BEFORE THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

CONSTELLATION ENERGY GENERATION, LLC 1310 Point Street Baltimore, MD 21231	FERC Project No. P-405 MDE WSA Application No. 17-WQC-02

SUPPLEMENTAL REPLY SUBMISSION OF CONSTELLATION ENERGY GENERATION, LLC IN SUPPORT OF PETITION FOR RECONSIDERATION AND ADMINISTRATIVE APPEAL

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EXECUTIVE SUMMARY

I. Introduction

The Maryland Department of the Environment had strong reasons to revise its water quality certification for Conowingo in 2018 upon hearing the arguments of both parties for reconsideration then—and the science and factual foundation for revising the certification is only stronger now. The threats facing the Bay cannot be traced to Conowingo; they are caused by the entire watershed—which is why, as Governor Moore recently emphasized, Bay cleanup is difficult. Removing Conowingo—as MDE's 2018 certification would do, because the facility could not operate under those conditions—would simply eliminate Maryland's largest source of renewable energy, handcuffing the State's critical efforts to reduce greenhouse gas emissions and fight climate change, which presents a far greater threat to the Bay than Conowingo.

Waterkeepers' submission fails to provide justification for their positions that MDE should not only maintain the 2018 Certification, but impose yet more obligations, and find that the settlement conditions MDE entered were insufficient to protect Maryland's water quality standards. Waterkeepers rely heavily on inflammatory rhetoric, and selectively ignore the conclusions of the very studies they cite, which *refute* that rhetoric. Scientific studies of the Bay show that the amount of sediment "scoured" during high flow events is a small and comparatively insignificant percentage of the amount of sediment flushed from the entire watershed. Studies also show that the scoured material is *less* harmful than it originally would have been, because Conowingo Reservoir traps the nutrients associated with the sediment for a period of time, which causes the material to break down and become less bioreactive (and therefore less harmful) before it reaches the Bay. And studies further show that when scour does occur from the Reservoir, new room is created to trap sediment once again; over time, no more sediment flows *out* of the Reservoir than flows *in*. And in any event, as Constellation has shown, Conowingo cannot be held

responsible for, or have its operations conditioned because of, the effects of upstream pollution it did not introduce into the water.

There is no basis for Waterkeepers to disparage the settlement Maryland entered with Constellation, which arose from Maryland state court mediation procedures. It is disingenuous for Waterkeepers to laud MDE's 2018 Certification as the quintessential authority on which it relies, while criticizing that the same agency, after fully hearing from Waterkeepers and Constellation on reconsideration, freely chose to enter the comprehensive settlement with Constellation. The fact that parties, with their own priorities, later filed comments opposing the settlement does not mean that it was not appropriate or fair. Having already received and considered comments on Conowingo's § 401 application, and having fully heard Waterkeepers' petition for reconsideration, MDE was under no obligation to consult further with Waterkeepers on the specifics of the settlement. The settlement also was fully enforceable by MDE, and MDE never had—and therefore did not lose, as Waterkeepers contend—rights to impose unilateral changes on Conowingo's future operations. Waterkeepers could have sought to challenge the settlement in state court as exceeding MDE's authority or otherwise unlawful as it now contends, but it chose not to do so.

The issue presently before MDE on reconsideration is to determine what conditions are necessary under § 401 of the CWA—and, as part of that assessment, whether the settlement conditions MDE negotiated are sufficient to satisfy the requirements of § 401. Through its submissions on reconsideration, Constellation has provided scientific and other information demonstrating, on the merits, that the 2018 Certification cannot be sustained, and that the settlement conditions *exceed* what is necessary under § 401. MDE's issuance of a revised certification in accord with that information would preserve the settlement conditions, including

the significant payments Constellation contractually agreed to make under the settlement (which MDE could not impose in a § 401 certification). Maryland thus can both issue a revised § 401 certification and at the same time preserve the settlement with all its benefits.

Waterkeepers' submission presents MDE a stark choice: it is Waterkeepers' position, without any science-based support, that MDE must impose *more* obligations on Conowingo than even the 2018 Certification imposed. That path would lead only to the elimination of Conowingo and critical amounts of renewable generation, which would harm the Bay far more than anything attributable to Conowingo. Instead, MDE should issue a merits-based decision consistent with science and fact, and thereby preserve the payments and other benefits of the settlement.

II. Waterkeepers Misstate the Permissible Scope of MDE's Instant Reconsideration Process, Under Which MDE Is Obligated to Consider *All* Relevant Information, Including New and Current Information Arising After MDE's 2018 Certification.

Waterkeepers make several procedural arguments in an effort to prevent MDE from reconsidering the 2018 Certification, from making a decision on the merits including current scientific and factual information, and from even considering most of Constellation's arguments and the commitments Constellation made in its settlement with MDE. Waterkeepers' procedural arguments are wrong and misstate the scope of MDE's reconsideration process.

Waterkeepers contend that an agency may reconsider a final decision it has made only where there is fraud, mistake, surprise or inadvertence—which Waterkeepers contend is not present here—and that MDE therefore *cannot* reconsider the 2018 Certification, and also cannot consider new and current information. Whether or not a state agency is *ever* so constrained as Waterkeepers suggest, Waterkeepers' purported rule does not apply here on its own terms, because MDE has not yet issued a final decision as a matter of MDE's own regulation and Maryland state administrative law. Under its own regulation, MDE has inserted a "reconsideration" process *before* it issues a final decision as a matter of state law. MDE's administrative process for a § 401

certification provides for an initial notice of MDE's action, followed by further reconsideration by MDE if requested by an aggrieved party, followed further by a *de novo* evidentiary "contested case" hearing under Maryland's state administrative law provisions. Only then, after all those procedures, will MDE issue a "final decision" as a matter of state law.

No authority limits MDE's interim "reconsideration" process as Waterkeepers suggest, and Waterkeepers cite none. Indeed, case law is clear that the "contested case" process that MDE has not yet even reached is *de novo*, and MDE remains free—indeed obligated—to consider *all* evidence that is presented regarding its § 401 certification decision, including new and current information that arises *after* MDE's initial 2018 certification action.

The fact that MDE has not yet issued a final decision as a matter of state law, and remains obligated to consider *all* relevant information (including new and current information), was made clear when Constellation challenged the 2018 Certification in state court. MDE itself argued that the 2018 Certification was *not* the agency's "ultimate decision," and that "the conditions within the Certification could change" as a result of further administrative proceedings before MDE, including the instant reconsideration process. And the Maryland Circuit Court agreed, finding that the 2018 Certification *was not a final decision*, thus rendering inapplicable on their own terms the rules that Waterkeepers purport to invoke here.

Waterkeepers are disingenuous in suggesting that a narrow standard applies here, which does not permit MDE to consider new and current information. Waterkeepers themselves sought reconsideration of MDE's certification decision in 2018 and expressly petitioned MDE *to conduct further analyses and consider new evidence*.

Finally, Constellation *expressly* raised *all* of the issues it is advocating for MDE to reconsider in Constellation's 2018 Petition for Reconsideration—but even beyond that, MDE also

has the power to expand the issues it may reconsider in any event. MDE's regulation, and Maryland state law, thus establish the precise *opposite* of what Waterkeepers contend. At the present stage of these proceedings, MDE is obligated to consider all relevant information, including new and current information, so that the agency's "ultimate decision" will satisfy Maryland's Administrative Procedure Act, which requires that the decision be supported by competent, material, and substantial evidence in light of the entire record as a whole, that it be within the agency's statutory authority and jurisdiction, and that it be free from arbitrary and capricious reasoning and errors of law.

III. Waterkeepers Also Misstate the Applicable Legal Standard Under § 401.

Waterkeepers also mischaracterize the applicable legal standard under § 401. Most significantly, Waterkeepers fail to grapple with the fact that the text of the Clean Water Act, regulations promulgated by both the EPA and MDE, and relevant case law make clear that the focus of a § 401 certification is whether the discharge or activity of a licensee will *cause* violations of water quality standards, and that MDE may not impose onerous conditions relating to the "discharge of pollutants" that Conowingo itself does not introduce into the waterway. Additionally, while § 401 requires certification that "any discharge into the navigable waters" from a federally licensed project "will comply" with applicable water quality standards, recent EPA statements make clear that this standard does *not* require "absolute certainty that applicants for a federal license or permit will never violate water quality requirements." Finally, Waterkeepers err in suggesting that MDE may impose conditions on a § 401 certification that seek to restore the Susquehanna River to the state it was in before the Conowingo Dam was built in 1928. Maryland's antidegradation policy protects *existing* uses and, as a North Carolina appellate court explained when rejecting a similar challenge to a § 401 certification, it would be "absurd" to "require the

[certifying] agency to compare the water quality to the state it was in the early 1900s prior to the dam's construction."

IV. There Remains No Substantial Evidence to Sustain the Nutrient Obligations of the 2018 Certification.

There remains no valid evidence supporting the 2018 Certification's extraordinary requirement that Conowingo annually remove 6.0 million pounds of nitrogen and 0.26 million pounds of phosphorous from the Susquehanna River. Viewed most charitably, in their supplemental submission, Waterkeepers collect earlier, self-serving statements by MDE that lack any scientific basis. Waterkeepers also spend considerable effort blaming Constellation for not dredging the Reservoir—an action that has never been required of Conowingo; would have required extensive permitting that was never granted; and is not even considered today to be a best management practice.

Although Waterkeepers acknowledge the Conowingo WIP, they sidestep the fact that the Chesapeake Bay Program assigned the incremental nutrient reductions identified in the TMDL Mid-Point Assessment *to the Susquehanna Watershed states*, not to Conowingo. Notably, in advancing their argument, Waterkeepers admit their true vision of the link between the Dam and the Conowingo WIP—that Constellation should "shoulder its fair share of the costs of cleaning up the pollution…." That mirrors Secretary Grumbles' own testimony to the General Assembly that the 2018 Certification would help "the Commonwealth of Pennsylvania to step up its game, in part with [Constellation] dollars, to reduce runoff upstream."

Waterkeepers further contend that climate change is exacerbating the challenges of Bay restoration. Constellation agrees. However, as a large source of clean, dispatchable power, Conowingo is one of the most important weapons in Maryland's arsenal *against* climate change. To the extent that climate change is affecting the Bay, such as through increased runoff, those

effects are not caused by Conowingo. Waterkeepers tout scour from the Reservoir during storms as a possible connection, but, as Constellation showed in its supplemental submission, recent scientific evidence has confirmed scour does not harm water quality.

V. There Is No Legal Basis Under § 401 or Maryland's Water Quality Standards to Justify Conditions Relating to Fish, Eels, Mussels and Oysters Beyond the Conditions in the DOI and MDE Settlements.

Waterkeepers exaggerate Conowingo's legal obligations to restore fish, eel, mussel, and oyster populations, which have been negatively impacted by multiple ecosystem factors unrelated to Conowingo's operation. The agency best equipped to determine Conowingo's obligations to aquatic populations is the agency that was tasked by Congress with prescribing fishways for hydropower licenses: the Department of the Interior ("DOI"). The 2016 DOI settlement, which was adopted with small modifications in the 2019 MDE settlement, ensures that Conowingo takes appropriate actions to aid in the restoration of aquatic populations to the extent allowed by law.

In the two settlement agreements, Constellation made numerous commitments to improve shad, herring, eel, mussel, and oyster populations. Among other things, Constellation agreed to spend $300 million to design and construct new fish and eel passage facilities, to "trap and truck" fish all the way past four dams on the Susquehanna River, to commit to 85% downstream passage efficiency for adult eels, to provide $150,000 for a basin-wide study of eel migration, to pay $1.0 million to MDNR for eel research, to donate land to Maryland for a mussel hatchery, and to spend upwards of $15 million (adjusted for inflation) over the life of license for mussel restoration, which will also benefit oysters. Conowingo alone cannot change overfishing, migration patterns, and watershed-wide pollution impacts, but it has accepted obligations to make concrete changes that will improve population counts and mitigate risks that hydroelectric facilities pose to fisheries. There is no basis under § 401 or Maryland's water quality standards for MDE to require more than DOI determined to be appropriate, as further modified by the MDE settlement.

VI. There Is No Legal Basis Under § 401 or Maryland's Water Quality Standards to Justify Re-Adopting TNC's Proposed Flow Regime.

Finally, there is no basis for Waterkeepers' objections to the significantly revised flow regime in the MDE settlement that Conowingo has agreed to follow, or for Waterkeepers' request that MDE re-adopt elements of a flow regime proposed by The Nature Conservancy. Constellation already has addressed flow regime issues at length in its opening supplemental submission. TNC's flow regime proposal was analyzed at length by FERC senior staff and by consultants with decades of experience in fisheries biology. Those experts found that TNC's proposed flow regime would provide only *minimal* habitat improvements for some species of fish during certain life stages, while being harmful for others. FERC concluded that certain changes in Conowingo's proposed flow regime nevertheless were appropriate, based on TNC's submissions and habitat targets. But FERC's scientists concluded, on the merits of the environmental issues alone, that further flow regime changes were not warranted. Despite this fact, as Constellation has previously described, the company agreed with MDE to make numerous additional changes to the Project's flow regime that will provide further protection for fish habitats.

Further changes, producing even more modest enhancements of fish habitats, are not warranted—and would come at a considerable cost. One, because of the confluence of other hydroelectric projects upstream of Conowingo that impact the flow of water coming *into* Conowingo Reservoir, there is no reasonable way for Conowingo to implement the TNC proposal with regard to flows coming *out* of the Reservoir. Two, and partly as a result of the challenges presented by upstream inflows into the Reservoir, adoption of the TNC flow regime would cause a significant reduction in the amounts of renewable energy generated by the two hydroelectric projects (Conowingo and the Muddy Run Pumped Storage Project) that are dependent on the water in Conowingo Reservoir. Under present conditions and for the foreseeable future, this reduction

in renewable generation would be replaced by *fossil-fuel* generation. In other words, MDE must compare what are at most very minor expansions of fish habitats for certain species of fish at certain life stages, with a direct transference of a significant amount of renewable generation for fossil-based generation, with corresponding direct effects on greenhouse gas emissions, climate change, and water quality. Constellation has computed that at the standard conversion measure, adoption of the TNC flow regime would cause losses in renewable generation equivalent to an additional 33,419 metric tons of greenhouse gas emissions in 2024, and 37,066 metric tons of greenhouse gas emissions in 2029.

These effects are not only environmental (in terms of the impact on greenhouse gas emissions and climate change), but also socioeconomic. The loss of megawatt-hours resulting from flow regime changes at Conowingo not only will lead to more fossil-fuel generation, but also to more *expensive* generation, which will have a direct impact on Maryland residents and businesses. Energy costs also are regressive, with more significant impacts on lower income and minority communities. An expert analysis prepared in 2012 computed that loss of Conowingo and Muddy Run could cause retail energy costs in Maryland to rise by as much as 3% or more. The analysis would need to be updated, but the nature of the impact would not change. For purposes here, the principal point is that there is a direct relation between the *minimal* benefit of the TNC flow regime for *some* fish species, and *increased* electricity costs for all Maryland residents and businesses, wholly apart from the additional negative impacts on climate change and water quality.

VII. Conclusion

Substantial information has been presented through these supplemental submissions. When examined openly and honestly, the conditions in the court-orchestrated settlement between Maryland and Constellation provide ample assurance, on the merits, that Conowingo's operations will not violate Maryland's water quality standards—while, at the same time, those operations will

lead to a critical reduction in greenhouse gas emissions, mitigation of the harmful effects of climate change, and reduced energy costs for Maryland residents and businesses. In addition, the MDE settlement provides millions of dollars that Maryland can use to advance meaningful Bay restoration activities—payments that Maryland cannot require in a § 401 certification. On the merits of the environmental issues, Constellation urges MDE to issue a revised § 401 certification that is consistent with the obligations in the MDE settlement and that will preserve that settlement with all of its benefits for the State and its residents.

ARGUMENT[1]

I. Waterkeepers' Framing of Issues Is Wrong, Unsustainable Under § 401, and Contrary to the Goal of Restoring the Water Quality of the Bay.

A. The Bay's Water Quality Problems Will Not Be Solved by Inflammatory False Claims.

Waterkeepers repeat MDE's earlier inflammatory claim that Conowingo "is like a loaded cannon pointing at the Bay."[2] The statement was false when first made in 2018, and it remains false today. MDE had strong reasons to revise its water quality certification for Conowingo in 2018 upon hearing the arguments of both parties for reconsideration, and the science and factual foundation for revising the certification is only stronger now.

The science relating to the impact of Conowingo on the water quality of the Bay is neither complicated nor disputed. For decades, Conowingo Dam served to *trap* large amounts of the nutrient pollution deposited throughout the Susquehanna River watershed, saving the Bay from a significant percentage of the harm aimed at it from upstream and allowing it to degrade in place behind the Dam. This was an unintended consequence of the hydroelectric project. Contrary to another false assertion of Waterkeepers, Conowingo Reservoir is *not* a "stormwater management project," and Constellation has never had an obligation (nor did it have the permits required) to dredge the Reservoir. Over time, Conowingo Reservoir effectively reached a point of dynamic equilibrium, meaning only that over long periods the *same* amount ("equilibrium") of sediment that flows *into* the Reservoir, flows *out* of it. Despite the sediment dynamic equilibrium,

[1] In making this reply submission as authorized by MDE, Constellation also expressly reserves the right to respond to any new information set forth by Waterkeepers in their reply submission, and to response to any material information included in the public comments MDE has solicited, and as set out in its May 25, 2018 Protective Petition, Constellation reserves the right to supplement and amend these grounds for reconsideration.

[2] Waterkeepers Supplemental Submission ("Supp.") 2, 5, 21.

Conowingo continues to provide a valuable benefit regarding nutrient pollution, which Waterkeepers completely ignore.

Waterkeepers suggest that Conowingo has been collecting harmful pollution over decades of time, which it will release to the Bay all at once as "scour" during a high flow event, causing irreversible damage to the Bay. But Waterkeepers selectively quote from key studies that prove just the opposite, ignoring the conclusions of the very studies they cite. First, studies show that the amount of sediment "scoured" during high flow events is a small and relatively insignificant percentage of the amount of the sediment that is flushed from the entire 27,510-square mile Susquehanna River watershed during high-flow events. Second, studies show that the scoured material is less harmful than it originally would have been, because the Reservoir traps the nutrients associated with the sediment for a period of time, which causes the material to break down and become less bioreactive before it ultimately reaches the Bay. As a result, the "scoured" nutrients that wind up in the Bay have become significantly less harmful. Third, studies show that when scour does occur from the Reservoir, new room is created in the Reservoir for Conowingo to trap additional sediment once again. In sum, "dynamic equilibrium" simply means that, over longer periods of time, the same amount of sediment that flows *into* the Reservoir will flow *out*. Conowingo does not add to the pollution; it simply is less effective in stopping sediment and pollution from reaching the Bay. And sediment scoured from Conowingo Reservoir is not materially additive to, and in fact less harmful than, the larger amount of sediment flowing from the Susquehanna River basin during a high flow event. As a result, even if scour events were to become more frequent, a material impact on the Bay has not been demonstrated by the science or the record before MDE.

Significantly, the studies referenced above are by the University of Maryland Center for Environmental Science and other respected Bay scientists, specifically examining the effects of Conowingo—not some unrelated studies of uncertain applicability. It speaks volumes that Waterkeepers selectively cite a small portion of the 2019 UMCES study they find helpful (that the scour threshold has likely lowered over time), while totally *ignoring* the fundamental conclusions of that same study (that Conowingo scour events are not materially harmful, for the reasons outlined above). And as stated above, even the assumption of "more scour" at lower thresholds is flawed: More scour creates more trapping capacity, and, at the end of the day, no more flows *out* of Conowingo Reservoir than flows *in*. Conowingo simply does not create nutrient pollution. The undeniable reality is that it all comes from upstream, and it will continue to come from upstream and to flow into the Bay unless remediation occurs upstream.

The threats facing the Bay cannot be traced to Conowingo; they are caused by the entire 27,510 square-mile watershed. That is why Bay cleanup is difficult, as Governor Moore recently emphasized, relying heavily on a May 2023 progress report of leading Bay scientists, which did not conclude that Conowingo was either the problem or the solution for the Bay. Removing Conowingo—as MDE's 2018 certification would do, because the facility could not operate under those conditions—would simply eliminate Maryland's largest source of renewable energy, handcuffing the State's critical efforts to reduce greenhouse gas emissions and fight climate change, which presents a far greater threat to the Bay than Conowingo.

Waterkeepers also complain about trash and debris that is carried through Conowingo's floodgates during high flow events. Again, *every single piece* of that trash and debris comes from upstream; Conowingo adds none of it. Waterkeepers falsely suggest that all of the trash and debris that adversely impacts the Bay accumulates behind Conowingo. That is incorrect. The

overwhelming amount of the trash and debris that flows into the Bay comes from upstream. Nevertheless, Conowingo has agreed with Maryland to significantly increase the measures it takes to remove the trash and debris that collects behind the Dam, even though Conowingo is not responsible for any of it. Indeed, so far to date in 2023, Conowingo has removed 775 dumpster loads (20 cubic yard-capacity) of trash and debris from behind the Dam—even though its settlement with MDE requires Conowingo to remove a minimum of 50 and a maximum of 450 dumpster loads of debris. The bottom line is that Conowingo is part of the solution, not the problem.

Complicated problems require honest discussion and honest, fact-based answers. And honest answers rarely come easy. It is not easy to change agricultural practices or take other nutrient reduction measures in Pennsylvania, where studies show more than 90% of the Susquehanna River watershed nutrients originate, and which does not share Maryland's priority for the Chesapeake Bay. Indeed, it is not easy to change agricultural practices in Maryland, either. Constellation has chosen to *be* a Maryland-based company, and it has agreed to work with the State to enhance aquatic habitats and take concrete measures to improve the water quality of the Bay. It is time to put false rhetoric aside. Nothing is gained through claims that have no basis in fact or science, or that fly in the face of the applicable law. Such an approach will lead to nothing more than years of litigation that not only contributes nothing towards actual Bay cleanup, but in fact will significantly delay the benefits to the Bay at a critical time.

There is no dispute regarding the importance of the Chesapeake Bay to the economy, heart, and soul of Maryland. But preserving all that the Bay provides to Maryland requires the *right* approach to the Bay's problems, not one that scores political points by targeting a big company while ignoring the actual polluters. Waterkeepers' insistent claims about the importance of the

Bay simply beg the question. Conowingo is not the source or the cause of nutrients flowing into the Bay. It has agreed to spend $300 million to improve fish and eel passage around the dam, and indeed to take measures to transport fish above three *other* dams on the river—a measure supported by the U.S. Fish and Wildlife Service as the best way to achieve restoration of millions of American shad and river herring. Conowingo is collecting and removing hundreds of dumpsters of upstream trash and debris, which otherwise would flow into the Bay—but will not now, because of Conowingo. Taking Maryland's largest source of renewable energy off the grid, or significantly reducing the number of megawatt-hours of renewable energy that are generated from use of Conowingo Reservoir, will only harm Maryland's critical efforts to reduce greenhouse gas emissions and fight climate change, and will directly exacerbate the Bay's water quality problems. Nothing in § 401 of the Clean Water Act requires, or can sustain, such an outcome.

B. There Is No Basis for Waterkeepers' Disparagement and Misrepresentations of the MDE-Constellation Settlement, Which Is Relevant to this Reconsideration Proceeding Only with Regard to the Substantive Merit of the Settlement Conditions.

In their submission, Waterkeepers disparage the settlement agreement MDE entered with Constellation as the product of "private, closed-door settlement negotiations,"[3] even though it arose from Maryland state court mediation procedures. Among other things, Waterkeepers suggest that the settlement agreement's requirements on Constellation "would have remained largely or entirely unenforceable,"[4] as if the entire agreement itself were illusory. Indeed, Waterkeepers suggest that "the entire scheme was unlawful."[5]

[3] Waterkeepers Supp. 13.

[4] *Id.*

[5] *Id.* at 14.

At the outset, as Constellation stated in its supplemental submission, the issue on reconsideration before MDE is not whether Maryland is bound by its agreement with Constellation, but rather whether the 2018 Certification should be reconsidered and revised under the applicable standards of § 401 and Maryland administrative law, and whether certain provisions of the settlement agreement, considered on the *merits*, provide reasonable assurance that Conowingo's operations will comply with Maryland's water quality standards.

It is disingenuous for Waterkeepers to laud MDE's 2018 Certification as the quintessential authority on which it relies, while disparaging the fact that the same agency, under the same Administration and barely more than a year later, after fully hearing from Waterkeepers and Constellation on reconsideration, freely chose to enter the comprehensive settlement with Constellation. No undue influence is suggested, or existed. The settlement was facilitated by a court-appointed, third-party mediator. The fact that individual parties, with their own priorities, later filed comments opposing the settlement does not mean that it was not appropriate or fair. MDE is a state agency responsible for working to obtain the best outcome for the State and its residents. MDE had solicited public comments on Conowingo's § 401 application, and it had considered briefing and argument on Waterkeepers' (and Constellation's) petitions for reconsideration, before MDE elected to enter the settlement. MDE was under no obligation to consult further with Waterkeepers or anyone else before it issued the 2018 Certification, or before it chose to enter the settlement with Constellation.[6] Significantly, Waterkeepers could have sought

[6] In its filing at FERC, MDE both underscored the significant environmental benefits of the settlement, *see* Conowingo Supplemental Submission at i, 66, and the litigation risk it faced, which included risks from the decision in *Hoopa Valley Tribe v. FERC*, 913 F.3d 1099 (D.C. Cir. 2019). In their supplemental submission, Waterkeepers dismiss the *Hoopa Valley* risk. Waterkeepers Supp. 12 n.47, 28. Recent cases do not remove that risk, however. In these recent cases, *Hoopa Valley* was not implicated because the state agency issued a denial without prejudice within one year of the certification application and allowed the applicant to resubmit. *See Turlock Irrigation*

to challenge the settlement in state court as exceeding MDE's authority or otherwise unlawful as it now contends, but it chose not to do so.

Instead, Waterkeepers challenged the procedural grounds by which FERC issued a new license for Conowingo. As FERC made clear in its decision, the legality or permissibility of the settlement as a matter of state law was not before it; that was an issue that could only be brought in state court[7]—which, again, Waterkeepers had chosen not to do. The issue before FERC was limited: whether MDE could conditionally waive its right to issue a certification, as it had agreed to do in the settlement, under the terms of § 401 of the CWA. FERC ruled that Maryland could do so.[8] Later, on Waterkeepers' appeal, a federal court ruled that the text of § 401 did not allow FERC to issue a license on the ground that Maryland had *waived* its § 401 right, when Maryland previously had *issued* a § 401 certification.[9] But in so ruling, the court said nothing about the validity of the settlement as a whole. And the court certainly did not address whether the *substantive* provisions of the settlement were sufficient to provide reasonable assurance that

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Dist. v. FERC, 36 F.4th 1179, 1183-84 (D.C. Cir. 2022), *cert. denied*, 143 S. Ct. 1746 (2023). Here, MDE did no such thing. It encouraged and coordinated with Constellation (then Exelon) to repeatedly withdraw and resubmit its § 401 application request while MDE conducted a sediment transport study that Constellation argued was unnecessary. This the exact sort of "coordinated withdrawal-and-resubmission scheme" that constitutes waiver under 401. *Hoopa Valley*, 913 F.3d at 1103, 1105. For present purposes, and without waiving any arguments it may have regarding whether MDE already waived its rights to issue a certification under *Hoopa Valley* were that issue ever to be litigated, Constellation submits that MDE may issue a revised certification on the *merits* that is consistent with the substantive provisions of the settlement, without consideration of any potential litigation risk that MDE still may face. But at the same time, an administrative agency may take litigation risk into account with regard to a discretionary determination within a range of permissible statutory outcomes. *See*, *e.g.*, *Fast Food Workers Comm. v. Nat'l Labor Relations Bd.*, 31 F.4th 807 (D.C. Cir. 2022); *Patterson v. Omnipoint Commc'ns, Inc.*, 122 F. Supp. 2d 222, 227-28 (D. Mass. 2000), *aff'd*, 23 F. App'x 17 (1st Cir. 2001).

[7] *See Exelon Generation Co., LLC*, Order Issuing New License, 174 FERC ¶ 61,217 at P 74 (2021).

[8] *Id.* at P 73.

[9] *Waterkeepers Chesapeake v. FERC*, 56 F.4th 45 (D.C. Cir. 2022).

Conowingo's operations will comply with Maryland's water quality standards. That is the issue that is now before MDE.

It is also false that the settlement agreement was "largely or entirely unenforceable." MDE had authority to enforce every provision of the settlement.[10] And the key provisions of the settlement regarding Conowingo's operations were incorporated into FERC's license. If, at any time during the 50 years of that license, there arose a basis to seek to modify those provisions because of changed conditions, any interested party could seek to do so under FERC's rules. That is no different from the way FERC operates with regard to any § 401 certification. Section 401 allows a State to impose conditions at the time of license *issuance*. Beyond that, FERC retains *exclusive* authority over hydropower projects under the provisions of the Federal Power Act.[11] Consistent with this fact, when a State includes provisions in § 401 certifications authorizing the state to later *change* the terms of the certification, FERC will include such provision only with the caveat that the change must *also* be approved by FERC.[12] Thus, in the settlement, Maryland did not yield a unilateral right to control Conowingo's operations over the 50 years of its new license.

To repeat, the issue presently before MDE on reconsideration is to determine what conditions are necessary under § 401 of the CWA to provide reasonable assurance that

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[10] *See Conowingo Hydroelectric Project*, FERC Docket No. P-405-106 and -121, Joint Offer of Settlement and Explanatory Statement of Exelon Generation Company, LLC and the Maryland Department of the Environment §§ 5.1, 8.6 (Oct. 29, 2019) (Ex. 8, "Conowingo Settlement").

[11] *See California v. FERC*, 495 U.S. 490, 505 (1990) ("[A] federal licensee under the FPA [Federal Power Act] need not comply with state requirements that conflict with the federal license provisions established pursuant to the FPA's directives.").

[12] *See*, *e.g.*, *Pacific Gas & Elec. Co.*, 179 FERC ¶ 61,202 at P 76 (2022) (stating, with regard to two conditions in a § 401 certification that "contemplate changes to the project over the course of the license term": "Because the Commission retains jurisdiction over project operations throughout the term of a license, the Commission must authorize amendments and material changes to the project. Article 401(g) [of the new FERC license] requires Commission approval of such changes before implementation."), *set aside in part on reh'g*, 180 FERC ¶ 61,177 (2022).

Conowingo's operations will comply with Maryland's water quality standards—and, as part of that assessment, whether the settlement conditions MDE negotiated with Constellation (*after* receiving submissions of Waterkeepers and Constellation on reconsideration in 2018) are sufficient to provide that assurance. Through its 2018 submission on reconsideration and its present supplemental and reply submissions, Constellation has provided substantial scientific and other information demonstrating, on the merits, that the 2018 Certification cannot be sustained and must be revised, and that the settlement conditions in fact *exceed* what is necessary under § 401. MDE's issuance of a revised certification in accord with that information would preserve the settlement conditions, including the significant payments Constellation contractually agreed to make under the settlement (which MDE could not impose in a § 401 certification). Maryland thus can both issue a revised § 401 certification and at the same time preserve the settlement with all its benefits, including the multiple payment streams and Constellation's ongoing support for land donations and other benefits to Maryland and the entire Chesapeake Bay area. Conversely, if MDE now determines that the settlement conditions are not adequate under § 401 and therefore rejects or adds to those settlement conditions, then the entire settlement is necessarily lost—and potentially the Conowingo resource itself.

II. Waterkeepers Misstate the Permissible Scope of MDE's Instant Reconsideration Process, Under Which MDE Is Obligated to Consider *All* Relevant Information Presented by Constellation, Including Information Arising After MDE's 2018 Certification.

In their supplemental submission, Waterkeepers attempt to erect several false procedural barriers in an effort to force MDE to retain a 2018 certification decision that lacks an adequate foundation in both fact and law, and to prevent MDE from considering relevant new evidence. Waterkeepers principally contend that "supplemental briefing and the consideration of new

materials" is not "appropriate" or "authorized,"[13] and that, at a minimum, MDE may only "correct errors" if it has found "fraud, surprise, mistake, or inadvertence."[14] In addition, Waterkeepers contend that MDE cannot consider the flow regime, fish passage, and other issues discussed in Constellation's submissions because they allegedly were not raised in Constellation's 2018 Petition for Reconsideration.[15]

Waterkeepers' contentions are incorrect. Fundamentally, the supposedly narrow scope of review on reconsideration they seek to apply from *Board of Zoning Appeals v. McKinney* and its progeny *does not apply here* because MDE has not yet issued a "final decision" as a matter of Maryland law, as the Circuit Court found in this very case.[16] Because MDE's somewhat unique reconsideration process here occurs *before* the agency even has conducted an evidentiary "contested case" hearing—which Constellation will be entitled to invoke if it is aggrieved by MDE's decision on reconsideration, and which is a *de novo* proceeding that ultimately would lead to MDE's "final decision" as a matter of Maryland law—MDE remains free to consider all relevant information, including new and current information, that is relevant to its § 401 certification decision. But, even if the *McKinney* rule *did* apply, all of the issues raised by Constellation in its 2018 Petition and Supplemental Submission readily fall *within* the *McKinney* rule, as it has been interpreted and applied by Maryland courts. Finally, Constellation raised *all* of the issues it is advocating for MDE to reconsider in Constellation's 2018 Petition for Reconsideration, but even beyond that, MDE also has the power to expand the issues it may reconsider in any event. In sum,

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[13] Waterkeepers Supp. 1, 16.

[14] *Id.* at 16 (quoting *Miles v. McKinney*, 174 Md. 551, 564 (1938)).

[15] Waterkeepers Supp. 18, 29.

[16] *Exelon Generation Co., LLC v. MDE*, No. 24-C-18-003410, slip op. at 15 (Md. Cir. Ct., Balt. City Oct. 9, 2018) ("MDE has not issued a Final Decision pursuant to the APA.").

MDE is entitled to reconsider its § 401 certification decision *without any limitation* and issue a new certification consistent with the facts, science and law presently before the agency.

A. MDE Faces *No* Limits on Considering the Relevant Information Constellation Has Provided Prior to Making Its "Final Decision" Under Maryland Law, Which MDE Has Not Yet Done.

1. Waterkeepers' *McKinney* Rule Does Not Apply Here.

At the outset, before addressing what the *McKinney* rule means in terms of when an administrative agency may reconsider a decision it has made, the *McKinney* rule clearly does not apply here, on its own terms. *McKinney* itself emphasized that its rule applies only after a *final decision* has been made by the agency. In *McKinney*, a zoning board disapproved an application to permit the construction of a gas station because it was within 300 feet of a church operated by a minister in a room leased by the church. The gas station applicant then purchased the building in which the church leased space and terminated the lease; the church then leased new space across the street (still within 300 feet of the proposed gas station). The gas station applicant sought reconsideration of the permit denial, and the zoning board reconsidered the case and approved the permit. The Baltimore City Court reversed, and the zoning board appealed.

The actual holding of *McKinney* is that the zoning board lacked standing to appeal.[17] As a result, the Supreme Court ruled that the question of whether the zoning board was free to reconsider its initial denial of the permit had "become moot."[18] The court nonetheless decided it would be "expedient" to express its views on the question, which it described as "[w]hether [the board] has the right to reconsider its decision in a case which it has heard and decided, reopen the

[17] *Miles v. McKinney*, 174 Md. 551, 564 (1938).

[18] *Id.*

case and try it again, where there is no fraud, mistake, surprise or inadvertence."[19] The court then made clear: "In dealing with that question, *the first issue is whether in fact the Board did on March 23d, 1937 finally decide the case*."[20] And on that issue, the court ruled "there can be no substantial doubt," because the board "*had done all that it could do to finally dispose of the application*."[21] Quoting other authorities, the court then ruled that when the board "is considered a quasi-judicial tribunal, the general rule is that such a board is not vested with the power to reopen and rehear a proceeding which has once been terminated, at least in the absence of mistake in the prior proceedings," because "[o]therwise there would be no finality to the proceeding; the result would be subject to change at the whim of members or due to the effect of influence exerted upon them, or other undesirable elements tending to uncertainty and impermanence."[22]

The *McKinney* rule has been applied in the context of other zoning appeals,[23] although there is some dispute as to whether it applies *only* if the statute or ordinance allowing for review of a zoning decision *limits* the bases for such review.[24] But for purposes here, without getting into details of when *McKinney* and its progeny even applies, it is clear that *McKinney* only applies if the zoning board *did* "finally decide the case."[25] In the present case, it is undisputable that MDE

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[19] *Id.*

[20] *Id.* (emphasis added).

[21] *Id*. at 564-65 (emphasis added).

[22] *Id.* at 565-66 (quotation marks omitted).

[23] All of the cases cited by Waterkeepers involve appeals of zoning board decisions, apart from two cases at the local/municipal level; it is not clear the extent to which *McKinney* applies beyond that context, at the level of a state agency. At a minimum, none of Waterkeepers' cases involve the Maryland Administrative Procedure Act and State Government Article requirements, which were enacted long after *McKinney* was decided.

[24] *See*, *e.g.*, *Dal Maso v. Bd. of Cnty. Comm'rs*, 182 Md. 200 (1943) (declining to apply *McKinney*).

[25] *McKinney*, 174 Md. at 564.

has *not* yet issued such a *final decision* as a matter of Maryland law. MDE's own regulation is explicit that an aggrieved party *first* may seek reconsideration of an MDE water quality certification, and *then*, if still dissatisfied, seek further procedures "in accordance with the applicable provisions of State Government Article, § 10-201 et seq., Annotated Code of Maryland."[26] These "applicable provisions" are the evidentiary "contested case" procedures of the Maryland Administrative Procedure Act. And, as those procedures make clear, it is only *after* the evidentiary contested case procedures that an agency issues what Maryland law recognizes as the agency's "final decision."[27]

Maryland's contested case procedures as applied to this case render *McKinney* inapposite. MDE's regulation and the State Government Article ("SGA") ultimately entitle Constellation to a full evidentiary proceeding on its request for a § 401 certification. Under Maryland law, these evidentiary "contested case" procedures begin with what is deemed simply a "notice" of "agency action," which must state "the facts that are *asserted*" or "the issues that are involved," and "the sanction *proposed* or the *potential* penalty, if any, as a result of the agency's action."[28] Constellation would have the right to a full evidentiary hearing on MDE's "proposed" sanction, including rights to call witnesses, offer evidence, cross-examine any witness called by another party or the agency, and present summation and argument.[29] To the extent MDE has evidence to support its proposal, "the agency shall make the evidence part of the record."[30] At the conclusion of the hearing, the hearing officer must issue a written "proposed decision or order," which must

[26] COMAR § 26.08.02.10(F)(4)(a), (b).

[27] State Government Article, § 10-221.

[28] *Id.*, § 10-207 (emphasis added).

[29] *Id.*, § 10-213(f).

[30] *Id.*, § 10-213(a)(2).

contain "separate findings of fact and conclusions of law."[31] Constellation would have an opportunity to file exceptions to the proposed decision and to present argument to the final decisionmaker.[32] And *only then* would the agency issue a "final decision."[33] Even if *McKinney* were extended beyond zoning, it is simply inapplicable at this stage of the MDE process.

Nor can *McKinney* limit MDE's ability to consider additional evidence here, when the next step in the MDE process would be a contested case proceeding. Courts have made clear that contested case procedures are *de novo*.[34] The Maryland Supreme Court confirmed in *Mehrling v. Nationwide Insurance Company* that MDE would have the ability in any contested case proceeding to consider *all* relevant information that Constellation may present, including any *new* information that may exist at the time of that proceeding.[35]

In *Mehrling*, there was a contested case hearing before an ALJ. Thereafter, the party challenging the agency's noticed decision filed exceptions to the ALJ's proposed adverse decision, *and introduced new evidence relevant to that proposed adverse decision to the agency's ultimate decisionmaker*. The final decisionmaker did not consider the new evidence and adopted the ALJ's adverse decision. The party challenging the agency decision then petitioned for judicial review, and both the Circuit Court and the Court of Special Appeals affirmed the agency decision, on the

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[31] *Id.*, § 10-220(d).

[32] *Id.*, § 10-216.

[33] *Id.*, § 10-221.

[34] *See*, *e.g.*, *Marshall v. Safeway, Inc.*, 437 Md. 542, 557 (2014) (referencing right to "a *de novo* hearing under the contested case provisions of the Administrative Procedure Act (Maryland Code, Title 10, Subtitle 2 of the State Government Article)); *Thompson v. State Farm Mut. Auto. Ins. Co.*, 196 Md. App. 235, 240 (2010) (referencing "de novo contested case hearing"); *Priester v. Baltimore Cnty.*, 232 Md. App. 178, 185 (2017) (referencing "*de novo* contested case hearing" pursuant to Baltimore County Charter).

[35] 371 Md. 40 (2002).

ground that "Petitioner's failure to present evidence … to the ALJ precluded her from later presenting it to the [final decisionmaker] in her exceptions."[36]

The Supreme Court reversed, holding that *any* evidence could be presented to and considered by the agency's ultimate decisionmaker, before the agency's "final decision" was rendered. The court explained: "The initial question we confront is when does the administrative record close for the receipt of evidence in a contested case under the APA where the administrative agency reserves final decision-making authority? We hold that, for purposes of judicial review of an agency's final decision, the entire administrative record consists of all transcripts, documents, information, and materials *that were before the final decision maker at the time of his or her decision*."[37] The court based its decision on the detailed contested case procedures of the SGA reviewed above, and "the principle that an administrative agency has broad discretion to consider evidence submitted after the close of an evidentiary hearing as long as there is compliance with procedural due process."[38]

There is nothing in the SGA to suggest that contested case procedures would be limited to issues raised by Constellation on reconsideration. MDE's decision on reconsideration simply will become MDE's noticed "action" and "proposed sanction" under § 10-207 if a contested case hearing is requested, with the agency's actual "final decision" not rendered until *after* the full hearing procedures set forth above.

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[36] *Id.* at 43-44.

[37] *Id*. at 60 (footnote omitted).

[38] *Id.* (internal quotation marks omitted). MDE fully complied with procedural due process requirements here by making clear, through its June 1, 2023 notice, that it would consider supplemental submissions from both parties.

Thus, under MDE's regulation and Maryland's APA procedures: (1) MDE's 2018 Certification was not MDE's "final decision" as a matter of Maryland law; (2) the instant "reconsideration" process also will not result in MDE's "final decision" as a matter of Maryland law; and (3) Constellation remains free to present—and MDE is obligated to consider—all information relevant to MDE's certification decision, including any new or more current information, until such time as MDE ultimately issues a "final decision" as a matter of Maryland law in connection with the contested case procedures set forth in the SGA.

There is no debate that MDE's 2018 Certification was *not* its "final decision" as a matter of Maryland law, despite any declarations in the certification itself to the contrary. When Constellation challenged the 2018 Certification (which had declared it was "a final decision on the Application"[39]) in Circuit Court, MDE argued that "*both parties recognize that the conditions within the Certification could change* as a result of administrative appeals brought by [Constellation] and the environmental groups."[40] MDE further explained:

> After an initial reconsideration period as provided by COMAR 26.08.02.10F(4)(a)(1), an aggrieved party has the right to a contested case hearing in accordance with the Administrative Procedures Act. It is during that contested case hearing before the agency, during which parties may call witnesses, offer evidence, cross-examine any witness who testifies, and make opening and closing statements, that the full administrative record will be developed, *and would inform the agency's ultimate decision* during the appeal.[41]

And the Circuit Court unequivocally agreed. It dismissed Constellation's complaint, ruling that "MDE's Certification was not a 'final decision' of [Constellation's] rights, duty, statutory entitlement or constitutional privilege properly determined only after a contested case agency

[39] 2018 Certification, § 7(Q)(XIX).

[40] MDE Motion to Dismiss at 2, *Exelon Generation Co., LLC v. MDE*, No. 24-C-18-003410 (Md. Cir. Ct., Balt. City July 9, 2018).

[41] *Id.* at 17 (emphasis added).

hearing. See APA § 10-202(d)(1)(i)."[42] Thus, the "final decision" critical to the *McKinney* rule is not present here. The Circuit Court indeed expressly recognized that "[MDE] may modify its decision on the water quality certification on reconsideration,"[43] without suggesting any limitation on that process or prohibition on consideration of new evidence.

Indeed, Waterkeepers themselves have sought reconsideration of MDE's 2018 Certification, and nowhere suggest in their own petition that MDE is handcuffed under a supposed "high bar" precluding reconsideration in general or the consideration of new evidence, specifically. Waterkeepers in fact petitioned MDE to conduct additional studies and *consider new evidence*. Specifically, Waterkeepers argued: "MDE must complete its own, independent analysis of the effects climate change will have on the Conowingo Dam Project's impacts to Maryland's water quality standards, and incorporate the results of that analysis into the revised Certification conditions."[44] Waterkeepers certainly did not contend it would be "inappropriate" for MDE to consider new evidence, as they now assert in their supplemental submission.

Indeed, it would make no sense to conclude, as Waterkeepers contend, that MDE cannot consider new and current information *now* (in its pre-contested case, pre-final decision "reconsideration" process), when MDE not only can but *must* consider that same new information in connection with the contested case procedures prior to its final decision. It is significant that there are no limits in MDE's regulation regarding the grounds on which it may reconsider its

[42] *Exelon Generation Co., LLC v. MDE*, No. 24-C-18-003410, slip op. at 22 (Md. Cir. Ct., Balt. City Oct. 9, 2018); *id.* at 15 ("MDE has not issued a Final Decision pursuant to the APA.").

[43] *Id.* at 19.

[44] 2018 Waterkeepers' Petition, at 21.

previous § 401 issuance. MDE's regulation simply requires that an aggrieved party specify in writing "the reason" why MDE's previous issuance should be reconsidered.[45]

Ultimately, MDE's decision on reconsideration must be guided by the legal standard under which its certification decision will be reviewed under Maryland's Administrative Procedure Act. As described in Constellation's Supplemental Submission, an agency decision is reversible (among other reasons) if it exceeds the agency's statutory authority or jurisdiction; if it is affected by an error of law; if it is unsupported by competent, material, and substantial evidence in light of the entire record as submitted; or if it is arbitrary or capricious.[46] That is the legal standard for an eventual reviewing court. Given the lapse of time since the issuance of the 2018 Certification, it would be arbitrary and capricious for MDE *not* to consider additional evidence that reflects current facts and science, and whether the settlement conditions meet water quality standards. MDE has an overriding obligation to ensure that its ultimate certification decision satisfies this legal standard. For the many reasons set forth in Constellation's 2018 Petition and its Supplemental Submission, the 2018 Certification does not meet that standard and must be replaced with a certification that does.

2. Even If *McKinney* Applied, Its Rule Is Quite Broad as Interpreted by Maryland Courts, and All of the Grounds for Reconsideration Raised by Constellation Readily Fall Within the *McKinney* Rule.

As applied by Maryland courts, the *McKinney* rule means that a zoning authority cannot simply "change its mind" after it already has rendered a final decision. *Substantive* grounds for reconsideration, however, whether based on errors of law or mistakes of fact that are not supported by substantial evidence, *may be considered*. And, to be clear, Constellation does not seek

[45] COMAR § 26.08.02.10(F)(4)(a)(ii).

[46] Md. Code (2021 Repl. Vol.), State Government Article ("SGA") § 10-222(h)(3); *see* Constellation Supp. 16-17.

reconsideration simply on the ground that MDE should "change its mind." Constellation made clear in its 2018 Petition, and again in its Supplemental Submission, that MDE lacks *legal authority* to impose certain of the conditions in the 2018 Certification, and that MDE made mistakes in specific findings and conditions that are not supported by substantial evidence or are arbitrary and capricious (which again are challenges to the legal foundation of MDE's action in issuing the certification).

The point above is made clear by, among others, the *Cinque* case highlighted by Waterkeepers.[47] The court there emphasized that "Maryland, along with the federal courts and the majority of state courts that have addressed the issue, recognizes the inherent authority of agencies to reconsider their own quasi-judicial decisions."[48] Quoting the Maryland Supreme Court's decision in *Calvert County Planning Commission v. Howlin Realty Management, Inc.*,[49] the *Cinque* court emphasized that "[a]n agency ... not otherwise constrained, may reconsider an action previously taken and come to a different conclusion upon a showing that the original action was the product of fraud, surprise, mistake, or inadvertence, *or that some new or different factual situation exists that justifies the different conclusion*."[50] Also relying on *Howlin*, the *Cinque* court emphasized that where an allegation of agency "mistake" is made, an agency is "fully justified ... to determine, from evidence, whether a mistake had been made."[51] Ultimately, the *Cinque* court

[47] *Cinque v. Montgomery Cnty. Plan. Bd.*, 173 Md. App. 349 (2007).

[48] *Id.* at 361.

[49] 364 Md. 301 (2001).

[50] *Cinque*, 173 Md. App. at 361 (emphasis added; ellipsis and internal quotation marks omitted).

[51] *Id.* at 364 (quotation marks omitted).

concluded that "[i]f ... there is a legitimate basis for the reconsideration, the subsequent reversal of the agency's previous decision ordinarily will not be said to have been a mere change of mind."[52]

Ultimately, the court in *Cinque*—again, a case cited by Waterkeepers—*upheld* a zoning board's reconsideration of an earlier decision, based largely on the statements of one of the commissioners, who had changed his vote and explained that his earlier vote had been based on an error of law. The court held: "In our view, the Board validly granted reconsideration on the basis that its decision did not conform to relevant law.... We perceive no error or abuse of discretion."[53]

Thus, even if *McKinney* applied—and it clearly does not, because MDE has not yet issued a final decision as a matter of Maryland law—MDE would remain free to consider all of the issues Constellation has raised in its 2018 Petition and Supplemental Submission. Constellation is *not* asking MDE to simply "change its mind," which is what the *McKinney* rule suggests is inappropriate, without more. Instead, as Maryland courts have made clear is *permissible* on reconsideration, Constellation has contended throughout that a "new or different factual situation exists that justifies the different conclusion,"[54] and that MDE's 2018 certification "did not conform to relevant law."[55]

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[52] *Id*. In contrast to this liberal standard from a case it cites and discusses at some length, *see* Waterkeepers Supp. 17, Waterkeepers claim that, at a minimum, MDE may only consider new evidence that is "overwhelmingly direct, relevant, and compelling." *Id.* at 18. Waterkeepers cite no authority for this assertion, and there is none. Indeed, *McKinney* itself—upon which Waterkeepers' entire argument rests—cautioned of the dangers of "a hard and fast rule of law denying permission to rehear and modify [a zoning board's] rulings." *McKinney*, 174 Md. at 566 (quotation marks omitted).

[53] *Cinque*, 173 Md. App. at 369.

[54] *Id.* at 361, quoting *Howlin*, 364 Md. at 325.

[55] *Cinque*, 173 Md. App. at 369.

B. MDE May Consider All Issues Raised in Constellation's Supplemental Petition Because Those Same Issues Were Raised in Constellation's 2018 Petition, and MDE Also Has Authority to Consider Them in Any Event.

Waterkeepers also contend that MDE may not reconsider the flow regime, fish passage, and other provisions addressed in Section IV of Constellation's Supplemental Submission as allegedly beyond the scope of Constellation's 2018 Petition for Reconsideration.[56] MDE may reconsider all of these provisions because they *were* raised in Constellation's 2018 Petition, and MDE also has authority to consider them in any event.

Constellation's 2018 Petition expressly challenged all of these provisions of the 2018 Certification. Constellation's 2018 Petition unambiguously asserted that "[t]he entire Certification is a classic example of State overreaching," and urged that "MDE should continue to work with [Constellation], as [Constellation] is committed to do, to achieve a Certification that will advance the laudable goals of the people of Maryland and protect the vital Chesapeake Bay ecosystem in a manner that is lawful."[57] MDE and Constellation subsequently did just that, reaching a comprehensive resolution of the certification issues that addressed all aspects of the Project's operations.

Constellation's petition expressly challenged the 2018 Certification's trash and debris provisions[58] and its invasive species provisions.[59] It highlighted the sufficiency of the fish and eel passage provisions of the DOI settlement[60] and expressly argued that "[t]here is no rational basis

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[56] Waterkeepers Supp. 18, 29.

[57] 2018 Conowingo Petition, at 6.

[58] *Id.* at 3, 18, 37, 47.

[59] *Id.* at 3-4, 37-38.

[60] *Id.* at 9; *see also id.* at 13 (contending that "the aquatic-resources studies show that the Conowingo Project is not adversely impacting fish propagation and instead supports a diverse assemblage of fish and a healthy multi-species sport fishery supported by natural reproduction").

or sufficient evidence in the record to support the obligations in the Certification regarding fish passage that go beyond the requirements set forth in the fish-passage settlement with the Department of the Interior."[61] Constellation directly challenged the operational flow regime of the 2018 Certification, arguing that "Sections 2.C and 7 of the Certification also contain other conditions that provide for planning, additional studies, reopening, and modification by MDE and would allow MDE to impose as-yet-unknown additional requirements on the Conowingo Project."[62]

Constellation also raised multiple issues that applied to all aspects of the 2018 Certification. Constellation emphasized that Maryland previously had "only required that the Conowingo Project comply with the limited effluent limitations and monitoring requirements that are set forth in State Permit No. 10-DP-0491," and it argued that "MDE is not entitled to make such an abrupt departure from its prior practice without a reasoned basis and explanation," which MDE had not provided; "accordingly the Certification should be reconsidered."[63] Constellation argued broadly that "[t]he studies that [Constellation] submitted to MDE as part of its request and the information in the record before MDE ... demonstrate that the Project is meeting all applicable state water-quality

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[61] *Id.* at 47; *see also id.* at 18 ("Section 7.B of the Certification contains fish-passage conditions that exceed the requirements established in [Constellation's] settlement with the Department of the Interior, without citing any evidence that the additional measures are needed."), 47-48.

[62] *Id.* at 18. The certification's operational flow regime is one of these provisions; it provides: "The Licensee shall operate the Project in accordance with the Year 10 Flow Regime starting on January 1, 2029, *provided*, *however*, if MDE determines, based on Adaptive Management Flow Studies, that modifications to the Year 10 Flow Regime are likely to result in benefits to the aquatic system greater than or equal to the benefits MDE expects if the Year 10 Flow Regime is implemented without such modifications, the Secretary will notify the Licensee of such determination in writing prior to January 1, 2029, in which case the Licensee shall operate the Project in accordance with the Year 10 Flow Regime, modified in accordance with such notice from the Secretary (the 'Modified Year 10 Flow Regime'), starting on January 1, 2029." 2018 Certification, § 7(C)(ii). *See also* 2018 Conowingo Petition, at 31-32.

[63] Constellation 2018 Petition, at 43-45; *see also id.* at 10-11, 13-14.

standards."[64] The 2018 Petition raised a broad procedural due process objection, applicable to the entire certification, that MDE had issued what purported to be a "final decision" without granting Constellation the hearing it was entitled to receive under both the Maryland State Government Article and due process requirements.[65] Similarly, the 2018 petition broadly challenged that "[t]here are numerous other findings, numerical values, and obligations in the Certification for which no foundation is provided by MDE, and for which there is no reference to adequate evidence in the record."[66] Finally, the 2018 Petition also stated that the grounds for reconsideration set forth in the petition were "preliminary" and that "[Constellation] expressly reserves the right to supplement and amend these grounds for reconsideration."[67] In its conclusion regarding the "relief requested," Constellation argued: "*The Certification* is unlawful, arbitrary and capricious, not supported by substantial evidence, an abuse of discretion, and unconstitutional. [Constellation] requests that MDE *reconsider its decision* and remove *all conditions* that are unauthorized by Federal or Maryland law, arbitrary and capricious, not supported by substantial evidence, an abuse of discretion, and unconstitutional."[68] For all these reasons, it is clear that each of the issues

[64] *Id.* at 13; *see also id.* at 38 ("*None* of the Certification's conditions are 'necessary' to assure that the Conowingo Project will comply with any of these provisions [in § 401(d)]... And as to 'appropriate requirement[s] of State law,' the Certification does not identify anything in Maryland law *that authorizes the Certificate's conditions*—much less an 'appropriate requirement.'") (emphasis added; emphasis in original deleted).

[65] *Id.* at 2 ("MDE could not lawfully issue the Certification as a 'final decision' and ... the Certification is void, invalid, and without effect"); *id.* at 25 ("[Constellation respectfully petitions that MDE reconsider the Certification"); *id.* at 26 (heading: "MDE Has Violated [Constellation's] Statutory and Constitutional Rights by Issuing a 'Final Decision' Without Affording [Constellation] Administrative Review, Including the 'Contested Case' Hearing MDE Expressly Recognizes Is Available to [Constellation]"); *id.* at 26-31, 31 ("MDE violated [Constellation's] statutory and constitutional rights" and "accordingly should reconsider ... its decision.").

[66] *Id*. at 46.

[67] *Id.* at 26; *see also id.* at 46.

[68] *Id.* at 53 (emphasis added).

addressed in Constellation's Supplemental Submission is fully within the scope of its 2018 Petition.

In addition, even beyond all that Constellation expressly raised in its 2018 Petition, MDE properly may consider everything presented by Constellation in its Supplemental Submission. MDE's regulation, COMAR 26.08.02.10(F)(4)(a)(i), requires that a party petition for reconsideration "within 30 days of the publication of the final decision," which Constellation did here. Section (F)(4)(a)(ii) requires that a party "[s]pecify, in writing, the reason why the final decision should be reconsidered." Constellation again has done that here. In addition to everything presented in its 2018 Petition, Constellation stated in writing on June 9, 2023, that the provisions of its settlement agreement with MDE "are sufficient, taken together, to provide reasonable assurance that Conowingo's operations will not impair Maryland's water quality standards"; that "Constellation will provide information to support that assessment in its August 1, 2023 submission to MDE"; that "[t]he Settlement Agreement as a whole, and each of the sections of the Proposed License Articles, are among the 'new, updated, or relevant information' that are part of the record before MDE in connection with its decision on administrative reconsideration"; that "this letter supplements and amends Constellation's pending petition for reconsideration to ensure that each of these issues is before MDE"; and that "Constellation hereby formally requests that MDE reconsider each provision of the 2018 Water Quality Certification for Conowingo that MDE previously agreed to modify when it freely entered the Settlement Agreement with Constellation and its Proposed License Articles."[69]

Nothing in COMAR 26.08.02.10 requires the specification of reasons to be submitted or completed within 30 days. And even if it did, MDE has authority to allow a party to modify,

[69] Letter to Roberta James from Constellation counsel David DeBruin (June 9, 2023), at 1-2.

supplement, expand, or narrow the reasons presented for reconsideration, prior to the time that MDE issues its decision. There is no prejudice to any party in MDE doing so here, if it were necessary for MDE to do so (and, for the reasons above, it is not). MDE's June 1, 2023 letter notice to Waterkeepers and Constellation made clear that MDE would "resume [] administrative reconsideration" of the 2018 Certification; the letter made reference to the "comprehensive water quality settlement agreement" that MDE and Constellation had entered; and the letter provided that "since four and one-half years have passed since the parties provided information to MDE," MDE was offering the parties—without any declared limitation—"the opportunity to supplement that information by providing *any* new, updated, or relevant information, which the parties would like the Department to review."[70]

Indeed, it would be arbitrary and capricious for MDE *not* to consider its comprehensive settlement with Constellation. Pursuant to that settlement, Constellation has agreed to material *changes* in the way that Conowingo will operate—including substantial changes to its operational flow regime, fish and eel passage operations, and numerous other aspects of its operations—that are directly relevant to the issue of whether Conowingo's operations provide reasonable assurance that the Project will comply with Maryland's water quality standards. MDE must address the highly relevant and material question of whether the revised settlement conditions provide reasonable assurance that the Project will comply with all applicable provisions of federal and state law under § 401(d) of the CWA.

This conclusion also directly follows from MDE's regulation and Maryland's unique administrative procedures, reviewed at length above. Constellation retains rights to *de novo* evidentiary contested case proceedings, during which it may continue to present new information

[70] Letter from MDE Assistant Secretary Roberta James (June 1, 2023), at 1-2 (emphasis added).

relevant to the certification decision. Nothing in Maryland's APA suggests that MDE is constrained now from considering any and all grounds for reconsideration asserted by Constellation prior to MDE's issuance of its "final decision" in accordance with the SGA.

III. Waterkeepers Misstate the Legal Standard Under § 401 and Under Maryland's Water Quality Standards.

Waterkeepers also mischaracterize the applicable legal standard in this § 401 certification proceeding. Waterkeepers claim that "[w]here there is a discharge, the state has broad authority to ensure the Dam's entire operations are in compliance with water quality standards."[71] However, as discussed at length in Constellation's supplemental submission, the focus of § 401 and Maryland's regulation governing its issuance of a § 401 certification is whether the discharge or activity of the licensee will *cause* violations of water quality standards.[72] Waterkeepers err in baselessly claiming that "the Dam itself discharges pollutants under the Clean Water Act, regardless of the origin of the nutrients in the water."[73] As Constellation has explained, Conowingo's own activities do not introduce pollution into the watershed and the language of the CWA, EPA and MDE regulations, and relevant case law all confirm that MDE has no authority to impose onerous conditions relating to the "discharge of pollutants" already present in the waterway.[74] Although states do have discretion in crafting certification conditions, "that authority is not unbounded"[75] and § 401 certification decisions "must be grounded in impacts to water."[76]

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[71] Waterkeepers Supp. 9 n.32.

[72] Constellation Supp. 10-16.

[73] Waterkeepers Supp. 9 n.32.

[74] Constellation Supp. 10-49; Constellation 2018 Pet. 33-35.

[75] *PUD No. 1 of Jefferson Cnty. v. Wash. Dep't of Ecology*, 511 U.S. 700, 712 (1994).

[76] *Mountain Valley Pipeline, LLC v. N.C. Dep't of Env't Quality*, 990 F.3d 818, 830 (4th Cir. 2021).

Additionally, recent statements from EPA clarify that § 401 does *not* "require[] certifying authorities to provide absolute certainty that applicants for a Federal license or permit will never violate water quality requirements."[77] EPA's regulations long required certifying agencies to find that there was "a *reasonable assurance* that the [licensee's] activity will be conducted in a manner which will not violate applicable water quality standards."[78] In 2020, the EPA jettisoned the "reasonable assurance" language in favor of a requirement of "assuring that a discharge from a Federally licensed or permitted activity will comply with water quality requirements."[79] This revision was intended to more closely track the statutory text, but EPA took care to explain that the "will comply" language does *not* "require[] States to ensure that a project will maintain strict compliance, in every respect, throughout its entire existence."[80] Although the EPA in 2022 proposed numerous revisions to the 2020 regulations, the agency held firm on this point, explaining that it "is not EPA's intention" to "require[] certifying authorities to provide absolute certainty that applicants for a Federal license or permit will never violate water quality requirement" and that "EPA does not think such a stringent interpretation is required by the

[77] *Clean Water Act Section 401 Water Quality Certification Improvement Rule*, 87 Fed. Reg. 35,318, 35,352 (June 9, 2022) ("EPA 2022 Proposal").

[78] 40 C.F.R. § 121.2(a)(3) (2019) (emphasis added).

[79] 40 C.F.R. § 121.3.

[80] *Clean Water Act Section 401 Certification Rule*, 85 Fed. Reg. 42,210, 42,278 (July 13, 2020) ("The inclusion of the statutory language 'will comply' does not require certifying authorities to provide absolute certainty that applicants for a federal license or permit will never violate water quality requirements. Indeed, future compliance depends on many factors besides just facility design and operation, and it would not be reasonable for an authority to certify that no unknown future event could ever result in a violation of the certification.").

statutory or proposed regulatory language."[81] Accordingly, the Fourth Circuit has continued to apply the "reasonable assurance" standard when evaluating § 401 certification decisions.[82]

Waterkeepers also misrepresent the applicable standard by suggesting that conditions on a certification should seek to restore the Susquehanna River to the state it was in before the Conowingo Dam was built in 1928. For instance, Waterkeepers repeatedly focus on the number of fish, eel, and mussels that "should" be present in the Susquehanna River, emphasizing the prevalence of aquatic life in the 1830s and "the early 1900s" and how the populations of such species declined following construction of the Conowingo Dam.[83] But Waterkeepers point to no specific water quality criterion that would require restoration of aquatic life to pre-1928 levels—and any § 401 certification decision must be based on an assessment of compliance with specific existing water quality standards.[84] Indeed, courts have rejected § 401 conditions that purport to protect aquatic life if those conditions have not been shown to be "necessary" to protect fish actually living in the waterway at issue.[85] Waterkeepers invoke Maryland's "antidegradation policies,"[86] but that policy focuses on ensuring that "*existing uses* and the level of water quality

[81] EPA 2022 Proposal, 87 Fed. Reg. at 35,352.

[82] *See Sierra Club v. W. Va. Dep't of Env't Prot.*, 64 F.4th 487, 496 (4th Cir. 2023).

[83] Waterkeepers Supp. 3, 5, 6, 7, 45, 47, 49, 59.

[84] *See, e.g.*, *Summit Hydropower v. Comm'r of Env't Prot.*, No. CV91050 26 43, 1992 WL 175241, at *9 (Conn. Super. Ct. July 20, 1992), *rev'd on other grounds sub nom. Summit Hydropower P'ship v. Comm'r of Env't Prot*., 629 A.2d 367 (Conn. 1993).

[85] *Commonwealth Power Co. v. Dep't of Nat. Res*., No. 204399, 2000 WL 33521869, at *2 (Mich. Ct. App. Mar. 21, 2000) (rejecting fish study requirement on the grounds that the certifying agency "did not know or did not express what level of fish kill was acceptable or what type of protective measures were necessary to maintain the proper 'use' of the particular river for particular species of fish").

[86] Waterkeepers Supp. 10.

necessary to *protect existing uses* for any water body shall be maintained."[87] MDE's regulations define "[e]xisting use" as "those uses actually attained in the water body after November 27, 1975"[88]—meaning that aquatic population levels from the 1830s or early 1900s clearly are not an appropriate baseline for an antidegradation inquiry. In rejecting a similar challenge to a § 401 certification decision, the Court of Appeals of North Carolina explained that it would be "absurd" to "require the [certifying] agency to compare the water quality to the state it was in the early 1900s prior to the dam's construction."[89]

IV. There Remains No Substantial Evidence to Sustain the Nutrient Obligations of the 2018 Certification.

As Constellation demonstrated in its Supplemental Submission and prior submittals, the nutrient removal obligations in the 2018 Certification are unlawful and beyond MDE's authority to impose. In addition, the scientific literature is clear: "The Susquehanna River watershed, not the Conowingo Dam and its reservoir, is the principal source of adverse pollutant impacts on the upper Chesapeake Bay water quality and aquatic life."[90] Recognizing the undisputable source of

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[87] COMAR § 26.08.02.04(B) (emphasis added).

[88] COMAR § 26.08.01.01(B)(31). EPA has similarly explained that antidegradation policies do *not* "apply to potential uses" and that "[t]he focus of the antidegradation policy is on protecting existing uses." EPA, *Water Quality Standards Handbook*, App. G at 5 (2d ed.1994, updated 2017); *see also id.*, App. G at 2 (distinguishing "existing uses" from those uses that are "dependent on improvements in water quality").

[89] *City of Rockingham v. N.C. Dep't of Env't & Nat. Res., Div. of Water Quality*, 736 S.E.2d 764, 770 (N.C. App. Ct. 2012) ("The logical reading of these rules is that the certified activity must minimize the adverse impacts it may have, for example, by continuing to support the existing uses, but not necessarily by a comparison to the pre-dam condition of the waters."); *see also Port of Seattle v. Pollution Control Hearings Bd.*, 90 P.3d 659, 681 (Wash. 2004) ("The antidegradation policy contemplates offset of the impact of the project at issue, rather than restoration to pristine conditions.").

[90] U.S. Army Corps of Engineers & Md. Dep't of the Env't., *Lower Susquehanna River Watershed Assessment, Maryland and Pennsylvania*, at 158 (May 2015), https://dnr.maryland.gov/waters/bay/Documents/LSRWA/Reports/LSRWAFinalMain20160307.pdf; *see* Constellation Supp. 20-42.

this pollution, in the EPA-approved Conowingo WIP, the Susquehanna Watershed States—Maryland, New York, and Pennsylvania—assigned *themselves* the responsibility to remove the additional six million pounds of nitrogen and 260,000 pounds of phosphorous needed to meet the TMDL goals.[91]

In their supplemental submission, Waterkeepers attempt to leverage a handful of arguments that they claim support the 2018 Certification, which can generally be summarized in three groups: (1) after issuing the 2018 Certification, MDE continued to support its requirements; (2) the infilling of the Conowingo reservoir has harmed water quality; and (3) climate change has exacerbated the challenges of Bay cleanup. But none of these justify, or can correct for the illegality of, the 2018 Certification's extraordinary pollution-related requirements. There remains no scientific evidence linking Conowingo's operations with pollution in the River or Bay. Far from causing harm, Conowingo has benefited the Bay, both by *reducing* pollution and providing clean, dispatchable power to the mid-Atlantic grid. Nevertheless, recognizing its corporate commitment to support Bay restoration as a Maryland-based company, Constellation has agreed to settlement terms that include substantial contributions that well exceed the obligations MDE can impose under its § 401 authority, including substantial payments to Maryland.

Ultimately, Waterkeepers betray their view of Conowingo's relevance to Bay restoration—as the financial backing to implement the Conowingo WIP: "[T]he Chesapeake Bay and the Susquehanna River cannot possibly be cleaned up unless Conowingo 'is required to shoulder its

[91] *See* EPA, EPA Expectations: Implementation of the Conowingo Watershed Implementation Plan's Phased Approach, Draft—For Partnership Input, at 1 (Jan. 26, 2023) ("EPA Expectations Draft," Ex. 14) ("[A]t its July 19, 2022 meeting, the PSC reached consensus that the Susquehanna jurisdictions of Pennsylvania, New York, and Maryland can address the Conowingo nutrients loads through the actions outlined in the CWIP using a phased approach that extends beyond 2025.").

fair share of the costs of cleaning up the pollution….'"[92] But even putting aside that § 401 does not authorize purely financial obligations,[93] the CWA does not provide States a twice-centennial blank check for federal permittees to clean up waterways polluted by others; the requirements must stem from the applicant's *own* effect on water quality. Neither MDE nor Waterkeepers has made such a showing.

A. MDE's Past Statements About Conowingo Are Not Evidence that the Project Impairs Water Quality.

In their submission, Waterkeepers highlight various statements that MDE has made more recently. Many of these are advocacy positions supporting the 2018 Certification, and none offer new scientific evidence connecting Conowingo and Bay water quality.

2018 Integrated Report. Waterkeepers emphasize statements about Conowingo in MDE's 2018 Integrated Report of Surface Water Quality,[94] but they are either entirely unsupported or have been affirmatively dispelled.[95] For example, responding to comments about the Total Maximum Daily Load ("TMDL") mid-point assessment, MDE claimed that Constellation has to "'address nutrient pollution in discharges from the Conowingo Dam,'"[96] but it provided no study, report, or even a citation connecting the pollution to Conowingo's operations. Likewise, MDE stated that the "build-up of sediments [in Conowingo Reservoir] poses a major threat to Chesapeake Bay

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[92] Waterkeepers Supp. 26.

[93] *See* Constellation Supp. 43-49.

[94] Maryland Dep't of the Environment, Maryland's Final 2018 Integrated Report of Surface Water Quality (Oct. 23, 2018), https://mde.maryland.gov/programs/Water/TMDL/Integrated303dReports/Documents/Integrated_Report_Section_PDFs/IR_2018/2018IR_Parts_A-E_Final.pdf ("Maryland 2018 Integrated Report").

[95] Waterkeepers Supp. 18-20.

[96] *Id.* at 20 (citing Maryland 2018 Integrated Report at 116).

restoration efforts,"[97] but as discussed in Constellation's Supplemental Submission and below, that concern was wrong in 2018 and has been dispelled by the 2019 UMCES Report, which confirmed that scour events impose minimal harms on water quality.[98] The remaining statements about Conowingo are unremarkable, including that the operation of the Dam creates "'flow alterations and changes in depth and flow velocity'"[99] and that it can affect "'aquatic life and recreational uses of the Susquehanna River.'"[100]

Although Waterkeepers do not make much of the 2018 Integrated Report's more specific conclusions, Constellation notes that it maintains significant concerns about their accuracy. To that end, Constellation submitted extensive comments on the draft version of the report (attached as Ex. 31), noting many of the same concerns raised here. These include that the report "neglect[ed] to acknowledge that upstream sources and operations are the source of the debris/trash that reach the Conowingo Reservoir;"[101] that the conclusions on flow fail to consider upstream hydroelectric operations and overstate effects on downstream habitats and living resources;[102] and that the support for Category 5 listings was incorrect.[103]

2020-2022 Integrated Report. Waterkeepers briefly reference MDE's Final Combined 2020-2022 Integrated Report of Surface Water Quality,[104] which they say "makes clear fact that

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[97] *See* Maryland 2018 Integrated Report at 38.

[98] *See* Constellation Supp. 31-33 (discussing Ex. 5 (2019 UMCES Study) at 2090-2091).

[99] Waterkeepers Supp. 19 (quoting Maryland 2018 Integrated Report at 106).

[100] *Id.* at 19-20 (quoting Maryland 2018 Integrated Report at 11).

[101] Exelon Generation Company, LLC, Comments to Maryland's Draft 2018 Integrated Report of Surface Water Quality at (Mar. 19, 2018) (Ex. 31).

[102] *Id.* at 2-4.

[103] *Id.* at 4.

[104] Maryland Dep't of the Environment, Maryland's Final Combined 2020-2022 Integrated Report of Surface Water Quality (Jan. 27, 2022), https://mde.maryland.gov/programs/

the reservoir has reached capacity and is now causing an additional pollutant load…."[105] However, (1) through the Conowingo WIP, the Susquehanna Watershed States themselves have agreed to handle this additional load, and did not assign it to Conowingo,[106] and (2) as Waterkeepers acknowledge, MDE "list[ed] the settlement agreement as part of its 'multi-pronged approach to address the Conowingo Dam's impacts[.]'"[107] Waterkeepers preemptively claim that the report "does not state the settlement agreement actually helps to meet the water quality standards,"[108] but the obvious purpose of the "multi-pronged approach," which also includes the Conowingo WIP, is to "address[]" "additional pollutant load (estimated at 6 million pounds total N and 260,000 pounds total P)."[109] If anything, the 2020-2022 Integrated Report supports Constellation's position.

MDE 2018 Certification and Overview Presentation. Waterkeepers discuss the 2018 Certification and a 2019 slide presentation from MDE providing an "Overview of Maryland's Water Quality Certification for the Conowingo Dam."[110] Although one of the "key takeaways" is MDE's assertion that "[t]here is a sound scientific and legal basis for the Conowingo water quality certificate,"[111] neither the 2018 Certification nor the Overview provide it.

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water/TMDL/Integrated303dReports/Documents/Integrated_Report_Section_PDFs/IR_2020_2022/MD_Combined2020_2022_Final_Approved_Integrated_Report_2_25_22.pdf ("Maryland 2020-2022 Integrated Report").

[105] Waterkeepers Supp. 20.

[106] *See* Chesapeake Bay Program, Conowingo Watershed Implementation Plan (July 31, 2021), https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/final_cwip.pdf; Ex. 14 (EPA Expectation Draft) at 1.

[107] Waterkeepers Supp. 21 (quoting Maryland 2020-2022 Integrated Report at 40).

[108] *Id.*

[109] Maryland 2020-2022 Integrated Report at 40.

[110] Waterkeepers Supp. 21 (discussing Mike Pedone, Maryland Dep't of the Environment, Overview of Maryland's Water Quality Certification for the Conowingo Dam (Jan. 3, 2019) ("MDE Certification Overview")).

[111] MDE Certification Overview at 2.

Waterkeepers quote blocks of text from the 2018 Certification to highlight pollution that Conowingo allegedly (but not factually) causes such as the following: "The Reservoir has elevated levels of chlorophyll-A [sic] during summer months with increased water temperatures, which impact drinking water supply uses of the water."[112] MDE provides no support for this assertion, which is belied by the facts. The Conowingo Reservoir is only used as a backup drinking water supply, and Constellation provides chlorophyll-a sampling data to MDE. In 2022, chlorophyll-a sample results ranged from 0.87 µg/L to 15.46 µg/L, with an average of 8.83 µg/L and a median of 9.31 µg/L. There was only one occurrence of the 30-day moving average exceeding the applicable standard of 10.0 µg/L. Conowingo is not a cause of chlorophyll-a effects, and there is no substantial evidence showing that the Reservoir exceeds water quality standards.[113] This is simply an example of the lack of a sound scientific and legal basis for the 2018 Certification.

With regard to the Overview, the totality of the supposed "scientific basis" provided for the 2018 Certification are the following unsupported assertions:[114]

- "Science shows the linkage between the WQC conditions and the dam's discharge"
- "Not just using Conowingo as a scapegoat to solve a problem in the TMDL model, as has been alleged"

But these, again, are simply assertions, with no actual scientific support. More to its point, the Overview then dedicates two detailed slides to the "Economic Reality" and "Conowingo in Economic Context."[115] The focus of the Overview speaks for itself, and it adds nothing to suggest there is an adequate scientific basis for the conditions in the 2018 Certification.

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[112] Waterkeepers Supp. 8.

[113] *See also* Constellation Supp. 95-96 (arguing that the revised certification should reflect the current state of the chlorophyll-a sampling program).

[114] *See* MDE Certification Overview at 9.

[115] *Id.* at 10-11.

B. The 2018 Certification Is Not Defensible Based on the Infilling of the Conowingo Reservoir.

There is no dispute that the infilling of the Conowingo Reservoir has resulted in a diminished trapping capacity for the Project compared to the first 80+ years of its operation.[116] As discussed in detail in Constellation's Supplemental Submission (at 21-25), through the Conowingo WIP, the Susquehanna Watershed States have assigned the incremental nutrient reductions needed because of the Reservoir reaching dynamic equilibrium to themselves. This reflects the fact, as EPA explained, that the Reservoir's earlier trapping capacity "benefitted the Bay jurisdictions to varying degrees by lessening load reduction responsibilities under the Bay TMDL."[117] Waterkeepers attempt to parlay the infilling of the Reservoir to support the 2018 Certification by criticizing Conowingo's management of the Reservoir and claiming the incremental nutrient deposit caused by the infill justify the conditions, but those claims find no basis in fact or law. Instead, the EPA-approved Conowingo WIP appropriately allocated the incremental pollution-reduction targets to the polluters, not to Conowingo.

To begin, Waterkeepers have no grounds to disparage Conowingo for the infilling of the reservoir.[118] Waterkeepers start with a false premise and repeatedly beat the drum: "Conowingo Reservoir, just like any stormwater management pond, has to be dredged and maintained...."[119] Conowingo Reservoir is not, and has never been, a stormwater management pond. Factually, as Constellation has explained at length, no government entity ever required Conowingo to dredge

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[116] Constellation does not agree with the specific nutrient reductions identified by EPA in the mid-point TMDL analysis, but that issue is not germane here.

[117] *See* EPA, Evaluation of the Final Conowingo Watershed Implementation Plan, Enclosure at 1 (Jan. 24, 2022) (Ex. 6, "EPA Conowingo WIP Evaluation").

[118] *See* Waterkeepers Supp. 23 (asserting that the nutrient-reduction amounts follow from the "Dam's owners' ninety-year failure to address the buildup of nutrient-laden sediment behind it.").

[119] *Id.* at 2 (quotation marks omitted).

the reservoir,[120] Conowingo was not allowed to dredge the Reservoir without multiple regulatory approvals,[121] and there is no scientific evidence that dredging would provide environmental benefits.[122] Dredging is not considered a best management practice under the Conowingo WIP and is not close to being considered one.[123] Legally, Waterkeepers' point assumes the wrong baseline. Just because Conowingo used to trap significant amounts of upstream pollution does not mean that MDE can penalize it because it does less so now.[124] In other words, just because corrected TMDL calculations showed a shortfall and the need for additional nutrient reductions to make up for a *reduced benefit* from Conowingo does not mean that the Project is *responsible* for the harm caused by others. That responsibility remains with the Bay TMDL jurisdictions and the polluters.

Along similar lines, Waterkeepers misapply the teachings of the Conowingo WIP. As they admit, the final plan lacks "any mention of Constellation and MDE's water quality certification."[125] But as EPA has explained, although Constellation had no obligation to maintain the Reservoir, it "benefitted the Bay jurisdictions" because "had the reservoir reached trapping capacity prior to the Bay TMDL being established, the Bay jurisdictions would have had a greater lift to meet their respective Bay TMDL allocations."[126] If anything, Waterkeepers confirm why the 2018 Certification's nutrient reduction requirements are inappropriate—they admit that the

[120] *See* Constellation Supp. 50-52.

[121] *See id.* at 52-53.

[122] *Id.* at 53-56.

[123] *Id.*

[124] *See id.* at 22-24.

[125] Waterkeepers Supp. 25-26.

[126] Ex. 6 (EPA Conowingo WIP Evaluation), Enclosure at 1.

"requirement that Constellation reduce the Dam's annual nutrient discharges by 6 million pounds of nitrogen and 260,000 pounds of phosphorous was based on the findings in the Conowingo [WIP],"[127] but the Conowingo WIP itself did not consider Constellation responsible for those amounts, and assigned them elsewhere.

Finally, Waterkeepers lean heavily on the fact that the Chesapeake Bay Program "failed to identify any source of funding for the CWIP,"[128] but the lack of funding provides no justification under § 401 for MDE to impose the costs on Constellation. Again, MDE cannot establish a link between Conowingo and nutrient pollution, and even if it could, § 401 does not authorize a State to impose a purely financial obligation on a certificate applicant.[129] In any case, the Susquehanna Watershed States' obligations under the Conowingo WIP are legally enforceable by EPA,[130] and EPA has demonstrated its intent to ensure the States follow through.[131] To the extent Waterkeepers or MDE believe the Susquehanna Watershed States are failing to honor their commitments, they can seek judicial relief, as Maryland itself did with respect to Pennsylvania's and New York's commitments under their respective watershed implementation plans.[132]

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[127] Waterkeepers Supp. 21.

[128] *Id.* at 26; *see also id.* at 27 ("'[T]here are currently no funding mechanisms or commitments in place to implement the final CWIP and anticipated two-year milestones.'" (quoting Ex. 6 (EPA Conowingo WIP Evaluation), Enclosure at 5-6)).

[129] 33 U.S.C. § 1341(d); *see also* Constellation Supp. 46-49.

[130] *E.g.*, 33 U.S.C. § 1267(g)(1).

[131] *See* Ex. 14 (EPA Expectations Draft) at 2.

[132] *Maryland v. Wheeler*, Civ. No. 20-2530, Dkt. 1, Complaint (D.D.C. Sept. 10, 2020).

C. Climate Change Underscores the Need for MDE to Consider the Benefits of Conowingo.

The parties agree that climate change is affecting the mid-Atlantic region and the Bay itself.[133] Although increased precipitation and runoff caused by climate change are significant challenges to Bay restoration, Waterkeepers' attempts to connect these effects to Conowingo are misguided. Specifically, Waterkeepers' primary argument that the combination of the Conowingo Reservoir infilling and climate change has exacerbated nutrient and sediment scour events[134] and downstream trash[135] is readily refuted in three ways.

First, Waterkeepers rely much too heavily on the 2019 UMCES Study's note that despite the historical understanding that scour begins at about 400,000 cfs, "recent work suggests that the scour threshold … could be as low as 175,000 cfs."[136] The 2019 UMCES Study did not evaluate the merits of this statement, but simply referred to a separate 2012 report. That report, however, expressly did not consider scour specifically compared to other explanations: "This report … does not discuss the hydrodynamics of the specific *scour or deposition processes*."[137] Nor did that

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[133] Constellation Supp. 63-66.

[134] *E.g.*, Waterkeepers Supp. 2 ("Now, even during storm events that are far from exceptional, accumulated nutrients and sediments are scoured from the bottom of the reservoir and discharged into the River and the Bay."); *id.* at 42 ("[E]ven 'moderately large flows' now contribute to increased suspended sediment loads reaching well into the main stem of the Chesapeake Bay.").

[135] *Id.* at 37-38 ("In 2018, it was reported that Constellation had to open the Conowingo Dam flood gates multiple times, allowing a deluge of water carrying sediment and trash to pour into the upper bay, clogging harbors and coloring the water murky brown." (quotation omitted)).

[136] *See* Cindy M. Palinkas, et al., *Influences of a River Dam on Delivery and Fate of Sediments and Particulate Nutrients to the Adjacent Estuary: Case Study of Conowingo Dam and Chesapeake Bay*, 42 ESTUARIES AND COASTS 2072, 2089 (2019) (Ex. 5, "2019 UMCES Study"); *see also* Waterkeepers Supp. 44.

[137] Robert M. Hirsch, U.S. Geological Survey, *Flux of Nitrogen, Phosphorus, and Suspended Sediment from the Susquehanna River Basin to the Chesapeake Bay during Tropical Storm Lee, September 2011, as an Indicator of the Effects of Reservoir Sedimentation on Water Quality* at 5 (2012) (emphasis added), https://pubs.usgs.gov/sir/2012/5185/pdf/sir2012-5185-508.pdf.

report conclude that nutrient discharges increase at 175,000 cfs, but only that nutrient discharges increase "in the *range* of about 175,000 to 300,000 ft^3/s."[138] Instead, it notes that "[t]he discharge at which the [nutrient] increase[s] occur[] … is impossible to identify with precision."[139]

Second, even if there was evidence of additional sediment and nutrient scour caused by climate-changed induced flows (there is not), Waterkeepers are wrong to imply a connection to decreased water quality. With respect to sediment, studies have confirmed, for several reasons, that "increased suspended solid loads are not a threat to bay water quality" or "the water quality standards established by the TMDL…."[140] In a study conducted by UMCES and Maryland Geological Survey scientists, the authors concluded that following the passage of Hurricane Irene and Tropical Storm Lee in 2011, sediment scoured from behind Conowingo Dam was not individually discernable during testing, most likely because it was "mixed with the newly eroded … sediment from the watershed."[141]

Even to the extent sediment is scoured, as Constellation has shown (*e.g.*, Constellation Supplemental Submission at 37-41), the overwhelming weight of scientific evidence confirms that (1) particulates in Conowingo Reservoir that get scoured are largely inert;[142] and (2) down-estuary

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[138] *Id.* at 12 (emphasis added).

[139] *Id.*

[140] Carl F. Cerco & Mark R. Noel, *Impact of Reservoir Sediment Scour on Water Quality in a Downstream Estuary*, 45 J. ENVTL. QUALITY 894, 894, 903 (2016) (Ex. 23, "Cerco & Noel"); *see also* Carl F. Cerco, *Conowingo Reservoir Sedimentation and Chesapeake Bay: State of the Science*, 45 J. ENVTL. QUALITY 882, 884 (2016) https://acsess.onlinelibrary.wiley.com/doi/epdf/10.2134/jeq2015.05.0230 ("The most significant finding by Cerco and Noel (2016) is that increased suspended solids loads are not a threat to bay water quality.").

[141] Cindy M. Palinkas et al., *Sediment Deposition From Tropical Storms in the Upper Chesapeake Bay: Field Observations and Model Simulations*, 86 CONTINENTAL SHELF RSCH. 6, 14 (2014) (Ex. 32).

[142] *See* Ex. 12 (Zhang et al. Data Archive), SRB_load_estimates_output, MAR_DN_Annual_estimates.csv (Susquehanna River at Marietta) and CONE_DN_Annual_

transport of sediment from the Susquehanna River is significantly limited by trapping in the estuarine turbidity maximum in the upper Bay.[143] The assessment that sediment from the Susquehanna River transported during high-flow events remains in the upper Bay has been constant since scientists reviewed Hurricane Agnes in 1972.[144] That is especially true of nitrogen and phosphorous, which the 2019 UMCES Study authors concluded "are efficiently retained in the upper Bay, especially near the Susquehanna River mouth…."[145] And as both the 2019 UMCES Study and review of Hurricane Agnes conclude, the Bay has also long shown resilience to high-flow events.[146]

Third, Waterkeepers' claims about trash lack any connection to Conowingo. Constellation shares Waterkeepers' and Bay communities' concerns and frustration about the extraordinary amount of trash that passes downstream through the Susquehanna River to the Bay. However, Constellation did not introduce this trash. Waterkeepers say it "is immaterial how the trash or

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estimates.csv (Conestoga River), "load(true), kg/day") (showing that 2004 and 2011 had high amounts of dissolved nitrogen).

[143] *E.g.*, Ex. 5 (2019 UMCES Study) at 2090 ("[D]elivered particles coarsen and associated settling speeds increase as flow rates increase further amplifies upper Bay sediment trapping."). Constellation includes a full discussion in its Supplemental Submission at 37-41.

[144] C.F. Zabawa and J.R. Schubel, *Geologic Effects of Tropical Storm Agnes on Upper Chesapeake Bay*, 10 MARITIME SEDIMENTS 79, 83 (Dec. 1974), https://journals.lib.unb.ca/index.php/ag/article/view/1456/1824 ("Zabawa & Schubel") ("Most of the sediment discharged by the Susquehanna River was deposited upstream of [Howell Point]….").

[145] Ex. 5 (2019 UMCES Study) at 2091. *See* Constellation Supp. 31-33 for a full discussion.

[146] Ex. 5 (2019 UMCES Study) at 2091 ("[T]he estuary is remarkably resilient to storms…."); Zabawa & Schubel at 84 (With one exception, "between November 1972 and June 1973, … the Agnes layer was slowly obliterated by the activity of burrowing organisms.").

debris entered the reservoir,"[147] but that statement is unsupported and contrary to the legal standard in § 401 and the body of law implementing it.[148]

Nevertheless, as part of its corporate commitment to support Bay restoration, Constellation agreed in the Settlement, among other things, "to remove as much floating and water surface trash and debris that accumulates in the Reservoir behind the Conowingo Dam as is reasonably practicable, but in any event no less than fifty (50) [20-yard dumpsters] nor more than four hundred fifty (450) [20-yard dumpsters] of trash and debris per year…."[149] In the spring 2023 cleanup season alone, Constellation exceeded the upper end of this commitment, removing 520 dumpsters of debris that had accumulated behind the Dam. It is true that Constellation cannot remove all of the trash and debris that floats down the River to the Dam. But there is no basis to impose further requirements on Conowingo when the same trash and debris would pass downstream with or without a dam.

Far from supporting the draconian conditions in the 2018 Certification, Waterkeepers' evidence on climate change confirms that Conowingo's characteristics make it one of the most important power plants for facilitating the clean-energy transition to enable the retirement of polluters. As Constellation explained at length in its Supplemental Submission, Conowingo is large, with an installed capacity of 570.15 MW (enough to power about 165,000 homes); it is non-emitting; and it is dispatchable (meaning that within defined parameters, PJM can turn the plant

[147] Waterkeepers Supp. 10.

[148] *See* Constellation Supp. 11-16, 18-20.

[149] Ex. 8 (Conowingo Settlement) Attach. A, Art. XX (Trash and Debris).

on and off as its needed).[150] Conowingo's operation *directly* avoids PJM leaning on the dirtier, carbon-emitting generators in the region more broadly.[151]

But, even in the few days since Constellation submitted its Supplemental Submission, the need for Conowingo to combat climate change has further crystallized. On August 9, 2023, four of the nation's regional grid operators, including PJM, submitted comments to EPA *opposing* a proposed rule to reduce greenhouse gas emissions from power generation.[152] The grid operators write that although they are "working to facilitate a substantial increase in renewable generation, the challenges and risks to grid reliability associated with a diminishing amount of dispatchable generating capacity could be severely exacerbated if the Proposed Rule is adopted."[153] Putting their concerns bluntly, the grid operators warn that the new emissions requirements could "greatly exacerbate an ongoing loss of critical, dispatchable generating capacity that is needed to ensure grid reliability," and could result in a supply of reliable generation "far below what is needed to serve power demand, increasing the likelihood of significant power shortages."[154] New wind and solar facilities simply are not adequate replacements given that they are "intermittent" and "have distinctly different characteristics than synchronous machines."[155] Put simply, wind and solar

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[150] *See* Constellation Supp. 63-66.

[151] PJM Interconnection, L.L.C., 2018–2022 CO2, SO2 and NOX Emission Rates, at 3 (Apr. 27, 2023), https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/2022-emissions-report.ashx.

[152] *New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units*, Docket No. EPA-HQ-OAR-2023-0072, Joint Comments of Electric Reliability Council Of Texas, Inc.; Midcontinent Independent System Operator, Inc.; PJM Interconnection, L.L.C.; And Southwest Power Pool, Inc. (Aug. 8, 2023), https://www.pjm.com/-/media/documents/other-fed-state/20230808-comments-of-joint-isos-rtos-docket-epa-hq-oar-2023-0072.ashx.

[153] *Id.* at 1.

[154] *Id.* at 4, 5.

[155] *Id.* at 5.

plants "do not, at present, provide the same levels of essential reliability services – or attributes – as their [traditional] counterparts."[156]

As the International Energy Agency recently discussed, hydroelectric plants like Conowingo are essential to supporting "the rapid deployment and secure integration into electricity systems of solar PV and wind, whose electricity production can vary depending on factors like the weather and the time of day or year."[157] Among other reasons, hydropower facilities "can ramp their electricity generation up and down very rapidly compared with other power plants, … [which] enables them to adjust quickly to shifts in demand and to compensate for fluctuations in supply from other electricity sources."[158] If Conowingo were forced out of service because of extremely burdensome regulatory requirements, it would be even more difficult for polluting plants within PJM to retire.

Conowingo also supports the upstream operation of Constellation's 1,070 MW Muddy Run pumped storage facility, a hydroelectric plant that works by pumping water into an uphill pond during off-peak hours and generating when the energy is needed. Pumped storage facilities like Muddy Run, are especially critical to deploying intermittent renewables because they enable grid operators to store excess power as it is generated and to use that power at times when it's needed—for example, during the evening ramp-up when solar output declines or when wind generation decreases.

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[156] *Id.*

[157] International Energy Agency, Hydropower Special Market Report at 7 (July 2021), https://iea.blob.core.windows.net/assets/4d2d4365-08c6-4171-9ea2-8549fabd1c8d/HydropowerSpecialMarketReport_corr.pdf.

[158] *Id.*; *see also id.* at 115 ("During the world's transition to clean energy, hydropower installations could be crucial to electricity security, as they can produce large amounts of low-carbon electricity, guarantee capacity availability with fast ramp-up and -down rates, and provide ancillary services – including inertia – to ensure system stability.").

For these reasons, Conowingo is essential to meeting Maryland's Climate Pathway Goals. As MDE observed, to achieve 60% greenhouse gas emission by 2031 and attain net-zero greenhouse gas emissions by 2045, Maryland not only needs to decarbonize the existing grid, but it also must develop significant new amounts of clean generation in order to support economy-wide electrification initiatives.[159] In its plans for developing new amounts of renewable generation, the Climate Pathway report assumes the continued contribution of existing hydroelectric power.[160] Professor Jesse Jenkins of the Princeton ZERO Lab described the challenges of meeting Maryland's goals, even assuming the continued contribution of existing hydroelectric power:

> [W]e must grow that share of carbon-free electricity from 40 percent to 100 percent as fast as we possibly can—and do so even as we dramatically expand our electricity supply, which must more than double by 2050 to accommodate all the new EVs and heat pumps, electrify industrial processes, and so forth. To meet those twin challenges, we'll have to build as much new clean generation by 2035 as the total electricity produced by all sources today, then build that same amount again by 2050. This could ultimately require utility-scale solar projects that cover an area the size of Massachusetts, Rhode Island, and Connecticut combined, and wind farms that span an area equal to that of Illinois, Indiana, Ohio, Kentucky, and Tennessee. (Because turbines need to be spaced out, the actual equipment of wind farms would physically occupy only 1 per- cent of the area needed.)
>
> In short, it took us about 150 years from the days of Edison, Tesla, and Westinghouse to build today's grid. Now we have to double the grid's electricity generation, using only new, clean resources, in just three decades.[161]

The Maryland Climate Pathway report acknowledges the challenges in meeting the State's goals. *Even with Conowingo's continued operation* and significant expansions in clean power within

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[159] Maryland Department of the Environment, *Maryland's Climate Pathway* at 37 (June 2023), https://mde.maryland.gov/programs/air/ClimateChange/Documents/60x31%20Plan/Maryland%27s%20Climate%20Pathway%20Report.pdf ("Climate Pathways Report").

[160] *Id.* at 35.

[161] Jesse D. Jenkins, *What "Electrify Everything" Actually Looks Like*, Mother Jones (May/June 2023), https://www.motherjones.com/environment/2023/04/electrify-everything-scope-data/.

Maryland, the Climate Pathways Report notes that "Maryland must also increase imports from other states." [162] It also warns that "[t]o replace coal and other fossil fuels, Maryland needs to achieve a rapid deployment of renewable technologies that ensures a resilient grid in response to growing demand and concerns of instability." [163] Thus, Conowingo is not only needed for its clean megawatts, it is also needed to provide the grid stability and flexibility that is essential to enabling polluting generators to retire. In sum, existing renewable, dispatchable plants like Conowingo and Muddy Run are vital to decarbonizing the grid and accomplishing Maryland's climate pathway goals.

Slowing the pace of climate change requires operating the electric system as sustainably as possible. Conowingo is a key part of this work, both in the sheer energy it provides and the way in which it does so. MDE must consider these features in evaluating the Project's effect on water quality.

V. There Is No Legal Basis Under § 401 or Maryland's Water Quality Standards to Justify Conditions Relating to Fish, Eels, Mussels and Oysters Beyond the Conditions in the DOI and MDE Settlements.

Waterkeepers' contentions that MDE must maintain the 2018 Certification and impose even stricter requirements on Conowingo with regards to fish, eels, mussels, and oysters is unreasonable, excessive, costly, and untethered to any water quality standard. Waterkeepers discuss at length the fish, eels, mussels, and oysters of the Susquehanna River and Chesapeake Bay, but present no substantial evidence why the provisions of the 2016 DOI settlement (attached as Ex. 33) and 2019 MDE settlement are inadequate under § 401 or Maryland's water quality standards. Waterkeepers seek a requirement that Constellation restore eel and mussel populations,

[162] Climate Pathway Report at 35, 36.

[163] *Id.* at 37.

and expeditious implementation of the Fishway Prescription from the 2016 DOI settlement—which, ironically, is being held up only by Waterkeepers' own undefined challenges seeking more.[164] The best way to achieve Waterkeepers' goals is to allow the DOI and MDE settlements to take effect.

A. There Is No Basis on Which to Find that DOI's Fishways Prescription Is Inadequate Under § 401 or Maryland's Water Quality Standards.

Conowingo Dam was built nearly 100 years ago as the United States was beginning to harness the benefits of renewable hydroelectric power on a large scale. Although large hydroelectric projects like Conowingo were new, Congress understood the effects that such projects could have on aquatic life and made the policy decision to balance the need for power with impacts on fisheries. Eight years before Conowingo opened, on June 10, 1920, Congress enacted Section 18 of the Federal Power Act into law,[165] which contains a requirement for "fishways as may be prescribed by the Secretary of the Interior."[166] That requirement remains largely unchanged today.

Thus, for over 100 years, the Department of the Interior has had statutory responsibility to develop plans to mitigate the risks that hydroelectric power poses to fisheries. For that reason, DOI's fishways prescription *must* be included by FERC in the operating license for a hydroelectric project operating on navigable waters.

[164] Waterkeepers Supp. 3, 4, 62.

[165] 16 U.S.C. § 811.

[166] Federal Water Power Act of 1920, 41 Stat. 1063, 1073 (1920).

B. The 2016 DOI Settlement Provides the Most Ecologically and Economically Sound Solution to Improve Fish Populations.

Fish populations have been impacted on the Susquehanna River by *all* of the hydropower facilities on the river. In connection with the Muddy Run and Conowingo relicensing proceedings, Constellation agreed to a landmark Fishways Prescription with DOI. The company agreed to spend approximately $300 million to design and construct new fish and eel passage facilities, and to "trap and truck" fish all the way past four dams on the Susquehanna River (avoiding the need for fish to successfully pass over four separate dams). Supplementing the Conowingo Project's volitional passage facilities with a trap and transport program allows for greater benefits for the American shad population than volitional passage alone. The trapping and trucking of these fish above three other dams on the Susquehanna River is not a remedy that DOI could impose on Constellation. Transporting these fish far above Conowingo, and the adaptive management provisions of the DOI settlement, make it groundbreaking and the best way to achieve the goals that Waterkeepers themselves seek. To be clear, the 12 million shad and five million herring that Waterkeepers seek *are already targets of the DOI settlement*. Currently, those populations do not exist, and it will take time to restore populations to those levels. The DOI settlement has an adaptive management plan for doing so.

For that reason, the DOI settlement does not require Conowingo to build capacity to pass that many fish immediately. Logically, DOI set specific targets for increases in fish populations. Furthermore, the DOI settlement has specific targets for increases in fish populations, with an adaptive management provision that allows DOI to make changes as the new facilities become operational and fish populations grow. If present measures are not working, the Prescription allows a shift to other measures.

MDE accepted DOI's measures in the MDE settlement with discrete further enhancements for flow to attract fish and eels to the passage facilities. There is no basis for Waterkeepers to contend that these measures—required by DOI, maintained by MDE in its settlement, and approved and found adequate by FERC—are legally insufficient under § 401.

1. Waterkeepers' Concerns About Shad and Herring Are Allayed by the 2016 DOI Settlement.

To the extent Waterkeepers raise cogent concerns with regard to shad and herring, those concerns are addressed by the DOI settlement. Waterkeepers fault Conowingo for the current state of the shad fishery but ignore the fact that there was a key management decision that agencies made in the early 2000s that had negative impacts on shad populations. That decision was to end trap and truck from Conowingo, in favor of new fish lifts and volitional passage at each of the two dams on the Susquehanna River immediately upstream of Conowingo. Conowingo has committed to restoring the shad and herring fishery beginning with the installation of a prototype fish lift in 1972; the 2016 DOI settlement renews and expands that commitment. Population restoration does not happen overnight. That is why the 2016 DOI settlement took great pains to recognize where the fishery is today and to build a site-specific adaptive management plan, based on state of the science, technology, and population modeling over the life of the new license. The population growth of the fish at issue is appropriately modeled on an exponential curve and, thus, it is reasonable to expect that fish populations will grow more and more rapidly as the DOI settlement measures allow more fish to pass over the Dam and reach upstream spawning grounds. As The Nature Conservancy lauds on its website, given its involvement in the DOI settlement, the settlement will "significantly improve the number of fish migrating over the dam to and from

spawning grounds and reflect the goal of restoring self-sustaining populations of millions of shad, river herring and American eel to the Susquehanna River."[167]

2. Waterkeepers' Concerns About Eels Are Also Allayed by the DOI Settlement.

There are several ways in which Waterkeepers' concerns about eels are addressed by the DOI settlement. Waterkeepers raise concerns regarding the number of eels being passed over Conowingo Dam but fail to put that number in context. Eels do not home to a specific river like shad do. Thus, their population in a particular river must be viewed in context relative to the population in surrounding rivers. The eels that are present in the Susquehanna River arrive there from the Sargasso Sea, carried by the North Atlantic current. The current can take them to different locations, independent of anything Conowingo can do. And when eels that do migrate to the Susquehanna River go back to the Sargasso Sea to reproduce and die, their offspring do not necessarily return to the same river.

Data that is available goes to both the number of eels that have been captured in the eel ramps at Conowingo relative to comparable facilities on the East Coast and the trends in those captures over time. Exhibit 34 is an analysis of trends in eel captures at Conowingo Dam when compared to captures at comparable facilities on the Roanoke River (Roanoke Rapids Dam, Virginia), the Connecticut River (Holyoke Dam, Massachusetts), the Sebasticook River (Benton Falls Dam, Maine) and the St. Lawrence River (Beauharnois Dam, Quebec). These dams, like

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[167] *Chesapeake Bay Highlights*, THE NATURE CONSERVANCY (Dec. 10, 2019), https://www.nature.org/en-us/about-us/where-we-work/priority-landscapes/chesapeake-bay/chesapeake-bay-top-10/#:~:text=During%20the%20dam's%20recent%20relicensing,of%20restoring%20self%2Dsustaining%20populations.

Conowingo, are the first dam barrier to eels along a river system and have records of upstream eel passage over a similar period of record.

As can be seen from Figure 3 of Exhibit 34, the cumulative passage of American eel at Conowingo, since 2010, is the second highest of all rivers analyzed and is comparable to that at the Roanoke Rapids Project, which has the highest cumulative total. Figures 1 and 2 of Exhibit 34 show that each of the rivers analyzed demonstrate inter-annual variability. This is not surprising given the panmictic nature of the population and the variety of factors that affect both migration and capture. It is also significant each of the dams analyzed had a peak passage year followed by declines to more modest numbers. As referenced in Exhibit 34, other researchers have seen this and hypothesized that the peak run on any river could be driven by a backlog of eels waiting for passage, with more modest numbers in subsequent years as the population available to pass stabilizes. More data is needed to prove this hypothesis, but the general point is that a decline after a peak year is not unique to Conowingo.

By placing eel ramps at two locations, as prescribed by the DOI settlement, Constellation is improving eel passage at the Dam and throughout the system as a whole, as Conowingo takes steps to transport the eels beyond the three upstream hydroelectric projects as well. Waterkeepers complain of the lack of a permanent ramp on the east side of the Dam, but they conveniently fail to mention the Octararo ramp and the fact that the temporary east eel ramp will be part of a complicated, active development study. It is difficult to put a ramp on the east side of the Dam because flows and debris from the spillway could damage it on a frequent basis, requiring frequent repair/replacement. The proposed test eel ramp within the rebuilt East Fish Lift is based on consultation with the pertinent resource agencies and a desire to have eel ramps that cover eels migrating in various river locations. It is also based on the practical consideration of not having

eel ramps on the spillway section of Conowingo Dam. In total, the three ramp facilities represent a substantial ongoing operations effort by Constellation for the successful restoration of American eels both around Conowingo and within the Susquehanna River as a whole.

Waterkeepers also criticize the plans for downstream passage of eels. Constellation has committed to 85 percent downstream passage efficiency for the adult (silver phase) of American eel at Conowingo as part of the DOI settlement. Further, Constellation has committed to complete a downstream passage effectiveness study by 2027 to test this passage efficiency. This condition is consistent with the 2018 Certification. If downstream passage efficiency is less than 85 percent for adult, silver phase eels, then DOI has reserved the right to exercise its reservation of authority to address the issue.[168] In addition, the MDE settlement requires that Conowingo "shall be operated to provide safe, timely, and effective downstream passage of American eels."[169] Waterkeepers have presented no evidence why the conditions approved by DOI and MDE in their respective settlements are insufficient to provide for the safe downstream passage of eels.

Finally, it is significant that Constellation's commitments to the restoration of American eel, as embodied in the DOI and MDE settlements, go above and beyond what has typically been required in a FERC license or a § 401 certification for an individual project. First, the fact that Constellation traps and transports eels from below Conowingo to above the York Haven project goes beyond Conowingo's own obligations (or any requirement that DOI or MDE could impose on it) to pass eels above its own dam, which has significant benefits to the basin-wide restoration program by not requiring the regulatory and cost burden of imposing eel passage at each of the upstream facilities. In addition, as part of the DOI settlements at Conowingo and Muddy Run,

[168] DOI Modified Prescription at Section 12.7.5.

[169] Ex. 8 (Conowingo Settlement) Attach. A, Art. XX (Eel Passage).

Constellation has committed $150,000 in funding for a basin-wide study of out-migrating American eel to be conducted by the USFWS. This three-season study is now in its second year and will provide information relative to the route of passage of adult (silver) eel at Conowingo as well as insights to turbine survival. Third, as part of the MDE settlement, Section 2.4(b), Constellation committed to a payment of $1 million to the Power Plant Research Program of MDNR for the purpose of funding research and projects related to eels and eel passage. This benefit, and others like it, can only be preserved if the settlement itself is preserved.

C. The MDE Settlement Provides the Most Ecologically and Economically Sound Solution to Improve Mussel and Oyster Population Counts.

As is the case with the DOI settlement and fish and eels, the MDE settlement provides the best opportunity for MDE to restore mussel and oyster populations. The settlement directly supports mussel populations in several ways, including measures that MDE could not impose in a § 401 certification. First, Section 2.2(a) of the settlement provides substantial payments for mussel restoration, which total $4.5 million in the first three years of the license. Constellation has already paid $4.0 million of that amount. In addition, Constellation has committed to pay an additional $250,000 per year for the remaining 47 years of the license (adjusted for inflation), which will total at least $11.75 million more for mussel restoration activities. Constellation also agreed in Section 2.2(b) of the settlement to donate land to MDE for the construction of a mussel hatchery. MDE has not yet moved forward with its plans for the mussel hatchery or indicated that it intends to do so. But the point remains that Constellation's commitments—including its eel restoration efforts described above, which are designed to aid mussel populations—are sufficient to satisfy § 401, particularly when (for all the reasons Constellation has provided) Conowingo is not responsible for the nutrients in the water that mussels may help to remove.

Waterkeepers also raise concerns about the size and quality of oyster populations. But again, although Conowingo is not responsible for those issues or for the overall water quality of the Susquehanna River and the Bay, it has nevertheless committed to support oyster restoration efforts with significant financial payments in § 2.3 of the MDE settlement. Waterkeepers also conveniently ignore the well-publicized oyster overfishing problem in the Chesapeake Bay.[170] Oyster quality and population levels are a Bay-wide problem brought on by centuries of pollution and overfishing. Conowingo cannot be blamed for that issue and should not be required to commit more than it already has to addressing it.

VI. There Is No Legal Basis Under § 401 or Maryland's Water Quality Standards to Justify Re-Adopting TNC's Proposed Flow Regime.

Waterkeepers cut and paste significant portions of comments filed by The Nature Conservancy ("TNC") in response to the MDE-Constellation Offer of Settlement at FERC, and urge MDE to re-adopt TNC's proposed flow regime (which MDE previously adopted as the "Modified Year 10 Flow Regime" in Attachment 5 of the 2018 Certification) in its decision on reconsideration.[171] TNC did not challenge FERC's issuance of a new license for Conowingo, and it is not a party to these proceedings on reconsideration. Constellation already has addressed at length the TNC/2018 Certification's "Year 10" flow regime in its opening supplemental submission.[172] Waterkeepers' incorporation of the TNC comments provides no adequate basis or substantial evidence for MDE to re-adopt the TNC flow regime, for several additional reasons.

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[170] *See*, *e.g.*, Chesapeake Legal Alliance, Fisheries + Oysters, https://www.chesapeakelegal.org/bay-issues/fisheries-oysters/#:~:text=Menhaden%20are%20currently%20overfished%2C%20which,largely%20on%20sustainable%20oyster%20management.

[171] *See* Waterkeepers Supp. 4, 54-59.

[172] *See* Constellation Supp. 67-82.

A. In Order to Evaluate Waterkeepers' Flow Regime Arguments, It Is Important to Understand First What FERC Found Regarding Flow Impacts and What Constellation Subsequently Accepted in the MDE Settlement.

FERC recognized in its Final Environmental Impact Statement ("FEIS") that "[t]he flow regime downstream of Conowingo dam has the potential to affect a wide range of resources, including SAV; the spawning, incubation, and rearing habitat for a variety of fish species; and habitat for freshwater mussels, other invertebrates, map turtles, and waterfowl nesting," as well as "the potential to cause fish mortality due to stranding and to affect upstream fish migration."[173] As a result, FERC evaluated at length several different potential flow regimes—Conowingo's proposed operation, an alternative "run-of-river" operation, and TNC's proposed flow regime—on SAV, fish habitat, fish migration, fish stranding, freshwater mussels, and other aquatic invertebrates.[174]

In doing so, FERC evaluated the TNC flow regime extensively (at pages 148-161 of the FEIS) and Constellation respectfully incorporates that analysis herein.[175] Ultimately, FERC found that there is no simple correlation between particular changes in water flows and improvements in fish habitat: certain changes in flows were helpful for some fish species during certain life stages, but harmful for others.[176] FERC found that Conowingo had provided studies with "substantial information on the effects of flow releases from Conowingo," which showed that Conowingo's existing flow regime was "generally adequate for protection of aquatic resources downstream of

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[173] FERC, Office of Energy Projects, *Final Multi-Project Environmental Impact Statement for Hydropower Licenses: Susquehanna River Hydroelectric Projects*, at 148 (Mar. 11, 2015) ("FEIS"), https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20150311-4005&optimized=false.

[174] *Id*.

[175] *See id.* at 148-61.

[176] *Id.* at 158.

the project."[177] But FERC found that certain changes were appropriate, and it explained that "our recommendation for a modified flow regime ... is based on the TNC criteria for the habitat persistence analysis that the range of flows during peaking operation provides the TNC target of 70 percent of MWUA by month."[178] In other words, FERC adopted those changes in Conowingo's flow regime that were most significant to achieving the target advocated by TNC.

As Constellation has previously explained, in addition to the modifications to the flow regime recommended by FERC, Constellation agreed to far more substantial modifications to Conowingo's flow regime in its settlement with MDE.[179] Given that there was substantial evidence, analyzed in the FEIS, to support the adequacy of the flow regime recommended in the FEIS to protect fish habitats, the modified flow regime in the MDE settlement provides yet more changes in flow regime than FERC concluded was necessary—arguably offering additional enhancements in fish habitats shown in Constellation's previous submission.[180] Against this background, and as shown further below, there is no evidentiary or legal basis for MDE to reject Constellation's agreed modified flow regime in the MDE settlement as insufficient to comply with Maryland's water quality standards.

B. TNC's Objections at FERC to the Flow Regime in the MDE Settlement Are Unfounded.

1. The Detailed Analysis in the FEIS Is Entitled to Deference.

TNC essentially contended at FERC that FERC got it wrong in its FEIS, and that the changes in the MDE settlement are inadequate to solve the problem. At the outset in evaluating

[177] *Id*.

[178] *Id.* at 429.

[179] *See* Constellation Supp. 73-74.

[180] *See id*. at 75-78 & Table 2.

TNC's comments, it is important to underscore how FERC conducts the statutorily-required environmental impact analysis that leads to the FEIS, and the qualifications of the personnel who prepare it. The FEIS was completed by a multi-disciplinary team of scientists, engineers, and resource planners. In this multi-disciplinary approach, specialists conduct separate analyses of each of the resource areas, documenting existing conditions and evaluating alternatives proposed by the license applicant (Constellation) and commenting entities (such as TNC). FERC's environmental analysis is documented in each resource section, which is separate from the "developmental analysis" section of the FEIS (where FERC balances environmental enhancement measures, on the one hand, and energy generation and project operation impacts, on the other). FERC provides a list of preparers and their educational background as part of the FEIS. In this case, the senior FERC staff and FERC consultants (from the acclaimed engineering firm Louis Berger)[181] who prepared the section of the FEIS associated with downstream flows are highly experienced and knowledgeable regarding the resource issues associated with river flows downstream of Conowingo Dam. As a result of their background and breadth of experience, the technical assessments of these individuals are entitled to significant weight in evaluating Conowingo flow regime issues.

[181] Louis Berger is an international interdisciplinary company that provides engineering advice, with sectors focusing on water and the environment. It is one of the largest companies of its kind in the world.

Table 1 – Senior FERC Staff and Consultants (Louis Berger) Responsible for Aspects of the FEIS Associated with Downstream Flows

NAME	FEIS RESPONSIBILITY	HIGHEST EDUCATION DEGREE	YEARS EXPERIENCE (2015)
Andrew Bernick (FERC)	Terrestrial Resources. T&E Species, Mussels	Ph.D. Ecology, Evolutionary Biology and Behavior	22 years
John Mudre (FERC)	Water Resources	Ph.D. Fisheries Scientist	29 years
Peter Foote (Louis Berger)	Task Manager – Fisheries and Water Quality	MS Fisheries Biology	36 years
Doug Hjorth (Louis Berger)	Quality Control	MA Biology	45 years
Drew Miller (Louis Berger)	Mussels	Ph.D. Aquatic Biology	39 years

2. TNC's specific objections are unfounded.

TNC provided a variety of figures comparing the minimum flows in the MDE settlement agreement to various flow metrics[182]—specifically, Figure 1 set forth a median flow comparison,[183] and Figure 2 compared the MDE settlement agreement flows to 5%, 10%, 75% and 95% exceedance flows, as well as the median flows.[184] Significantly, there is nothing in this part of TNC's analysis that evaluates the adequacy of the MDE settlement flows in terms of the *physical drivers of habitat* in the Susquehanna River downstream of Conowingo Dam, such as available substrate, or depth and velocity available under various flows. Rather, the TNC analysis is based on what is known as the "natural flow paradigm" and broad ecological principals, which are articulated in the following TNC source documents:

[182] *See generally* Waterkeepers Supp. 54-59.

[183] *Id.* at 55.

[184] *Id*. at 58.

- Ecosystem Flow Recommendations for the Susquehanna River Basin, TNC, November 2010.
- Final EPA-USGS Technical Report: Protecting Aquatic Life from Effects of Hydrologic Alteration, EPA Report 822–R–16–007 USGS Scientific Investigations Report 2016–5164.

Each of these documents is a policy-level document designed to guide regulators in either setting stream flow standards or policies based on the natural flow paradigm and broad ecological principles.[185] Both documents provide only general, abstract approaches to the management of instream flows, without detailed site information other than hydrology—although both make provision for the inclusion of more detailed information, if available. Neither of these methods was designed to replace judgments made based on site-specific studies, as was conducted by Constellation in connection with the FERC Integrated Licensing Process (ILP). In fact, Figure 11 of the EPA/USGS reference shows the preeminent place physical habitat modeling (green boxes) plays in the evaluation of changes in discharge patterns—which is precisely what Constellation presented to FERC in its Study RSP 3.15:

[185] In fact, the EPA/USGS document is an inventory of state programs for achieving designated uses, such as recommendations for how states can set standards. It is noteworthy that there are no quantitative standards listed for Maryland designed to achieve designated uses relative to flow.

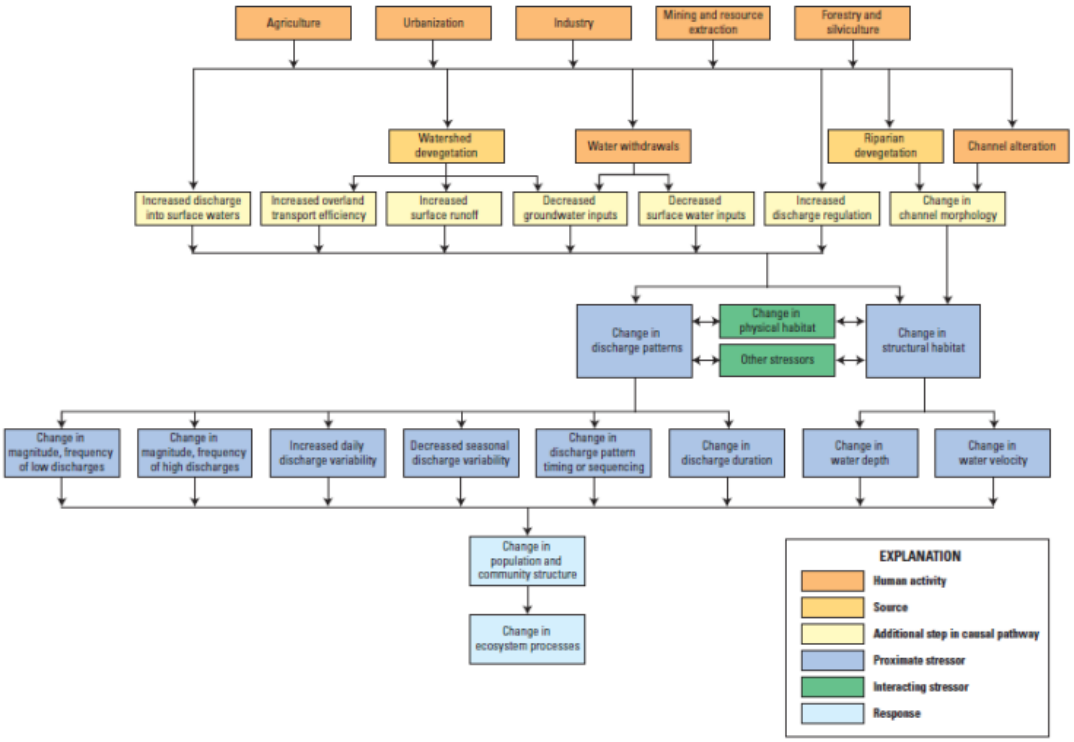

Figure 11. Example conceptual diagram illustrating the ecological effects of human-induced flow alteration from the U.S. Environmental Protection Agency Causal Analysis/Diagnosis Decision Information System (CADDIS).

In TNC's October 29, 2019 filing at FERC,[186] TNC referenced several of the general ecologic elements it wanted FERC to consider in making a flow decision. These elements included fish community, macroinvertebrate, and mussel populations, as well as submerged aquatic vegetation and sediment starvation. From a site-specific macrohabitat perspective, each of these elements is tied to existing and potential substrate of the Susquehanna River in the 3.5 mile-section between Conowingo Dam and Deer Creek. As such, it is important to take into account the most limiting habitat feature in this section—for all of these ecologic elements—which is *substrate*.

[186] *Conowingo Hydroelectric Project*, FERC Docket No. P-405, Comments of The Nature Conservancy (Oct. 29, 2019).

The FERC record contains excellent substrate mapping of the 3.5 mile-section immediately downstream of Conowingo Dam. This mapping was included in Constellation's Supplemental Submission, and it shows a river channel dominated by *bedrock substrate* everywhere except for some limited areas around islands and at the mouths of Octoraro and Deer Creeks.

The general ecological assertion made by TNC and others is that dams generally, and Conowingo Dam specifically, trap a large portion of coarse sediments above the dam, effectively starving the downstream waters of habitat-forming bottom gravel and sediments. The point missing in this general ecological assertion by TNC is what would happen to the coarse sediments if they were not trapped behind the Dam. Study RSP 3.15, titled "Sediment Introduction and Transport Study," concluded: "Historical information and geological data suggest that prior to construction of Conowingo Dam the river had great enough energy and stream power throughout the Project area to sustain a mobile bedload with little sediment deposition until the river mouth was reached."[187]

In its FEIS, FERC agreed with the conclusions of RSP 3.15 and found the following:

> The substrate below Conowingo dam consists mainly of bedrock, with some boulders, cobbles, and areas of finer sediments. Flow conditions in the river are naturally turbulent with high velocities inhibiting deposition until the change in gradient near the mouth of Deer Creek, about 4 miles downstream of the dam. The river substrate in this reach was likely similar to today's conditions prior to the construction of Conowingo dam, with areas of localized sediment inflows from tributaries. Therefore, high-velocity turbulent flow conditions in the river below the dam would eventually transport the sand and gravel that bypass the Conowingo dam toward the Chesapeake Bay.[188]

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[187] *See* Gomez and Sullivan Engineers, P.C., Final Study Report Sediment Introduction and Transport Study (RSP 3.15) at 4 (Aug. 2012), https://mde.maryland.gov/programs/Water/WetlandsandWaterways/Documents/ExelonMD/FERC/Conowingo-FRSP-3.15.pdf

[188] FEIS at 78-79.

These findings (and the underlying substrate conditions they describe) influence and limit the role of flow management in improving the general ecologic conditions relative to fish community, macroinvertebrate and mussel populations and SAV, all of which depend on substrate as a driving variable for habitat. This is not to say that hydraulic characteristics (such as depth and velocity) will not have benefits to specific ecological elements in specific locations. That is why FERC required, and Constellation completed, the instream flow study (RSP 3.16) below Conowingo Dam. It is also why Constellation entered settlements with DOI in 2016 and MDE in 2019, which, in addition to providing an enhanced flow regime, include significant conditions for both mussel and SAV restoration.

The flow management aspects of the MDE settlement, together with the DOI Fish Passage settlement, address the same four elements of flow management considered by TNC. These elements are minimum flows, maximum flows, down-ramping, and up-ramping. The efficacy of Conowingo's minimum flows, down-ramping and up-ramping were previously addressed at length in Constellation's Supplemental Submission.[189]

Maximum flows also were addressed in Constellation's Supplemental Submission, but further information is relevant in response to Waterkeepers' Supplemental Submission. Given Waterkeepers reliance on TNC, it is significant to note TNC's submission to FERC in February 2015, which included a Declaration by Dr. Clair B. Stalnaker. Dr. Stalnaker made the following statement:

> Where protection, enhancement, or recovery of aquatic species of concern is recognized as a fundamental resource management objective, as it is in this proceeding, the in river life stages and periodicity of each species should be compared to corresponding hydrology and *suitable persistent habitat time series representing historical conditions available across all water year conditions*.[190]

[189] *See* Constellation Supp. 73-82.

[190] Declaration of Dr. Clair B. Stalnaker, ¶ 15 (emphasis added) (Ex. 35).

This is *not* the "persistent habitat" analysis that TNC relies on for its maximum flow restriction proposal. Rather than looking at "historical conditions available across all water year conditions," TNC relied on a habitat analysis that only looked at flow pairs between proposed minimum flows and flows up to 86,000 cfs. FERC could have required Constellation to look at a series of high natural flows as part of its persistent habitat analysis, but instead took a more pragmatic approach, acknowledging that flows greater than 86,000 cfs occur on a regular basis in every month of the year on the Susquehanna River and that those flows would have as great or greater impact on the physical habitat downstream of Conowingo as maximum flows produced by generation at the Project. Despite this, Constellation nevertheless agreed, in the MDE settlement, to restrict maximum flows.

When the flow characteristics of the Susquehanna River are applied to the habitat studies conducted as part of licensing proceedings, it is clear that both the minimum flow and maximum flow elements of the MDE settlement are more than adequately protective of the aquatic life of the lower Susquehanna River. It is also clear that the DOI settlement provisions, which allow for modifications of Project operations to achieve fish passage efficiency goals, as part of an adaptive management program, obviate the need for any up-ramping requirements other than those included in the MDE settlement. Finally, Constellation's analysis of down-ramping in its Supplemental Submission describes the rationale and adequacy of the down-ramping restrictions in the MDE settlement.[191]

[191] *See* Constellation Supp. 80-81.

C. It Also Is Important to Take into Account the Feasibility of Implementation of Flow Regime Restrictions.

Implementing minimum, maximum, and up- and down-ramping flow requirements at Conowingo is challenging as a result of several factors: the variability of flows coming into Conowingo Reservoir as a result of the operation of the Holtwood and Safe Harbor upstream hydroelectric projects; the need to maintain certain water levels for recreational requirements in the Reservoir; and the efforts to generate renewable energy at both Conowingo and the Muddy Run pumped storage project, which also utilizes the Reservoir. The challenges presented by Holtwood and Safe Harbor are particularly difficult. These two projects are located downriver from the Marietta USGS gage, and thus are located between the gage and Conowingo, and they have no minimum or continuous flow release requirements at any point in the year. They frequently provide *no* inflow into Conowingo Reservoir for extended periods under some conditions. The Safe Harbor project has no minimum flow requirement and has a hydraulic generation capacity up to 110,000 cfs. Holtwood, located immediately downstream of Safe Harbor and immediately upstream of Conowingo, must continuously release 800 cfs or net inflow, if releases from Safe Harbor are less than 800 cfs. Therefore, as a result of the "or net inflow" component of Holtwood's minimum flow requirement, when Safe Harbor shuts down flow releases, Holtwood effectively also has no continuous flow requirement.

In its settlement with MDE, Constellation took all of these considerations into account, agreeing to significant new flow regime conditions—beyond what FERC's senior biologists had concluded were necessary to protect aquatic habitats—that Constellation believed still could be implemented, within the challenges identified above.

Under Conowingo's existing flow regime, the Project must pass the monthly minimum flows (or Marietta gage inflow, if less) on an instantaneous basis, regardless of actual inflow to

Conowingo Reservoir, even if the upstream projects are releasing little or no water. When that happens, the storage capacity of Conowingo Reservoir is depleted, and the ability of Conowingo to provide higher minimum flows or even a run-of-river operation is greatly diminished due to the lack of minimum flows and flow management at the upstream projects. In agreeing to provide minimum flows tied to "or inflow at Marietta, whichever is less," Constellation has effectively agreed to reregulate the Susquehanna River to provide flows for habitat regardless of inflow conditions or power generation needs of the grid. This requires a careful balancing and advance planning of Conowingo Reservoir management to meet recreation, generation and flow requirements. It is a balancing that Conowingo has done since 1989, when the current minimum flow requirements were instituted.

That said, the TNC flow proposal, adopted in the 2018 Certification's "Year 10 Flow Regime" and advocated by Waterkeepers, would take this a step further by requiring variable minimum flows that are fixed depending on the inflow at Marietta. For instance:

Month	**Minimum Flows**
November	6,000 cfs when Marietta is below the Q50 (50% exceedance flow) 11,000 cfs when Marietta is above the Q50[192]

There are several problems with this requirement from an implementation perspective. First, the minimum flows are not tied to the "the flow specified or inflow at Marietta, whichever is less," which makes Conowingo's job of re-regulating the river much more complicated, because the required minimum flow is independent of both the flows provided by nature as well as the flows provided by the upstream plants. Second, a variable cycle (e.g., either 6,000 cfs or 11,000 cfs) with fixed flows dependent simply on the Q50 ignores the flow impacts of the upstream

[192] *See* 2018 Certification, at Attach. 5.

projects. In these circumstances, it would be extremely difficult, if not impossible, for Conowingo to manage Reservoir levels and continue to maintain recreation requirements and generation needs at Conowingo and Muddy Run. In other words, as discussed further below, significant benefits, including amounts of renewable generation that are directly relevant to considerations of climate change and water quality, would be lost.

All of these considerations are addressed adequately in the settlement agreement's significant changes to Conowingo's flow regime. Those changes will cause the loss of significant amounts of renewable generation, while providing modest improvements in fish habitats not deemed to be significant or necessary by FERC's senior biologists; nonetheless, Constellation agreed to that excess burden as part of the full settlement agreement. Constellation is fully prepared to abide by its settlement with MDE, even though the cost of doing so is materially higher than it was when the settlement was reached. But there is no evidence that this settlement flow regime is inadequate to satisfy the requirements of § 401 and Maryland's water quality standards.

D. The MDE Settlement Flow Regime Preserves Megawatt-Hours of Renewable Generation that Are Essential to Reduce GHG, Mitigate Climate Change, Improve Water Quality, and Avoid Increases in Electricity Costs for Maryland Residents.

MDE also must consider the broader implications of the TNC flow regime on climate change and water quality. The TNC flow regime would result in a significant quantifiable *loss* in the number of renewable megawatt-hours that would be generated—and, under present conditions and for the foreseeable future, those lost *renewable* megawatt-hours would be replaced by *fossil-fuel* generation. In the absence of any numeric or absolute standard for prescribing flow, MDE must make a reasoned and adequately supported decision. As part of that assessment, MDE must take into account that the TNC-advocated flow regime not only is neither necessary nor justified to ensure compliance with Maryland's water quality standards, but also would result in the direct

transference of a significant number of megawatt-hours of renewable generation to fossil-based generation, with corresponding direct effects on greenhouse gas emissions, climate change, and water quality (as Constellation showed in its supplemental submission).

FERC itself analyzed these impacts in the developmental analysis section of its FEIS, and concluded that the TNC Flow Regime would result in a small gain in generation at the Conowingo Project (13,116 MWh), but a major loss of generation at the Muddy Run Project (146,837 MWh), or about 9 percent of the annual generation at the project.[193] FERC explained that the reason for the impact on Muddy Run (which, again, is a pumped storage hydroelectric facility that draws water from Conowingo Reservoir) is that "less water would be available for pumping from Conowingo Pond as more flow would be released downstream to satisfy the TNC Flow Regime."[194]

Constellation has updated the analysis using its own models. That analysis shows that if the TNC Flow Regime were to be in place in 2024, the net loss of renewable megawatt-hours during *peak hours* (7 am through 11 pm) from Conowingo and Muddy Run would be 64,465 megawatt-hours; in 2029, the loss would be 71,501 megawatt-hours. At the standard conversion measure, these losses in renewable generation would be equivalent to an additional 33,419 and 37,066 metric tons of greenhouse gas emissions, respectively. The loss of megawatt-hours of renewable generation during *peak* hours is significant because that is when hydroelectric facilities like Conowingo and Muddy Run most typically operate (when demand for electricity is higher than it is during the night), and when loss of renewable generation must generally be replaced by fossil (coal or gas) generation. As FERC underscored above, "[o]peration under the TNC Flow

[193] FEIS at 429.

[194] *Id.* at 429 n.134.

Regime ... would eliminate many of the *peaking* and ancillary services benefits to the PJM region from the Conowingo Project."[195] And all of this would be for what FERC specifically found, based on a detailed technical analysis of fish habitats, "only ... minimal benefit to the downstream habitat for some species while negatively affecting other species."[196]

Battery storage has been mentioned by TNC at FERC as the solution to peaking at Conowingo. While TNC is correct that battery storage holds some promise for relatively short duration/low-capacity storage, which might offset the need to operate smaller hydroelectric projects, there is no battery technology that currently exists at the scale of Conowingo's 570.15 MW capacity or that is capable of operating for long duration. More important, a 1,070 MW energy storage technology that has been in place for the past 50 years—specifically, the Muddy Run pumped storage project—is dependent on Conowingo's ability to regulate large quantities of water on relatively short intervals to either create room for Muddy Run generation during periods of high electrical demand or storage for Muddy Run pumping during periods of low demand. That capability cannot be replaced with battery technology.

Although not necessary to MDE's environmental and water quality analysis, it is significant to note that these effects are not only *environmental* (in terms of the impact on greenhouse gas emissions and climate change), but also *socioeconomic*. The loss of megawatt-hours resulting from flow regime changes at Conowingo not only will lead to more fossil-fuel generation, but also to more *expensive* generation, which will have a direct impact on Maryland residents and businesses. Moreover, energy costs are regressive, with more significant impacts on lower income and minority communities. A study performed by NERA Economic Consulting in 2012, at the

[195] *Id.* at 429 (emphasis added).

[196] *Id*.

outset of Conowingo's licensing proceedings, estimated the reductions in wholesale electricity rates attributable to Conowingo and Muddy Run, and found as follows:

> The price reductions are the largest in the "Project Region" that surrounds the Conowingo and Muddy Run facilities. In this region, the average reductions due to the generation and capacity of the Projects are $1.21 per MWh and $1.65 per MWh, respectively, for a total reduction of $2.86 per MWh on the wholesale electricity price. The average wholesale electricity price in PJM from 2009 to 2011 was roughly $61 per MWh, so the effect in the Project Region corresponds to nearly a 5 percent price reduction.[197]

NERA explained that this would translate into lower *retail* electricity prices of between 2.0 to 3.3 percent in Cecil/Harford Counties, and between 1.8 to 3.0% in the rest of Maryland.[198] All of these numbers would need to be updated, but the nature of the impact would not change.

Waterkeepers rely heavily on MDE's 2018 Integrated Report of Water Surface Quality, which Constellation has addressed above.[199] Even that Report, however, underscored "the importance of managing dam operations in a way that supports ... the creation of carbon-free energy."[200]

For all of the reasons set forth above, adoption of the TNC flow regime cannot be justified under § 401 or Maryland's water quality standards, and MDE should adopt the significant flow regime changes that Constellation accepted in the MDE settlement.[201]

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[197] *See* NERA Economic Consulting, "Socioeconomic Gains to Maryland of the Conowingo Hydroelectric Project and the Muddy Run Pumped Storage Project" (November 2012), at ES-4 (Ex. 36).

[198] *Id*. at ES-6 and Table ES-1.

[199] *See supra*, at 31-33.

[200] 2018 Integrated Report at 11.

[201] Constellation has recently learned that TNC filed its own lengthy comments with MDE on August 1, 2023. MDE prohibited Constellation and Waterkeepers from addressing any of the public comments unless requested to do so by MDE, and Constellation has not yet had an adequate opportunity to review and respond to TNC's August 2023 comments in any event. Constellation reserves the right to respond specifically to TNC's most recent comments to MDE.

CONCLUSION

Constellation respectfully requests that MDE consider this submission, Constellation Supplemental Submission, and the materials provided herewith, and grant reconsideration of the 2018 Certification as requested.

Respectfully submitted,

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BEFORE THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

CONSTELLATION ENERGY GENERATION, LLC 1310 Point Street Baltimore, MD 21231	FERC Project No. P-405 MDE WSA Application No. 17-WQC-02

SUPPLEMENTAL EXHIBIT LIST

No.	Full Description
1	Maryland Water Resources Administration, Section 401 Certification for Conowingo (Feb. 7, 1975)
2	Maryland Dep't of the Environment, State Discharge Permit No. 19DP0491, NPDES Permit No. MD0002518 (Oct. 18, 2021)
3	Maryland Energy Administration, Letter of Information re SB0540/HB0427 (Feb. 24, 2021)
4	Michael J. Langland, Sediment Transport and Capacity Change in Three Reservoirs, Lower Susquehanna River Basin, Pennsylvania and Maryland, 1900–2012 (2015)
5	Cindy M. Palinkas, et al., Influences of a River Dam on Delivery and Fate of Sediments and Particulate Nutrients to the Adjacent Estuary: Case Study of Conowingo Dam and Chesapeake Bay, 42 ESTUARIES AND COASTS 2072 (2019)
6	EPA, Evaluation of the Final Conowingo Watershed Implementation Plan, Enclosure at 1 (Jan. 24, 2022)
7	Exelon Generation Co., LLC, v. Grumbles, Civ. No. 18-1224, Transcript of Hearing (D.D.C. Feb. 28, 2019)
8	Conowingo Hydroelectric Project, FERC Docket No. P-405-106 and -121, Joint Offer of Settlement and Explanatory Statement of Exelon Generation Company, LLC and the Maryland Department of the Environment (Oct. 29, 2019)
9	Debra L. Donahue, The Untapped Power of Clean Water Act Section 401, 23 ECOLOGY L.Q. 201 (1996)
10	Chesapeake Bay Program, Public Report, 2021 Loads Report
11	Qian Zhang et al., Decadal-Scale Export of Nitrogen, Phosphorus, and Sediment from the Susquehanna River Basin, USA: Analysis and Synthesis of Temporal and Spatial Patterns, 563– 564 SCI. OF THE TOTAL ENVIRONMENT 1016 (2016)
12	Qian Zhang et al., Data Associated with Decadal-Scale Export of Nitrogen, Phosphorus, and Sediment from the Susquehanna River Basin, USA: Analysis and Synthesis of Temporal and Spatial Patterns (2016).
13	Md. General Assembly, Testimony of Secretary Grumbles to the Senate Public Safety, Transportation, and Environment Subcommittee, Chesapeake Bay Overview (Jan. 24, 2019) (excerpt)

14	EPA, EPA Expectations: Implementation of the Conowingo Watershed Implementation Plan's Phased Approach, Draft—For Partnership Input (Jan. 26, 2023)
15	Press Statement, Chesapeake Bay Foundation, Conowingo Is A Red Herring; Local Pollution Comes From Local Sources (Nov. 2, 2012)
16	Qian Zhang et al., Long-Term Changes in Sediment and Nutrient Delivery from Conowingo Dam to Chesapeake Bay: Effects of Reservoir Sedimentation, 50 Envtl. Sci. & Tech. 1877 (2016)
17	Lew Linker et al., Results of Latest Phase 6 Conowingo Analysis (Sept. 13, 2017)
18	Lee Currey, Conowingo Dam Infill: How Much, Who, How, and By When, in Chesapeake Bay 2017 Midpoint Assessment—Policy Issues for Partnership Decisions (Dec. 4–5, 2017)
19	Qian Zhang et al., Long-Term Seasonal Trends of Nitrogen, Phosphorous, and Suspended Load from the Non-Tidal Susquehanna River Basin to Chesapeake Bay, 452–453 Science of the Total Environment 208 (2013)
20	Jeffrey Cornwell, J. Michael Owens, Hamlet Perez & Zoe Vulgaropulos, The Impact of Conowingo Particulates on the Chesapeake Bay: Assessing the Biogeochemistry of Nitrogen and Phosphorus in Reservoirs and the Chesapeake Bay (2017)
21	Jeremy M. Testa et al., Season-Specific Trends and Linkages of Nitrogen and Oxygen Cycles in Chesapeake Bay, Limnology and Oceanography (2018)
22	Aaron J. Bever et al., Combining Observations and Numerical Model Results to Improve Estimates of Hypoxic Volume within the Chesapeake Bay, USA, 118 J. OF GEOPHYSICAL RESEARCH: OCEANS (2013)
23	Carl F. Cerco & Mark R. Noel, Impact of Reservoir Sediment Scour on Water Quality in a Downstream Estuary, 45 Jo. Envtl. Quality 894 (2016)
24	Michael J. Langland, Bathymetry and Sediment-Storage Capacity Change in Three Reservoirs on the Lower Susquehanna River, 1996–2008, USGS Scientific Investigations Report 2009-5110 (2009)
25	Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetland In Maryland Joint Application (May 8, 2018)
26	Conowingo WIP Update to Chesapeake Bay Program Principals' Steering Committee (July 2023)
27	Surveyed § 401 Certifications
28	Surveyed MDE Water Quality Certifications
29	Comment Letter to W. Seiger, Chief Waterway Construction Division, MDE, from A. Danucalov, FERC License Compliance Manager, Exelon Generation (June 18, 2018).
30	Gomez and Sullivan Engineers, P.C., Effects of Flows on Aquatic Resources Downstream of Conowingo Dam (July 26, 2023)

31	Exelon Generation Company, LLC, Comments to Maryland's Draft 2018 Integrated Report of Surface Water Quality (Mar. 19, 2018)
32	Cindy M. Palinkas et al., *Sediment Deposition From Tropical Storms in the Upper Chesapeake Bay: Field Observations and Model Simulations*, 86 CONTINENTAL SHELF RSCH. 6 (2014)
33	Conowingo Hydroelectric Project, FERC Docket No. P-405-106, Offer of Settlement and Explanatory Statement (May 12, 2016)
34	Gomez and Sullivan Engineers, P.C., Upstream Eel Passage Review (Aug. 14, 2023)
35	Conowingo Hydroelectric Project, FERC Docket No. P-405-106, The Nature Conservancy's Supplemental Comments on Draft Multi-Project Environmental Impact Statement for Hydropower Licenses, Susquehanna River Hydroelectric Projects, Attach. 1, Declaration of Dr. Clair B. Stalnaker (Feb. 6, 2015)
36	NERA Economic Consulting, Socioeconomic Gains to Maryland of the Conowingo Hydroelectric Project and the Muddy Run Pumped Storage Project (Nov. 2012)