INITIAL VERSION

ORAL ARGUMENT NOT YET SCHEDULED

No. 06-1343

IN THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

THE AMERICAN RADIO RELAY LEAGUE, INC., PETITIONER,

V.

FEDERAL COMMUNICATIONS COMMISSION AND
UNITED STATES OF AMERICA, RESPONDENTS.

ON PETITION FOR REVIEW OF ORDERS OF THE
FEDERAL COMMUNICATIONS COMMISSION

REPLY BRIEF FOR PETITIONER AMERICAN RADIO RELAY LEAGUE, INC.

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GLOSSARY

Access BPL: Access Broadband over Power Lines, a carrier current system that provides data communications over the electricity distribution grid by sending RF energy at frequencies between 1.705 MHz and 80 MHz over an electric utility's medium- or low-voltage lines. 47 C.F.R. § 15.3(ff).

***Access BPL Order*:** Report and Order, *Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems; Carrier Current Systems, including Broadband over Power Line Systems*, 19 FCC Rcd 21,265 (2004).

ARRL: American Radio Relay League, Inc., the national membership association for amateur radio operators. *See* http://www.arrl.org.

APA: Administrative Procedure Act, 5 U.S.C. § 500 *et seq.*

Carrier current system: A system "that transmits radio frequency energy by conduction over the electric power lines. A carrier current system can be designed such that the signals are received by conduction directly from connection to the electric power lines (unintentional radiator) or the signals are received over-the-air due to radiation of the radio frequency signals from the electric power lines (intentional radiator)." 47 C.F.R. § 15.3(f).

dB: Decibel, a measure of signal strength.

dB per decade: Decibels per decade, a measure of the rate at which signal strength decays as distance increases from the source. *See Access BPL Order* ¶ 90 n.181. A "decade" refers to a ten-fold increase in distance.

FCC or Commission: Federal Communications Commission.

FOIA: Freedom of Information Act, 5 U.S.C. § 552.

HF: High Frequency, the band of frequencies between 3 and 30 MHz. *See* 47 C.F.R. § 2.101 table. In this brief, for purposes of convenience, BPL transmissions below 3 MHz are grouped together with the HF band. *See* n.9 *infra*.

JA: Joint Appendix

kHz: Kilohertz. One kilohertz equals a frequency of 1,000 cycles per second.

Low Voltage Line: A low voltage power line carries 120 or 240 volts from a distribution transformer to a customer's premises. 47 C.F.R. § 15.603(e).

Medium Voltage Line: A medium voltage power line carries between 1,000 to 40,000 volts from a power substation to neighborhoods. Medium voltage lines may be overhead or underground, depending on the power grid network topology. 47 C.F.R. § 15.603(f).

MHz: Megahertz. One megahertz equals a frequency of 1,000,000 cycles per second.

NTIA: National Telecommunications and Information Administration, an agency within the Department of Commerce. *See* http://www.ntia.doc.gov.

OFCOM: Office of Communications, the independent regulator and competition authority for the United Kingdom communications industries. *See* http://www.ofcom.org.uk.

***Reconsideration Order*:** Memorandum Opinion and Order, *Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems; Carrier Current Systems, including Broadband over Power Line Systems*, 21 FCC Rcd 9308 (2006).

RF: Radio Frequency energy, electromagnetic energy at any frequency in the radio spectrum between 9 kHz and 3,000,000 MHz. 47 C.F.R. § 15.3(u).

PERTINENT STATUTES AND REGULATIONS

See attached addendum, along with the addendum in the principal brief.

SUMMARY OF ARGUMENT

I. The briefs in opposition fail to join ARRL's statutory arguments. ARRL established that the *Orders* under review depart from the FCC's longstanding reading of section 301 of the Communications Act without acknowledgement or justification. In response, the FCC and its intervenors engage in misdirection — rebutting hyperbolic arguments ARRL never made, refusing to address the precedents ARRL cited, and attempting to rewrite the *Orders* as if they made factual rather than legal determinations.

A. For decades, the FCC has read section 301 to mandate two restrictions on would-be unlicensed users of spectrum: an *ex ante* determination that the proposed operations will not have a significant potential for causing harmful interference to licensed users, and an *ex post* requirement that, if any harmful interference *does* arise, the unlicensed operations cease immediately. For the first time ever, the *Orders* eliminate the second protection for a class of licensees: mobile stations. The FCC's brief does not even acknowledge the passage in the *Reconsideration Order* that does this. Instead, the FCC and intervenors invent a nonexistent dispute over the *ex ante* standard for authorizing unlicensed operations.

The FCC and intervenors also suggest that the *Orders* embody a technical finding that BPL emissions will *never* cause harmful interference to licensed mobile users. But no such finding exists. The briefs ignore the express acknowledgement in the *Reconsideration Order* that "harmful interference ... may occur" even where BPL systems meet the FCC's technical standards and that when it occurs "we will not provide further protection to mobile operations." *Reconsideration Order* ¶ 3 (JA __).

The FCC and intervenors also suggest that licensed mobile users do not need the protection of the cease-operations rule because mobile users suffering interference can move

elsewhere. But the FCC has never before put the burden on the *license-holder* to move away from an unlicensed interferor; to the contrary, its rules require the interferor to cease interfering immediately. Moreover, BPL systems are not singular, easily avoidable devices. A BPL system deploys radiation-emitting devices *ubiquitously* throughout a service area, making it difficult to avoid harmful interference and impossible to conclude that harmful interference will "never" occur.

B. The FCC's brief fails to defend the *Reconsideration Order*'s holding that unintentional radiators like BPL devices "as such" are outside the scope of section 301's license requirement. The brief actually admits the contrary — that unintentional radiators *are* within section 301. (The intervenors do defend the *Reconsideration Order*'s erroneous holding but cite nothing to support their argument.) The FCC's brief talks about section 302 but fails to acknowledge that section 302, which extended the FCC's authority to cover the *manufacture and sale* of interfering devices, is irrelevant to the scope of section 301.

II. The FCC fails to justify its nondisclosure of significant portions of the technical studies on which the *Orders* rely. Instead, the FCC attacks a straw man, suggesting that ARRL is after "every internal document in its entirety that the agency's staff prepares relating to a rule making proceeding." FCC Br. 45. To the contrary, ARRL merely seeks access to the *full* texts of the studies the FCC identified and cited as the basis for its conclusions. An agency may not cherry-pick the pages of the studies on which it relies, disclosing the ones that support its conclusions and redacting the others.

III. The FCC's brief requests deference to the agency's technical judgment in adopting an extrapolation factor to measure interference. But the agency is not entitled to

deference where it refuses to consider substantial evidence submitted to it — in this instance, at the agency's invitation — and fails to consider a responsible alternative proposal. Three studies by the FCC's UK counterpart, all reaching a conclusion opposite the FCC's, plainly were significant enough to warrant consideration. And ARRL's proposed sliding-scale extrapolation factor was an alternative entitled to consideration and a reasoned explanation for its rejection. Yet the *Orders* ignore both, and, remarkably, so does the FCC's brief.

IV. None of these departures from FCC precedent and from proper administrative procedure were necessary to allow BPL to prove itself in the marketplace. ARRL and its supporting broadcast intervenors proposed a win-win solution: to authorize BPL but confine it to a generous frequency band that does not present these interference problems. The largest BPL operator has chosen to design its operations that way and others could adopt the same configuration. Yet the *Reconsideration Order* brushes this alternative aside with two conclusory sentences. When the *Orders* are remanded, the Court should direct the FCC to give this alternative the consideration the law requires.

ARGUMENT

I. The FCC and Intervenors Fail to Reconcile the *Orders* with the FCC's Decades-Old Interpretation of Section 301.

The FCC's and intervenors' briefs tilt at straw men and mischaracterize the *Orders* in their attempts to draw attention away from the *Orders'* elimination of one of the key legal protections provided by a radio license. They spend pages rebutting an argument that ARRL never makes — that license-holders are absolutely protected against *all* interference (as contrasted to "harmful interference"). By quibbling over predictions about how often interference complaints will arise, they obfuscate the real issue: the elimination of an unlicensed BPL operator's legal duty to cease harmful interference when it *does* arise, however frequently that might be. Finally, in a bid to claim deference where none is warranted, the FCC and intervenors assert that the *Orders* contain a "technical finding" that harmful interference will *never* occur, when in fact they say exactly the opposite.

A. This case is about an unlicensed operator's legal duty to cease harmful interference once it arises, not the standard for authorizing unlicensed transmissions in the first place.

The FCC's brief concedes that section 301 has long been read to impose "the basic requirement that parties operating devices on an unlicensed basis pursuant to Part 15 of the rules — such as Access BPL — *not cause harmful interference* to licensed services."[1/] But from there, both the FCC and intervenors mischaracterize the dispute by blurring the two ways in which Part 15 has implemented that requirement.

First, Part 15 protects against harmful interference *ex ante* by setting technical standards to ensure that the use of an unlicensed device will not "have a significant potential for causing

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1/ FCC Br. 25 (emphasis added).

harmful interference."[2] If a device does not meet the standards, it cannot be operated without a license.[3] Although the FCC attempts to fabricate controversy by quoting snippets from other dockets,[4] all parties agree on this test and quote the same language from the same FCC order.[5]

Second, and more relevant to ARRL's challenge, Part 15 provides an *ex post* remedy against any harmful interference that arises. The rules acknowledge that radiation "limits specified in this part will not prevent harmful interference under all circumstances."[6] Section 15.5 of the rules therefore requires that the use of a device *must cease* if it causes harmful interference, even if the device complies with the applicable technical standards:

> Operation of an intentional, unintentional, or incidental radiator is subject to the condition that *no harmful interference is caused*[.]
>
> The operator of a radio frequency device *shall be required to cease* operating the device upon notification by a Commission representative that the device is causing harmful interference[.][7]

The FCC and intervenors mischaracterize this dispute as being exclusively about the first set of protections rather than the second. The FCC suggests that "ARRL's argument is that the agency may [permit unlicensed operations] only in situations where there is *no* risk of *any* interference to licensed operations." FCC Br. 26 (emphasis in original); *see* Intervenors Br. 8

2/ Second Report and Order, *Ultra-Wideband Transmission Systems*, 19 FCC Rcd 24558 ¶ 68 (2004).

3/ 47 C.F.R. § 15.1(b).

4/ *See* FCC Br. 26-27.

5/ *Compare* ARRL Br. 22 *with* FCC Br. 27 *and* Intervenors Br. 7 (all quoting *Ultra-Wideband Transmission Systems*, 19 FCC Rcd 24558 ¶ 68 (2004)).

6/ 47 C.F.R. § 15.15(c)

7/ *Id.* § 15.5 (b), (c) (emphasis added).

(same). This misrepresents ARRL's brief. ARRL has never suggested that the FCC applied the wrong legal test in setting the *ex ante* technical standards for operation of BPL devices.

Rather, ARRL objects to the FCC's removal of the *ex post* protection that has always been integral to Part 15: the requirement that even a device that complies with the technical standards must cease operation if it actually causes harmful interference to licensed users. The *Reconsideration Order* explicitly removes this protection — for the first time ever — for licensed mobile users who suffer harmful interference from BPL devices. Under that order, if a BPL device causes harmful interference to a licensed user, the BPL operator must first "notch" (reduce) its emissions by 20 dB. If harmful interference persists to a fixed user, the interfering activity must cease, as Part 15 has always required: "*[E]xcept for mobile operations*, Access BPL operators are responsible for resolving harmful interference that may occur even where their systems employ a 20/10 dB notch."[8/] But if the harmful interference is caused to a mobile user, that bedrock protection of Part 15 has been obliterated:

> Where an Access BPL operator implements such notching, *we will not provide further protection to mobile operations*, nor will we require the operator to resolve complaints of harmful interference to mobile operations by taking steps over and above implementing the "notch."[9/]

One can search the FCC's brief in vain for any recognition that this passage even exists. The agency's brief nowhere defends this elimination of a key Part 15 protection as consistent with the FCC's longstanding reading of section 301. The *Orders* themselves are equally devoid

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8/ *Reconsideration Order* ¶ 33 (JA __) (emphasis added); *see* ARRL Br. 15-16, 25.

9/ *Reconsideration Order* ¶ 33 (JA __) (emphasis added); *see* 47 C.F.R. § 15.611(c)(1)(iii) (added by *Reconsideration Order*) (same).

of justification. Such a major change in the protections heretofore inherent in a license cannot stand, absent adequate justification by the agency.[10/]

The FCC and intervenors seek to wish the offending passage away by rewriting the *Reconsideration Order*. Both briefs suggest that the *Order* embodies a technical finding that BPL emissions, once notched, can *never* cause harmful interference to mobile operations. FCC Br. 29-31; Intervenors Br. 2, 11. But this ignores the *Order*'s text. While the opening sentence of paragraph 33 of the *Order* says that "it is appropriate to consider that Access BPL signals [after notching] will not constitute harmful interference to mobile, and in particular, amateur mobile communications,"[11/] the paragraph does not stop there. It goes on to recognize that "harmful interference ... may occur even where [BPL] systems employ a 20/10 dB notch." It reiterates that BPL operators, like all other unlicensed users, are responsible for resolving that interference, "except," as noted above, where the interference is to mobile operations. As to those operations, "we conclude that the benefits of Access BPL for bringing broadband services to the public are sufficiently important and significant so as to outweigh the potential for a small increase in instances of disruptions that may arise to such mobile communications from low level Access BPL emissions." *Id.*

In short, the *Reconsideration Order* recognizes that BPL operations may still cause "harmful interference" to mobile operations even after notching. (Indeed, as discussed below, the NTIA study on which the *Orders* rely acknowledges such interference is *likely*.)[12/] But the *Reconsideration Order* expressly states that the interfering BPL operations will not be required

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10/ *See* ARRL Br. 26, citing cases.

11/ *Reconsideration Order* ¶ 33 (JA __).

12/ See *infra* p. 11.

to cease, because the resulting "disruptions" to mobile communications are less important than the envisioned benefits of BPL.

That is inconsistent with the protection that has always been provided by section 15.5 of the rules and by section 301 of the Communications Act. The *Reconsideration Order* does not suggest that section 15.5 has been read — or could be read — to allow interfering operations to continue because the interfering use is "important" or because it causes only a "small increase" in instances of harmful interference. Under the rules as they have always applied until these *Orders*, harmful interference by an unlicensed device must cease, period. The *Reconsideration Order* makes no attempt to reconcile its departure from this longstanding implementation of section 301, and the FCC and intervenor briefs simply pretend the departure has not occurred.

Even if the *Order* could be read to embody a finding that notched BPL operations will *never* cause harmful interference to licensed mobile operations, such a finding could not be squared with the definition of "harmful interference" in the FCC's rules. The rules define "harmful interference" to include any radiation that "seriously degrades, obstructs or repeatedly interrupts a radiocommunications service[.]" 47 C.F.R. § 15.3(m). That functional definition leaves no room for a finding that disruptions of licensed services are not "harmful interference" because "on balance" they provide countervailing benefits. Indeed, FCC precedents make clear that even unlicensed users who provide public safety or other "critical communications services" must cease operations if they obstruct licensed services.[13/]

Both briefs also make the Marie Antoinette-like suggestion that a licensed mobile user suffering from harmful interference after notching can simply move somewhere else. But that is not what section 15.5 says; it requires unlicensed users to cease harmful interference at once.

13/ *E.g.*, Report and Order, *Spread Spectrum Transmitters*, 12 FCC Rcd 7488 ¶ 14 (1997), quoted in ARRL Br. 23 n.37.

Section 15.5 has never said that, if a licensed user who suffers harmful interference from unlicensed activities has some mobility, the burden is on her to go elsewhere rather than on the interfering activity to cease.[14/] The 240 million people who depend on their mobile phones would be shocked to learn that this is the new rule. Section 15.5 has always put the burden of resolving harmful interference on the interfering unlicensed operator, not the licensed victim.[15/] If the *Reconsideration Order* were read to hold that the unqualified language of section 15.5 now protects only *fixed* licensed users, it would be in stark and unjustified conflict with the reading of section 301 on which the rule was based.

Moreover, the notion that a mobile licensed user can simply move out of harm's way is facile.[16/] Contrary to intervenors' suggestion, the interference to mobile users will not be limited to "minor or transitory" static as a user drives by a "particular BPL source."[17/] Watching the CD-ROM in the Joint Appendix with actual record examples of interference makes that clear. BPL systems are wholly unlike the singular, low-power, and intermittently operating "computers, digital cameras, digital music players, cordless phones, [and] garage door openers"

14/ The FCC's brief suggests that mobile users will always operate from moving vehicles. *See* FCC Br. 30. But the agency's rules define a "mobile station" as "[a] station ... intended to be used while in motion or during halts at unspecified points." 47 C.F.R. § 2.1(c). A "mobile user" thus includes, for example, an amateur licensee who takes her equipment with her from home to work, to a second home, or to any temporary location. This occurs regularly, and is consistent with the type of radio propagation experimentation that has been a hallmark of the amateur service for almost a century. The FCC has recognized that technological improvements have made virtually all amateur equipment portable. *See* Notice of Proposed Rulemaking, *Reorganization and Deregulation of the Rules Governing the Amateur Radio Services*, 3 FCC Rcd 2076 ¶ 15 (1988).

15/ *See* ARRL Br. 23-25 & n.39.

16/ *See* Intervenors Br. 12.

17/ *Id.*

to which Part 15 has traditionally applied.[18] BPL systems are massive, consisting of multiple always-on radiating devices deployed ubiquitously throughout a neighborhood or city, just as the power grid is deployed in that community, leaving no obvious place to move. Intervenor City of Manassas brags, for example, that its BPL system "has been rolled out on a City-wide basis to make it available to all residents and businesses,"[19] and intervenor Current describes a planned deployment throughout an area in Dallas covering two million homes and businesses.[20] Even accepting the Commission's finding that "emissions from Access BPL systems tend to dissipate after a short distance from a coupler along a line,"[21] BPL radiation will still blanket an area because of the large number of devices needed to operate neighborhood systems. Diagrams in the record illustrate that BPL systems are extensive networks of signal injectors, couplers, extractors, and repeaters.[22] Many BPL implementations require couplers and repeaters to bypass each neighborhood transformer — transformers that are typically "several tens to hundreds of meters apart."[23] The FCC itself recognizes the potential for each of these components to cause harmful interference.[24]

18/ FCC Br. 24; *see Access BPL Order* ¶¶ 3-4 (JA __).

19/ Intervenors Br. ii.

20/ *Id.* at 21-22.

21/ *Access BPL Order* ¶ 39 (JA __). *Contra,* NTIA Phase I study at vi (JA __).

22/ *See, e.g.,* Current Ex Parte Communication, filed July 26, 2006 in ET Docket No. 04-37, Slide 3 (JA __); Allentown, PA Test Study, June 13, 2003 (JA __, __).

23/ *See* Current Comments at 16 (filed May 3, 2004) (JA __).

24/ *Access BPL Order* App. C § 2-b-3 (JA __) ("Testing shall be repeated for each Access BPL component (injector, extractor, repeater, booster, concentrator, etc.).").

In this context, the very NTIA study on which the *Orders* rely establishes that harmful interference is likely to occur and that moving will not always be a solution. NTIA reported that BPL operations complying with the FCC's emission limits are likely to interfere with mobile receivers 75 to 100 meters (roughly 250 to 330 feet) "from one BPL device and the power lines to which it is connected"; interference is likely to occur to aircraft-borne mobile receivers as far as *40 kilometers* away.[25/] The FCC brief's characterization of these effects as "localized"[26/] does not pass the straight-face test. It is hardly a solution to tell a licensed mobile user unable to communicate on a highway lined with BPL facilities that he has the option of driving three football fields off the side of the road, perpendicular to the line of facilities.

B. The FCC and intervenors cite nothing to defend the *Reconsideration Order*'s ruling that section 301 is inapplicable to "unintentional radiators."

The FCC and its supporting intervenors mount no serious defense of the ruling in the *Reconsideration Order* that section 301 is inapplicable to "unintentional radiators" such as BPL devices. The *Reconsideration Order* declares that, *because* BPL devices are unintentional radiators, they are "as such" not subject to section 301 but only to section 302.[27/] While the FCC's brief acknowledges that ARRL challenges that ruling, it nowhere argues the ruling is

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25/ NTIA Phase I Study at vi, *available at* http://www.ntia.doc.gov/ntiahome/fccfilings/2004/bpl/ (JA __); *see* ARRL Br. 9-10.

26/ FCC Br. 11.

27/ "Access BPL systems are not radio communications systems but rather are systems which in their operation are capable of emitting RF energy that can cause harmful interference to radio communications. *As such*, BPL systems fall under the Commission's jurisdiction as conferred by Section 302 of the Communications Act, *rather than* Section 301." *Reconsideration Order* ¶ 54 (JA __) (emphasis added); *see* ARRL Br. 26-31.

correct.[28] To the contrary, the FCC's brief explicitly acknowledges that "BPL systems or other unintentional radiators that do not comply with the Part 15 rules for unlicensed operations cannot operate consistent with section 301 unless they obtain a license."[29] In other words, the FCC concedes that unintentional radiators are *not as such* exempt from section 301 — a confession that the *Reconsideration Order* is wrong in declaring otherwise.

For their part, the intervenors espouse the *Reconsideration Order*'s misreading of the statute but provide nothing to support it. Intervenors assert that "the Section 301 licensing requirement reaches some intentional — *but not* unintentional — radiators."[30] But the intervenors cite nothing to support that proposition. For all the statements in the intervenors' brief that the exclusion of unintentional radiators from section 301 "reflects years of practice without change" (at 3) and "the Commission's long-standing practice and interpretation of its governing statute" (at 14), the brief does not cite a *single* FCC order embracing that view. The intervenors simply ignore the unbroken contrary history chronicled in ARRL's opening brief (at 22-24) and the FCC's concession that ARRL is correct.

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[28] *See* FCC Br. 36. The FCC's argument that this issue is not properly before the Court, *see id.* at 36-37, is frivolous. The FCC ruled in the *Reconsideration Order* that section 301 does not apply to unintentional radiators such as BPL devices, rejecting ARRL's argument that the new rules violate that section. The agency, having ruled on that issue, obviously had an opportunity to do so. That is dispositive. *MCI Telecomms. Corp. v. FCC*, 10 F.3d 842, 845 (D.C. Cir. 1993) ("The Commission necessarily had an opportunity to pass upon the validity of the rationale that it actually put forth."); *see Time Warner Entm't Co. v. FCC*, 144 F.3d 75, 81 (D.C. Cir. 1998). The cases cited by the FCC involve the very different point that a new issue, which was not relevant until after the FCC issued an order, must be presented to the agency before it may be presented to the Court. *See In re Core Commc'n, Inc.*, 455 F.3d 267, 276-77 (D.C. Cir. 2006); *Qwest Corp. v. FCC*, 482 F.3d 471, 474 (D.C. Cir. 2007); *see also Cellco P'ship v. FCC*, 357 F.3d 88, 101-102 (D.C. Cir. 2004) (petitioner may not raise an entirely new issue on appeal).

[29] FCC Br. 39 (emphasis omitted).

[30] Intervenors Br. 6 n.3 (emphasis in original). *See also id.* at 5.

The FCC and intervenors attempt to distract the Court by arguing two propositions that are not at issue. First, they argue that section 302 allows the FCC to consider the "public interest" in adopting rules under that section.[31/] That is not contested; section 302(a) says so in as many words. *See* 47 U.S.C. § 302a(a). It is also irrelevant to the scope of section 301.

Second, they argue that an unintentional radiator that complies with the Part 15 rules does not need a license under section 301.[32/] That is virtually tautological, and equally beside the point. Since Part 15 sets limitations designed to enable unlicensed devices to be used without a substantial risk of harmful interference to licensed services — which is the acknowledged test for when a license is needed under section 301 — it follows that a device that complies with lawful Part 15 rules (and does not in fact cause harmful interference) does not need a license.[33/] This holds true equally for intentional and unintentional radiators — as Part 15 expressly states — and thus has nothing to do with whether a device is an unintentional radiator.[34/]

The holding in the *Reconsideration Order* — that unintentional radiators *as such* are outside the scope of section 301 — thus stands undefended and is clearly wrong. Equally plain is that section 302 is not mutually exclusive of section 301, as the *Reconsideration Order* suggests, but was added to extend the FCC's preexisting authority over the *use* of potentially

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31/ FCC Br. 37; Intervenors Br. 18-23.

32/ FCC Br. 37-39; Intervenors Br. 5-6, n.3.

33/ "[T]hese operations, as long as they do not exceed certain radiation limitations and do not in particular situations cause actual interference, may lawfully be carried on without a license." *Part 15 – Incidental and Restricted Radiation Devices*, 20 Fed. Reg. 10055, 10056 ¶ 5 (Dec. 29, 1955); *see* ARRL Br. 28.

34/ "The operation of an *intentional or unintentional* radiator that is not in accordance with the regulations in this part must be licensed pursuant to the provisions of section 301 of the Communications Act[.]" 47 C.F.R. § 15.1(b) (emphasis added).

interfering devices to cover their manufacture and sale.[35/] Thus, a device that may cause harmful interference is subject to *both* sections 301 and 302. Finally, Congress in enacting section 302 and the FCC in implementing it have made clear that section 302 did not affect the scope of section 301's licensing requirement.[36/] In short, section 302 is irrelevant to defining the scope of section 301.

The *Reconsideration Order*'s holding that section 301 does not apply to BPL devices because they are unintentional radiators thus stands in unexplained conflict with what went before. This requires the *Orders* be set aside.

II. The FCC Fails To Justify Its Nondisclosure of Portions of the Studies on Which the *Orders* Were Expressly Based.

The FCC fails to justify its continued nondisclosure of significant portions of the studies on which the *Orders* rely for their conclusions. Intervenors supporting the FCC do not attempt to defend this nondisclosure.

The weakness of the FCC's position is revealed by the hyperbolic straw man it chooses to attack. According to the FCC, ARRL seeks public disclosure of "every internal document in its entirety that the agency's staff prepares relating to a rule making proceeding." FCC Br. 45. To establish that the public is not entitled to see every such internal communication, the FCC cites *EchoStar Satellite L.L.C. v. FCC*, 457 F.3d 31, 40 (D.C. Cir. 2006), in which this Court held that

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35/ *See* ARRL Br. 30-31; FCC Br. 38. In adopting rules under section 302, the FCC said: "[E]xisting restrictions, which stem from authority contained in section 301 of the Communications Act and are directed to the *use and operation* of radio frequency equipment, remain in effect *over and above* the new authority granted by section 302. In short, the new section 302 *complements* the strictures of section 301." Report and Order, *Sale or Import or Shipment for Sale, of Devices Which Cause Harmful Interference to Radio Communications*, 23 F.C.C.2d 79 ¶ 18 (1970) (emphasis added).

36/ *See* ARRL Br. 30-31. The FCC's rules under section 302 expressly "do not eliminate any requirements for station licenses for products that normally require a license to operate." 47 C.F.R. § 2.803(e)(3).

public commenters were not entitled to see "the agency staff's own cogitations" about an extensive study that commenters had placed in the record.

But ARRL's contention is very different, as highlighted by the contrast between this case and *Echostar*. ARRL argues only that the agency must — as this Court has repeatedly held — "identify and make available *technical studies* and data *that it has employed in reaching the decisions* to propose particular rules."[37/] Here, the FCC expressly states that it "relied ... on its own internally conducted studies as described in the material provided in the FOIA response to ARRL."[38/] Yet the agency asserts the right to cherry-pick the pages of those studies, disclosing the pages that it thinks support its conclusions and redacting other pages that, from their very headings, are highly relevant to the issues in the proceeding.[39/]

Far from supporting that position, *Echostar* undermines it. The study relied on there had been disclosed in full — including all of the analysis and the supporting data. What the Court held need not be disclosed was "every observation an agency staff member draws from the record as it accrues" — the staff's thoughts, external to the study, about the evidence in the record. 457 F.3d at 40. That ruling provides no support for the notion that, when an agency expressly and admittedly relies on a study to support its proposal, it can hide whatever portions of the study it wants from public comment. To the contrary, the decision reflects a clear understanding that a "study" encompasses the discussion and analysis contained within the study document and not merely the raw data — and that the contents of the study, which must be

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37/ *Connecticut Light & Power Co. v. NRC*, 673 F.2d 525, 530 (D.C. Cir. 1982) (emphasis added); *see* ARRL Br. 33 & n.69.

38/ *Reconsideration Order* ¶ 47 (JA __).

39/ *See* ARRL Br. 13, 32-34 (*e.g.*, "New Information Arguing for Caution on HF BPL," "HF Issues and Options") (study dated a month before the *Access BPL Order* was adopted).

disclosed if the study is relied on, stand on an entirely different footing from the extrinsic staff deliberations that the FCC here purports to be trying to protect. In fact, the FCC in *Echostar* argued that what the public needed to see was the "description, methodology, and results" of the study and not the raw data, though the data also had been disclosed. 457 F.3d at 38. Here, neither the studies nor the raw data were disclosed by the FCC until two months after the *Access BPL Order* was released, and even then the studies were heavily redacted.

The recognition in *Echostar* that a study consists of more than its raw data belies the agency's contrary suggestion here that the release of "the data itself" (FCC Br. 45) excuses its attempt to hide parts of the "technical studies" that comprise the technical "basis for a proposed rule[.]"[40/] This Court has never held that an agency can merely provide raw, contextless data. Instead, the APA "requires the agency to make available to the public, *in a form that allows for meaningful comment*, the data the agency used to develop the proposed rule." *Engine Mfrs. Ass'n v. EPA*, 20 F.3d 1177, 1181 (D.C. Cir. 1994) (emphasis added). This Court should not countenance the FCC's attempt "to play hunt the peanut with technical information," by hiding from public comment obviously relevant portions of the very studies on which it based its rulings.

III. The FCC Fails to Justify its Refusal to Consider Contrary Evidence and a Proposed Alternative to its Extrapolation Factor for Measuring Interference.

The FCC's brief tiptoes around, but never confronts, its errors in adopting a 40 dB per decade extrapolation factor — the foundation of the agency's conclusion that interference from BPL would be "manageable."[41/] The *Access BPL Order* borrowed the 40 dB factor from rules

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40/ *Connecticut Light & Power Co.*, 673 F.2d at 530-531; *see also Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991) (requirement to disclose technical studies relied on is "integral").

41/ *Access BPL Order* ¶¶ 19, 23 (2004) (JA __); *see Reconsideration Order* n.55 (JA __).

written for very different devices,[42] citing a supposed "lack of conclusive experimental data" to counsel a different choice.[43] The *Order* invited the submission of further evidence and pledged the FCC would "revisit the issue." *Id.* ¶ 109 (JA __). Yet the *Reconsideration Order* dismisses without discussion the substantial evidence submitted in response to that invitation. It also ignores a superior alternative proposed by ARRL that would avoid the weaknesses of the FCC's approach.[44] The FCC's brief broadly invokes deference to the agency's judgments in this "technical area" — but says nothing to defend these two administrative law violations.[45]

In response to the *Access BPL Order*'s invitation, ARRL submitted three newly released reports by OFCOM (the FCC's UK counterpart) that conclude, based on empirical field tests, that the appropriate extrapolation factor for BPL is 20 dB per decade, not 40. ARRL also submitted a further analysis of the competing models in the record that reached the same result.[46] Yet the *Reconsideration Order* does not even acknowledge these materials exist. Oblivious to the record, it declares that "[n]o new information has been submitted that would

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42/ The FCC suggests that it did not "adopt a new extrapolation factor for Access BPL," but merely "chose to maintain the extrapolation factor contained in an existing rule that, even prior to this rule making, was applicable to Access BPL devices." FCC Br. 34 (emphasis omitted). That is both irrelevant and a mischaracterization. Not only must an agency "provide adequate explanation before it treats similarly situated parties differently," it "must justify its failure to take account of circumstances that appear to warrant different treatment for different parties." *Petroleum Commc'ns, Inc. v.* FCC, 22 F.3d 1164, 1172 (D.C. Cir. 1994). As the Orders acknowledge, BPL differs in scale, in power, and in the frequencies used from the devices for which the previous Part 15 rules were written. *See Access BPL Order* ¶¶ 3-4 (JA __).

43/ ¶ 109 (JA __). The FCC never answers ARRL's arguments as to why the supposed "evidence" supporting its 40 dB factor does no such thing. Instead, it merely re-cites the same discredited sources. *Compare* FCC Br. 34 (citing "evidence" from Ameren, Current, and NTIA) *with* ARRL Br. 36-37 & nn.82-85 (demonstrating these sources were faulty or inapposite).

44/ *See* ARRL Br. 35-42.

45/ *See* FCC Br. 20, 32-35.

46/ *See* ARRL Br. 39.

provide a convincing argument for modifying this requirement at this time." ¶ 26 (JA __). The FCC's brief does not attempt to justify this refusal to consider the very evidence whose submission the agency invited.

The FCC had a duty to consider the information. The purpose of the APA's "response requirement is ... to show that the agency has indeed considered *all significant points* articulated by the public."[47/] These new studies plainly were "significant," in light of the FCC's earlier concession that the initial data were inconclusive and its promise to "revisit the issue" when new information came in. The willful blindness evidenced in the *Reconsideration Order* requires that the *Orders* be remanded for evaluation of the evidence.

Equally unjustifiable — and equally unmentioned in the FCC's brief — is the agency's failure even to acknowledge the alternative approach that ARRL suggested for the extrapolation factor. An admitted weakness of the agency's present approach is that it is binary: The factor is 40 dB/decade for frequencies below 30 MHz and 20 dB/decade for frequencies above that line. Yet it is undisputed that radiation does not attenuate in that dichotomous fashion; the rate of attenuation varies continuously over a range of frequencies.[48/] For that reason, ARRL asked the FCC to consider an approach that would more closely mirror what happens in the real world — a formula in which the extrapolation factor would change gradually as frequency changes.[49/] This alternative merited consideration, particularly since the flat 40 dB factor for all frequencies below 30 MHz was recognized to be temporary when the FCC adopted it for other devices in

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47/ *NRDC v. EPA*, 859 F.2d 156, 188 (D.C. Cir. 1988) (emphasis added).

48/ *See* ARRL Br. 40.

49/ ARRL made this proposal on multiple occasions. *See* ARRL Pet. For Reconsideration, Ex. E at 6-7 (JA __) (filed Feb. 7, 2005); ARRL Citation of Additional Authority at 6 (JA __) (filed Jul. 8, 2005).

1989.[50] Yet the *Orders* ignore the proposal. The FCC plainly failed in its "'duty to consider responsible alternatives to its chosen policy and to give a reasoned explanation for its rejection of such alternatives.'"[51] The "failure of an agency to consider obvious alternatives has led uniformly to reversal."[52]

The FCC's brief cites *American Iron & Steel Inst. v. EPA*, 115 F.3d 979 (D.C. Cir. 1997) for the proposition that an agency may act on the basis of "imperfect scientific information."[53] Granted, but that is not the issue. Indeed, the Court in *American Iron & Steel* recognized that once an agency's technical model is challenged, it must provide a "full analytic defense."[54]

American Iron & Steel actually *supports* ARRL's argument that the FCC had a duty to consider ARRL's proposed alternative. The Court there was confronted with another highly technical issue: calculation of a factor to represent the rate at which mercury is absorbed by fish tissue through exposure to contamination. Petitioners challenged the EPA's alleged failure to consider the use of a "bioavailability index" or a "dynamic model" instead of a fixed factor. The Court rejected the challenge, finding that "[t]he agency explained why it did not use a bioavailability index," and that while it "did not explicitly explain why it did not accept the 'dynamic model,' a supplemental document "demonstrate[d] that the agency at least considered whether it should adopt a model that more directly accounted for the complex cycling of mercury

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50/ *See* ARRL Br. 41-42 & n.104.

51/ *City of Brookings Mun. Tel. Co. v. FCC*, 822 F.2d 1153, 1169 (D.C. Cir. 1987) (quoting *Farmers Union Central Exchange, Inc. v. FERC*, 734 F.2d 1486, 1511 (D.C. Cir 1984)); *see* ARRL Br. 41-42.

52/ *Yakima Valley Cablevision, Inc. v. FCC*, 794 F.2d 737, 746 n.36 (D.C. Cir. 1986).

53/ FCC Br. 34-35.

54/ 115 F.3d at 1004 (citing *Eagle-Picher Indus., Inc. v. EPA*, 759 F.2d 905, 921 (D.C. Cir. 1985)).

between water, sediment, and fish tissue." *Id.* at 1005. "This," the Court held, "is all that the response to comment requirement demands." *Id.* at 1006. By contrast, the FCC here gave no consideration to ARRL's proposed sliding-scale factor, or to any of the new evidence put forward on the extrapolation factor by ARRL or by Aeronautical Radio, Inc., another commenter.

The FCC's brief suggests that the agency addressed the problems with its extrapolation factor by requiring that "emission measurements ... be made at several specific distances [along the power line] from the Access BPL equipment source, and that measurements are to be taken parallel to the power line[.]"[55/] Multiple measurements along the line contribute nothing on the issue of distance extrapolation, which estimates how quickly the "signal level decreases ... with distance *perpendicular* from the line."[56/] The extrapolation factor is not an additional measurement; it is a "distance correction" that is applied to *each* measurement. Measuring *along* the line does not address how field strength varies *from* the line.

IV. The FCC and Intervenors Fail to Justify the Agency's Summary Dismissal of an Alternative That Could Have Accommodated BPL Without Causing the Same Harmful Interference.

The departures from FCC precedent and proper administrative procedure in these *Orders* suggest that the agency considers BPL a promising technology and has been willing to engage in broken field running to clear all regulatory obstacles to its implementation. ARRL recognizes that the policy decision to promote BPL is within the FCC's discretion. But that policy decision does not justify the statutory and administrative law errors detailed above. Nor does it

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55/ FCC Br. 35-36 (quoting *Access BPL Order* ¶ 39); *see Access BPL Order* App. C §§ 2-b-2, 2-C-1, 2 (JA __).

56/ FCC Br. 35 (quoting *Access BPL Order* ¶ 39) (emphasis added); *see Access BPL Order* ¶ 109 (JA __); *Reconsideration Order* ¶ 23 (JA __).

necessitate them. The FCC had before it an alternative proposal — to authorize BPL in the frequencies between 30 and 50 MHz — that would have freed BPL to prove itself in the marketplace without disrupting the legal regime of the Communications Act or permitting harmful interference to licensed spectrum users, including amateur radio and broadcast licensees.[57/] The feasibility of that alternative is demonstrated by the fact that the largest and most successful BPL operator limits its overhead medium-voltage operations to the 30-50 MHz band, with other new implementations apparently following suit.[58/] Operations within the 30-50 MHz band are not problematic from an interference standpoint because of the nature of the licensees in that band and the special protections that the FCC has instituted for them.[59/] Yet the *Reconsideration Order* dismisses this alternative in two conclusory sentences.[60/]

The FCC's brief argues that ARRL's concern on this score merely "reflects a disagreement with the Commission on the preferable policy." FCC Br. 41. But ARRL does not ask the Court to second-guess the agency's policy choice. ARRL asks the Court to enforce the FCC's "duty to consider responsible alternatives to its chosen policy and to give a reasoned

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57/ *See* ARRL Br. 42-45; Notice of Intervenors Supporting Petitioner at 2-3.

58/ ARRL Br. 44-45 & nn.112, 113. While intervenor Current Technologies notes that it uses spectrum below 30 MHz on its low-voltage lines, *see* Intervenors Br. 17, such use does not present the same interference concerns and is not challenged here. *See* ARRL Br. 44 n.112. The overhead "medium-voltage" lines at issue in this appeal operate between 1,000 and 40,000 volts. *See* 47 C.F.R. § 15.603(f).

59/ *See* ARRL Br. 42 & n.105.

60/ "The other proposed 'solution' — complete avoidance of all HF frequencies — would needlessly restrict BPL system design and reduce system capacity, without regard to whether there are amateurs that need protection from a particular BPL installation. This would result in a grossly inefficient utilization of Access BPL capacity, reducing the potential benefits of BPL and increasing its cost to the public, without a corresponding benefit or need." *Reconsideration Order* ¶ 35 (JA __).

explanation for its rejection of such alternatives."[61] The brush-off in the *Reconsideration Order* does not reveal that the agency "consider[ed all] of the relevant factors"[62] relating to this "significant and viable"[63] alternative.[64]

The multiple legal errors in the *Orders* require a remand to the agency. When the Court remands the *Orders*, it should direct the FCC to give this alternative the careful consideration required by law.

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61 *City of Brookings*, 822 F.2d at 1169.

62 *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 42 (1983).

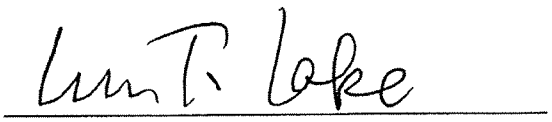
63 *Farmers Union*, 734 F.2d at 1511 n.54.

64 The two sentences in the *Reconsideration Order* cite to nothing in the record. Tellingly, the FCC's brief in its four-page defense of the agency's action musters only a single ex parte letter as record support: a letter never discussed or even cited by the Commission. *See* FCC Br. 39-42; Letter of June 21, 2006 from Wheeler to Dortch (JA __). In any event, this Court "may not accept appellate counsel's post hoc rationalizations" for the FCC's action, since "it is well-established that an agency's action must be upheld, if at all, on the basis articulated by the agency itself." *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 50 (citing *SEC v. Chenery*, 332 U.S. 194, 196 (1947)).

CONCLUSION

The petition for review should be granted and the challenged *Orders* should be set aside.

Respectfully submitted,



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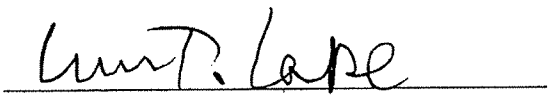

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ADDENDUM – STATUTES AND REGULATIONS

All statutes and regulations cited herein appear in the appendix to ARRL's initial brief, except for the following.

Communications Act of 1934 (as amended)

Sec. 405. [47 U.S.C. § 405] Petition for Reconsideration; Procedure; Disposition; Time of Filing; Additional Evidence; Time for Disposition of Petition for Reconsideration of Order Concluding Hearing or Investigation; Appeal of Order.

> (a) *** The filing of a petition for reconsideration shall not be a condition precedent to judicial review of any such order, decision, report, or action, except where the party seeking such review ... (2) relies on questions of fact or law upon which the Commission, or designated authority within the Commission, has been afforded no opportunity to pass. ***

Code of Federal Regulations – Title 47

Part 2 – Frequency allocations and radio treaty matters; general rules and regulations

Sec. 2.1 Terms and definitions.

> (c) The following terms and definitions are issued:
>
> *Mobile Station.* A station in the mobile service intended to be used while in motion or during halts at unspecified points.

Part 15 – Radio frequency devices

Sec. 15.15 General technical requirements.

> (c) Parties responsible for equipment compliance should note that the limits specified in this part will not prevent harmful interference under all circumstances. Since the operators of Part 15 devices are required to cease operation should harmful interference occur to authorized users of the radio frequency spectrum, the parties responsible for equipment compliance are encouraged to employ the minimum field strength necessary for communications, to provide greater attenuation of unwanted emissions than required by these regulations, and to advise the user as to how to resolve harmful interference problems....