

PMNorthAnna3COLPEmails Resource

From: Harry Ruth [HC.RUTH@LOUISA.NET]
Sent: Wednesday, December 12, 2007 10:00 AM
To: Christopher Cook
Cc: 'Tersh & Jean Norton'; 'Brian.Watson@dgif.virginia.gov'; 'George & Gerry Heino'; Francis Cameron; Michael Masnik; Alicia Williamson; 'Ken Remmers'
Subject: Re: Lake Anna concerns and forwarding of the PNNL report onLake Anna

Hi Chris,

1. If we interpreted your PNNL report correctly, it was produced prior to change of the 3rd reactor type from once-through-cooling to a combo wet/dry cooling tower and therefore may have to be recalculated using the net result of all three reactors operating and the reduction of an additional 12.5 million gallons per day from the lake caused by the evaporation of the combo wet/dry cooling towers. Please advise. .

2. In addition to the items I identified in my November 16 email, I overlooked the PCB concerns at the lake which may or may not be coming from the power plant. The Virginia state health commissioner issued a fish consumption advisory on August 31, 2007. The VDH advisory cautions: Do not eat any Lake Anna gizzard shad and do not eat more than two meals a month of carp, largemouth bass, striped bass, white perch, white catfish, channel catfish or blue gill sunfish. The health advisory applies to the total lake, both the main reservoir and cooling lagoons. Our understanding is that many (Lake Anna Civic Association and the Virginia Dept of Environmental Quality) have tried to find the source of the PCB's so they can be eliminated, but thus far have been unsuccessful and hence the reason for the fish advisory.

We further understand that in the late 1960's and/or early 1970's that there was a major fire at the North Anna Power plant construction site for the planned reactors at that time, where transformers, etc. were stored. Possibly some PCB's were leached into the soil, which eventually found their way into the lake or underground water systems in the area. The clean-up requirements at that time may not have been as stringent as those currently imposed. Possibly there are multiple sources. Do you have any information on that fire and what type of clean-up activities were imposed at that time? Does the NRC plan to investigate and determine the source of the PCB's in all of Lake Anna so the public can eat the fish in the lake?

3. We will look forward to a timely response. Thanks in advance for your help.

Sincerely,

Harry

----- Original Message -----

From: "Christopher Cook" <CBC1@nrc.gov>
To: "Harry Ruth" <HC.RUTH@LOUISA.NET>
Cc: "Alicia Williamson" <ARW1@nrc.gov>; "Michael Masnik" <MTM2@nrc.gov>
Sent: Tuesday, December 11, 2007 5:38 PM
Subject: Re: Lake Anna concerns and forwarding of the PNNL report onLake Anna

> Dear Mr. Ruth,
> I wanted to let you know that I received your email (and phone call
> today), and that we are working on a response. Part of the delay is a
> result of Mike Masnik not receiving your email. I have since forwarded
> your email to him - regrettably after some delay. Alicia Williamson,
> the COL Project Manager, is included on this email and should also be

> included on future email correspondence with us.
>
> The other part of the delay is due to the North Anna Combined
> Operating License (COL) being submitted to the NRC soon after your email arrived.
> We are currently in the process of reviewing the application for
> completeness and technical sufficiency. If you are interested in
> viewing the application, it is available on the NRC web site at
> <http://www.nrc.gov/reactors/new-licensing/col/north-anna.html> .

>
> Best regards,
> Chris

>>>> "Harry Ruth" <HC.RUTH@LOUISA.NET> 11/16/2007 1:16:28 PM >>>

> Hi Michael and Chris,
> Thanks for sending the report. We will look at the report and try
> to understand the equilibrium temperature you were referring to
>
> 1. Based on our conversation yesterday, it seems that you
> confirmed
> that with the planned Unit 3 (with a combination of wet/dry cooling)
> that the Lake Anna water level will decrease much faster at
> approximately
> 12.5
> million gallons per days due to evaporation, which will cause the
> overall water temperatures to increase at a more rapid rate. Logic
> says that if you are going to increase the average drought period from
> 21 to 40 days (most likely during the summer months) that the overall
> lake temperature will
>
> increase more rapidly and to a higher level then previously
> experienced.
>
> Can you with your Lake Model give a comparison of today's water levels
> and water temperatures during the summer months, versus the predicted
> water
>
> levels and water temperatures with Unit 3 operating recognizing that
> 99% of the water is re-circulated and gets hotter and hotter as the
> summer months progress ?
>
> 2. Can you also forward some basic data on the Clinton, Illinois
> nuclear plant that you referred to where their is recreation on the
> water and residential development around the lake. If I understood
> you correctly, the associated lake also re-circulates its heated water
> discharge.
>
> 3. Has the NRC invested into any type of research on how the "HEAT
>
> ENERGY" that is discharged into the nation's waters could be
> recaptured
>
> before the discharge and used in some beneficial manner to produce
> needed energy that can be used by human's to reduce the amount of
> dependency on foreign oil? At a recent meeting, I was told that the
> nuclear reactors are only about 30 to 35% efficient. If this is true

> it would appear that if the "HEAT Energy" at each of the nation's
 > nuclear power plants could be effectively utilized that it would solve
 > many problems, including adding much less heat to the nations waters
 > which in turn would mitigate many of
 > our concerns with humans, fish, mussels, aquatic life, etc. .
 >
 > 4. We would also like to re-emphasize our concern that Unit 3 was
 >
 > looked at during the ESP cycle as an independent unit, as opposed to
 > being a
 > new unit added to a plant that currently has 2 operating units. As we
 >
 > indicated yesterday, we request that you insure that the NRC, during
 > the COL phase, looks in depth at the totality of the environmental
 > impacts of Units 1, 2 and 3 and how the Unit 3 cooling methodology can
 > assist with mitigating the overall impacts currently being experienced
 > with Units 1 and 2.
 >
 > 5. Re the Clam/Mussel Survey requested by VA Dept of Game and
 > Inland Fisheries. Brian Watson (phone 434-525-7522 is the DGIF
 > Wildlife Diversity Biologist/Malacologist who requested a total Lake
 > Anna clam/mussel survey be conducted by a Virginia State certified
 > malacologist within the last 2 year time period. If you are aware of
 > such a survey, could you please forward a copy to Brian and myself.
 > Brian has identified that the Asian clam (*Corbicula fluminea*), Eastern
 > elliptio (*Elliptio complanata*), Paper pondshell (*Uterbackia*
 > *imbecillis*) and Eastern Floater (*Pyganodon*
 > *cataracta*)
 > are resident in Lake Anna. In addition, he is concerned over the
 > potential impacts of elevated water temperatures upon native
 > freshwater mussels and that other freshwater rare species mussels
 > (Yellow lampmussel-lampsills
 >
 > *cariosa*), (eastern lampmussel_ *lampsills radiata radiata*), Eastern
 > pondmussel-*liguimia nasuta*) and the (Tidewater mucket-*leptodea*
 > *ochracea*)
 > which are rare species may also be present in Lake Anna.
 >
 > 6. Re the *Naegleria Fowleri* (NF) (brain eating amoeba) study
 > being conducted by the Virginia Commonwealth University in Lake Anna..
 > The initial studies have confirmed that the NF amoeba is present at
 > the upper end of the lake above the 208 bridge in addition to various
 > other locations throughout the entire lake. We expect the study will
 > be completed within the next month and will forward a copy upon its
 > completion. As you are
 >
 > aware the NF amoeba is proliferated by water temperatures above the
 > mid-80's
 > (F) and our understanding is that the hotter the temperatures, the
 > more the amoeba will proliferate. This coupled with 99% of the water
 > being re-circulated within Lake Anna, coupled with the potential
 > hotter water
 >
 > temperatures due to increased drought rates with the 12.5 million
 > gallons per day of evaporation from Unit 3, coupled with the water
 > getting hotter faster, which inturn will last for a longer period of

> time in turn appears to provide the environment with overall hotter
> lake temperatures throughout which will enhance the NF population for
> a longer time. We measured
> 106 (F)
> at the end of the discharge canal last year. What is your forecast
> using you Unit 3 model and actual data recorded by the Lake Anna Civic
> Association for upper water temperatures we could experience in the
> future with Unit 3 operating?
>
> 7. We look forward to working with you in the future and sharing
> data.
> We are also reminded with the NRC mission statement "To protect the
> public health and safety, promote the common defense and security and
> protect the environment" and also the role that the NRC has with the
> National Environmental Policy Act (NEPA) for similar activities. We
> are hopeful that you will exercise the federal oversight that you have
> at your disposal with both your mission statement and the NEPA Act and
> not let politics sway your responsibilities to the U.S. public in
> protecting Lake Anna's environment (reducing water temperatures),
> while still regulating nuclear activities.
> We believe that both can be accomplished successfully using available
>
> technology. Thanks in advance for your help.

>
> Sincerely,

>
> Harry

> Harry Ruth
> for the Friends of Lake Anna
> C/O 230 Heather Drive, Bumpass, Va. 23024 Phone 540-872-3632

>
>
>
>
> ----- Original Message -----
> From: "Christopher Cook" <CBC1@nrc.gov>
> To: <hc.ruth@louisiana.net>
> Cc: "Alicia Williamson" <ARW1@nrc.gov>; "Michael Masnik"
> <MTM2@nrc.gov>;
> "Mark Thaggard" <MXT3@nrc.gov>
> Sent: Friday, November 16, 2007 7:42 AM
> Subject: PNNL report on Lake Anna

>
>> Dear Mr. Ruth,
>> Attached is the report I mentioned yesterday. The report was
> produced
>> in early 2005, when once-through Unit 3 cooling was still being
>> considered by Dominion. I think the report will still be of interest
> to
>> you, especially Section 2.3 which discusses equilibrium temperature.
>> The report also provides several additional references on the topic.
>>
>> Regards,

>> Chris

>>

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>> *****

>> Christopher B. Cook, Ph.D.

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Email Number: 153

Mail Envelope Properties (HC.RUTH@LOUISA.NET20071212095943)

Subject: Re: Lake Anna concerns and forwarding of the PNNL report onLake Anna
Sent Date: 12/12/2007 9:59:43 AM
Received Date: 12/12/2007 9:59:43 AM
From: Harry Ruth

Created By: HC.RUTH@LOUISA.NET

Recipients:

"Tersh & Jean Norton" <NORTONT@COMCAST.NET>
Tracking Status: None
"Brian.Watson@dgif.virginia.gov" <Brian.Watson@dgif.virginia.gov>
Tracking Status: None
"George & Gerry Heino" <Gmheino@earthlink.net>
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"Francis Cameron" <Francis.Cameron@nrc.gov>
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"Ken Remmers" <remmerskd@verizon.net>
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"Christopher Cook" <Christopher.Cook@nrc.gov>
Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	10914	12/12/2007 9:59:43 AM

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received: