# United States Court of Appeals

**FOR THE DISTRICT OF COLUMBIA CIRCUIT**

---

Argued October 5, 2020 Decided March 26, 2021

No. 19-1066

SHAFER & FREEMAN LAKES ENVIRONMENTAL CONSERVATION CORPORATION, ET AL.,
PETITIONERS

v.

FEDERAL ENERGY REGULATORY COMMISSION,
RESPONDENT

NORTHERN INDIANA PUBLIC SERVICE COMPANY AND UNITED STATES DEPARTMENT OF THE INTERIOR,
INTERVENORS

---

On Petition for Review of Orders of the
Federal Energy Regulatory Commission

---

*Robert O. Fleming Jr.* argued the cause for petitioners. With him on the briefs was *Alan I. Saltman*.

*Elizabeth E. Rylander*, Attorney, Federal Energy Regulatory Commission, argued the cause for respondent. With her on the brief were *David L. Morenoff*, Acting General Counsel at the time the brief was filed, and *Robert H. Solomon*, Solicitor. *Robert M. Kennedy Jr.* and *Beth G. Pacella*, Attorneys, entered appearances.

*Justin D. Heminger*, Attorney, U.S. Department of Justice, argued the cause for intervenor U.S. Department of the Interior in support of respondent. With him on the brief were *Jeffrey Bossert Clark*, Assistant Attorney General at the time the brief was filed, *Eric Grant*, Deputy Assistant Attorney General at the time the brief was filed, and *Robert J. Lundman*, Attorney.

*Charles R. Sensiba*, *J. Houston Shaner*, *Michael Bryan Little*, and *Angela J. Levin* were on the brief for intervenor Northern Indiana Public Service Company, LLC in support of respondent.

Before: ROGERS and MILLETT, *Circuit Judges*, and SENTELLE, *Senior Circuit Judge*.

Opinion for the Court filed by *Circuit Judge* MILLETT.

MILLETT, *Circuit Judge*: In the dry summer of 2012, scientists from the United States Fish and Wildlife Service discovered that endangered mussels were dying on the banks of the Tippecanoe River in northwest Indiana. The Service placed responsibility on the upstream Oakdale Dam, which significantly restricts the flow of water downstream in order to generate hydroelectricity and to create a lake behind the dam. In the ensuing years, the Service worked with the dam operator to develop new procedures that would require the dam to release more water during drought periods. After a lengthy process of interagency cooperation and public dialogue, these new procedures were approved by the Federal Energy Regulatory Commission, which is the federal agency with licensing authority over hydroelectric dams on federally regulated waters.

Concerned about these changes to the dam's operations, several local governmental entities and a non-profit

organization have petitioned for review of both the Commission's decision and the Fish and Wildlife Service's Biological Opinion upon which the Commission relied. We conclude that many of the petitioners' challenges to the validity of the Biological Opinion were not raised on rehearing before the Commission and so are not properly before us. We otherwise find no error in the agencies' expert scientific analyses. But we hold that the agencies failed to adequately explain why the new dam procedures do not violate a regulation prohibiting the Fish and Wildlife Service from requiring more than "minor" changes to the Commission's proposal for dam operations. Because vacating the agencies' decisions would subject the dam operator to contradictory legal obligations imposed by separate agencies, we grant the petition in part, deny the petition in part, dismiss the petition in part, and remand to the Commission without vacatur for further proceedings consistent with this opinion.

## I

### A

The Endangered Species Act instructs the Secretary of the Interior and the Secretary of Commerce to make a list of all species that are either "endangered" or "threatened[.]" 16 U.S.C. § 1533. The Act then forbids "any person" to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any endangered species—a set of prohibited acts collectively referred to as "take." *Id.* §§ 1532(19), 1538(a)(1)(B). Violation of this prohibition can lead to civil and criminal liability. *Id.* § 1540.

The Act also imposes specific responsibilities on all other federal agencies. *See* 16 U.S.C. § 1536. As relevant here, before a federal agency can grant a license or permit to a private party, the agency must ensure that its action is "not likely to

jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [the critical] habitat of such species[.]" *Id.* § 1536(a)(2).[1] To give effect to that obligation, the Act creates a system of "[i]nteragency cooperation," in which the federal agency proposing to act (known as the "action agency") must "consult" with one of the two expert wildlife agencies—the Fish and Wildlife Service (which is part of the Department of the Interior) or the National Marine Fisheries Service (which is within the Department of Commerce)—whenever it is contemplating a project that might affect a listed species. *Id.* § 1536(a)(3); *see City of Tacoma v. FERC*, 460 F.3d 53, 75 (D.C. Cir. 2006). This consultation process "reflects Congress's awareness that [those] expert agencies * * * are in the best position to make discretionary factual determinations about whether a proposed agency action will create a problem for a listed species and what measures might be appropriate to protect the species." *City of Tacoma*, 460 F.3d at 75.

While the consultation process can take a variety of forms, the action agency often performs a preliminary review to determine whether the proposed action could affect any listed species. *See* 50 C.F.R. § 402.14(a); *see also* 16 U.S.C. § 1536(c); 50 C.F.R. §§ 402.10–402.13. If the action agency determines—and the wildlife agency concurs—that no listed species or critical habitats are likely to be adversely affected, then no formal consultation is required. 50 C.F.R. § 402.14(b)(1). But if either the action agency or the wildlife agency concludes that the proposed action "may affect" a listed

[1] The phrase "jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02.

species or its critical habitat, then a formal consultation begins. *Id.* § 402.14(a).

That interagency process culminates in the wildlife agency issuing a "biological opinion." *See* 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14. A Biological Opinion is a document in which the wildlife agency comprehensively examines the proposed action's anticipated effects on listed species and critical habitat. *See* 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h). In particular, the wildlife agency must give its opinion on whether the proposed action is "likely to jeopardize the continued existence of [a listed] species or result in the destruction or adverse modification of [critical] habitat"—that is, whether the action would violate the Endangered Species Act. *See* 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(h)(1)(iv). If the wildlife agency concludes that the action is likely to jeopardize the continued existence of a listed species, its Biological Opinion must provide the action agency with "reasonable and prudent alternatives" (if any) to the proposed action that would prevent such harm and avoid a violation of the Act. *See* 50 C.F.R. § 402.14(h)(1)(iv)(A), (h)(2). On the other hand, if the wildlife agency concludes that the proposed action is not likely to jeopardize the continued existence of any listed species, the wildlife agency issues a "no jeopardy" Biological Opinion, which gives the action agency a green light to proceed consistent with the Endangered Species Act. *See* 50 C.F.R. § 402.14(h)(1)(iv)(B).

Even if the proposed action will not "jeopardize the continued existence" of a listed species, it may still cause some harm to the species. That type of harm is referred to as "incidental take." *See* 50 C.F.R. § 402.14(i). When such harm is reasonably certain to occur, the wildlife agency must include an "Incidental Take Statement" as part of its Biological Opinion. *See* 16 U.S.C. § 1536(b)(4); 50 C.F.R.

§ 402.14(g)(7), (i). As relevant here, the Incidental Take Statement (i) specifies the extent of the anticipated take, (ii) identifies any "reasonable and prudent measures" that the wildlife agency considers "necessary or appropriate to minimize such impact," and (iii) sets forth detailed "terms and conditions" that the action agency or licensed private party must undertake to implement those reasonable and prudent measures. 16 U.S.C. § 1536(b)(4); *see also* 50 C.F.R. § 402.14(i). Most relevantly for this case, the Fish and Wildlife Service ("Service") regulations provide that the "reasonable and prudent measures" in an Incidental Take Statement "cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes" to the proposed federal agency action. 50 C.F.R. § 402.14(i)(2).

So long as the action agency and private parties implement the "reasonable and prudent measures" and the associated "terms and conditions[,]" the Incidental Take Statement provides a safe harbor from any civil or criminal liability associated with incidental take. *See* 16 U.S.C. § 1536(*o*)(2); *Sierra Club v. United States Army Corps of Eng'rs*, 803 F.3d 31, 36 (D.C. Cir. 2015).

Once the wildlife agency has issued its Biological Opinion (including any Incidental Take Statement), the action agency must "determine whether and in what manner to proceed with the action in light of its [16 U.S.C. § 1536] obligations and the Service's biological opinion." *See* 50 C.F.R. § 402.15(a). The Supreme Court has observed that, while the Biological Opinion "theoretically serves an advisory function, in reality it has a powerful coercive effect on the action agency." *Bennett v. Spear*, 520 U.S. 154, 169 (1997) (formatting modified). That is because the action agency and private parties are shielded from civil and criminal liability only if they comply with the wildlife agency's recommendations. "The action agency is

technically free to disregard the Biological Opinion and proceed with its proposed action, but it does so at its own peril (and that of its employees)[.]" *Id.* at 170.

**B**

The Federal Power Act gives the Federal Energy Regulatory Commission ("Commission") responsibility for licensing the construction, maintenance, and operation of hydroelectric projects, including dams, on waters subject to federal jurisdiction. *See* 16 U.S.C. § 797(e).[2] When deciding whether to issue a license to a hydropower project, the Commission not only must consider "the power and development purposes for which licenses are issued," but also must "give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality." 16 U.S.C. § 797(e); *see also* 16 U.S.C. § 803(a)(1)–(2) (projects must be "best adapted to a comprehensive plan" for waterway uses); *United States Dep't of Interior v. FERC*, 952 F.2d 538, 544 (D.C. Cir. 1992). Once issued, licenses can be altered "only upon mutual agreement

[2] Congress's jurisdiction over certain waters derives from its authority to regulate interstate and foreign commerce under the Constitution. *See* U.S. CONST. Art. I, § 8, cl. 3; *Federal Power Comm'n v. Oregon*, 349 U.S. 435, 442 (1955). In particular, the Federal Power Act requires the Commission to regulate dams on "navigable waters," which means waters "used or suitable for use" for transporting people or property in interstate or foreign commerce. *See* 16 U.S.C. §§ 796(8), 817(1); *Turlock Irrigation Dist. v. FERC*, 786 F.3d 18, 26 (D.C. Cir. 2015).

between the licensee and the Commission after thirty days' public notice." 16 U.S.C. § 799.

Like all federal agency actions, Commission licensing decisions must comply with the Endangered Species Act's requirement to avoid jeopardy to listed species. To that end, the Commission consults with that Act's statutorily designated wildlife agencies when deciding whether to issue or amend licenses for hydroelectric facilities. *See, e.g.*, *City of Tacoma*, 460 F.3d at 75–76.

## II

### A

Two dams sit on the Tippecanoe River in northern Indiana. These dams use the flow of the river to generate electricity, and they also typically provide enough water to sustain two large reservoirs. The Norway Dam, built in 1923, creates a ten-mile-long reservoir called Lake Shafer. Further downstream, the Oakdale Dam, built in 1925, creates a reservoir of similar length called Lake Freeman. The dams are owned and operated by a privately owned utility company, the Northern Indiana Public Service Company LLC ("NIPSCO").

The lakes are centers of economic and recreational activity for the region. More than four thousand private lakefront properties surround the reservoirs, and the lakes support substantial boating, fishing, tourism, and related activities.

For almost eighty years, the Commission took the position that the portion of the Tippecanoe River near the dams was not a navigable water for purposes of federal jurisdiction, and so the dams did not require a license from the Commission. *See Northern Ind. Pub. Serv. Co.*, 12 FERC ¶ 61274, 61644 (1980). But in 2000, the agency changed course and determined that

the Norway Dam and Oakdale Dam portions of the Tippecanoe River constitute a navigable waterway within the federal government's jurisdiction. *Northern Ind. Pub. Serv. Co.*, 92 FERC ¶ 62258, 64378 (2000). In 2007, the Commission issued a 30-year license to NIPSCO to operate the two dams. *Northern Ind. Pub. Serv. Co.*, 121 FERC ¶ 62009, at 1 (2007) (J.A. 92).

As relevant here, that license required that NIPSCO operate the dams "in an instantaneous run-of-river mode." *Northern Ind. Pub. Serv. Co.*, 121 FERC ¶ 62009, at Article 403 (J.A. 119). In this mode, NIPSCO must ensure that "the outflow from the Norway Dam approximates the sum of inflows to Lake Shafer and the outflow from the Oakdale Dam approximates the sum of inflows to Lake Freeman." *Id.* More specifically, the license required NIPSCO to prevent the water level of the lakes from fluctuating more than three inches above or below a target elevation. For Lake Freeman, that elevation is roughly 610 feet above sea level (technically, 612.45 feet NGVD). *Id.* The license allowed deviation from this rule only during periods of "abnormal river conditions[,]" meaning abnormally high flows, not abnormally low flows. *Id.*

**B**

In the summer of 2012, Indiana experienced an extreme drought, and water levels on the Tippecanoe River reached historic lows. Residents living along the stretch of the Tippecanoe downstream of the dams alerted the Indiana Department of Natural Resources that the river was drying up and large numbers of mussels were dying. That July, biologists from Indiana and the U.S. Fish and Wildlife Service surveyed the river over several days, and found "substantial numbers of fresh dead mussels [and] stranded live mussels[.]" J.A. 1056. Among the dead were numerous mussels listed as endangered

or threatened under the Endangered Species Act, including fanshell, clubshell, sheepnose, and rabbitsfoot mussels. *See* 16 U.S.C. § 1533.

The Service determined that low water flow out of the dams was contributing to the mussel deaths. In the Service's view, the way in which the dams were being operated caused less water to reach the lower Tippecanoe River than would reach it in the absence of the dams, and so the dams partially caused the mussel deaths in the dried-out river. The Service then wrote a letter to NIPSCO informing the company that it must increase water flow out of the Oakdale Dam or risk potential liability under the Endangered Species Act for "take" of listed mussels. Alternatively, the Service said, NIPSCO could try to avoid liability by demonstrating that the dams were "maintaining the 'run of the river' rate of discharge"—in other words, demonstrate that the dams had no effect on the flow of the river or the mussel deaths caused by insufficient water. *See* J.A. 143.

NIPSCO opted to increase the water flow out of the Oakdale Dam. Over the subsequent years, NIPSCO continued to work with the Service to ensure that enough water was released from the dams to avoid killing mussels. This cooperation required NIPSCO to perform a regulatory balancing act: The increased releases that the Fish and Wildlife Service requested to protect the mussels forced the company to violate the Commission's license requirement that the company maintain relatively stable lake elevations. To remedy the situation, NIPSCO sought and received variances from the Commission allowing temporary violations of the license's water-level terms.

In 2014, the Service devised a plan for protecting the Tippecanoe River mussels. As described in a "Technical

Assistance Letter" sent to NIPSCO, the Service suggested that NIPSCO could avoid liability under the Endangered Species Act by releasing enough water to mimic the natural run-of-river flow that would occur if the dams were not there. While recognizing that NIPSCO's license from the Commission already required the company to operate the dams in what the Commission called "instantaneous run-of-river mode," *Northern Ind. Pub. Serv. Co.*, 121 FERC ¶ 62009, at Article 403 (J.A. 119), the Service defined "run-of-river" operations differently in its new plan. *See* J.A. 212. Rather than focusing on keeping the lake levels steady, as the Commission had required, the Service advised NIPSCO to calculate the amount of water needed to approximate the natural flow of water out of the Oakdale Dam during low-flow conditions.

The Service then calculated that, in the absence of the dams, more water would flow into the river downstream than entered it upstream because of the large watershed surrounding the downstream portions of the river. More specifically, the water flow directly beneath the Oakdale Dam under natural conditions would be 1.9 times the flow measured upstream of the dams (as measured at the Winamac gauge on the River).[3] To that end, the Service advised NIPSCO to release enough water during low-flow events so that the flow directly below the Oakdale Dam was 1.9 times the 24-hour daily average flow at the Winamac gauge. In addition, the Service instructed NIPSCO to cease electricity generation during low-flow events, because the Service concluded that engaging the dam's

[3] A watershed is, in essence, "a land area that channels rainfall and snowmelt to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean." NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, *What is a Watershed?* (Dec. 4, 2020), https://oceanservice.noaa.gov/facts/watershed.html (last visited March 23, 2021).

turbines caused large fluctuations in water flow that harmed mussels.

**C**

Two months later, NIPSCO sought permission from the Commission to implement the Service's plan. Technically, this request came in the form of an application to amend the definition of "abnormal river conditions" in NIPSCO's license. The proposed amendment removed the lower limit on the elevation of Lake Freeman during low-flow events, allowing the lake level to fall more than three inches below the target elevation.

After the Commission opened the proceedings, a group of local entities (the "Coalition") intervened to oppose the proposed amendment to NIPSCO's license. The Coalition included the Shafer & Freeman Lakes Environmental Conservation Corporation, a local non-profit that owns much of the land beneath the lakes. It also included Carroll and White Counties and the City of Monticello, each of which encompasses or borders part of Lake Freeman. The Coalition argued that the dams do not alter the natural run of the Tippecanoe River, and that the Service's formula for calculating river flow was "'junk' science[.]" J.A. 72, 80. In the Coalition's view, the amendment would provide an "unnatural" benefit to the mussels by releasing more water from Lake Freeman than the Tippecanoe River would provide in its natural state. J.A. 45. In support, the Coalition submitted two reports from professors with expertise in hydrology.

In practical terms, the Coalition was concerned that Lake Freeman could be drawn down "in excess of 12 feet," preventing almost all recreational use of the lake, with concomitant effects on homeowners, local businesses, and tourism. J.A. 46. The Coalition also voiced concern that a

large drawdown could cause significant environmental and aesthetic harm to the lakes and lakeshore. For those reasons, the Coalition asked the Commission to deny the amendment application and to require NIPSCO to operate the dams as it previously had.

As required by the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4332, the Commission conducted an environmental assessment analyzing the consequences of the proposed amendment. Draft Environmental Assessment for Non-Capacity Related Amendment to License: Norway-Oakdale Hydroelectric Project—FERC Project No. 12514-074 (2015) (J.A. 362–522). The Commission's draft environmental assessment was released for public comment. The assessment evaluated three alternative courses of action: (1) a "no-action" alternative, in which the Oakdale Dam would continue operating without change under its current license; (2) NIPSCO's "proposed alternative" to operate in accordance with the Fish and Wildlife Service's guidance in the Technical Assistance Letter; and (3) the Commission's "staff alternative," which reflected a potential compromise position. Under the staff alternative, during periods of low flow, NIPSCO would cease diverting water for the generation of electricity, but would still be obligated to prevent Lake Freeman's elevation from falling more than three inches below its target elevation.

Citing its obligation under the Federal Power Act to balance wildlife conservation with other interests, the Commission proposed its "staff alternative" as the best option, reasoning that it would "avoid adverse effects from project operations on endangered mussels, while protecting the numerous resources of Lake Freeman that depend on stable lake levels." J.A. 371, 449. The Commission also agreed with the Coalition's experts that "[t]here are legitimate concerns"

with the Service's approach to calculating water flow. J.A. 414.

The Fish and Wildlife Service submitted comments on the draft that strongly opposed adoption of the Commission staff alternative, and defended the proposed NIPSCO amendment that incorporated the Service's recommendation. The Service explained that the Commission staff alternative was "essentially the same" as the no-action status quo because the staff alternative maintained the status quo limits on lake level fluctuations, and so would continue to result in inadequate water flow for mussels. J.A. 528.

The Commission's final environmental assessment adhered to its original conclusion, rejecting the NIPSCO amendment and concluding that the Commission staff alternative best balanced the interests of mussels with those interests that depend on stable lake levels. The Commission added that its staff alternative would have no "new effects on environmental and socioeconomic resources associated with Lake Freeman," and on that basis issued a Finding of No Significant Impact—a finding that, under NEPA, no further environmental review was necessary. J.A. 758. At the same time, the Commission acknowledged that, under the consultation provisions of the Endangered Species Act, 16 U.S.C. § 1536, it needed to obtain the Fish and Wildlife Service's agreement that its staff alternative would not adversely affect endangered mussels.

**D**

Because the Service decidedly did not agree with the Commission's conclusion, *see* J.A. 855, the two agencies entered into "formal consultation," and the Service prepared a Biological Opinion. *See* 16 U.S.C. § 1536(a)(2), (b); 50 C.F.R. § 402.14. The Biological Opinion laid out the Service's

scientific evaluation of the competing options and critiqued the reasoning underlying the staff alternative. For example, the Service noted that managing the dams to maintain lake level, as proposed by the staff alternative, historically had caused unnaturally extreme fluctuations in water flow below the dams that were harmful to mussels. J.A. 892–893. The Service also commented that, because NIPSCO rarely generates power from the dams during low flows, the staff alternative would produce minimal conservation benefits by merely prohibiting electricity generation during those low flows. J.A. 907. Nonetheless, the Service concluded that, under the governing Endangered Species Act standard, the staff alternative "is not likely to jeopardize the continued existence of the clubshell, fanshell, sheepnose, or rabbitsfoot mussels and is not likely to destroy or adversely modify designated critical habitat." J.A. 914. That "no jeopardy" finding cleared the way for the Commission to proceed with the staff alternative.

The Service then turned to the statutorily required analysis of incidental take, and concluded that the staff alternative would result in some incidental take of mussels. *See* 16 U.S.C. § 1536(b)(4). While this level of incidental take would not result in jeopardy to the species, the Service proposed a "reasonable and prudent measure" to "minimize impacts of incidental take[.]" J.A. 916. Specifically, the Service advised that NIPSCO should "restor[e] a more natural flow regime downstream of Oakdale Dam during low-flow periods" by "[a]dopt[ing] the alternative proposed by NIPSCO in its request for a license amendment and implement[ing] the Service [Technical Assistance Letter] of 2014[.]" J.A. 916.

In other words, the "reasonable and prudent measure" to minimize incidental take from the staff alternative was to proceed with the approach to water-flow management originally recommended by the Service—that is, to maintain

water flow below the dam during low flows at 1.9 times the average daily flow at the Winamac gauge. Conditioned on those terms, the Service issued the necessary Incidental Take Statement, underscoring that the reasonable and prudent measure and associated terms and conditions were "non-discretionary, and must be undertaken by the [Commission] so that they become binding conditions of any grant or permit issued to NIPSCO, as appropriate, for the exemption" from civil and criminal liability under the Endangered Species Act to apply. J.A. 915.

Both the Coalition and NIPSCO filed comments with the Commission on the Biological Opinion. The Coalition argued that (i) the Service's "reasonable and prudent measure" was not based on the best available science; (ii) there would be no incidental take from the staff alternative; (iii) the "reasonable and prudent measure" exceeded the Service's legal authority because it involved more than a "minor" change to the Commission's proposal; and (iv) the Commission need not defer to the Service's Opinion. J.A. 938–948. NIPSCO, for its part, expressed concern about "the clear conflicts between the Staff Alternative and the measures included in the [Biological Opinion] to address [Endangered Species Act] compliance[,]" and pleaded with the Commission and the Service to "continue to work together to find a solution" that would "provide regulatory certainty for NIPSCO going forward." J.A. 927–928. NIPSCO stated that it "cannot be placed in the untenable position of choosing between inconsistent compliance requirements from two federal agencies." J.A. 928.

In June 2018, almost a year after receiving the Biological Opinion, the Commission issued its ruling. *See* Order Amending License, Approving Revised Operation and Compliance Plan, and Terminating Temporary Variance, 163 FERC ¶ 61212 (2018) (J.A. 969–1013). The Commission

acknowledged that there was "a difference in opinion [between the two agencies] regarding how best to approximate run-of-river operations at the Oakdale development." J.A. 984. The Commission reiterated its view that its own method was best, and described the Service's approach as containing "inaccuracies" that would "provide greater flows than would otherwise occur naturally." J.A. 984–985.

But the Commission concluded that the Endangered Species Act "constrains [the Commission's] discretion to implement staff's recommended alternative." J.A. 985. The Commission explained that, while it is required to balance a range of interests under the Federal Power Act, its obligations under the Endangered Species Act are "more narrowly focused on protecting threatened and endangered species." J.A. 985. So while the Commission "might ordinarily prefer staff's alternative to balance non-developmental and developmental uses under [the Federal Power Act], in this case the [Endangered Species Act] compels a different result." J.A. 985. The Commission added that the risk of "civil and criminal penalties, including imprisonment" for actions not in compliance with an Incidental Take Statement weighed against the staff alternative. J.A. 985.

In response to the Coalition's arguments, the Commission acknowledged that it "must make an independent decision under the [Federal Power Act] as to what measures should be included in a license[.]" J.A. 988. But the Commission added that it is "unlikely to contradict the consulting agency's recommendation in the absence of a showing that the biological opinion and the remainder of the record do not provide substantial evidence to support them"—a showing that the Coalition "has not made[.]" J.A. 988. While it had agreed with the Coalition's experts, the Commission explained that its concerns with the Service's scientific approach were "not

sufficient to lead us to reject [the Service's] determination that additional flows are needed to protect listed species[,]" or that the staff alternative would result in incidental take. J.A. 988. The Commission also refused to "review the validity of the biological opinion, substituting our judgment for that of [the Service.]" J.A. 989. Rather, "a reviewing court, and not the Commission, must decide whether [the Service] considered the relevant factors and adequately explained its choices in the biological opinion." J.A. 989. For its part, the Commission found it appropriate to rely on the Biological Opinion because it was "thorough," and there was no evidence that it was so "fatally flawed" that the Commission would be unreasonable or arbitrary to credit its determinations. J.A. 989–990.

Lastly, the Commission rejected the Coalition's argument that the Service's "reasonable and prudent measure" was contrary to regulation because it constituted a major, rather than a "minor" change to the project. Under 50 C.F.R. § 402.14(i)(2), the Service's proposed reasonable and prudent measures, when included in an Incidental Take Statement, may not "alter the basic design, location, scope, duration, or timing" of the proposed agency action, and "may involve only minor changes." The Commission concluded that the reasonable and prudent measure proposed by the Service was "designed to achieve the same purpose" as the staff alternative of approximating run-of-river flow and protecting mussels, and its adoption would not "change the * * * basic design, location, scope, duration, and timing" of the Commission staff alternative for river flow. J.A. 989. The Commission added that, "even if * * * the measure would result in a major change," it would not reject the measure because it treats the implementation of reasonable and prudent measures as "nondiscretionary." J.A. 989.

For those reasons, the Commission granted NIPSCO's request for an amended license on the terms that NIPSCO and the Service had originally requested.

**E**

In July 2018, the Coalition filed a request for rehearing, which the Commission denied in January 2019. Order Denying Rehearing, 166 FERC ¶ 61030 (2019) (J.A. 1021–1036).

On March 15, 2019, the Coalition filed a petition for review in this court, seeking review of the Commission's orders adopting the license amendment and denying rehearing. NIPSCO moved to intervene as a respondent. Subsequently, in the Coalition's Statement of Issues, the Coalition indicated that it was also challenging the Service's Biological Opinion as arbitrary and capricious and contrary to law. A week later, the Fish and Wildlife Service moved to intervene as a respondent, explaining that it had not known prior to the Statement of Issues that its own Biological Opinion was being challenged. This court granted both motions to intervene.

**III**

After intervening, the Fish and Wildlife Service filed a motion for leave to rely upon its own administrative record in defending the Biological Opinion against the Coalition's arguments that the Biological Opinion violated the Administrative Procedure Act, 5 U.S.C. § 706, the Endangered Species Act, and the Service's implementing regulations. The Coalition opposes the Service's filing of its administrative record. We grant the Service's motion.

Under 16 U.S.C. § 825*l*(b), this court has jurisdiction to review not only the Commission's order amending NIPSCO's license, but also the Service's Biological Opinion that was

prepared in the course of the Commission licensing proceeding. *See American Rivers v. FERC*, 895 F.3d 32, 45 (D.C. Cir. 2018); *City of Tacoma*, 460 F.3d at 76; *see also City of Tacoma v. Taxpayers of Tacoma*, 357 U.S. 320, 336 (1958). The Administrative Procedure Act, in turn, instructs courts to "review the whole record or those parts of it cited by a party" when reviewing agency action. 5 U.S.C. § 706. To do so, we necessarily must have before us the "whole record" for each of the agency actions we are asked to review. In this case, that means we must have not just the Commission's administrative record, but also the record compiled by the Fish and Wildlife Service in preparing its Biological Opinion. *See Bennett*, 520 U.S. at 178 (Biological Opinions are "final agency action" subject to review under the Administrative Procedure Act).

The Coalition insists that "[t]he only agency action to be reviewed here is [the Commission's] orders issuing and affirming an operating license amendment." Coalition Br. 51. Not so. In its brief, the Coalition challenges *both* the Commission's orders *and* the Service's Biological Opinion. Coalition Br. 2–4. Each of those is an independent challenge to distinct agency actions resting on their own administrative records. *See City of Tacoma*, 460 F.3d at 75.

Importantly, the Coalition has chosen to go beyond challenging just the reasonableness of the Commission's reliance on the Biological Opinion. It challenges the merits of that Opinion itself. *See* Coalition Br. at 29 ("[The Service's] Biological Opinion was arbitrary and capricious, an abuse of discretion, unsupported by substantial evidence, and not based on the best scientific and commercial data available[.]"). Because the Coalition seeks to challenge the Biological Opinion directly—and to have the benefit of a more rigorous standard of review than we would apply if the Coalition merely challenged the Commission's *reliance* on the Opinion, *see City*

*of Tacoma*, 460 F.3d at 75—then the Service must be allowed to defend its decision directly by relying on the record on which it made its decision. *See Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 743–744 (1985) ("The task of the reviewing court is to apply the appropriate APA standard of review to the agency decision based on the record the agency presents to the reviewing court."). We cannot review either the validity of the Coalition's objections to the Biological Opinion or the sufficiency of the Service's analysis in a vacuum.[4]

## IV

The Coalition raises numerous challenges to the Fish and Wildlife Service's scientific foundation for its Biological Opinion, and argues that those purported errors require invalidation of both the Biological Opinion and the Commission's decisions relying on that Opinion. We lack jurisdiction to address several of the Coalition's contentions because they were not raised in its petition for rehearing before the Commission. And we reject the remainder of the Coalition's science-based arguments.

### A

The Federal Power Act requires petitioners challenging a Commission decision to exhaust their administrative remedies by "set[ting] forth specifically [in an application for rehearing] the ground or grounds" on which the petitioner relies. 16 U.S.C. § 825*l*(a). Giving force to that exhaustion requirement, the Act expressly limits judicial review to only those matters that were "urged before the Commission in the application for

[4] There is no indication here that the Service, in introducing its own record, is seeking to rely on an *ex post* rationalization for its decision. *Cf. Walter O. Boswell Mem'l Hosp. v. Heckler*, 749 F.2d 788, 793 (D.C. Cir. 1984).

rehearing unless there is reasonable ground for failure so to do." *Id.* § 825*l*(b). Those requirements are jurisdictional, and this court's review is "limited by the extent to which a petitioner objected 'with specificity[.]'" *Indiana Util. Regulatory Comm'n v. FERC*, 668 F.3d 735, 739 (D.C. Cir. 2012) (quoting *Allegheny Power v. FERC*, 437 F.3d 1215, 1220 (D.C. Cir. 2006)).

Because exhaustion under the Federal Power Act is jurisdictional, this court must assure itself that this requirement has been satisfied regardless of whether the parties raise an objection. *Wabash Valley Power Ass'n v. FERC*, 268 F.3d 1105, 1114 (D.C. Cir. 2001). In that respect, a threshold issue in this case is whether the Coalition's petition to the Commission for rehearing adequately put the Commission on notice that the Coalition was challenging not only the Commission's reliance on the Biological Opinion, but also the substantive validity of the Biological Opinion itself. *See Maine Council of Atlantic Salmon Fed'n v. FERC*, 741 F. App'x 807, 807–808 (D.C. Cir. 2018) (no jurisdiction where petitioners "failed to raise their objections to the [Biological Opinion's] validity in their application for rehearing of [the Commission's] order").

We conclude that the Coalition's rehearing application sufficiently raised the validity of the Biological Opinion itself. The Coalition's rehearing application argued that the Service had used a "flawed foundation" in its scientific analysis, that the Coalition's experts had "discredited" the Service's methodology, and that the Commission had erred by "blindly accept[ing] the [Biological Opinion] as [representing the] 'best science[.]'" J.A. 1016. Tellingly, the Commission itself understood the Coalition to be challenging the Biological Opinion directly, stating that "[t]he Protest Coalition asks the Commission to review the validity of the biological opinion

and substitute our judgement for that of [the Service.]" J.A. 1031. While the Commission's consideration of an issue cannot itself cure a petitioner's failure to raise that issue on rehearing, *see Indiana Util. Regulatory Comm'n*, 668 F.3d at 739, the Commission's statement provides strong evidence that the Coalition's rehearing application put the Commission on notice of the issue, *see Columbia Gas Transmission Corp. v. FERC*, 404 F.3d 459, 462 (D.C. Cir. 2005).

But while the Coalition adequately indicated that the Biological Opinion was a target of its objections, it failed to raise on rehearing many of the specific objections on which it now relies. In particular, the Coalition argues before this court that: (i) the Service improperly "assumed" that the mussel deaths below Oakdale Dam in 2012 constituted "take" caused by the dams, and failed to consider the presence of dead mussels upstream of the dams, Coalition Br. 29–32; (ii) the Service wrongly excluded data from 2010 when evaluating certain data related to river flows, Coalition Br. 40–41; and (iii) the Service used an "improperly large exponent" when creating its formula for calculating natural water flow on the Tippecanoe River, Coalition Br. 41–42. None of those arguments was raised at all, let alone "with specificity," in the Coalition's petition for rehearing before the Commission. *See Indiana Util. Regulatory Comm'n*, 668 F.3d at 739; J.A. 1014–1019.

The Coalition tries to salvage its challenges by pointing to the statement in its petition for rehearing that "the protocols contained in the [Technical] Assistance Letter were not based on best science." Coalition Reply Br. 9–10; *see* J.A. 1015. But exhaustion is not a Rorschachian enterprise in which the Commission is expected to espy specific objections from such vague and formless assertions. *See Public Serv. Elec. & Gas Co. v. FERC*, 485 F.3d 1164, 1170 (D.C. Cir. 2007) (a "single

opaque sentence" is insufficient to preserve an argument); *Connecticut Dep't of Pub. Util. Control v. FERC*, 593 F.3d 30, 36 (D.C. Cir. 2010) (no jurisdiction to address particular arguments when the petitioners had raised the issue only "in a general way"). For that reason, we lack jurisdiction to review the Coalition's unexhausted arguments.

**B**

The Coalition challenges the scientific basis of the Fish and Wildlife Service's new dam operation procedures. But the Service's analysis of the relevant science and record comfortably passes administrative review.

**1**

We must uphold the Biological Opinion, as well as the Commission's licensing decision based on it, unless either decision was "arbitrary and capricious" or unsupported by substantial evidence. 5 U.S.C. § 706(2); *see City of Tacoma*, 460 F.3d at 75–76. Under that standard, we are "not to ask whether a regulatory decision is the best one possible or even whether it is better than the alternatives." *FERC v. Electric Power Supply Ass'n*, 136 S. Ct. 760, 782 (2016). Instead, we will vacate the decision only if the agency has "relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). The agency must articulate "a rational connection between the facts found and the choice made." *Id.* (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)).

Under the Endangered Species Act, both the Fish and Wildlife Service and the Commission are required to "use the best scientific and commercial data available" when making their respective decisions. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). This means that the agency "may not base its [decisions] on speculation or surmise or disregard superior data[.]" *Building Indus. Ass'n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246–1247 (D.C. Cir. 2001). But when the science is uncertain, courts must "proceed with particular caution, avoiding all temptation to direct the agency in a choice between rational alternatives." *American Wildlands v. Kempthorne*, 530 F.3d 991, 1000–1001 (D.C. Cir. 2008) (internal quotation omitted). In other words, "we review scientific judgments of the agency 'not as a chemist, biologist, or statistician that we are qualified neither by training nor experience to be, but as a reviewing court exercising our narrowly defined duty of holding agencies to certain minimal standards of rationality.'" *Troy Corp. v. Browner*, 120 F.3d 277, 283 (D.C. Cir. 1997) (quoting *Ethyl Corp. v. EPA*, 541 F.2d 1, 36 (D.C. Cir. 1976) (en banc)).

**2**

At the outset, the Coalition argues that the Service personnel who worked on the Biological Opinion lacked hydrological expertise and that the Service's scientific conclusions are therefore undeserving of deference. That is incorrect. The Service's Biological Opinion was based upon both hydrology and biology, and it is undisputed that the Service personnel had relevant expertise in biology. The record also demonstrates that the Service consulted hydrologists as part of its decision-making process. The Service's judgment accordingly merits "the deference traditionally given to an agency when reviewing a scientific

analysis within its area of expertise[.]" *Appalachian Power Co. v. EPA*, 135 F.3d 791, 802 (D.C. Cir. 1998).

**3**

The Coalition's central scientific complaint is that, in its view, the Service wrongly relied on a method of river-flow calculation called "linear scaling." The theory of linear scaling holds that, in a comparatively homogeneous landscape, a river's flow at a given point is correlated linearly to the size of the river's watershed at that point. In other words, if a river downstream at point B has a total watershed three times the size of the watershed upstream at point A, then the river's flow rate at point B will be three times the flow rate at point A.

As applied here, NIPSCO would take note of the Tippecanoe River's flow rate over a 24-hour period upstream of the dam at a place called the Winamac gauge. NIPSCO would then release enough water out of the Oakdale Dam such that the flow rate directly beneath the dam was 1.9 times the 24-hour daily average flow rate at the Winamac gauge. That multiplier reflects the Service's determination that the Tippecanoe's watershed at the Oakdale Dam is 1.9 times the size of the river's watershed at the Winamac gauge. In the Service's judgment, linear scaling in this manner is the soundest available method for guaranteeing that the water flow out of the Oakdale Dam represents the "natural" flow of the river during low-flow periods, including with respect to the natural water flow's effects on mussels.

The Coalition objects to the Service's reliance on linear scaling. In its view, the better method for ensuring "natural" flow rates on the Tippecanoe River is not linear scaling, but instead keeping lake levels relatively constant. If the lakes are not gaining any elevation, the argument goes, then water is leaving the lakes at more or less the same rate as it is entering

them—that is, the "natural" run-of-river flow. The Coalition contends more specifically that linear scaling is an inappropriate scientific tool for managing the flow out of a dam on a day-to-day basis, especially during low flows. For instance, Robert Criss, one of the Coalition's hydrology experts, opined that while linear scaling may be an appropriate method for measuring "long-term mean flows[,]" there is no basis for applying linear scaling to low flows on an hourly or daily basis. J.A. 238, 242. In Dr. Criss's view, linear scaling's predictive approach does not work well in this context because low flows behave irregularly, and there are many events (interactions with groundwater, evaporation, localized rain bursts, withdrawals, additions) that can have an outsized impact on relative flow rates when flows are low.

The record is replete with briefs, letters, scientific reports, and agency and expert opinions elaborating and debating the merits of the Service's linear scaling methodology. But the only question before us is whether the Fish and Wildlife Service acted reasonably in its analysis and used the "best scientific and commercial data available," *see* 16 U.S.C. § 1536(a)(2). The Service's analysis passes muster.

First, the agency offered a thorough and reasoned explanation of its scientific decision-making. The Service's methodology is based on a "fundamental characteristic of watersheds"—namely, that a river's flow "increases from the headwaters to the mouth of the river." J.A. 1104; *see* J.A. 884 ("[A]s watershed area increases, flow increases in most river systems[.]"). To use the Service's example: "At its source downstream of Lake Itasca in Minnesota, the Mississippi River is 18 feet wide and can be waded—[whereas] about 1,300 miles downstream, south of Cairo, Illinois, the Mississippi is more than 3,500 feet wide." J.A. 884–885.

In a letter to the Commission, the Service recognized that making predictions of precise daily fluctuations in flow rate is beyond the current capacity of science, but explained that "across all [low-flow] events and across the duration of those events, the Winamac-scaled flows provide the best, science-based *estimate* of what flows at Oakdale would be were the Norway and Oakdale Dams not present." J.A. 1136 (emphasis in original; formatting modified).

The Service substantiated its judgment by conducting its own analysis that demonstrated the relevance of linear scaling to addressing low flows on the Tippecanoe River. Upon evaluating the Tippecanoe River watershed, the Service determined that the landscape upstream at Winamac shared key drainage features with the landscape downstream at the Oakdale Dam. This conclusion confirmed a "crucial assumption" underlying the application of linear scaling: The overall watershed is sufficiently homogeneous to permit estimation of downstream flow based on upstream flow. J.A. 1104. The Service also performed a statistical analysis, examining flow data from low-flow events on the Tippecanoe River over a period of fourteen-and-a-half years. The Service's analysis showed that, during those low-flow events, flow between two points upstream scaled close to linearly. That is, downstream flows during those events were similar, on average, to what linear scaling would have predicted. J.A. 1136–1137. This finding provides support for the Service's approach of applying linear scaling to low-flow events on the Tippecanoe River.

The Service emphasized that a key benefit of its linear-scaling approach was to mimic not just the *quantity* of water being released from the Oakdale Dam but also the *timing* of those releases. "The central question is not whether the water that comes into the upper part of the Norway-Oakdale system

* * * ultimately finds its way out of Oakdale Dam, *but whether or not that flow is interrupted*, especially during low flow periods." J.A. 1142. The Service explained that mussels can be adversely affected by "even relatively brief episodes of inadequate flow downstream." J.A. 1142, 1157. And according to the Service, low-flow data between 2012 and 2014 shows that, prior to the issuance of the Service's Technical Assistance Letter, NIPSCO routinely permitted "dramatic" and "highly unnatural" fluctuations in flow out of the dam. J.A. 966–967. The Service's recommendation aimed to avoid inadequate water flows by ensuring a particular amount of outflow during low-flow periods.

Another advantage to linear scaling identified by the Service is that it can be implemented despite the technical constraints on dam management. As the Biological Opinion noted, the "1920s vintage equipment" of the dams makes it "impossible" to precisely match inflows to and outflows from Lake Freeman, given measurement "lag times" on the river and other practical difficulties. J.A. 1227. Indeed, the data show that summer flows out of the downstream Oakdale Dam have often been *less* than flows out of the upstream Norway Dam. J.A. 1229–1231. But concerns like lag time between gauges and localized weather events are "irrelevant" under the Service's approach, because linear scaling "is developed to function as a general estimator and not a formula for predicting exact flows for each hour of each day of a specific [low-flow] event." J.A. 1137.

Second, the Service considered and provided a reasoned explanation for declining to rely just on maintaining the lake level, as the Coalition proposed. The Service produced a chart showing that, when the Oakdale Dam was operated to ensure stable lake levels during the 2012 drought, the flow rates below the Oakdale Dam fluctuated dramatically and erratically in

contrast to the relatively steady flow rates upstream. J.A. 1170. This showed that the lake-level method can result in highly variable flow rates that do not correspond to the natural flows upstream. The Service also observed that the water level in the lake had stayed relatively constant during prior droughts, whereas most lakes in Indiana had seen a water elevation drop, and it is "contrary to logic that keeping the two Tippecanoe Reservoirs level would not deprive water from other parts of the system during drought periods."

The Service added that keeping lake levels constant ignores all the other possible places where inflow water could end up rather than downstream, such as into the air through evaporation, underground through discharges into groundwater, or sideways on the surface through withdrawals from the lakes. The Service acknowledged that, "[h]ad we perfect information with respect to the losses from the lakes during dry periods, the temporal dimension of flow through this long and complex system, and the ability to precisely manage two 1920s era dams, estimating flow using lake level * * * might be appropriate." J.A. 1177. But given that "we don't know the water budget for this system[,] * * * we must estimate with the uncertainty that entails." J.A. 1177.

In sum, the Service concluded that "[n]either of the currently available methodologies (instantaneous run-of-river and linear scaling) allows us to precisely determine outflows from Oakdale Dam that will 'match' individual [low-flow] events." J.A. 1147. But while "[n]either approach is perfect," the Service reasonably concluded that its linear scaling approach represented "the best currently available science" for ensuring the natural flow of the river in a way that would "minimize take of mussels caused by the management of the Norway-Oakdale Complex." J.A. 968, 1148.

The Service's reasoned and thorough justification for its approach to managing the Tippecanoe River's flow satisfies Administrative Procedure Act review. The agency explained the scientific basis for its decision, identified substantial evidence in the record buttressing its judgment, and responded to the Coalition's concerns. The point of administrative review is not to settle the scientific debate, but to ensure that the Service "explain[ed] the assumptions and methodology used in preparing the model[.]" *In re Polar Bear Endangered Species Act Listing & Section 4(d) Rule Litig.—MDL No. 1993*, 709 F.3d 1, 13 (D.C. Cir. 2013) (brackets omitted). The Service acknowledged that linear scaling was an imperfect method of estimating river flow, but reasonably concluded that it was the best option and reflected the best science, given the demonstrated flaws in other approaches. "That a model is limited or imperfect is not, in itself, a reason to remand agency decisions based upon it." *Appalachian Power Co. v. EPA,* 249 F.3d 1032, 1052 (D.C. Cir. 2001). That evidence-based explanation of the lake-level approach's drawbacks further established that the Service's approach accorded with the "best scientific * * * data available." *See Building Indus. Ass'n*, 247 F.3d at 1246–1247; *see also Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103 (1983) (holding that "a reviewing court must generally be at its most deferential" when examining an agency decision made "within its area of special expertise, at the frontiers of science").

**4**

Finally, because the Service acted reasonably in using a linear scaling methodology, the Commission too acted reasonably in relying on the Service's resulting scientific judgments in its Biological Opinion. In reviewing the Commission's granting of the amended license, "the critical question is whether the action agency's *reliance* was arbitrary

and capricious, not whether the [Biological Opinion] itself is somehow flawed." *City of Tacoma*, 460 F.3d at 75 (emphasis in original). The Commission "satisf[ies] its obligations under the Act if a challenging party can point to no 'new' information—*i.e.*, information the [Service] did not take into account—which challenges the [Biological Opinion's] conclusions." *Id.* at 76.

Here, the Coalition has made no showing that the Commission overlooked new information or evidence in the record that had been unavailable to the Service. *See* J.A. 1031 (Commission observing that "the Protest Coalition has not provided any additional information to lead us to question" the Service's findings). While the Commission agreed with several of the Coalition's critiques of the Service's methodology, it concluded that these concerns were "not sufficient to lead us to reject [the Service's] determination that additional flows are needed to protect listed species." J.A. 988. This record demonstrates the reasonableness of that judgment.

## V

The Coalition also presses a legal objection to the Biological Opinion and the Commission's reliance on it. By regulation, the Fish and Wildlife Service requires that the "reasonable and prudent measures" it proposes to reduce incidental take cannot work more than a "minor change" in the proposed agency action. 50 C.F.R. § 402.14(i)(2). The Coalition contends that, by requiring water flow measures that accord with its linear scaling model and that can materially reduce the level of Lake Freeman during low-flow events, the Service's reasonable and prudent measure is a major change, in violation of that regulation. Because neither the Service nor the Commission adequately explained why the Service's reasonable and prudent measure qualified as a minor change,

we conclude that the agencies acted in an arbitrary manner, and we remand this issue for consideration by the agencies in the first instance.

**A**

Under the Endangered Species Act, the Fish and Wildlife Service can prescribe in its Incidental Take Statement "reasonable and prudent measures" that it considers "necessary or appropriate to minimize" the impacts of any anticipated incidental take of an endangered or threatened species. *See* 16 U.S.C. § 1536(b)(4)(ii). By regulation, the Service requires that any reasonable and prudent measures it proposes "cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes." *See* 50 C.F.R. § 402.14(i)(2).

The Service has provided guidance on the contours of a minor change and the types of actions that will exceed its bounds. In promulgating the minor change rule, the Service explained that "[s]ubstantial design and routing changes * * * are inappropriate in the context of incidental take statements because the action already complies with" the statutory prohibition against jeopardizing the continued existence of listed species. *See* Interagency Cooperation—Endangered Species Act of 1973, as Amended; Final Rule, 51 Fed. Reg. 19,926-01, 19,937 (June 3, 1986). While "[r]easonable and prudent measures were intended to minimize" incidental take, "Congress also intended that the action go forward essentially as planned." *Id.*

The Service's Consultation Handbook provides further detail. *See* U.S. FISH AND WILDLIFE SERV. & NATIONAL MARINE FISHERIES SERV., ENDANGERED SPECIES CONSULTATION HANDBOOK (March 1998), https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

The handbook explains that reasonable and prudent measures are designed to "minimiz[e] * * * the level of take." *Id.* at 4-53. The Service can include "only actions that occur within the action area," such as "actions like education of employees about the species, reduction of predation, removal or avoidance of the species, or monitoring." *Id.* The agency emphasizes that "[t]he test for reasonableness is whether the proposed measure would cause more than a minor change to the project." *Id.* And the agency suggests that whether a change is "minor" may depend on the overall context: "[T]he effect of measures costing $10,000 or $100,000 may be critically significant for a single family boat dock, but minor for a multi-million dollar development complex." *Id.*; *see also Westlands Water Dist. v. United States Dep't of Interior*, 376 F.3d 853, 876 (9th Cir. 2004) (holding that measures that would "likely have broad system-wide effects" in the Central Valley Water Project and require "new, significant action * * * cannot be considered to be a minor change").

**B**

**1**

In this case, the Commission adopted its staff alternative as the preferred action in its environmental assessment. That approach provided that, during low-flow periods, NIPSCO would cease generation but would continue to operate the Oakdale Dam to maintain a constant elevation for Lake Freeman. The Fish and Wildlife Service concluded that plan would not jeopardize endangered mussels. But the Service then required, as a reasonable and prudent measure designed to avoid incidental take, that NIPSCO instead use linear scaling to mimic natural flows during low-flow periods. Unlike the staff alternative, that approach would allow NIPSCO to draw down Lake Freeman during low-flow periods.

It is unclear whether the Service's reasonable and prudent measure in this case qualifies as only a minor change within the meaning of 50 C.F.R. § 402.14(i)(2). Yet nowhere in its record or the record before the Commission did the Service analyze whether its proposal satisfied its own governing regulation. An agency errs if it wholly fails to address a "significant challenge to the rationality of its decision[.]" *Darrell Andrews Trucking, Inc. v. Federal Motor Carrier Safety Admin.*, 296 F.3d 1120, 1135 (D.C. Cir. 2002); *see also National Env't. Dev. Ass'n's Clean Air Project v. EPA*, 752 F.3d 999, 1009 (D.C. Cir. 2014) ("[An] agency is not free to ignore or violate its regulations while they remain in effect.") (quoting *United States Lines, Inc. v. Federal Mar. Comm'n*, 584 F.2d 519, 526 n.20 (D.C. Cir. 1978)). By dropping the ball entirely in analyzing and explaining its compliance with the minor change rule, the Service failed to address a relevant and substantial matter bearing directly on its action. While we express no view on whether the Service's use of linear scaling as a reasonable and prudent measure qualifies as a minor change on this record, the Service's wholesale failure to analyze the question was arbitrary and capricious. *See State Farm*, 463 U.S. at 43.

In this court (but nowhere in the records before us) the Service argues that the relevant comparator for identifying a "minor change" is not the Commission's preferred staff alternative, but instead is NIPSCO's original application for a license amendment. Interior Br. 43. And because NIPSCO itself had proposed to follow the Service's guidance, "the reasonable and prudent measure made no change at all." Interior Br. 44.

The Service's choice of comparator is incorrect. The action agency here is the Commission, not NIPSCO. After taking input from stakeholders and performing its own environmental analysis and studies, the Commission "selected"

its staff alternative as the "preferred option" for agency action. Importantly, that staff alternative is the action that the Service's Biological Opinion analyzed and that the Service concluded would not result in jeopardy to listed species. By the same token, the Service's study of incidental take and formulation of reasonable and prudent measures focused on the Commission staff alternative. Indeed, it would make no statutory sense for the incidental take analysis to use as its baseline operations that the action agency was not intending to undertake. *See* 16 U.S.C. § 1536(b)(4) (Incidental Take Statement must include reasonable and prudent measures "that the Secretary considers necessary or appropriate to minimize" incidental take resulting from "agency action").

**2**

Unlike the Service, the Commission addressed whether the Service's reasonable and prudent linear scaling measure ran afoul of the "minor change" regulation. But the Commission's rationale fell short. The Commission said that the Service's reasonable and prudent measure was only a minor change because the Service's approach was "designed to achieve the same purpose—to approximate run-of-river flow and protect downstream mussel populations." J.A. 989. While it may be relevant for the agency to consider whether a reasonable and prudent measure is consistent with the aims of the proposed agency action, "achiev[ing] the same purpose" cannot be the sole test of whether a change is "minor." Purposes can be achieved in many ways, and at greater or lesser costs. For example, destroying the dam entirely would presumably also "approximate run-of-river flow and protect downstream mussel populations[.]" J.A. 989. But such a measure could not plausibly be labeled "minor."

The Commission also reasoned, in the alternative, that even if the measure constituted more than a minor change, "we would not reject it, because we treat the implementation of a reasonable and prudent measure as nondiscretionary." J.A. 989. In the normal course, the Commission could sensibly treat proposed reasonable and prudent measures as nondiscretionary, given the "powerful coercive effect" of Incidental Take Statements issued by the Service. *See Bennett*, 520 U.S. at 169. But here, the Service's complete failure to address an important issue was apparent on the face of the Biological Opinion. *See City of Tacoma*, 460 F.3d at 75 (the Commission acts arbitrarily by relying on a "facially flawed" Biological Opinion). And since the license amendment granted by the Commission incorporated the reasonable and prudent measure, the Service's failure to adequately support that reasonable and prudent measure infects the license amendment as well.

Because of the errors by both the Service and the Commission in analyzing whether the Service's reasonable and prudent measure qualified as "minor," we remand for a reasoned explanation by the Service of its "minor change" regulation's application. That explanation is necessary before the Commission can reasonably rely on the Biological Opinion in amending NIPSCO's license to incorporate that measure.

## VI

NIPSCO argues that the appropriate remedy for any agency error in this case is to remand without vacating either the Incidental Take Statement or the Commission's orders. NIPSCO explains that if the Incidental Take Statement were vacated, NIPSCO would lose the legal protection from Endangered Species Act liability that its compliance with that Statement currently provides. And if the Commission's orders

are vacated, NIPSCO will be required to revert to maintaining Lake Freeman at a stable elevation, trapping it once again between the Scylla and Charybdis of violating its Commission license or violating the Endangered Species Act.

We agree with NIPSCO that remand without vacatur is warranted. *See Humane Soc'y of U.S. v. Zinke*, 865 F.3d 585, 614 (D.C. Cir. 2017) (looking to the seriousness of the deficiencies in the agency action and the likely disruptive consequences of vacatur); *Allied-Signal, Inc. v. United States Nuclear Regulatory Comm'n*, 988 F.2d 146, 150 (D.C. Cir. 1993). It is possible that the Commission and the Service "can redress [their] failure of explanation on remand while reaching the same result." *Black Oak Energy, LLC v. FERC*, 725 F.3d 230, 244 (D.C. Cir. 2013). And the conflicting regulatory obligations that vacatur would leave NIPSCO betwixt and between also favor remand without vacatur. *Cf. Oglala Sioux Tribe v. United States Nuclear Regulatory Comm'n*, 896 F.3d 520, 538 (D.C. Cir. 2018) (declining to vacate operating license when licensee had reasonably relied on agency ruling and faced grave economic harm if license were vacated).

* * * * *

For all of the foregoing reasons, we grant in part, deny in part, and dismiss in part the Coalition's petition for review, and remand this case to the Commission without vacatur for further proceedings consistent with this opinion.

*So ordered.*