

AMERICAN RADIO RELAY LEAGUE, INCORPORATED, PETITIONER v. FEDERAL COMMUNICATIONS COMMISSION AND UNITED STATES OF AMERICA, RESPONDENTS; AMBIENT CORPORATION, ET AL., INTERVENORS

No. 06-1343

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

524 F.3d 227; 2008 U.S. App. LEXIS 11704; 44 Comm. Reg. (P & F) 1258

October 23, 2007, Argued
April 25, 2008, Decided

PRIOR HISTORY: [**1]

On Petition for Review of Orders of the Federal Communications Commission.

COUNSEL: Jonathan J. Frankel argued the cause for petitioner. With him on the briefs were Christopher D. Imlay, William T. Lake, Dileep S. Srihari, and Daniel A. Zibel.

C. Grey Pash, Jr., Counsel, Federal Communications Commission, argued the cause for respondents. With him on the brief were Thomas O. Barnett, Assistant Attorney General, Robert B. Nicholson and Robert J. Wiggers, Attorneys, Samuel L. Feder, General Counsel, Federal Communications Commission, Joseph R. Palmore, Deputy General Counsel, Richard K. Welch, Associate General Counsel, and John E. Ingle, Deputy Associate General Counsel.

George Y. Wheeler, John B. Richards, Thomas B. Magee, James N. Horwood, Tillman L. Lay, Jill Mace Lyon, Brett Kilbourne, Mitchell Lazarus, and Harry F. Cole were on the brief for intervenors.

JUDGES: Before: ROGERS, TATEL and KAVANAUGH, Circuit Judges. Opinion for the Court by Circuit Judge ROGERS. Concurring opinion by Circuit Judge TATEL. Opinion concurring in part, concurring in the judgment in part, and dissenting in part by Circuit Judge KAVANAUGH.

OPINION BY: ROGERS

OPINION

[*230] ROGERS, *Circuit Judge*: The American Radio Relay League, Inc., petitions on behalf [**2] of licensed amateur radio operators for review of two orders of the Federal Communications Commission promulgating a rule to regulate the use of the radio spectrum by Access Broadband over Power Line ("Access BPL") operators. The Commission concluded that existing safeguards combined with new protective measures required by the rule will prevent harmful interference to licensees [*231] from Access BPL radio emissions. The League challenges this conclusion, contending that the Commission has abandoned decades of precedent requiring shut-down and other protections for licensees and that the rule is substantively and procedurally flawed. We grant the petition in part and remand the rule to the Commission. The Commission failed to satisfy the notice and comment requirements of the Administrative Procedure Act ("APA") by redacting studies on which it relied in promulgating the rule and failed to provide a reasoned explanation for its choice of the extrapolation factor for measuring Access BPL emissions.

I.

Under *section 301* of the Communications Act, the owners and operators of "any apparatus for the transmission of energy or communications or signals by radio" are required to obtain a license as [**3] a condition of operation and they may not use or operate any such apparatus, for instance, "when interference is caused by such use or operation with the transmission of such energy, communications, or signals." *47 U.S.C. § 301. Section 302* of the Act authorizes the Commission, "consistent with the public interest, convenience, and necessity," to promulgate regulations for manufacture and use governing "the interference potential of devices which in their operation are capable of emitting radio fre-

quency energy . . . in sufficient degree to cause harmful interference to radio communications." *Id.* § 302a(a). The Commission's rules, specifically Part 15, define "harmful interference" as "[a]ny emission, radiation or induction that endangers the functioning of a radio navigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunications service." 47 C.F.R. § 15.3(m). The rules governing unlicensed devices also include two provisions to protect licensed radio operators from unlicensed devices: an *ex ante* precondition of operation that a device not cause "harmful interference," *id.* § 15.5(b), and an *ex post* requirement that a device [**4] "cease" operation if "harmful interference" occurs, *id.* § 15.5(c).

The Commission, upon concluding that "the introduction of new high-speed [Access] BPL technologies warrants a systematic review of the Part 15 rules in order to facilitate the deployment of this new technology, promote consistency in the rules and ensure the ongoing protection of the licensed radio services," issued a notice of inquiry. *Notice of Inquiry, Carrier Current Systems, Including Broadband Over Power Line Systems ("NOI")*, 18 F.C.C.R. 8498, 8503 (April 28, 2003). Therein it stated that in the process of Access BPL transmission, devices installed along electric power lines transmit radio frequency energy over the 1.7 - 80 MHz spectrum, creating potential to interfere with the ability of nearby radio operators to send and receive signals on the same frequencies. *Id.* at 8499-500, 8505-06. Licensed radio operators on this part of the spectrum include public safety and federal government agencies, aeronautical navigation, maritime, radio-astronomy, citizen band radio, and amateur radio operators. *Id.* at 8506. Subsequently, in announcing a proposed rule, the Commission stated that its policy was to "promote and foster [**5] the development of [the] new technology [Access BPL] with its concomitant benefits while at the same time ensuring that existing licensed operations are protected from harmful interference." *Notice of Proposed Rule Making, Carrier Current Systems, Including Broadband Over Power Line Systems ("NPRM")*, 19 F.C.C.R. 3335, 3355 (Feb. 23, 2004).

[*232] In the final rule the Commission defined Access BPL and set technical and administrative requirements to protect licensed radio operators from harmful interference. *See Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Over Power Line Systems, Carrier Current Systems ("Order")*, 19 F.C.C.R. 21,265, 21,284-302 (Oct. 28, 2004). To protect licensed operators, the rule requires Access BPL manufacturers and operators to comply with certification requirements and emission limits, and establishes a nationwide database of Access BPL operations in order to facilitate identification of a source of interference and its resolution. *Id.* at 21,282, 21,300, 21,316. Access BPL operations also must have the capability, from a central location, to reduce or "notch" operating power, to avoid or adjust frequencies, and to [**6] shut down segments of their operations entirely when necessary to resolve licensees' complaints of "harmful interference." *Id.* at 21,291-96. To protect government, aeronautical, and public safety operations, Access BPL operators must avoid certain frequencies and certain geographic areas, notify and consult with public safety users before beginning operations, and resolve public safety users' complaints of harmful interference within 24 hours. *Id.* at 21,287-89, 21,301-02. The Commission retained the existing extrapolation factor of 40 decibels ("dB") per decade¹ for frequencies below 30 MHz to measure Access BPL emissions and any resulting interference. *Id.* at 21,309-12.

1 Decibels per decade are used to measure the extrapolation factor. A "decade," which is a "10:1 range, refers to the ratio of the specified measurement distance to the actual measurement distance." *Order*, 19 F.C.C.R. at 21,303 n.181.

The Commission acknowledged that "some cases of harmful interference may be possible from Access BPL emissions at levels up to the Part 15 limits" but it was satisfied that "the benefits of Access BPL service warrant acceptance of a small and manageable degree of interference risk." *Id.* at 21,276. [**7] The Commission concluded that the risk of such harmful interference was "low." *Id.* at 21,275; *see id.* at 21,283. Regarding mobile operations, such as amateur radios in automobiles, the Commission concluded that the requirement that Access BPL operators "notch" their emitted power to a level at least 20 dB below emission limits on a frequency band would be "generally . . . sufficient to resolve any harmful interference that might occur to mobile operations." *Id.* at 21,294. The Commission referenced its findings that "[only] low signal levels [are] allowed under the Part 15 emission limits" and that "a mobile transceiver can readily be re-positioned to provide some separation from the Access BPL operation." *Id.*

In reaching its "low"-likelihood conclusion, the Commission stated that "[t]he record and our investigations indicate that [Access] BPL network systems can generally be configured and managed to minimize and/or eliminate . . . harmful interference potential [to licensed radio services]." *Id.* at 21,266, 21,322. The Commission also relied on "information provided by our field tests," "our own field measurements of Access BPL installations," and "our own field testing." *Id.* at 21,275-76, 21,282, 21,296. [**8] Following issuance of the *NOI*, the League sought disclosure under the Freedom of Information Act ("FOIA") of the Commission's studies related to Access BPL systems. The Commission

denied that request except as to one document that it placed in the record in the fall of 2003. When the League filed a second FOIA request citing the *Order*, the Commission released five studies in redacted [*233] form and made them part of the record in December 2004 after the rule was promulgated. The Commission stated that "[t]hese documents comprise internally-generated information upon which the Commission relied, in part, in reaching its determination." Submission by FCC Ofc. of Eng'g & Tech. to Sec'y (Dec. 22, 2004), filed in *ET Docket Nos. 03-104 & 04-37, 19 FCC Rcd* 7882.

The League sought reconsideration, and upon its denial, with a clarification,² the League petitioned for review.

2 Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Over Power Line Systems, Carrier Current Systems ("Reconsideration Order"), 21 F.C.C.R. 9308 (Aug. 7, 2006). In responding to a request for clarification, the Commission added sub-section (iii) to 47 C.F.R. § 15.611(c)(1), providing that:

[W]e will [*9] not require [an Access BPL operator who has followed the 20 dB "notch" procedure] to take further actions to resolve complaints of harmful interference to mobile operations.

Reconsideration Order, 21 F.C.C.R. at 9320, 9338 app. B.

II.

The League seeks vacatur of the rule on four grounds. The League contends that: *First*, without acknowledging it, the Commission abrogated seventy years of precedent by invoking *section 302* of the Act to authorize the operation of unlicensed devices that could interfere with licensed devices, and by no longer requiring them to cease operation if they actually cause harmful interference. *Second*, because "[t]he lynchpin" of the rule "is a series of studies conducted by the [Commission's] engineers" that have never been made available in unredacted form, their non-disclosure violates the APA's notice and comment requirements. Pet.'s Br. at 18. *Third*, the rule is based on a flawed assumption that Access BPL emissions under 30 MHz decay by 40 dB per decade; consequently, use of this extrapolation factor to measure Access BPL emissions is arbitrary and capricious given the absence of any evidentiary basis in the rulemaking record and the Commission's refusals to [*10] consider empirical evidence supporting a lower extrapolation factor of 20 dB per decade or an alternative sliding-scale formula. *Fourth*, the Commission failed to consider adequately a proposal to limit Access BPL systems to the frequency band between 30 and 50 MHz, as a "workable" way to ensure that they do not cause harmful interference in those frequencies "uniquely well-suited to licensed long-distance communications such as . . . amateur radio." *Id.* at 43-44. The Commission rejects all of these contentions.

Our review of the Commission's exercise of its regulatory authority is deferential, considering whether the Commission's action was arbitrary or capricious, an abuse of discretion, or otherwise not in accordance with law. 5 U.S.C. § 706(2); see 28 U.S.C. § 2342(1); 47 U.S.C. § 402. An agency need only articulate a "rational connection between the facts found and the choice made," *Motor Vehicle Mfrs. Ass'n of the United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43, 103 S. Ct. 2856, 77 L. Ed. 2d 443 (1983) (citation omitted), and the court "will not intervene unless the Commission failed to consider relevant factors or made a manifest error in judgment," *Consumer Elecs. Ass'n v. FCC*, 358 U.S. App. D.C. 180, 347 F.3d 291, 300 (D.C. Cir. 2003). [*11] Where a "highly technical question" is involved, "courts necessarily must show considerable deference to an agency's expertise." *MCI Cellular Tel. Co. v. FCC*, 238 U.S. App. D.C. 176, 738 F.2d 1322, 1333 (D.C. Cir. 1984). At least "a modicum of reasoned analysis" is required, however. *Hispanic Info. & Telecomms. Network, Inc. v. FCC*, 275 U.S. App. D.C. 190, 865 F.2d 1289, 1297-98 [*234] (D.C. Cir. 1989). The court defers to an agency's reasonable interpretation of its governing statute consistent with *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-45, 104 S. Ct. 2778, 81 L. Ed. 2d 694 (1984). An agency's interpretation of its own regulation is "'controlling' unless 'plainly erroneous or inconsistent with' the regulation[]" being interpreted." *Long Island Care at Home, Ltd. v. Coke*, 127 S. Ct. 2339, 2349, 168 L. Ed. 2d 54 (2007) (quotation marks and citations omitted); see *Udall v. Tallman*, 380 U.S. 1, 16-17, 85 S. Ct. 792, 13 L. Ed. 2d 616 (1965); *Cassell v. FCC*, 332 U.S. App. D.C. 156, 154 F.3d 478, 483 (D.C. Cir. 1998).

A.

The Commission has long interpreted *section 301* of the Act to allow the unlicensed operation of a device that emits radio frequency energy as long as it does not "transmit[]" enough energy to have a significant potential for causing

harmful interference" to licensed radio operators. *Revision* [**12] of *Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems*, 19 F.C.C.R. 24,558, 24,589 & n.179 (2004) ("Ultra-Wideband Order"); *see Revision of Part 15 of the Rules*, 4 F.C.C.R. 3493, 3493 (1989); *Part 15 Incidental and Restricted Radiation Devices*, 20 Fed. Reg. 10,055, 10,056 (Dec. 29, 1955). The League contends that in promulgating the rule the Commission has departed from its longstanding interpretation of *section 301* as including an *ex post* shut-down requirement where harmful interference occurs "by forcing licensed users to accept harmful interference from unlicensed operations and permitting unlicensed [Access] BPL operators to continue their interference-generating activities." Pet.'s Br. at 21. The League does not dispute that an agency may change its position and depart from its precedent. *See Action for Children's Television v. FCC*, 261 U.S. App. D.C. 253, 821 F.2d 741, 745 (D.C. Cir. 1987) (citing *Greater Boston Television Corp. v. FCC*, 143 U.S. App. D.C. 383, 444 F.2d 841, 852 (D.C. Cir. 1970); *State Farm*, 463 U.S. at 42-43). Rather, the League contends that the Commission has done so without acknowledging the change or providing a reasoned explanation for it. This contention is not well taken.

The [**13] Commission determined, in accord with its precedent, that such interference as may remain from Access BPL emissions under the rule will not rise to the level of harmful interference for mobile radio operators in light of the nature of mobile antennae reception. *See Order*, 19 F.C.C.R. at 21,294-95; *Reconsideration Order*, 21 F.C.C.R. at 9318-21, 9328. The rule requires Access BPL operators to reduce their signal by 20 dB if such harmful interference occurs to any radio operation. The Commission determined that for mobile operators the remaining interference after this "notch" "would not be significantly greater than the background noise at the distances normally used for protection against harmful interference." *Reconsideration Order*, 21 F.C.C.R. at 9319; *see Order*, 19 F.C.C.R. at 21,294. Consequently, the Commission concluded that "Access BPL signals [after a 20 dB reduction] will not constitute harmful interference to mobile, and in particular, amateur mobile communications." *Reconsideration Order*, 21 F.C.C.R. at 9320. This is because, the Commission found, "[t]he effect of [the Part 15 emission] limits will be to constrain the harmful interference potential of [Access BPL] systems [**14] to relatively short distances from the power lines that they occupy." *Order*, 19 F.C.C.R. at 21,282.

Put otherwise, the Commission has applied its longstanding definition of harmful [**235] interference in a new context without modifying its shut-down policy. *Cf. Cassell*, 154 F.3d at 483. The Commission implicitly determined that any interference that may occur beyond the required "notch" will not "seriously degrade[], obstruct[] or repeatedly interrupt[]" mobile radio under the Part 15 definition of "harmful interference." *Order*, 19 F.C.C.R. at 21,276 & n.51; *Reconsideration Order*, 21 F.C.C.R. at 9323 & n.89. Because the Commission determined that any Access BPL interference will never reach a harmful level of interference for mobile use, the shut-down rule simply will not be triggered for mobile operations. *See Reconsideration Order*, 21 F.C.C.R. at 9320. The clarification upon reconsideration is to the same effect.³ Not requiring an Access BPL operator to shut down unless harmful interference occurs reflects Commission precedent. *See Order*, 19 F.C.C.R. at 21,296; *Reconsideration Order*, 21 F.C.C.R. at 9316; *see also Ultra-Wideband Order*, 19 F.C.C.R. at 24,591. The League concedes that Commission [**15] precedent does not require the elimination of all interference at all times and all places for *section 301*'s license requirement not to apply. *See* Pet.'s Reply Br. at 4. Contrary to the League's suggestion, then, the Commission's observation that mobile users could move, *Order*, 19 F.C.C.R. at 21,294, did not impose a new burden on mobile operators but simply recognized the nature of mobile use, *see Reconsideration Order*, 21 F.C.C.R. at 9318, 9320.

³ Although the League did not seek further reconsideration as Commission rules allow, *see 47 C.F.R. § 1.429(i)*, the Commission was previously alerted to the League's concern about preserving shut-down protection and has not contested the League's ability to raise this issue. *Cf. Qwest Corp. v. FCC*, 375 U.S. App. D.C. 379, 482 F.3d 471, 474 (D.C. Cir. 2007) (citing 47 U.S.C. § 405(a)).

The League's related contention that the Commission has departed from its precedent in interpreting the relationship between *section 301* and *section 302* of the Act fares no better. The Commission stated in responding to the League's petition for reconsideration that because Access BPL systems are "capable of emitting [radio frequency] energy that can cause harmful interference to radio [**16] communications," they "fall under the Commission's jurisdiction as conferred by *Section 302* of the Communications Act, rather than *Section 301*." *Id.* at 9327-28. The League misconstrues this statement to mean that the Commission is no longer regulating Access BPL under *section 301*.⁴ The League had argued that the Commission could not rely on *section 302* and that there was no basis for a balancing test regarding harmful interference under *section 301*. *See id.* at 9327. The Commission's response, however, does not suggest either that Access BPL devices are not governed by *section 301* at all or that the Commission is not invoking its authority under both sections in promulgating the rule. *See id.* at 9335; *Order*, 19 F.C.C.R. at 21,321. As the Commission offers, the statement appears to be a shorthand way of saying that the Commission has applied *section 302*'s public

interest standard to regulate Access BPL systems, as it has done in the past, because they operate in accordance with Part 15 rules rather than triggering the *section 301* license requirement. Resp.'s Br. at 39; *see Order, 19 F.C.C.R. at 21,275, 21,283; see also Amendment of Part 15 of the Commission's Rules to Allow Certification of Equipment, 16 F.C.C.R. 22,337, 22,341-42 (2001).*

4 Although [**17] the League did not seek further reconsideration of this issue, we address it in view of its inclusion in the League's petition for reconsideration. *See supra* note 3.

[*236] B.

More persuasive is the League's contention that the Commission has failed to comply with the APA by not disclosing in full certain studies by its staff upon which the Commission relied in promulgating the rule.

The APA requires an agency to publish "notice" of "either the terms or substance of the proposed rule or a description of the subjects and issues involved," in order to "give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments," and then, "[a]fter consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose." 5 U.S.C. § 553(b)-(c). Longstanding precedent instructs that "[n]otice is sufficient 'if it affords interested parties a reasonable opportunity to participate in the rulemaking process,' and if the parties have not been 'deprived of the opportunity to present relevant information by lack of notice that the issue was there.'" *WJG Tel Co., Inc. v. FCC, 218 U.S. App. D.C. 367, 675 F.2d 386, 389 (D.C. Cir. 1982)* [**18] (citations omitted); *see Fla. Power & Light Co. v. Nuclear Regulatory Comm'n, 846 F.2d 765, 771 (D.C. Cir. 1988).*

Under APA notice and comment requirements, "[a]mong the information that must be revealed for public evaluation are the 'technical studies and data' upon which the agency relies [in its rulemaking]." *Chamber of Commerce v. SEC (Chamber of Commerce II), 443 F.3d 890, 899 (D.C. Cir. 2006)* (citation omitted). Construing *section 553* of the APA, the court explained long ago that "[i]n order to allow for useful criticism, it is especially important for the agency to identify and make available *technical studies and data* that it has employed in reaching the decisions to propose particular rules." *Conn. Light & Power Co. v. Nuclear Regulatory Comm'n, 218 U.S. App. D.C. 134, 673 F.2d 525, 530 (D.C. Cir. 1982)* (emphasis added). More particularly, "[d]isclosure of *staff reports* allows the parties to focus on the information relied on by the agency and to point out where that information is erroneous or where the agency may be drawing improper conclusions from it." *Nat'l Ass'n of Regulatory Util. Comm'rs ("NARUC") v. FCC, 237 U.S. App. D.C. 390, 737 F.2d 1095, 1121 (D.C. Cir. 1984)* (emphasis added); *see Portland Cement Ass'n v. Ruckelshaus, 158 U.S. App. D.C. 308, 486 F.2d 375, 393 (D.C. Cir. 1973)*; [**19] *see also Kent County, Del. Levy Court v. EPA, 295 U.S. App. D.C. 288, 963 F.2d 391, 395-96 (D.C. Cir. 1992); Indep. U.S. Tanker Owners Comm. v. Lewis, 223 U.S. App. D.C. 185, 690 F.2d 908, 926 (D.C. Cir. 1982).*

Public notice and comment regarding relied-upon technical analysis, then, are "[t]he safety valves in the use of . . . sophisticated methodology." *Sierra Club v. Costle, 211 U.S. App. D.C. 336, 657 F.2d 298, 334, 397-98 & n.484 (D.C. Cir. 1981)* (citing cases); *see Engine Mfrs. Ass'n v. EPA, 305 U.S. App. D.C. 313, 20 F.3d 1177, 1181-82 (D.C. Cir. 1994).*

By requiring the "most critical factual material" used by the agency be subjected to informed comment, the APA provides a procedural device to ensure that agency regulations are tested through exposure to public comment, to afford affected parties an opportunity to present comment and evidence to support their positions, and thereby to enhance the quality of judicial review.

Chamber of Commerce II, 443 F.3d at 900 (quoting *Ass'n of Data Processing Serv. Orgs., Inc. v. Bd. of Governors of the Fed. Reserve Sys., 240 U.S. App. D.C. 301, 745 F.2d 677, 684 (D.C. Cir. 1984)*). Enforcing the APA's notice and comment requirements ensures that an agency does not "fail[]" to reveal portions of the technical basis for a proposed rule in time to allow for meaningful [**20] commentary" [*237] so that "a genuine interchange" occurs rather than "allow[ing] an agency to play hunt the peanut with technical information, hiding or disguising the information that it employs." *Conn. Light & Power Co., 673 F.2d at 530-31*. The failure to disclose for public comment is subject, however, to "the rule of prejudicial error," 5 U.S.C. § 706, and the court will not set aside a rule absent a showing by the petitioners "that they suffered prejudice from the agency's failure to provide an opportunity for public comment," *Ger-*

ber v. Norton, 352 U.S. App. D.C. 375, 294 F.3d 173, 182 (D.C. Cir. 2002), in sufficient time so that the agency's "decisions . . . [may be] framed with . . . comment in full view," *NARUC*, 737 F.2d at 1121.

At issue are five scientific studies consisting of empirical data gathered from field tests performed by the Office of Engineering and Technology. Two studies measured specific Access BPL companies' emissions, and three others measured location-specific emissions in pilot Access BPL areas in New York, North Carolina, and Pennsylvania. In placing the studies in the rulemaking record, the Commission has redacted parts of individual pages, otherwise relying on those pages. In responding [**21] to the League's FOIA request, the Commission stated that "certain portions of [these] presentations have been redacted, as they represent preliminary or partial results or staff opinions that were part of the deliberative process, exempt from disclosure under Section 0.457(e) of the Commission's rules and Section 552(b)(5) of the FOIA." Letter from Edmond Thomas, Chief, FCC Ofc. of Eng'g & Tech., to Christopher Imlay, Gen. Counsel, Am. Radio Relay League (Jan. 4, 2005). Upon reconsideration, the Commission reaffirmed that "the redacted portions . . . referred to internal communications that were not relied upon in the decision making process," while reiterating that Commission statements in the *Order* "point" to the partially redacted studies -- including the Commission's "own field investigations of [Access] BPL experimental sites" -- and "clarify[ing] that in this proceeding, the Commission relied . . . on its own internally conducted studies." *Reconsideration Order*, 21 F.C.C.R. at 9324-25. The court, pursuant to the Commission's offer, Resp.'s Br. at 44 n.35, has reviewed *in camera* the partially redacted pages in unredacted form; they show staff summaries of test data, scientific [**22] recommendations, and test analysis and conclusions regarding the methodology used in the studies. All pages in the studies are stamped "for internal use only."

It would appear to be a fairly obvious proposition that studies upon which an agency relies in promulgating a rule must be made available during the rulemaking in order to afford interested persons meaningful notice and an opportunity for comment. "It is not consonant with the purpose of a rule-making proceeding to promulgate rules on the basis of inadequate data, or on data that, [to a] critical degree, is known only to the agency." *Portland Cement Ass'n*, 486 F.2d at 393; see *NARUC*, 737 F.2d at 1121. Where, as here, an agency's determination "is based upon 'a complex mix of controversial and uncommented upon data and calculations,'" there is no APA precedent allowing an agency to cherry-pick a study on which it has chosen to rely in part. See *Solite Corp. v. EPA*, 293 U.S. App. D.C. 117, 952 F.2d 473, 500 (D.C. Cir. 1991) (quoting *Weyerhaeuser Co. v. Costle*, 191 U.S. App. D.C. 309, 590 F.2d 1011, 1031 (D.C. Cir. 1978)); see also *Kent County*, 963 F.2d at 396; *Indep. U.S. Tanker Owners Comm.*, 690 F.2d at 926; *Sierra Club*, 657 F.2d at 334, 398.

The League has met its burden to [**23] demonstrate prejudice by showing that it "ha[s] something useful to say" regarding [**238] the unredacted studies, *Chamber of Commerce II*, 443 F.3d at 905, that may allow it to "mount a credible challenge" if given the opportunity to comment, *Gerber*, 294 F.3d at 184 (citation omitted); see *Owner-Operator Indep. Drivers Ass'n, Inc. v. Fed. Motor Carrier Safety Admin.*, 377 U.S. App. D.C. 356, 494 F.3d 188, 202-03 (D.C. Cir. 2007). As suggested by the League, the partially redacted pages indicate that a study's core scientific recommendations may reveal the limitations of its own data and that its conclusions may reveal methodology or illuminate strengths and weaknesses of certain data or the study as a whole. For example, the League points to the unredacted headings of otherwise redacted pages referring to "New Information Arguing for Caution on HF BPL" and "BPL Spectrum Tradeoffs," subjects on which it seeks the opportunity to comment. FCC Lab., BPL Summary After Briarcliff Manor, NY Test, Sept. 8, 2004, at 17, filed in *ET Docket Nos. 03-104 & 04-37*, 19 FCC Rcd 7882. The unredacted pages thus appear to "contain information in tension with the [Commission's] conclusion" that "[Access] BPL's acknowledged interference risks are 'manageable.'" [**24] Pet.'s Br. at 18 (quoting *Order*, 19 F.C.C.R. at 21,276). Allowing such "omissions in data and methodology" may "ma[ke] it impossible to reproduce" an agency's results or assess its reliance upon them. *City of Brookings Mun. Tel. Co. v. FCC*, 262 U.S. App. D.C. 91, 822 F.2d 1153, 1168 (D.C. Cir. 1987); see also *Sierra Club*, 657 F.2d at 334, 397-98; *United States v. Nova Scotia Food Prods. Corp.*, 568 F.2d 240, 252 (2d Cir. 1977).

The Commission nonetheless maintains that it need not publish for notice and comment the five studies in full, including portions which it styles as "its staff's internal analysis of data in a rulemaking proceeding," Resp.'s Br. at 44, "regardless of whether the agency accepts or rejects or ignores" this material, *id.* at 22. It relies on *EchoStar Satellite L.L.C. v. FCC*, 372 U.S. App. D.C. 385, 457 F.3d 31 (D.C. Cir. 2006), but that case is inapposite. In *EchoStar*, the court held that neither late disclosure of data submitted by a commenter nor non-disclosure of certain staff analysis, in the absence of a timely objection to the completeness of the rulemaking record, violated the notice and comment requirements. *Id.* at 39-40. The study in that case on which the Commission had relied was made part of the rulemaking [**25] record two months before the Commission issued its order upon reconsideration and the non-disclosed staff analysis represented "merely . . . cogitations upon the evidence" that was part of the rulemaking record. *Id.* at 40. By

contrast, the challenged orders indicate that the five staff studies were never fully disclosed for comment even though they were, according to the Commission, a central source of data for its critical determinations. *See, e.g., Order, 19 F.C.C.R. at 21,266, 21,322, 21,275-76, 21,282, 21,296; Reconsideration Order, 21 F.C.C.R. at 9319, 9324-25.*

The Commission's other bases for redaction and non-publication do not withstand analysis. The FOIA's deliberative process privilege, invoked by the Commission in responding to the League's FOIA request, "does not authorize an agency to throw a protective blanket over all information Purely factual reports and scientific studies cannot be cloaked in secrecy by an exemption designed to protect only those internal working papers in which opinions are expressed and policies formulated and recommended." *Bristol-Myers Co. v. Fed. Trade Comm'n*, 138 U.S. App. D.C. 22, 424 F.2d 935, 939 (D.C. Cir. 1970) (footnote and internal quotation marks omitted). [**26] By choosing "to adopt or incorporate by reference" the redacted studies, *NLRB v. Sears, Roebuck & Co.*, 421 U.S. 132, 161, 95 S. Ct. 1504, 44 L. Ed. 2d 29 (1975), and thereby "us[ing] [*239] . . . [them] in its dealings with the public," *Coastal States Gas Corp. v. Dep't of Energy*, 199 U.S. App. D.C. 272, 617 F.2d 854, 866 (D.C. Cir. 1980), the Commission ceased treating them as internal working papers. The Commission's reliance on *Vernal Enterprises, Inc. v. FCC*, 359 U.S. App. D.C. 355, 355 F.3d 650, 661 (D.C. Cir. 2004), for the proposition that an agency is not bound by the actions of its staff, is misplaced; unlike the refund rulings in that case, the redacted studies were neither unauthorized staff activities nor binding on the Commission.

The narrowness of our holding under *section 553* of the APA is manifest. The redacted studies consist of staff-prepared scientific data that the Commission's partial reliance made "critical factual material." *Owner-Operator Indep. Drivers Ass'n*, 494 F.3d at 201 (quoting *Air Transp. Ass'n of Am. v. FAA*, 335 U.S. App. D.C. 85, 169 F.3d 1, 7 (D.C. Cir. 1999)). The Commission has chosen to rely on the data in those studies and to place the redacted studies in the rulemaking record. Individual pages relied upon by the Commission reveal that the unredacted portions [**27] are likely to contain evidence that could call into question the Commission's decision to promulgate the rule. Under the circumstances, the Commission can point to no authority allowing it to rely on the studies in a rulemaking but hide from the public parts of the studies that may contain contrary evidence, inconvenient qualifications, or relevant explanations of the methodology employed. The Commission has not suggested that any other confidentiality considerations would be implicated were the unredacted studies made public for notice and comment. The Commission also has not suggested that the redacted portions of the studies contain only "supplementary information" merely "clarify[ing], expand[ing], or amend[ing] other data that has been offered for comment." *See Chamber of Commerce II*, 443 F.3d at 903. Of course, it is within the Commission's prerogative to credit only certain parts of the studies. But what it did here was redact parts of those studies that are inextricably bound to the studies as a whole and thus to the data upon which the Commission has stated it relied, parts that explain the otherwise unidentified methodology underlying data cited by the Commission for its [**28] conclusions, and parts that signal caution about that data. This is a critical distinction and no precedent sanctions such a "hide and seek" application of the APA's notice and comment requirements. *See Gerber*, 294 F.3d at 181 (quoting *MCI Telecomms. Corp. v. FCC*, 313 U.S. App. D.C. 51, 57 F.3d 1136, 1142 (D.C. Cir. 1995)).

As our colleague notes, *see Concurring & Dissenting Op. by Judge Kavanaugh at 3*, in *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519, 98 S. Ct. 1197, 55 L. Ed. 2d 460 (1978), the Supreme Court has limited the extent that a court may order additional agency procedures, but the procedures invalidated in *Vermont Yankee* were not anchored to any statutory provision. *See id. at 548*; Richard J. Pierce, Jr., *Waiting for Vermont Yankee III, IV, and V? A Response to Beermann and Lawson*, 75 *GEO. WASH. L. REV.* 902, 917 (2007). By contrast, the court does not impose any new procedures for the regulatory process, but merely applies settled law to the facts. The Commission made the choice to engage in notice-and-comment rulemaking and to rely on parts of its redacted studies as a basis for the rule. The court, consequently, is not imposing new procedures but enforcing the agency's procedural choice [**29] by ensuring that it conforms to APA requirements. It is one thing for the Commission to give notice and make available for comment the studies on which it relied in formulating the rule while explaining its non-reliance on [*240] certain parts. It is quite another thing to provide notice and an opportunity for comment on only those parts of the studies that the Commission likes best. Moreover, the court's precedent construing *section 553* to require agencies to release for comment the "technical studies and data" or "staff reports" on which they rely during a rulemaking, *see, e.g., Conn. Light & Power Co.*, 673 F.2d at 530; *NARUC*, 737 F.2d at 1121, is not inconsistent with the view that "the *Portland Cement* doctrine should be limited to *studies on which the agency actually relies* to support its final rule." 1 RICHARD J. PIERCE, JR., *ADMINISTRATIVE LAW TREATISE* 437 (4th ed. 2002) (emphasis added).

On remand, the Commission shall make available for notice and comment the unredacted "technical studies and data that it has employed in reaching [its] decisions," *Conn. Light & Power Co.*, 673 F.2d at 530; *see Chamber of*

Commerce II, 443 F.3d at 903; *Idaho Farm Bureau Fed'n v. Babbitt*, 58 F.3d 1392, 1403 (9th Cir. 1995); [**30] see also *Mortgage Investors Corp. v. Gober*, 220 F.3d 1375, 1380 (Fed. Cir. 2000), and shall make them part of the rule-making record. In view of the remand, the court does not reach the League's contention that the late disclosure of redacted portions of the studies also violated the APA.

C.

The League also challenges the Commission's decision to retain the extrapolation factor of 40 dB per decade to measure Access BPL radio emissions at frequencies below 30 MHz, which is the band primarily used by amateur radio operators, as unsupported by empirical evidence.

The "distance extrapolation factor[]" is the projected rate at which radio frequency strength decreases from a radiation-emitting source, used to estimate signal decay for Access BPL and resulting interference to radio operators at various distances from a source without actually measuring such emissions. See *Order*, 19 F.C.C.R. at 21,303; *NOI*, 18 F.C.C.R. at 8508; 47 C.F.R. § 15.31(f). The Commission's Part 15 rules, § 15.31(f)(2), include a generally applicable extrapolation factor of 40 dB per decade for any device that may have potential to interfere with licensed operators at frequencies below 30 MHz. The Commission acknowledged [**31] that the extrapolation factor "is an important consideration in determining compliance with the emission limits in the rules" because "[i]f the extrapolation factor is 20 dB per decade instead of 40 dB per decade, the correction factor would be smaller, thus resulting in higher value for the transmitted emission levels [of Access BPL devices]." *Reconsideration Order*, 21 F.C.C.R. at 9317 & n.55; see *Order*, 19 F.C.C.R. at 21,316. Nonetheless, the gaps in the Commission's explanation for applying the pre-existing extrapolation factor to Access BPL systems demonstrate its inadequacy. Cf. *Hispanic Info. & Telecomms. Network, Inc.*, 865 F.2d at 1297-98.

The League points out that to confirm its choice of a 40 dB per decade factor the Commission relied on modeling data using a method of measurement that is not based on empirical evidence derived from testing or scientific observation. See *Order*, 19 F.C.C.R. at 21,310; *Reconsideration Order*, 21 F.C.C.R. at 9318. Assuming that modeling may prove instructive, the comments to which the Commission points, see *Order*, 21 F.C.C.R. at 21,265; *Reconsideration Order*, 21 F.C.C.R. at 9318, at best suggest an alternative interpretation of empirical data [**32] reported by the National Telecommunications and Information Administration ("NTIA"). But the NTIA study itself casts doubt on the Commission's decision to retain the pre-existing extrapolation factor rather than suggesting [*241] that factor was appropriate for the new technology of Access BPL.⁵ The Commission also relied on the NTIA's latest computer modeling results, but these results were not part of the rulemaking record. See *Order*, 19 F.C.C.R. at 21,310. Although indicating that it was confronted with a "lack of conclusive experimental data pending large scale Access BPL deployments," *Order*, 19 F.C.C.R. at 21,310; *Reconsideration Order*, 21 F.C.C.R. at 9318, the Commission provided no explanation of how this circumstance justified retaining for Access BPL an extrapolation factor that was designed to accommodate technologies different in scale, signal power, and frequencies used. See *NOI*, 18 F.C.C.R. at 8498, 8501; *Order*, 19 F.C.C.R. at 21,266. Promulgated in 1989, the regulation states that for frequencies below 30 MHz the factor applies "[p]ending the development of an appropriate measurement procedure," 47 C.F.R. § 15.31(f)(2), and the Commission acknowledged that "[t]he actual extrapolation [**33] factor can be determined empirically" for carrier current systems, *NOI*, 18 F.C.C.R. at 8508.

⁵ See NTIA, POTENTIAL INTERFERENCE FROM BROADBAND OVER POWER LINE (BPL) SYSTEMS TO FEDERAL GOVERNMENT RADIOCOMMUNICATIONS AT 1.7 - 80 MHz, PHASE 1 STUDY 7-1 (Apr. 27, 2004), filed in *ET Docket Nos. 03-104 & 04-37*, 19 *FCC Rcd* 7882 (stating that "sources of potential [Access BPL] measurement inaccuracies include: the measurement distance and extrapolation factor"); 19 *FCC Rcd* 7882, at 7-5 (stating that "[Access] BPL field strength does not decrease with increasing distance consistent with the existing Part 15 distance extrapolation factor[] of . . . 40 dB per decade . . . below 30 MHz").

But that aside, the Commission offered no reasoned explanation for its dismissal of empirical data that was submitted at its invitation. *Order*, 19 F.C.C.R. at 21,310. The League submitted three studies published in 2005 by the Commission's counterpart in the United Kingdom, as well as additional analysis of its own, suggesting that an extrapolation factor of 20 dB per decade may be more appropriate for Access BPL.⁶ Upon reconsideration, the Commission summarily dismissed this data, stating: "No new information has been submitted that would [**34] provide a convincing argument for modifying [the extrapolation factor or emission limit/distance standards] at this time." *Reconsideration Order*, 21 F.C.C.R. at 9318. Given the acknowledged critical nature of the extrapolation factor, see *Reconsideration Order*, 21 F.C.C.R. at 9317 & n.55, so conclusory a statement cannot substitute for a reasoned explanation, *AT&T Corp. v.*

FCC, 344 U.S. App. D.C. 362, 236 F.3d 729, 737 (D.C. Cir. 2001), for it provides neither assurance that the Commission considered the relevant factors nor a discernable path to which the court may defer, *see State Farm*, 463 U.S. at 42-43. Our colleague's philosophical concern cannot fill the void, *see Concurring & Dis. Op.* at 7-8.

6 *See* OFFICE OF COMMUNICATIONS (OFCOM), AMPERION PLT MEASUREMENTS IN CRIEFF (May 11, 2005); OFCOM, ASCOM PLT MEASUREMENTS IN WINCHESTER (May 11, 2005); OFCOM, DS2 PLT MEASUREMENTS IN CRIEFF (May 11, 2005), all filed in *ET Docket Nos. 03-104 & 04-37, 19 FCC Rcd* 7882.

On remand, the Commission shall either provide a reasoned justification for retaining an extrapolation factor of 40 dB per decade for Access BPL systems sufficient to indicate that it has grappled with the 2005 studies, or adopt another factor and provide a reasoned explanation [**35] for it. The court need not address the League's contention that the Commission failed to consider a proposal of a sliding-scale extrapolation factor, assuming it was properly presented to the Commission through a reference in an exhibit accompanying the League's petition for reconsideration.

[*242] D.

Finally, the League contends the Commission gave inadequate consideration to a proposal that would restrict Access BPL systems to the frequency band between 30 MHz and 50 MHz, rather than allowing use throughout the 1.7 - 80 MHz spectrum range.

An agency is required "to consider responsible alternatives to its chosen policy and to give a reasoned explanation for its rejection of such alternatives." *City of Brookings Mun. Tel. Co.*, 822 F.2d at 1169 (quoting *Farmers Union Cent. Exch., Inc. v. Fed. Energy Regulatory Comm'n*, 236 U.S. App. D.C. 203, 734 F.2d 1486, 1511 (D.C. Cir. 1984)); *see also State Farm*, 463 U.S. at 42. Although this obligation extends only to "significant and viable" alternatives, *Farmers Union*, 734 F.2d at 1511 n.54, the League's proposal was "neither frivolous nor out of bounds," *Chamber of Commerce v. SEC*, 366 U.S. App. D.C. 351, 412 F.3d 133, 145 (D.C. Cir. 2005), particularly in light of the Commission's adoption of certain [**36] band exclusions to protect other licensed operators, *see Order*, 19 F.C.C.R. at 21,287-89. Contrary to the League's contention, however, the Commission did not treat it as such.

The Commission explained that the alternative proposal would have "restrict[ed] Access BPL system design and reduce[d] system capacity," as well as "increas[ed] . . . its cost to the public . . . without corresponding benefit or need." *Reconsideration Order*, 21 F.C.C.R. at 9321. Viewing the Access BPL remediation mechanisms in the rule as sufficient to protect amateur operations, *id.* at 9325-26; *see also Order*, 19 F.C.C.R. at 21,283-84, the Commission noted that the alternative proposal requested a system-wide "complete avoidance of all HF frequencies [below 30 MHz]" without regard to whether there were any amateurs near an Access BPL installation. *See Reconsideration Order*, 21 F.C.C.R. at 9321. The League maintains that the Commission's response was empirically deficient, but the Commission, in fact, discussed the difference between amateur operations and other operations that received band protection. *See id.* at 9323 (citing *Order*, 19 F.C.C.R. at 21,289). Its analysis reflects the Commission's considered technical [**37] judgment in light of its policy to foster Access BPL technology because it offers the potential for establishing "a significant new medium for extending broadband access to American homes and businesses," could be made available nearly everywhere, including rural areas with power lines, and could introduce additional competition. *Order*, 19 F.C.C.R. at 21,266. Observing that "public safety systems merit additional protection because of the often critical and/or safety-of-life nature of the communications they provide," the Commission noted that "in many instances amateur frequencies are used for routine communications and hobby activities." *Id.* at 21,289. In offering an explanation for rejecting the alternative, the Commission was not required to do more. *See City of Waukesha v. EPA*, 355 U.S. App. D.C. 100, 320 F.3d 228, 258 (D.C. Cir. 2003).

Accordingly, we grant the petition in part and remand the rule to the Commission. *See Engine Mfrs. Ass'n*, 20 F.3d at 1184; *Radio-Television News Dirs. Ass'n v. FCC*, 337 U.S. App. D.C. 292, 184 F.3d 872, 888 (D.C. Cir. 1999) (citing *Allied-Signal, Inc. v. Nuclear Regulatory Comm'n*, 300 U.S. App. D.C. 198, 988 F.2d 146, 151 (D.C. Cir. 1993)). On remand, the Commission shall afford a reasonable opportunity for public comment [**38] on the unredacted studies on which it relied in promulgating the rule, make the studies part of the rulemaking record, and provide a reasoned explanation of its choice of an extrapolation factor for Access BPL systems.

CONCUR BY: TATEL; KAVANAUGH (In Part)

CONCUR

TATEL, *Circuit Judge*, concurring: I write separately to emphasize that in my view, the disclosure ordered by the [*243] court in Part IIB is particularly important because the Commission's failure to turn over the unredacted studies undermines this court's ability to perform the review function APA *section 706* demands. That provision requires us to set aside arbitrary and capricious agency action after reviewing "the whole record," 5 U.S.C. § 706, and the "whole record" in this case includes the complete content of the staff reports the Commission relied upon in promulgating the challenged rule.

We described the APA's "whole record" requirement in *Walter O. Boswell Memorial Hospital v. Heckler*, 242 U.S. App. D.C. 110, 749 F.2d 788 (D.C. Cir. 1984). There, because the Department of Health and Human Services had improperly failed to supply the court--and the plaintiffs--with the whole administrative record, we remanded the case to the district court. *Id.* at 790, 793. Following [**39] the standard set forth in *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 420, 91 S. Ct. 814, 28 L. Ed. 2d 136 (1971) ("[R]eview is to be based on the full administrative record that was before the Secretary at the time he made his decision." (emphasis added)), we explained that for a court "to review an agency's action fairly, it should have before it neither more nor less information than did the agency when it made its decision." *Boswell Mem'l*, 749 F.2d at 792. Observing that "[s]ome of the documents of which the plaintiffs were apparently unaware [we]re quite critical of the . . . study that the [agency] cite[d] as a basis for the [final rule]," *id.* at 793, we explained that "review[ing] less than the full administrative record might allow a party to withhold evidence unfavorable to its case, and so the APA requires review of 'the whole record,'" *id.* at 792 (citing 5 U.S.C. § 706).

A similar situation confronts us here. Given that the Commission relied on the studies at issue, there can be no doubt that they form part of the administrative record--a proposition unaffected by the Commission's claim that it chose not to rely on various parts of the studies. *See* 28 U.S.C. § 2112(b) ("The record to [**40] be filed in the court of appeals . . . shall consist of the order sought to be reviewed or enforced, the findings or report upon which it is based, and the pleadings, evidence, and proceedings before the agency . . . concerned." (emphasis added)); *FED. R. APP. P.* 16 ("The record on review or enforcement of an agency order consists of . . . any findings or report on which it is based." (emphasis added)). Nor is there any doubt that, as our case law makes clear, the APA means exactly what it says: an agency must make the "whole record" available, especially where, as here, the undisclosed portions might very well undercut the agency's ultimate decision, *see* Maj. Op. at 14-16.

This conclusion makes sense given that in the context of the APA, arbitrary and capricious review and the substantial evidence test "are one and the same" insofar as the requisite degree of evidentiary support is concerned." *Consumers Union of U.S., Inc. v. FTC*, 255 U.S. App. D.C. 203, 801 F.2d 417, 422 (D.C. Cir. 1986) (quoting *Ass'n of Data Processing Serv. Orgs. v. Bd. of Governors of the Fed. Reserve Sys.*, 240 U.S. App. D.C. 301, 745 F.2d 677, 683 (D.C. Cir. 1984)). Because "[t]he substantiality of evidence must take into account whatever in the record fairly [**41] detracts from its weight," *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 488, 71 S. Ct. 456, 95 L. Ed. 456 (1951), for petitioners to mount a substantial evidence challenge, and for us to resolve it in any meaningful sense, agencies must disclose information that appears to "fairly detract[]" from [the] weight" of the evidence, *id.* The redacted portions of the Commission's staff reports fall neatly into that category, meaning that, as petitioner persuasively argues, "[d]isclosure of the complete content of [*244] these studies is essential not just for commenters, but also the reviewing court." Pet'r's Opening Br. 33-34 (emphasis in original). Contrary to the Commission's claim that petitioner's substantial evidence argument would compel the agency to "make available for public comment every internal document in its entirety that the agency's staff prepares relating to a rule making proceeding," Resp'ts' Br. 45, APA *section 706* requires disclosure only of staff studies relied upon by the agency and thus contained in the record. Agencies retain discretion to craft staff reports and studies as they see fit, or to exclude such studies from the record altogether simply by declining to rely on them. Under the Commission's view, [**42] however, an agency could redact from studies on which it expressly relies any evidence that "fairly detracts" from a proposed rule, thereby evading its obligation to account for contrary record evidence. Indeed, in this very case the Commission redacted *individual lines* from certain pages on which it otherwise relied. Maj. Op. at 14. Faced with selective redactions of this sort, we cannot perform the review function Congress has assigned us.

This is hardly a novel conclusion. In previous informal rulemaking cases, we ordered additional agency disclosures to facilitate meaningful arbitrary and capricious review of agency action. In *Kent County, Delaware Levy Court v. EPA*, 295 U.S. App. D.C. 288, 963 F.2d 391 (D.C. Cir. 1992), for example, we directed the agency to supplement the administrative record with internal agency documents that "relate[d] to the position of the agency's own experts on [a] question central to th[e] case." *Id.* at 396. "To deny their relevance," we explained, "would be inconsistent with rational decisionmaking by an administrative agency." *Id.* Indeed, in *Kent County* we ordered the agency to supplement the administrative record even though there was no indication "that the agency [had] [**43] purposefully excluded the docu-

ments." 963 F.2d at 396. Here, by contrast, there is little doubt that the Commission deliberately attempted to "exclude[] from the record evidence adverse to its position," a circumstance in which "this court [has] recognized that supplementing the administrative record might be proper." *Id.* (internal quotation marks omitted); *see also Natural Resources Def. Council v. Train*, 171 U.S. App. D.C. 151, 519 F.2d 287, 292 (D.C. Cir. 1975) (remanding to enable plaintiffs "to determine, by limited discovery, whether any other documents which are properly part of the administrative record have been withheld"); 28 U.S.C. § 2112(b) ("If there is omitted from the record any portion of the proceedings before the agency . . . which the court subsequently determines to be proper for it to consider to enable it to review or enforce the order in question[,] the court may direct that such additional portion of the proceedings be filed as a supplement to the record.").

It is true, as we pointed out in *Boswell Memorial*, that APA section 706 "does allow review based not only on 'the whole record,' but also on 'those parts of it cited by a party.'" 749 F.2d at 793 (quoting 5 U.S.C. § 706). Acknowledging [**44] that such an approach would sometimes be "fundamentally unfair," *id.*, however, we carefully circumscribed this possibility:

For review to go forward on a partial record, we would have to be convinced that the selection of particular portions of the record was the result of mutual agreement between the parties after both sides had fully reviewed the complete record. In that situation, we might naturally assume that the omitted portions did not materially affect either party's case and, for our own convenience, review the case on that portion of the record cited by the parties.

[*245] *Id.*; *see also* 28 U.S.C. § 2112(b) (allowing review of partial record if all parties agree). Because the plaintiffs in *Boswell Memorial* were left in the dark about several documents that the agency later submitted in related cases, we refused to base our review on what we considered an incomplete record. Such an approach would have been unfair, we explained, because with "no check upon the failure of the agency to disclose information adverse to it, the normal pressures towards inclusion of all relevant material in the record before the court [we]re absent." *Id.* Because here, as in *Boswell Memorial*, "review[ing] [**45] less than the full administrative record might allow a party to withhold evidence unfavorable to its case," *id.* at 792, I agree that the appropriate course is to remand the case with an order to disclose the entire studies on which the Commission relied--warts and all.

DISSENT BY: KAVANAUGH (In Part)

DISSENT

KAVANAUGH, *Circuit Judge*, concurring in part, concurring in the judgment in part, and dissenting in part: To expand consumer access to broadband Internet services, increase competition against DSL and cable modem providers, and lower prices for consumers, the FCC adopted a rule to facilitate the use of electric power lines for broadband Internet access. The petitioner, an organization of amateur radio operators, has challenged this "Access Broadband Over Power Line Systems" rule. I agree with the majority opinion that the FCC's rule complies with the Communications Act.

Applying the Administrative Procedure Act and our *Portland Cement* line of decisions, however, the majority opinion remands for the FCC to release redacted portions of certain FCC staff documents analyzing field tests of broadband over power lines. *See Portland Cement Ass'n v. Ruckelshaus*, 158 U.S. App. D.C. 308, 486 F.2d 375, 392-93 (D.C. Cir. 1973). In light [**46] of our precedents, I concur in the judgment on this point; but I write separately because of concerns about our case law in this area.

Applying the *State Farm* principle, the majority opinion also remands for the FCC to further explain why it chose to use a certain measurement, or "extrapolation factor," to estimate the interference that broadband over power lines will cause to licensed radio services. *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 103 S. Ct. 2856, 77 L. Ed. 2d 443 (1983). I respectfully dissent from that holding because I believe the FCC sufficiently explained its reasoning.

I therefore join Parts I, IIA, and IID of the majority opinion. I concur in the judgment as to Part IIB, and I dissent from Part IIC.

In issuing its rule, the FCC relied on various technical studies, including an NTIA report; the various interference studies filed in the record, including petitioner's studies; and the unredacted portions of certain internal FCC staff studies. *Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Over Power Line Systems, Mem. Op. and Order, 21 F.C.C.R. 9308, 9324-25 P 47 (2006)*. The FCC publicly disclosed all those materials. [**47] But the Commission did not release certain redacted portions of the internal staff studies on which it relied. *Id.* Citing § 553 of the APA, petitioner says the FCC must release the redacted portions of the staff studies so that interested parties can comment on them and so the FCC, in turn, can consider those comments.

Petitioner's argument would be unavailing if analyzed solely under the text of APA § 553. The APA requires only that an agency provide public notice and a comment [**246] period before the agency issues a rule. *See 5 U.S.C. § 553*. The notice must include "the terms or substance of the proposed rule or a description of the subjects and issues involved." § 553(b)(3) (emphasis added). After issuing a notice and allowing time for interested persons to comment, the agency must issue a "concise general statement" of the rule's "basis and purpose" along with the final rule. § 553(c). One searches the text of APA § 553 in vain for a requirement that an agency disclose other agency information as part of the notice or later in the rulemaking process.

But beginning with the *Portland Cement* case in 1973 -- which was decided in an era when this Court created several procedural requirements [**48] not rooted in the text of the APA -- our precedents have required agencies to disclose, in time to allow for meaningful comment, technical data or studies on which they relied in formulating proposed rules. *See Portland Cement Ass'n v. Ruckelshaus, 158 U.S. App. D.C. 308, 486 F.2d 375, 392-93 (D.C. Cir. 1973)*; *see also Chamber of Commerce v. SEC, 370 U.S. App. D.C. 249, 443 F.3d 890, 899 (D.C. Cir. 2006)*; *Connecticut Light & Power Co. v. Nuclear Regulatory Comm'n, 218 U.S. App. D.C. 134, 673 F.2d 525, 530-31 & n.6 (D.C. Cir. 1982)*.

The majority opinion concludes that the *Portland Cement* requirement does not allow the FCC to redact portions of studies when the studies otherwise must be disclosed under *Portland Cement*. I accept the majority opinion's conclusion as the best interpretation of our *Portland Cement* line of decisions.

I write separately to underscore that *Portland Cement* stands on a shaky legal foundation (even though it may make sense as a policy matter in some cases). Put bluntly, the *Portland Cement* doctrine cannot be squared with the text of § 553 of the APA. And *Portland Cement*'s lack of roots in the statutory text creates a serious jurisprudential problem because the Supreme Court later rejected this kind of free-form interpretation of the [**49] APA. In its landmark *Vermont Yankee* decision, which came a few years after *Portland Cement*, the Supreme Court forcefully stated that the text of the APA binds courts: Section 553 of the APA "established the *maximum procedural requirements* which Congress was willing to have the courts impose upon agencies in conducting rulemaking procedures." *Vermont Yankee Nuclear Power Corp. v. National Res. Def. Council, Inc., 435 U.S. 519, 524, 98 S. Ct. 1197, 55 L. Ed. 2d 460 (1978)* (emphasis added); *see also Antonin Scalia, Vermont Yankee: The APA, the D.C. Circuit, and the Supreme Court, 1978 SUP. CT. REV. 345, 395-96 (Vermont Yankee was "a major watershed. It has put to rest the notion that the courts have a continuing 'common-law' authority to impose procedures not required by the Constitution in the areas covered by the APA.")*.

Because there is "nothing in the bare text of § 553 that could remotely give rise" to the *Portland Cement* requirement, some commentators argue that *Portland Cement* is "a violation of the basic principle of *Vermont Yankee* that Congress and the agencies, but not the courts, have the power to decide on proper agency procedures." Jack M. Beer-mann & Gary Lawson, *Reprocessing Vermont Yankee, 75 GEO. WASH. L. REV. 856, 894 (2007)*. [**50] At the very least, others say, the Supreme Court's decision in *Vermont Yankee* raises "a question concerning the continuing vitality of the *Portland Cement* requirement that an agency provide public notice of the data on which it proposes to rely in a rulemaking." 1 RICHARD J. PIERCE, *ADMINISTRATIVE LAW TREATISE* § 7.3, at 435 (4th ed. 2002).

I do not believe *Portland Cement* is consistent with the text of the APA or *Vermont Yankee*. In the wake of *Vermont* [**247] *Yankee*, however, this Court has repeatedly continued to apply *Portland Cement* (albeit without analyzing the tension between *Vermont Yankee* and *Portland Cement*). In these circumstances, this three-judge panel must accept *Portland Cement* as binding precedent and must require the FCC to disclose the redacted portions of its staff studies. I therefore concur in the judgment as to Part IIB of the majority opinion.

II

The majority opinion also holds that the FCC did not provide a sufficiently "reasoned explanation" for its choice of an extrapolation factor to measure interference from broadband over power lines. I disagree.

The FCC estimates the radio-frequency interference caused by broadband over power lines to determine whether broadband over [**51] power lines will cause unlawful "harmful interference" to licensed radio operators. In selecting

guidelines to estimate interference, the FCC has adhered to a pre-existing "extrapolation factor" that it already used to estimate interference caused by broadband over power lines and other regulated technologies. *Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Over Power Line Systems, Carrier Current Systems, Report and Order*, 19 F.C.C.R. 21265, 21310 P 109 (2004). The National Telecommunications and Information Administration, a federal agency within the Department of Commerce, provided data supporting the existing extrapolation factor. *Id.* Another commenter, Ameren Energy Communications, also advocated this measurement. *Id.* By contrast, Aeronautical Radio, Inc. and ARRL, the petitioner here, sought the use of a different extrapolation factor. *Id.*

Given the "lack of conclusive experimental data" and disagreements among commenters, the Commission stated that it would continue to use the existing extrapolation factor. *Id.* The Commission added that it would "revisit" the issue if new information became available. *Id.*

In its reconsideration order, [**52] after receiving new studies conducted in the United Kingdom, the Commission found that those studies did not support a change to the extrapolation factor in light of the factual disagreements and uncertainty discussed in the initial order. The Commission stated: "No new information has been submitted that would provide a convincing argument for modifying this requirement at this time." *Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband Over Power Line Systems, Mem. Op. and Order*, 21 F.C.C.R. 9308, 9317-18 P 26 (2006).

Applying the *State Farm* doctrine, the majority opinion remands for further explanation from the FCC. *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 103 S. Ct. 2856, 77 L. Ed. 2d 443 (1983). Although I recognize that the reasoned decisionmaking requirement of *State Farm* is sometimes more art than science, more Rorschach than rule of law, I do not agree with the majority opinion that the FCC needs to say more in this case.

Section 706 provides that courts set aside agency rules that are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). Arbitrary-and-capricious review under [**53] § 706 is "narrow," and "a court is not to substitute its judgment for that of the agency." *State Farm*, 463 U.S. at 43. A reviewing court "may not set aside an agency rule that is rational, based on consideration of the relevant [**248] factors, and within the scope of the authority delegated to the agency by the statute." *Id.* at 42. We thus must "uphold a decision of less than ideal clarity if the agency's path may reasonably be discerned." *Id.* at 43 (quoting *Bowman Transp. Inc. v. Arkansas-Best Freight Sys., Inc.*, 419 U.S. 281, 286, 95 S. Ct. 438, 42 L. Ed. 2d 447 (1974)).

In my judgment, the FCC's explanation in this case suffices. The FCC's choice of extrapolation factor to estimate interference from broadband over power lines is a highly technical determination committed to the Commission's expertise and policy discretion. *Cf. Mobile Relay Assocs. v. FCC*, 372 U.S. App. D.C. 355, 457 F.3d 1, 8 (D.C. Cir. 2006); *Teledesic LLC v. FCC*, 348 U.S. App. D.C. 296, 275 F.3d 75, 84 (D.C. Cir. 2001); *American Iron & Steel Inst. v. EPA*, 325 U.S. App. D.C. 76, 115 F.3d 979, 1004 (D.C. Cir. 1997); *MCI Cellular Tel. Co. v. FCC*, 238 U.S. App. D.C. 176, 738 F.2d 1322, 1333 (D.C. Cir. 1984). In its two orders, the Commission reasonably stated that the evidence submitted by commenters was conflicting, that the new evidence submitted [**54] on reconsideration was not sufficiently conclusive to require a change, and that it therefore would continue (for now) to adhere to its long-standing extrapolation factor with respect to broadband-over-power-lines technology. This explanation makes sense. And *State Farm* does not require a word count; a short explanation can be a reasoned explanation.

* * *

The two issues on which I write separately prompt a broader observation. In appropriate cases or controversies, courts of course must be vigilant in ensuring that agencies adhere to the plain text of statutes imposing substantive and procedural obligations. *See, e.g., Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-43 & n.9, 104 S. Ct. 2778, 81 L. Ed. 2d 694 (1984) (Chevron "Step 1"); *Vermont Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 558, 98 S. Ct. 1197, 55 L. Ed. 2d 460 (1978). But it bears repeating that § 553 of the APA requires only a notice providing a "description of the subjects and issues involved"; time for interested persons to comment; and a "concise general statement" of the rule's "basis and purpose." 5 U.S.C. § 553. Courts have incrementally expanded those APA procedural requirements well beyond what the text provides. And courts [**55] simultaneously have grown *State Farm's* "narrow" § 706 arbitrary-and-capricious review into a far more demanding test. Application of the beefed-up arbitrary-and-capricious test is inevitably if not inherently unpredictable -- so much so that, on occasion, the courts' arbitrary-and-capricious review itself appears arbitrary and capricious.

Over time, those twin lines of decisions have gradually transformed rulemaking -- whether regulatory or deregulatory rulemaking -- from the simple and speedy practice contemplated by the APA into a laborious, seemingly never-ending process. The judicially created obstacle course can hinder Executive Branch agencies from rapidly and effectively responding to changing or emerging issues within their authority, such as consumer access to broadband, or effectuating policy or philosophical changes in the Executive's approach to the subject matter at hand. The trend has not been good as a jurisprudential matter, and it continues to have significant practical consequences for the operation of the Federal Government and those affected by federal regulation and deregulation.