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November 28, 2012

Deborah Markowitz, Secretary  
Vermont Agency of Natural Resources  
Center Building, 103 South Main Street  
Waterbury, Vermont 05671-0301  
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VIA ELECTRONIC MAIL & U.S. POSTAL SERVICE

Dear Secretary Markowitz:

The Connecticut River Watershed Council is deeply concerned about the persistent delay in the Vermont Agency of Natural Resources' (ANR's) issuance of Vermont Yankee's renewal National Pollutant Discharge Elimination System (NPDES) permit. Vermont Yankee is operating under a NPDES permit that is more than eleven years old and that expired more than six and a half years ago.

The purpose of this letter is to provide some basic assurances that ANR has both the legal authority and the technical information necessary to issue Vermont Yankee's renewal NPDES permit without a thermal variance at this time, contrary to the claims made by Entergy in its letter of October 16, 2012. Though we trust that ANR is well-informed in these matters, they bear some repeating in light of that letter.

In sum, it is a fundamental principle under the Clean Water Act that NPDES permits are to be renewed every five years, and that each renewal permit requires a new analysis. Also, it is abundantly clear that Entergy Vermont Yankee has not met its statutory burden to show that its discharges are not harming fish populations in the Connecticut River. In fact, there is evidence showing the opposite. Under these circumstances, ANR's failure to act has serious consequences for the integrity of the waters it is charged with protecting. We therefore respectfully urge ANR to *issue Vermont Yankee's renewal NPDES permit without further delay, limiting the thermal discharge to 1<sup>0</sup>F above ambient in accordance with Vermont's Water Quality Standards.*

**I. NPDES permits are to be renewed every five years, and each renewal permit requires a new analysis.**

As ANR is aware, the Clean Water Act prescribes that states issue NPDES permits for “fixed terms not exceeding five years.” 33 U.S.C. § 1342(b)(1)(B); *also* 40 C.F.R. § 122.46(a) (“NPDES permits shall be effective for a fixed term not to exceed five years.”). The law is replete with examples of this well-established principle. For example, notwithstanding regulations that allow for the continuation of expired permits through administrative extension, 40 CFR § 122.6(d), Vermont’s Environmental Court has thoughtfully and firmly embraced the importance of the five-year limitation. *In re Montpelier WWTF Discharge Permit*, No. 22-2-08, at 5 (Vt. Env. Ct., June 30, 2009) (holding in relevant part that State’s automatic adoption of old Total Maximum Daily Load (TMDL) limit as water quality-based limit in NPDES permit “violate[d] the statutory five-year limitation on NPDES permits”). The Court explained that the five-year limitation is necessary to advance the Clean Water Act’s goal of eliminating pollution:

In line with the goal of eliminating all discharges of pollutants into navigable waters, 33 U.S.C. 1342(b)(1)(B) requires that each NPDES permit expire within five years of its issuance. As one scholar has noted, it is important to keep in mind that NPDES permits “were to be issued for just five-year terms, and businesses were to adopt new technology in the transition time *to eliminate their discharges*” in that five-year period. Mary Christina Wood, *Nature’s Trust: Reclaiming an Environmental Discourse*, 25 Va. Env’tl. L.J. 243, 253 (2007) (emphasis added) (internal citation to 33 U.S.C. § 1342(b)(1)(B) omitted); see also *Nw. Env’tl. Advocates v. EPA*, No. C 03-05760 SI, 2006 WL 2669042, at \*12 (N.D. Cal. Sept. 18, 2006) (“[T]he requirement that NPDES permits last only five years serves *to ensure that permits evolve* to reflect advances in technology.” (emphasis added)), *aff’d*, 537 F.3d 1006 (9th Cir. 2008). But see *Natural Res. Def. Council v. N.Y. State Dep’t of Env’tl. Cons.*, 864 N.Y.S.2d 486,488 (N.Y. App. Div. 2008) (holding without discussion that an expedited “administrative renewal” of a permit did not violate the requirement that permits must be renewed every five years).

*Id.* at 9-10 (internal footnote omitted).

In addition to noting the importance of the time limitation itself, the Court expounded upon the obvious premise that NPDES permit limitations must actually be reviewed and analyzed every five years; they do not exist in perpetuity:

ANRs interpretation, when taken to its logical conclusion, would allow the terms of every subsequent effluent discharge permit to mirror any available maximum wasteload allocation in a TMDL for decades into the future. *Such a process would render ANR’s responsibilities to be limited to a ministerial act, to be completed every five years when a permit came up for renewal, whereby ANR would issue each successive permit with the exact same effluent limitations as the previous permit.* As a result, although ANR’s duties are undoubtedly much simpler under this type of process, it leads to the five-year limitation on NPDES

permits becoming superfluous. We are reminded here of another court's observation that "[w]hile perhaps the [agency] acts with good intentions, its policy arguments must fail in the face of clear statutory language." *Cape Hatteras Access Pres. Alliance v. U.S. Dep't of Interior*, 344 F. Supp. 2d 108, 123 (D.D.C. 2004). *Here, the statute is quite clear that no permit--or permit limitation--can last more than five years without some further review and analysis.* See 33 U.S.C. 5 1342(b)(1)(B). In light of this statutory directive, we are compelled to vacate the permit at issue in these proceedings.

*Id.* at 13 (emphases added).

The Environmental Court made similar observations more than once in its earlier decision on the Vermont Yankee case, explicitly referencing the then-upcoming renewal process:

[I]n each successive five-year renewal permit proceeding, the burden is on the applicant to show that the operation of the facility qualifies for the requested discharge, including, if applicable, the special analysis under § 316(a) to allow thermal discharges . . . .

The renewal permit proceeding takes account of whether the proposed or continued operation of the discharging source will comply with all applicable standards and requirements, including any changes to those requirements that had been put in place during the term of the prior expiring permit. Vermont Water Pollution Control Permit Regulations, §13.5(b)(2)(c). . . .

[I]t is beyond the scope of the present proceeding for the Court to consider any amendment of the summer thermal discharge already allowed to be discharged by the unappealed existing expired permit, or whether any other aspects of the Vermont Yankee thermal regime are working well or should be changed — such issues will be for the ANR to consider in the first instance in its work on the pending renewal permit application.

*In re Entergy Nuclear/Vermont Yankee Thermal Discharge Permit Amendment*, No. 89-4-06, at 4, 6 (Vt. Env. Ct., May 22, 2008).

State and federal regulations echo these requirements. *See, e.g.*, 40 C.F.R. §§ 122.44, 124.7, 124.8 (each permit issuance requires analysis and explanation of how proposed terms will comply with CWA); Vt. Water Pollution Control Permit Regulations § 13.5(b)(2)(c) (requiring the "scope and manner of any review of an application for reissuance of a permit [to] insure at least" that the discharge is "consistent with applicable effluent standards and limitations" and "water quality standards"). *See also* 10 V.S.A. § 1263(e) ("A renewal permit shall be issued following all determinations and procedures required for initial permit application.").

Additionally, the Environmental Protection Agency's (EPA's) NPDES Permit Writers' Manual explicitly states that "[o]nce a variance is granted, the discharger must still reapply for the variance each permit term." EPA, *NPDES Permit Writers' Manual (NPDES Manual)* 5-43 (2010). Likewise, the Preamble to § 316(a) regulatory revisions confirmed that an agency could

indeed “require a full demonstration for a renewal in cases where [it] has reason to believe that circumstances have changed, that the initial variance may have been improperly granted, or that some adjustment in the terms of the initial variance may be warranted.” NPDES Revision of Regulations, 44 Fed. Reg. 32,854, 32,894 (June 7, 1979).<sup>1</sup>

Further, a permitting agency need not wait until a permit’s five-year term is expired in order to either make improvements to the permit or to terminate it; and the agency also has authority to deny a renewal permit. 40 C.F.R. §§ 122.62-.64 (citing numerous grounds for modification, revocation and reissuance, or termination of NPDES permits, and denial of renewal permit). Along those lines, each NPDES permit issued in Vermont must contain conditions sufficient to ensure that the permit “*may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to,*” various causes. Vt. Water Pollution Control Permit Regulations § 13.4(e)(2) (emphasis added). *See also id.* § 13.8 (“any permit issued hereunder can be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to,” various causes). Coupled with this flexibility is the agency’s authority to require more information from the permittee whenever necessary to make relevant determinations. *See* 40 C.F.R. § 122.41(h) (“The permittee shall furnish to the [agency], within a reasonable time, any information which the [agency] may request to determine whether cause exists for modifying, revoking and reissuing, or terminating th[e] permit or to determine compliance with th[e] permit. The permittee shall also furnish to the [agency] upon request, copies of records required to be kept by th[e] permit.”); Vt. Water Pollution Control Regulations §§ 13.4(e)(3), 13.6(c)-(d) (similar). As such, both state and federal law recognize that permits must be adaptable to new information and changing circumstances if they are to be effective in protecting water quality.

These authorities reflect the fundamental purposes and requirements of the Clean Water Act. They demonstrate that ANR has not only the authority, but also the obligation, to conduct a review and analysis of any or all relevant information *at least* once every five years for any given NPDES permit. Then, the NPDES permit may be revised or revoked accordingly. Any other interpretation of the Act is quite simply insupportable.<sup>2</sup>

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<sup>1</sup> In its letter of October 16, 2012, Entergy suggests that 40 C.F.R. § 125.72(c) requires an agency to either request additional 316(a) information within 60 days of a 316(a) permit application, or forever forfeit its right to request or use such information in making permit determinations. Letter from Elise Zoli (Goodwin Procter for Entergy) to Deborah Markowitz, Secretary, Vermont ANR, at 4 (Oct. 16, 2012). As discussed above, this proposition falls under the weight of CWA authority. Further, by its terms, § 125.72 applies to the “[e]arly screening of applications for section 316(a) variances.” It does not contain actual “criteria” or “standards” for “the *determination* of alternative effluent limitations.” *See* 40 C.F.R. § 125.73 (emphasis added). Finally, from a practical perspective, it would be arbitrary for the agency to rely solely upon scientific information that is already more than seven years old, even if that information were “requested” within 60 days of Entergy’s 2005 renewal application.

<sup>2</sup> As explained by ANR in its letter of June 20, 2011, the authorities cited by Entergy to the contrary are neither applicable nor convincing. Letter from Deb Markowitz, Secretary, Vermont ANR, to Laura Murphy (ENRLC for CRWC) and Elise Zoli (Goodwin Procter for Entergy) (June 20, 2011).

## **II. Evidence shows that Entergy has not assured the protection and propagation of aquatic species in the Connecticut River.**

In addition to the legal authorities described above, ANR has ample on-the-ground technical information that mandates new thermal limitations as soon as possible. The test is simple: if a polluter does not prove that its thermal discharge will assure the propagation and protection of a balanced, indigenous population of aquatic species, then that polluter is not entitled to discharge heat above applicable limits – in this case, the Vermont Water Quality Standards. *See* 33 U.S.C. § 1326(a). Described below are a few of the most recent of the numerous public records and documents that have accumulated over the years showing that *Entergy has not met this burden*. They include statements from state and federal experts, as well as admissions from ANR and Entergy itself.

Entergy Letter to CRASC. In an October 4, 2012 letter to the Connecticut River Atlantic Salmon Commission (CRASC) - in which it pled with the Commission to “defer” finalizing a letter raising concerns about Vermont Yankee - Entergy stated that “a hydrothermal model of the river section is required to assess the relative influence of [thermal discharges and the natural world] in determining the River’s thermal structure.” Letter from Lynn Dewald, Entergy, to CRASC, at 2 (Oct. 4, 2012). Entergy continued: “[A] comprehensive hydrothermal model of the river section is required to simulate both the River’s natural heating and cooling cycles (diel and longer) and the Vermont Yankee thermal discharge plume to determine the relative importance of each in determining the River’s thermal structure. Without a fully developed hydrothermal model, we cannot know whether temperatures measured in the River are attributable to anthropogenic sources, such as Vermont Yankee, or the sun.” *Id.* at 3.

Put differently, Entergy is saying that no such model currently exists. As a result, it is impossible for Entergy to assert that its discharge assures the protection and propagation of fish species in the Connecticut River. We note that, on this point, Entergy agrees with our analysis that its record for supporting a thermal variance is fundamentally deficient given the absence of a comprehensive hydrothermal model.

Additionally, recent data from the United States Fish and Wildlife Service suggest that it is not in fact the sun causing water temperatures to rise within Vernon Pool (below). Even if it were, this would in no way alleviate Entergy’s responsibility to protect fish species from its heated discharges. Rather, if the sun is heating the River, then that reality leaves even less room for Entergy to heat the River. The Clean Water Act does not give industry a “sun allowance” when it heats a water body over natural temperatures. Instead, the Act is very clear - an industry must prove that its discharge will assure the protection and propagation of aquatic species and it must take into account “all other significant impacts on the species affected.” *See* 33 U.S.C. § 1326(a); 40 C.F.R. § 127.73(a). One such “significant impact” could be global climate change, and the NPDES Permit Writers’ Manual specifically calls for its consideration in the evaluation of 316(a) variances:

### **Climate Change Considerations**

Evaluation of requests for variances under CWA section 316(a) requires consideration of the change to the ambient water temperature because of an

effluent discharge. The studies provided by applicants to support their requests frequently include historical thermal data for the receiving water. Permitting authorities should be aware that the effects of global climate change could alter the thermal profile of some receiving waters making the historical record of thermal conditions less representative of future conditions. Where appropriate, water quality models should take these potential changes into account.

*NPDES Manual* at 5-43.

USFWS Letter to ANR. Kenneth Sprankle, the Connecticut River Coordinator for the United States Fish and Wildlife Service (USFWS), documented numerous concerns and uncertainties regarding Vermont Yankee's thermal discharge in a March 2012 letter to ANR. Letter from Kenneth Sprankle, USFWS, to Deborah Markowitz, Secretary, Vermont ANR (March 16, 2012). The letter referenced several recent studies coming to the well-known conclusion that "[r]iver water temperature is one of the single greatest cues and physical variables to influence fish behavior, physiology, migration, movement, feeding, growth, maturation, spawning, egg and larval development, resilience to pathogens (stress), and survival." *See id.* at 1 (citations omitted). It then raised concerns with the migratory windows in Vermont Yankee's current expired permit. For example, the plant is allowed to discharge excess heat during the annual smolt run (when salmon smolts migrate downstream), from April 1 until the plant reduces its heated discharge on May 16, which may negatively impact survival rates. *Id.* at 2. Though the Environmental Advisory Committee has been requesting smolt studies for more than five years, Vermont Yankee's delay has been "ongoing," and USFWS advised: "Until results on an agency approved study(ies) are completed, the 13.4F increase should not be permitted during the smolt passage period as it leaves many important unanswered questions . . . ." *Id.* Juvenile shad and herring face similar challenges, with Entergy discharging high heat during a good portion of the outmigration season. *Id.* at 6. Of this, USFWS stated that "[t]he Service has seen no evaluations of how juvenile shad and blueback herring outmigration may be impacted in the immediate vicinity of the heated discharge as well as downstream in the artificially warmed river." *Id.* Additionally, high temperatures at the tailrace (base of Vernon Dam) raise serious negative implications for adult upstream migration. *Id.* at 3.

Mr. Sprankle also discussed telling data from a 2011 Shad Movement Study (Sprankle & Castro-Santos) in which 40 radio-tagged shad passed Turners Falls but none passed Vernon; 36 of these fish had come within at least .4 mile of Vernon Dam and many had spent more than a week there. *Id.* at 3-4. USFWS temperature data for the same time period showed elevated temperatures in Vernon Pool. *Id.* at 4.

The letter also explained that a comparison of USFWS temperature readers while Vermont Yankee was offline and online showed that there was "no appreciable increase to water temperature" between the upstream reference site and Vernon Dam during the offline period (indicating that the sun is not responsible for heating within Vernon Pool). *Id.* at 5. It went on to raise concerns about the actual temperature of Vermont Yankee's discharge (which Vermont Yankee has said it does not monitor) in relation to the River and the risks of "heat shock." *Id.*

Then, it highlighted the need to consider population resilience when so many diadromous fishes are suffering dramatic declines “with identified threats including warm water discharges and climate change.” *Id.* at 7 (citation omitted). Of particular concern are the endangered or troubled species of the Connecticut, including American shad, blueback herring, American eel, Atlantic salmon, and shortnose sturgeon. *Id.* Finally, in light of these stressors and the threat of climate change, USFWS suggested “closed cycle cooling” as a “measure that would help buffer the anticipated increase in Connecticut River water temperatures due to climate change.” *Id.*

In essence, this letter raised serious unanswered questions about Vermont Yankee’s thermal discharge during each period of plant operation – smolt outmigration, adult shad upmigration, juvenile shad outmigration, and “winter.” It also described a study in which Vermont Yankee’s discharge was a potential cause of failed adult shad passage at Vernon Dam. These facts show that Vermont Yankee has not met its burden to prove its discharge will not harm fish species in the River.

Given all of these very valid concerns and a dearth of information to rebut them, the proper regulatory approach is to issue a permit denying the thermal variance. *See id.* at 2 (recommending no heated discharge *until* studies on smolt outmigration suggest otherwise).

Public Service Board Testimony. On October 22, 2012, several witnesses for the State submitted pre-filed testimony to the Public Service Board in Vermont Yankee’s Certificate of Public Good proceeding. As described below, the testimony identified serious gaps in the information needed for a thermal variance and raised concerns about Vermont Yankee’s effects on fish populations. In addition, the testimony sponsored and relied upon expert reports commissioned by CRWC, which were previously submitted to ANR.<sup>3</sup>

*Kenneth M. Cox (ANR witness)*

Ken Cox, an ANR Fisheries Biologist working on Vermont Yankee’s permit, sponsored Mr. Sprankle’s letter and testified that it was “a good summary of the concerns related to fisheries.” Prefiled Testimony of Kenneth M. Cox, Docket No. 7862, at 3 (Vt. Pub. Serv. Bd. Oct. 22, 2012). He stated that he agreed with “the concerns that Mr. Sprankle has raised regarding the impacts of temperature on the behavior and physiology of fish.” *Id.* He continued:

The letter identifies important gaps in information regarding the impacts of [Vermont Yankee’s] thermal discharge. I share the concerns of Mr. Sprankle and other members of the EAC [Environmental Advisory Committee] regarding the lack of information defining the full extent and characteristics of [Vermont Yankee’s] thermal plume and the potential impacts of the thermal plume on Atlantic salmon smolts . . . and adult and juvenile American shad.

*Id.* at 3-4.

Mr. Cox explained the bases for his concerns as including uncertainty about the mixing and extent of the plume and its particular effects on sensitive life stages of diadromous species,

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<sup>3</sup> As this letter should make clear, we stand by the conclusions of those reports notwithstanding Entergy’s claims of October 16<sup>th</sup>.

“set[ting] the stage for significant impacts on the biological needs of fish.” *Id.* at 6. He explained that the extent of the thermal plume was troubling because two previous assessments had “indicate[d] temperature increases ha[d] been observed as far as 58 miles downstream in the vicinity of Holyoke Dam under certain river flows and [Vermont Yankee] operating conditions.” *Id.* at 7. He stated that “winter period” discharges (13.4°F increase) may “compromise survival” because they overlap with migration periods of both shad and salmon, and may also affect blueback herring. *Id.* at 9-12. He also noted habitat degradation concerns regarding the federally endangered shortnose sturgeon. *Id.* at 13. Finally, he testified that there could be “potentially significant impacts” associated with Vermont Yankee’s cooling water intake structure. *Id.* at 14.

Mr. Cox also identified numerous instances in which Entergy had delayed – and continues to delay – in providing information to ANR:

The Agency and the EAC have raised these concerns to [Vermont Yankee] going back a[t] least as far as 2004, and the Agency has requested [Vermont Yankee] conduct studies to assess thermal impacts on salmon smolts and shad adults and juveniles. Additionally, the Agency requested that [Vermont Yankee] determine the full extent and character of its thermal plume. To date no substantive data or results have been provided to the Agency pertaining to any of these requests.

*Id.* at 6-7. *See also id.* at 8 (referencing delay in implementation of 2008 study plan to assess thermal plume) and 13 (noting that concerns about juvenile shad outmigration had not been addressed by Connecticut River studies).

*Marcia Greenblatt (Dep’t of Public Service witness)*

Marcia Greenblatt, a Water Resources Engineer with the group Integral Consulting, Inc. also sponsored Mr. Sprankle’s letter, as well as the two HydroAnalysis reports commissioned by CRWC. Prefiled Testimony of Marcia Greenblatt, Docket No. 7862 (Vt. Pub. Serv. Bd. Oct. 22, 2012). She testified that there was insufficient evidence to conclude that Vermont Yankee was not adversely affecting the Connecticut River. *Id.* at 16-17. She stated: “There is substantial uncertainty surrounding the impacts of thermal discharge from [Vermont Yankee]. My evaluation identifies concerns with the applicability and the protectiveness of the thermal discharge limits currently regulating [Vermont Yankee].” *Id.* at 17.

In particular, Dr. Greenblatt testified to the limitations of Equation 1.1 (the equation in Vermont Yankee’s NPDES permit which is used to determine compliance with temperature limits) and stated that the “actual contributions of the thermal discharges from [Vermont Yankee] may be greater than the values calculated by Equation 1.1.” *Id.* at 6-8. For example, she noted that the USFWS temperature data referenced in Mr. Sprankle’s letter showed that “temperatures were generally higher after passing through the Vernon Dam and [Vermont Yankee] while [Vermont Yankee] was in operation.” *Id.* at 9-10 (also noting that “a graphical review of these data during this time period suggests they behave reasonably and as expected”). Further, because Entergy’s 2004 hydrothermal model did not extend to the downstream monitoring station, the model did not “show compliance with the NPDES permit.” *Id.* at 11.



Dr. Greenblatt also explained, as HydroAnalysis had, that Entergy's 2004 hydrothermal model suffered from important flaws, including a failure to apply time-varying scenarios, a failure to assess the extent of the plume, and a failure to assess any temperature increase in combination with prior increases. *Id.* at 12-15. She continued: "Without [an evaluation of downstream impacts], it cannot be determined if the increased limits in the existing permit are protective of the communities downstream." *Id.* at 15. She concluded that the evidence she had reviewed did not convince her that Vermont Yankee's discharges were not adversely affecting the aquatic ecosystem, and noted as particularly concerning elevated temperatures at the downstream monitoring station and in the fish ladder. *Id.* at 15-16.

*John Samuelian (Dep't of Public Service witness)*

John Samuelian, Senior Managing Scientist at Integral Consulting, Inc. sponsored Mr. Sprankle's letter, the Midwest Biodiversity Institute (MBI) report commissioned by CRWC, and several scientific studies on American shad and anadromous species. Prefiled Testimony of John Samuelian, Docket No. 7862 (Vt. Pub. Serv. Bd. Oct. 22, 2012). Dr. Samuelian summarized the concerns raised in Mr. Sprankle's letter and the conclusions of the scientific studies. *Id.* at 4-11. He recommended: examining Vermont Yankee's plume during spawning and migration periods to determine whether the plume is adversely affecting fish, including adverse, compounded effects that may reduce iteroparity (multiple spawning over the course a lifetime); considering the Castro-Santos and Letcher (2010) model to help assess impacts on shad, including additional model scenarios or refinements, and; examining the thermal gradient of Vermont Yankee's plume to assess impacts on shad during sensitive life stages. *Id.* at 9-11. He also noted that MBI's thermal tolerance metrics should be used to help assess impacts to fish species. *Id.* at 11-12.

In sum, he found that the information he reviewed was insufficient to support a conclusion that Vermont Yankee would not adversely affect the River:

[B]ased on the concerns raised by the USFWS, there are too many unknowns to conclude that thermal discharges are not negatively affecting fish in the Connecticut River. Recent studies and peer-reviewed articles raise serious questions concerning whether the heated effluent discharged from [Vermont Yankee] is causing adverse impacts on species in the Connecticut River. In particular, there are substantial concerns about thermal discharges that coincide with sensitive life stages (e.g., spawning runs, egg hatching, larval development) of representative species. Moreover, there is a lack of scientific information on winter ecology applicable to this reach of the Connecticut River and additional concern about the compounding effect of climate change. In summary, there is significant uncertainty surrounding the impacts of [Vermont Yankee's] thermal discharge on fish species, and Entergy has not provided sufficient information or data analyses to allow me to conclude that [Vermont Yankee] is not adversely affecting fish species in the Connecticut River.

*Id.* at 12.

ANR Letter to Entergy. In an October 19, 2012 letter to Entergy, ANR requested numerous pieces of extensive information from Entergy in relation to both 316(a) and 316(b) analyses. Letter from Justin Johnson, ANR, to Lynn DeWald, Entergy (Oct. 19, 2012). Relative to 316(a), the agency requested: a study proposal for American shad (which studies were requested in 2006), supplemental materials related to a salmon smolt study, the complete raw time series temperature data set collected for Entergy's 2004 hydrothermal model, and all raw temperature data collected by Vermont Yankee from 1967 to present. *Id.* at 3-5.

The agency admitted that “[t]he effects of the Entergy thermal discharge on American shad migrations and seasonal residency in vicinity of Vernon dam and downstream have not been adequately investigated.” *Id.* at 3-4. The agency also admitted that, in order to “fully evaluate the renewal permit application,” it would need to “reexamine[e] Entergy’s hydrothermal model and the calculations for determining compliance with the thermal discharge permit.” *Id.* at 5.

Given this and other ANR statements that the record is deficient with regard to supporting a thermal variance, it is perplexing that Entergy is allowed to continue operating under its expired and outdated permit.

### **III. Conclusion**

Taken separately or together, the above-described documents support no other conclusion than this: there is insufficient information to find that Entergy’s discharge is not harming fish populations in the River.

This conclusion alone requires the agency to deny Entergy’s thermal variance. *See* 33 U.S.C. § 1326(a); 40 C.F.R. § 125.73(a) (agency may only grant variance where permittee demonstrates that applicable standards are more stringent than necessary to protect balanced, indigenous population of aquatic species and that alternate limitations will do so). *See also In re Entergy Nuclear/Vermont Yankee Thermal Discharge Permit Amendment*, No. 89-4-06, at 4 (Vt. Env. Ct. 2008) (“[I]n each successive five-year renewal permit proceeding, the burden is on the applicant to show that the operation of the facility qualifies for the requested discharge, including, if applicable, the special analysis under § 316(a) to allow thermal discharges.”); *In re Dominion Energy Brayton Point, L.L.C.*, 12 E.A.D. 490, 2006 WL 3361084, at \*45 (EAB 2006) (“the statute and regulations clearly impose the burden of proving that the section 301 thermal effluent limitations are too stringent on the discharger seeking the variance, not on the Agency. The discharger likewise has the burden of demonstrating that its proposed alternate effluent limitations are sufficient[ly stringent] . . .”). This requirement is all the more urgent where there is evidence that the discharge is in fact harming fish.

In sum, the existing data are sufficient for ANR to conduct a meaningful analysis and to issue Vermont Yankee’s renewal permit. The Clean Water Act is clear that a permitting agency may not allow thermal pollution unless and until specific minimum standards are met, and they have not been met here.<sup>4</sup>

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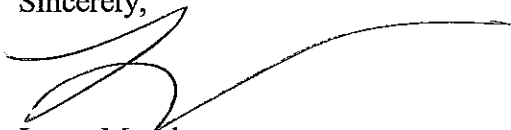
<sup>4</sup> We also maintain that ANR has sufficient information to issue the renewal permit at this time requiring closed-cycle cooling under § 316(b). As stated in our 2011 Permit Petition:

ANR has been demanding § 316(a) information from Entergy since at least 2004, and those demands have not produced results. *See, e.g.,* Kenneth Cox, Memorandum (July 9, 2004); Letter from Brian Kooiker, ANR, to Lynn DeWald, Entergy (March 31, 1006); Letter from Kenneth M. Cox, ANR, to Lynn DeWald, Entergy (June 7, 2010); Letter from Justin Johnson, ANR, to Lynn DeWald, Entergy (April 26, 2011).


Entergy's delay in producing information to the agency should not operate as a license for it to continue polluting the River. This seriously undermines the purposes, goals, and requirements of the Clean Water Act. Meanwhile, Connecticut River fish populations struggle to survive. Vermont Yankee's renewal NPDES permit should be issued without further delay, limiting the discharge to 1°F above ambient consistent with Vermont Water Quality Standards.

Thank you for your consideration, and we look forward to your response.

Sincerely,



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David Deen River Steward

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Unless and until ANR is able to determine that technology other than closed-cycle cooling is the best available for minimizing adverse environmental impact, ANR should require closed-cycle cooling. Not only does ANR have the authority to do so as described above, but closed-cycle cooling has already been approved by EPA as BTA for Phase I (new) CWIS facilities, by at least two neighboring agencies as BTA for several existing nuclear facilities, and by at least one state as BTA statewide; it would therefore satisfy the BTA test. Closed-cycle cooling is even more appropriate where, as here, cooling towers have already been constructed and operated. Thus, even if ANR were to consider costs in making its BTA determination – which it need not – closed-cycle cooling would surely qualify as BTA for the Vermont Yankee facility (which has existing cooling towers) as it has for other facilities (which require new construction).

CRWC, *Petition to the Vermont ANR 9-10* (Feb. 17, 2011) (summarizing arguments).