Occurring Mississippi River Scaphirhynchus Sturgeon*, 30:3 NORTH AMERICAN JOURNAL OF FISHERIES MANAGEMENT at 767–75 (2010).

3. Ameren failed to address state endangered species in the Final Demonstration.

Missouri has two state-listed endangered fish species that inhabit the Missouri River near the Labadie Plant: the flathead chub and lake sturgeon.[66] Missouri regulations prohibit the taking of state endangered species.[67] And "[o]fficially listed 'threatened or endangered species' are automatically 'important'" and must be included as an RIS.[68] Given their endangered status, Ameren's Final Demonstration should have included the flathead chub and the lake sturgeon as RIS. Further, Ameren should have included detailed temperature impacts on the flathead chub and lake sturgeon in its prospective analysis. It did neither. MDNR recognized the importance of these two state endangered species, briefly noting in the Proposed Variance narrative that these two state endangered species exist in the river.[69] For whatever reason, MDNR made no further mention of them.

Lake sturgeon are threatened by the high temperature water discharged from the Labadie Plant. Studies on thermal sensitivity of lake sturgeon from embryonic stages indicate that egg incubation between the temperatures of 57 – 61°F results in the highest survival and uniform hatching.[70] Temperatures between 64 – 68°F may cause significant mortalities to embryonic sturgeon, and temperatures greater than 68°F are lethal. Temperature is an important determinant of successful development, growth, and survival during early life stages of lake sturgeon. Laboratory tests produced survival curves of lake sturgeon at various stages of embryonic development based on variable temperature; higher temperatures ranging from 68 – 72°F during embryonic cleavage and 64 – 68°F during embryonic organogenesis resulted in lower survival. Due to their status as a state endangered species and residence in the lower Missouri River in the vicinity of the Labadie Plant, Ameren must include the lake sturgeon and flathead chub as part of the RIS and must evaluate the Labadie Plant's impact on their survival.

EPA guidance clearly establishes that endangered species should be included in the RIS. Ameren failed to include both the lake sturgeon and the flathead chub. The failure to include these species demonstrates the inadequacies of the Final Demonstration and provides strong reason for MDNR to deny the Proposed Variance.

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[66] 3 CSR 10-4.111(3)(E).

[67] 3 CSR 10-4.111(1).

[68] Draft Interagency § 316(a) Technical Guidance Manual, U.S. EPA at 36 (May 1, 1977).

[69] Proposed Variance at 3.

[70] Y.L. Wang, F.P Binkowski, S.I Doroshov, *Effects of temperature on early development of white and lake sturgeon, Acipenser transmontanus and A. fulvescens*, 14 ENVIRONMENTAL BIOLOGY OF FISHES at 43–47 (1985).

C. The study demonstrates prior appreciable harm and does not support Ameren's conclusion that the thermal discharge is not harming the balanced, indigenous population of aquatic life near the Labadie Plant.

1. Ameren's fish collection data show decreases in number of fish both seasonally and by collection method.

Ameren collected and counted fish using a variety of collection methods. These methods included electrofishing, bag seine, Missouri trawl, and hoop net.[71] The collection data was broken down by season (winter, spring, summer, and fall) and by collection method.

Ameren's data indicate that during summer months, the number of individuals decreased substantially when comparing the upstream reference zone to the thermally exposed zone. Total individuals collected decreased from 9,150 individuals in the upstream zone to 7,104 in the thermally exposed zone.[72] Decreases in individuals by collection method occurred for electrofishing, Missouri trawl, and hoop net.[73] Ameren also provided winter collection data with some analysis, similar in form to the summer collection data. However, spring and fall data is not provided or analyzed. It is not clear if the spring and fall data is included with the summer or winter data. If not, this is a clear failure of the report to analyze relevant data, especially during spring months when many fish spawn.

Regardless, the substantial decrease in individuals collected in the thermally exposed zone demonstrates an adverse impact to the aquatic community by the Labadie Plant's thermal discharge. It is more troubling that the impacts are demonstrated during the summer months, exactly when Ameren anticipates needing the Proposed Variance. MDNR should deny the Proposed Variance based on these thermal impacts.

2. Ameren's fish collection data shows a shift in fish community due to the thermal discharge.

The fish collection data for "necessary food chain species" are summarized in a number of graphs and charts in section 5 of the Final Demonstration. Displayed but not discussed, the composition of the thermally exposed and downstream zones is significantly different from the upstream zone. Figure 5-18 shows the composition of the fisheries sampling results across all seasons, methods, and zones.[74] The graphs show an increase in rough fish species (which includes the invasive Asian carp species) from 1,530 in the upstream zone to 1,707 in the thermally impacted zone and 1,743 in the downstream zone. By contrast, game/commercial species decrease from 756 in the upstream zone to 695 in the thermally impacted zone and 692 in the downstream zone. Special species (which would include the endangered sturgeon) decrease from 71 in the upstream zone to 48 in the thermally exposed zone and 53 in the downstream

[71] Final Demonstration at 5-14.

[72] Final Demonstration Table 5-3.

[73] Final Demonstration Figure 5-12.

[74] Final Demonstration Figure 5-18.

zone.[75] This trend also holds true for forage fish species, which decrease from 6,700 in the upstream zone to 4,556 in the thermally exposed zone and 5,475 in the downstream zone.[76] These changes in community are significant and likely attributable to the thermal discharge. However, the Final Demonstration only mentions game/commercial species, ignoring these troubling trends for special or forage fish. It is also unclear how Ameren manages to conclude that a decrease in game/commercial species is not a change.[77]

An underlying concern with this section of Ameren's analysis is the "informally defined types" classification system it uses to segregate types of fish by "necessary food chain species."[78] No explanation for this system is provided, and the Final Demonstration does not state why these classifications are appropriate to use for fish community analysis. Even setting that aside, when using Ameren's organized by "necessary food chain species," the data demonstrate prior appreciable harm and impact on the fish community. MDNR should deny the Proposed Variance.

3. Ameren's overall weight of evidence analysis indicates degradation of the fish community in the thermally exposed zone.

The weight of evidence analysis examines the entirety of the study across all seasons and collection methods.[79] Using this aggregated data may mask impacts to certain species or categories of species, especially during specific seasons. The Proposed Variance effluent limits are seasonal in nature in that they are only likely to be invoke during the hottest months of year. Ignoring seasonality in a weight of evidence approach skews the results by smoothing the data. Despite this data manipulation, Ameren's weight of evidence analysis still must admit to "slight degradation" in the thermally exposed zone.[80] Ameren conveniently concludes that the "slight degradation" is "not likely biologically meaningful."[81] However, the distribution shift described merits further analysis rather than conclusory and dismissive statements. Again, Ameren fails to provide additional analysis to explain this "thermal degradation."

MDNR raised similar concerns with the weight of evidence analysis.[82] It does not appear that Ameren responded to this concern. Ameren's failure to respond to this comment raises significant concerns as to whether they *could* provide a satisfactory response, making its weight of evidence analysis suspect. Without this additional analysis, the weight of evidence analysis is incomplete. MDNR's decision to support approval of the Proposed Variance after Ameren

[75] Ameren includes sturgeon and paddlefish as "special" species on page 5-27. Ameren does not document what criteria was used for selecting "special" species.

[76] Final Demonstration Figure 5-18.

[77] Final Demonstration at 5-27.

[78] Final Demonstration at 5-27.

[79] Final Demonstration at 5-32.

[80] Final Demonstration at 5-34.

[81] Final Demonstration at 5-34.

[82] Comments on the Labadie Energy Center § 316(a) Draft Demonstration, Comment 10 (Aug. 8, 2019).

dismissed and failed to resolve its concerns is arbitrary and capricious. MDNR should deny the Proposed Variance.

4. The thermal discharge is impacting the macroinvertebrate community in the Missouri River.

The Final Demonstration presents and analyzes macroinvertebrate collection data.[83] Macroinvertebrates are an important part of a balanced, indigenous aquatic community. Macroinvertebrates drift in the river's current and inhabit the river's substrate. Ameren utilized two methods for collecting macroinvertebrates. Drifting macroinvertebrates were collected using Hester-Dendy (H-D) samplers, and benthic macroinvertebrates were collected using a Ponar dredge sampler. H-D sampling showed the total number of drifting macroinvertebrates consistently across all zones.[84] However, results from Ponar sampling showed a marked decrease in benthic macroinvertebrates, with 5,261 samples collected in the thermally exposed zone compared to 8,765 in the upstream zone.[85] The reduction in overall macroinvertebrate numbers in the thermally exposed zone indicates a thermal impact from the Labadie Plant. Not only did the Ponar sampling show decreased benthic macroinvertebrate numbers over the two-year period, each season showed a significant reduction as well.[86]

Ameren dismisses the reduction in benthic macroinvertebrates by speculating to "some disturbance" and makes no attempt to discern if the thermal discharge is actually the cause of the reduced population in the thermally exposed zone.[87] Further, the benthic macroinvertebrate densities were greatly reduce in the thermally impacted zone compared to the upstream and downstream zones during the spring, summer and fall seasons.[88] The largest difference in densities was during the summer season, when Ameren's proposed variance is likely to be invoked.[89] Ameren skims past this information, briefly noting only the reduction in density while offering no explanation, analysis, or consideration of whether the Labadie Plant's thermal discharge is causing the loss of macroinvertebrate density in the thermally impacted zone.

Breaking down the macroinvertebrate community, Ameren analyzed the collection data for Ephemeroptera, Plecoptera, and Trichoptera (EPT) species, which generally require good water quality and habitat.[90] The analysis indicates a reduction in the number of EPT in the thermally exposed zone compared to the upstream zone during all four seasons. While the number of species remained comparatively consistent, the total number of individual EPT collected using the Ponar dredge declined significantly across all seasons.[91] The fraction of heat-intolerant EPT

[83] Final Demonstration Section 5.4.2.

[84] Final Demonstration Table 5-7.

[85] Final Demonstration Table 5-7.

[86] Final Demonstration Figure 5-23.

[87] Final Demonstration at 5-42.

[88] Final Demonstration at 5-42

[89] Final Demonstration, Figure 5-24.

[90] Final Demonstration at 5-43.

[91] Final Demonstration, Figure 5-27.

as well as the overall number of heat-intolerant EPT decreased during the spring and summer seasons.[92] This decrease occurred for both Ponar and H-D sampling. Ameren does not directly discuss these decreases, focusing only on the data comparisons that support its desired conclusion. In so doing, Ameren transparently avoids the obvious impacts to EPT from the thermal discharge, twisting the data to manufacture a finding that the Labadie Plant does not negatively impact the aquatic community.

Ameren's overall weight of evidence analysis concludes that there is no impact on the macroinvertebrate community, despite evidence that Ponar dredge samples show a negative impact, particularly to EPT. Ameren appears to skew its analysis by shifting the method of calculating two EPT metrics, relying on biomass instead of the numbers used for all other metrics in the weight of evidence calculation.[93] The benthic macroinvertebrate community data clearly show prior appreciable harm and impact to the aquatic community in the thermally exposed zone. Based on this data, MDNR should deny the proposed variance.

5. Sampling retrospectively shows a reduction in fish over time.

In past years, Ameren conducted its sampling using the electrofishing method. Ameren then compares this historic electrofishing sampling data to the electrofishing data from its 2017-2018 study. The older sampling data cover the 1980-1985 and 1998-2002 timeframes. The data indicate a reduction in number of individuals collected and a reduction in mean number caught per 20 minutes of effort.[94] This reduction is apparent by simply comparing season to season data across the three data sets. This overall reduction also applies with heat intolerant and neutral species, which also trend downwards, especially when comparing historical summer collection data to the 2017-2018 study data.[95] These comparisons demonstrate an impact to the fish community and a shift in the ecological makeup of the river towards heat tolerant species. The impact to the aquatic community demonstrates that the thermal discharge caused prior appreciable harm and is preventing a balanced, indigenous community. Therefore, MDNR should deny the Proposed Variance.

VII. MDNR Failed To Obtain Concurrence from Other Agencies Reviewing the Final Demonstration.

MDNR and other agencies reviewed the draft demonstration and provided comments to Ameren. Ameren responded to some of the comments.[96] As noted above, MDC and USFWS have concerns about the Labadie Plant's impact on the endangered pallid sturgeon, and U.S. EPA has concerns about the form of the alternative effluent limit. Upon review of the Proposed Variance and MDNR's Sunshine Law responses (which purportedly provided all documents related to the Proposed Variance and Ameren's permit renewal application), there is no evidence that Ameren

[92] Final Demonstration, Figure 5-28 & Appendix B Table B-30.

[93] Final Demonstration at 5-49.

[94] Final Demonstration Appendix B Table B-35.

[95] Final Demonstration Appendix B Table B-38.

[96] Comments on the Labadie Energy Center §316(a) Draft Demonstration (8/8/2019).

resolved these concerns. If these agencies concerns are not resolved, MDNR should withdraw its support for the Proposed Variance.

VIII. The Labadie Plant's Thermal Discharge Will Increase Its Impact on the Aquatic Community in the Missouri River as Climate Change Increases River Temperatures.

Temperature significantly influences aquatic life. In fact, it "is the single most important environmental condition affecting the lives of organisms."[97] Climate change and human impacts that raise water temperature are of particular concern, since growth is more often sensitive to temperatures above optimum than below it.[98]

The Labadie Plant, as the largest coal-burning plant in Missouri, emits huge quantities of carbon dioxide (CO_2), making it a significant contributor to climate change. The Labadie Plant was the fourth-largest emitter of CO_2 in the entire country in 2019, emitting *over 15.5 million metric tons* of CO_2.[99] Ironically, Ameren complains that it cannot comply with the water quality standard for temperature because ambient river temperatures have risen too high: a problem Ameren itself helped to create through its CO_2 emissions. Rather than compounding environmental problems, Ameren should invest in solving them.

IX. Ameren Has Not Demonstrated, and MDNR Has Not Determined, that the Effluent Limitation Is More Stringent than Necessary.

Section 316(a) of the Clean Water Act requires that an applicant requesting a thermal discharge variance demonstrate to the satisfaction of MDNR

> that any effluent limitation proposed for the control of the thermal component of any discharge from such source will require effluent limitations more stringent than necessary to assure the projection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made.[100]

As set forth above, Ameren's demonstration is faulty. Various federal and state agencies noted many of these concerns during the variance drafting process. But instead of rectifying the problem and conducting appropriate analyses, Ameren dismissed the agencies' concerns. MDNR, for its part, allowed this to occur. Ameren's failure to rectify the flaws in its

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[97] E.T. Hester, M.W. Doyle, *Human Impacts to River Temperature and Their Effects on Biological Process: A Quantitative Synthesis,* 47:3 JOURNAL OF THE AMERICAN WATER RESOURCES ASSOCIATION at 571–87 (2011).

[98] *Id.*

[99] *Meet America's 10 Largest Emitters,* E&E News (May 11, 2020), *available at* https://www.eenews.net/climatewire/2020/05/11/stories/1063101975?utm_medium=email&utm_source=eenews%3Aclimatewire&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D.

[100] CWA § 316(a), 33 U.S.C. § 1326(a).

demonstrations prevents a finding that the 90ºF effluent limitations for the Missouri River are more stringent than necessary to protect the balanced, indigenous population.

X. MDNR Failed To Give the Public Sufficient Opportunity for Notice and Comment.

On June 22, 2020, Sierra Club made a reasonable request to extend the comment period by 60 days to allow the public sufficient time to be heard on this technically complex, 650-page draft variance. Sierra Club's request came during a nation-wide pandemic that has upended everyone's lives. Seven days later, MDNR denied the request, claiming the extension was unnecessary.[101] This decision was directly contrary to MDNR's position in 2015, when "the Department fe[lt] that a 60-day public notice is justified to allow interested parties ample time to provide comments" on the Labadie Plant's permit application.[102]

MDNR's only justification for this arbitrary and capricious denial was to note that Sierra Club had received, among other documents, a non-final draft of the Proposed Variance on June 4, 2020 in response to a May 18, 2020 Sunshine Request.[103] In fact, MDNR had not fully responded to the Sunshine Request, and was forced to provide over 250 additional documents on July 10, 2020. MDNR's incomplete Sunshine response to a single entity does not justify a refusal to provide the public with sufficient time to consider and comment upon the Proposed Variance.

Again, the country is in the middle of a global pandemic. Infection rates in St. Louis, the metropolitan area closest to the Labadie Plant, are rising at a frightening pace.[104] Yet MDNR — the same entity that allowed Ameren to operate for 15-years permit-free and took 7-days to respond to a simple extension request — thought the public only needed a month to consider and comment upon a 650-page, technically complex Proposed Variance.[105] This wrong-headed decision inhibited the public's ability to review and comment upon the Proposed Variance.

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[101] Email from Joel Reschly, Legal Counsel, MDNR, to Tara Rocque, Assistant Director, Interdisciplinary Envtl Clinic (June 29, 2020) (on file with author) ("Reschly Email").

[102] Letter from John Madras, Director of MDNR Water Protection Program to Maxine Lipeles, Co-Director of the Interdisciplinary Envtl. Clinic (Jan. 16. 2015) (on file with author).

[103] Reschly Email.

[104] Liz Essley Whyte, *White House IDs St. Louis as COVID-19 Trouble Spot in Private Briefing*, RIVERFRONT TIMES (July 22, 2020), *available at* https://www.riverfronttimes.com/newsblog/2020/07/22/white-house-ids-st-louis-as-covid-19-trouble-spot-in-private-briefing.

[105] MDNR ultimately was forced to extend the comment period to 37 days after Sierra Club pointed out that the comment deadline listed on MDNR's website was inconsistent with that listed in the Public Notice.

Sincerely,

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