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Federal Communications Commission
Office of Engineering and Technology
445 12th Street, SW
Washington, DC 20554

RE: Draft Publication No. 772105; Interpretation of Section 15.103(d) of the FCC's Rules

Dear Sir or Madam:

The Power Tool Institute (PTI), a trade association of the leading power tool manufacturers in the United States, is grateful for the opportunity to offer our comments on the draft guidance (Draft) issued by the FCC's Office of Engineering and Technology (OET) in the above-referenced matter on April 27, 2012.^{1/} Because the Draft relates to the treatment of power tools that incorporate digital devices under the FCC's rules, PTI's members will be directly affected by any action the FCC takes. As explained more completely below, the Commission should continue to consider power tools as appliances under Section 15.103(d) of the FCC's rules and therefore exempt from the verification procedures otherwise applicable to unintentional radiators under Section 15.101 of the FCC's rules.^{2/}

Background

PTI is a trade association of power tool manufacturers dedicated to building a global understanding of power tools and maintaining high standards of safety in the industry. Its members represent market-leading brands in the areas of portable and stationary power tools. PTI's primary objectives are to promote the common business interests of the power tool industry; to represent the industry before government; to educate the public as to the usefulness and importance of power tools; to encourage high standards of safety in the manufacture of power tools; and to prepare and distribute information about safe use of power tools.

Power tools are sold through a variety of outlets intended for both working professionals, such as tradesmen and construction workers, and homeowners (usually referred to as do-it-yourselfers, or DIYers). Many PTI members produce tools intended for both markets, often with distinct branding. While there are some sales channels specifically for professional tools, most home centers, such as The

^{1/} See FCC, Office of Engineering and Technology, Knowledge Database Publication No. 772105 (April 27, 2012).

^{2/} See 47 C.F.R. §§ 15.101, 15.103.

Home Depot and Lowe's sell a mixture of professional and DIY branded tools. In addition, while professional tools are intended for professional users, many DIYers purchase them as well.

The Draft is OET's latest attempt to provide clarity about the devices that are subject to Section 15.103(d) of the FCC's rules. Under that provision of the regulations, digital devices that are used in *appliances* are only subject to the general provisions of Sections 15.5 and 15.29 of the FCC's rules and are not subject to, among other things, the verification procedures specified for unintentional radiators under Section 15.101 of the rules.^{3/} Because, as a practical matter, appliances would not otherwise be subject to Section 15.101 of the rules, the inclusion of a digital device would subject them to rules governing unintentional radiators, but for the exemption in Section 15.103(d).

The exemption in Section 15.103(d) stems from a proceeding in which the FCC considered how it should regulate personal computers, which were thought at the time to be a potential source of radiofrequency interference.^{4/} However, as originally written, the rules would have covered not only personal computers, but a range of other products that contained digital devices (then called computing devices). As a result, the FCC decided to exempt certain products, including appliances, which included digital devices.^{5/} At the time the FCC said: "on reconsideration, we find that additional information may be useful to further assess the impact of the new rules on electronics in automobiles, industrial control systems, and microprocessors and other digital devices used in home appliances."^{6/} With respect to the exemption for home appliances, the FCC stated:

Home appliances are included in the above list [of exempted devices] for several reasons, even though a specific exemption was not requested [by the petitions for reconsideration]. First, regulations to control interference from home appliances to radio communications is a massive undertaking. Moreover, it should include all home appliances – not only those appliances that incorporate digital components for control purposes. We see no reason to treat appliances that simply use digital circuitry in lieu of more traditional electromechanical circuitry differently. Second, emissions from home appliances have some unique characteristics that may require special test procedures requiring additional investigations. Third, the cost benefit of such regulation will need further assessment, due to the vastness of the appliance market. The same considerations also apply to the automotive electronics and industrial control systems.^{7/}

Subsequently, as part of its usual effort to provide information to the public, OET issued a Bulletin to provide guidance on the FCC's regulation of digital devices.^{8/} With respect to appliances, OET described the exemption as follows:

^{3/} See *id.* § 15.103(d).

^{4/} See *Amendment of Part 15 to Redefine and Clarify the Rules Governing Restricted Radiation Devices and Low Power Communication Devices*, First Report and Order, 79 FCC 2d 28 (1979) ("1979 Order").

^{5/} See *Amendment of Part 15 to Redefine and Clarify the Rules Governing Restricted Radiation Devices and Low Power Communication Devices*, Order Granting in Part Reconsideration of First Report and Order, 79 FCC 2d 67 (1980) ("1980 Order").

^{6/} *Id.* ¶ 54.

^{7/} *Id.* ¶ 55.

^{8/} See FCC Office of Engineering and Technology, *Understanding the FCC Regulations for Computers and Other Digital Devices*, OET Bulletin No. 62 (Dec. 1993) ("OET Bulletin No. 62").

Digital devices used EXCLUSIVELY in appliances. “Appliances” are devices that are designed to heat, cool or move something by converting electrical energy into heat or motion. Examples of appliances include vacuum cleaners, toasters, air conditioners and clothes dryers. Examples of things that are NOT appliances include lights, telephones, home security systems, exercise bicycles and clock radios. Devices that use radio frequency energy to do the actual heating, cooling or moving, such as microwave ovens, are subject to technical standards in Part 18 of the FCC rules.^{9/}

Finally, in 2009, OET received the following inquiry: “What household appliances, identified as Part 15 unintentional radiators, are considered exempt from the equipment authorization procedures?”^{10/} After soliciting input, OET issued the following guidance:

Exempt household appliances are electrical machines intended for household tasks that assist persons in washing and drying clothes, household cleaning, cooking, or food preparation; or is equipment that is directly involved in conditioning the supply of household water and air (heating, cooling and humidifying) in a residence. This includes appliances such as a vacuum cleaner, washing machine, dishwasher, clothes dryer, air conditioner (central or window), etc. This exemption is limited to basic housekeeping appliances and is not intended to apply to all home-use products that may contain digital logic.^{11/}

OET specifically listed the following devices as exempt from testing: refrigerators, freezers, stoves, juice extractors, bread makers, coffee makers, food warming pads, deep-fat fryers, washing machines, clothes dryers, trash compactors, rug cleaners, vacuum cleaners, dishwashers, irons, in-sink garbage disposals, humidifiers/dehumidifiers, water heaters, room fan heaters, room air conditioners, HVAC systems (not including external thermostats) and central air-conditioners. It said the following were non-exempt devices: external thermostats, exercise equipment, hair dryers, heat guns, hair straighteners, electric blankets, paper shredders, bed warmers and portable personal fan heaters.^{12/}

The Draft is a result of a March 28, 2012 inquiry OET received from Bureau Veritas Consumer Products Services (BVCPS) regarding whether power tools fall under the appliance exemption in Section 15.103(d) of the rules.^{13/} PTI appreciates the opportunity to provide OET with this feedback in response to its April 27 solicitation. As explained more fully below, OET has strayed from the FCC’s initial determination not to include **any** appliances, including power tools, in its rules governing digital devices. Without evidence that they are producing the problems about which the FCC was originally concerned, there is no basis to impose additional regulatory obligations on power tools.

^{9/} *Id.* at 7.

^{10/} FCC, Office of Engineering and Technology, Knowledge Database Publication No. 772105 (March 29, 2012), *available at* <https://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?id=33062&switch=P>.

^{11/} *Id.*

^{12/} *See id.*

^{13/} *See* Email from Technical Services Produce Engineer, Bureau Veritas Consumer Products Services, to FCC, Office of Engineering and Technology (March 28, 2012) (on file with author).

Discussion

Power Tools are Appliances.

While Section 15.103(d) provides certain examples, the rule is broadly written to exempt all appliances with digital devices from the obligations otherwise imposed on unintentional radiators. Moreover, as noted above, the rule is consistent with the *1980 Order*, which was intended to exempt all appliances from regulation as unintentional radiators. Because they are appliances, power tools should therefore be exempted. Treatment as appliances would be consistent with international and North American product safety standards – such as standards set by the International Electrotechnical Commission; Underwriters Laboratories, Inc.; Canadian Standards Association; and Normas Oficiales Mexicanas (the Official Mexican Standards or NOM) – in which the category of appliances is extensive and includes power tools. These organizations determine whether a device is an appliance not by the work it does (cleaning, food preparation, etc.), nor by its area of application (the home), but rather through common technical attributes that influence the risks it may possess and the appropriate means of mitigating those risks. The power cord, switch, motor and mechanical output of a power drill is not fundamentally different from those same elements that comprise a kitchen hand mixer. Since they share these common technical features, they share the general categorization of appliances.^{14/} OET should follow the same approach and determine, based on technical characteristics, the devices that should be considered appliances and therefore exempt under Section 15.103(d).

OET's and the Commission's own decisions to date also support treating power tools as appliances. As noted above, in OET Bulletin No. 62, the FCC defined appliances as those “devices that are designed to heat, cool or move something by converting electrical energy into heat or motion.”^{15/} Under that definition, an appliance produces a physical output and must be designed to perform specific physical tasks. Power tools qualify under both parts of the criteria. As noted above, the *1980 Order* listed several bases for exempting all appliances from regulation as unintentional radiators. The Commission's rationale applies equally to power tools and they should be included in the same exemption

Distinguishing Between Appliances Impermissibly Goes Beyond the Current Rules.

As noted above, the FCC intended to exempt all appliances with digital devices from testing and other regulation as unintentional radiators.^{16/} The FCC recognized that appliances were a special class that might require different test methods and acceptance criteria and further noted that any appropriate regulation would not just focus on the emissions generated from circuitry used for control purposes. The Commission also recognized that the cost/benefit assessment for computers could not be extended to appliances and required reassessment. Therefore, the Draft, which may have the effect of declaring one category of appliances – power tools – as non-exempt contravenes the FCC's intent. Although PTI believes there is no basis for subjecting any appliances to the regulations imposed on unintentional radiators, the FCC must not take such action without the procedural protections of full notice and

^{14/} While the definitions used by these organizations are broad, they conform to generally accepted definitions of appliances and would exclude, for example, “Internet appliances” in which the phrase “appliance” is merely intended to mean a device generally.

^{15/} OET Bulletin No. 62 at 7.

^{16/} See *1980 Order* ¶ 55.

comment rulemaking.^{17/} Using an informal mechanism such as responses to a Knowledge Database inquiry, instead of the process specified in the Administrative Procedure Act (APA) is both contrary to law and fundamentally unfair to manufacturers of these products who would reasonably believe that they continued to be exempt under Section 15.103(d) of the rules.

The Proposed Interpretation Will Have Immediate and Negative Consequences.

The interpretation contemplated by the Draft will have wide ranging effects. Major retailers with whom PTI members interact hire third-party quality organizations like BVCPS, which are private companies that help retailers create and execute quality plans for incoming products from manufacturers. These organizations, in an effort to look after their customers' (*i.e.* the retailers') interests may use OET's interpretation of the FCC's rules as the basis for imposing obligations on manufacturers. Indeed, they may impose obligations – such as the immediate suspension of the sale of certain products – that even the FCC would not. Therefore, the effect of any OET interpretation would be the imposition of a set of *de facto* obligations, even if they are not enforced immediately by the FCC. Indeed, even if the FCC made it clear that its interpretation was designed to cover only products manufactured in the future, there would be nothing to stop private entities from demanding that PTI members only supply them with newer, compliant products, effectively stranding significant inventory.

The costs of implementing, testing and maintaining compliance with any regulations – whether imposed by a third-party or the FCC – as well as the additional costs to potentially develop new products are enormous. Based on approximate, but conservative estimates, each PTI member company, on average could expect to spend upwards of \$2.5 million to comply initially with the rules and would incur an ongoing product cost of \$5 million per year per company.

If Distinctions Between Appliances are Necessary, They Should be Based on Technical Considerations.

While any changes to the FCC's characterization of power tools under Section 15.103(d) of the rules requires a notice and comment rulemaking proceeding and not the process envisioned by the Draft, any change, regardless of the procedure employed, should be based on sound engineering principles. Today, whether legally permissible or not, the agency is making *ad hoc* determinations based on unsupported criteria. There is no basis in the rules or the FCC's decisions for OET to determine that appliances are devices involved in "cleaning, cooking or food preparation." To the contrary, when the FCC considered the type of interference that might be presented by personal computers, it was concerned about interference that might be caused by one neighbor to another; it was not as concerned about interference from devices in a household to other devices in the same household.^{18/} Therefore,

^{17/} Decisions that alter or contravene the FCC's rules and intent can only be adopted through notice and comment rulemaking procedures under the Administrative Procedure Act (APA). See *Sprint Corp. v. FCC*, 315 F.3d 369, 374 (D.C. Cir. 2003) ("[N]ew rules that work substantive changes in prior regulations are subject to the APA's [notice and comment] procedures.") (internal citations omitted); *Calling Party Pays Service Offering in the Commercial Mobile Radio Services*, Order, 18 FCC Rcd 18441, ¶ 23 (2003) ("[A] new APA rulemaking is required only if an agency adopt[s] a new position inconsistent with any of the [agency's] existing regulations.") (internal quotations and citations omitted).

^{18/} *1979 Order* ¶ 14 (explaining that it received "[s]everal letters from irate customers of personal computers . . . of interference not only to TVs located elsewhere in the same house, but also to neighbors' television reception"). As the foregoing demonstrates, one of the FCC's primary concerns when it adopted rules governing

before the FCC modifies – whether by informal interpretation or rulemaking – the category of devices to which exemptions under Section 15.103(d) applies, it must engage in that same analysis. The FCC has not done that here. At a time when American industry continues to struggle, the FCC should not impose obligations without demonstrated justification.

To the contrary, there appears to be no justification for imposing these additional obligations. There are no cases of which PTI is aware of interference caused to other devices. Most PTI members have extensive customer service networks that would learn of such an issue and act upon it. To our knowledge, no complaint has been lodged and no action taken against a power tool manufacturer with respect to interference due to unintentional radiation. Moreover, even exempt unintentional radiators may not cause, and users of those devices must remediate, harmful interference. Therefore, even if power tools remain exempt under Section 15.103(d), as they should, they remain subject to non-interference obligations. Finally, because there appears to be no reports of harmful interference, it would be difficult for the FCC to demonstrate a favorable cost/benefit. PTI members are committed to providing meaningful consumer benefits and if a widespread problem did exist, it would work with the FCC to address the issue, even through appropriate regulation if necessary. However, in this case, there would be costs, which would be passed on to consumers, without any demonstrable benefit.^{19/}

digital devices was the protection of nearby television reception. Because television technology has radically changed in the past 30 years and most consumers do not receive video entertainment via over-the-air broadcasting, the rationale for requiring protection from digital devices is no longer the same. OET should not attempt to adopt solutions for problems that may not exist, or that are at least much changed.

^{19/} Indeed, even if it were determined that power tools were not exempted, it is difficult to see how these digital devices would be tested. Power tools, like most appliances containing a digital device, act as both an unintentional radiator as well as an *incidental* radiator. Since the regulations never anticipated the testing of appliances with embedded digital devices, there is no clear guidance on how such testing would routinely be conducted. In many cases, the digital device consists solely of a microcontroller and all signals external to it are below the 9 KHz threshold. Testing of these devices would involve testing only the microcontroller, as changing the load of the tool will not change the frequency of emissions. It is extremely unlikely that these microcontrollers, which are switching only milliamperes at the most, would produce any significant emissions.

Conclusion

For the reasons discussed above, PTI respectfully requests that OET decline to classify power tools as non-exempt devices under Section 15.103(d) of the Commission's rules. Power tools have consistently been considered by the Commission as appliances under Section 15.103(d) and there are simply no technical reasons or interference concerns warranting a change. To hold otherwise would be contrary to past FCC decisions, violate the APA, and harm the public interest.

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