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Via E-mail and U.S. Mail

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Bruce Jacobs, Chief  
Spectrum Enforcement Division  
Enforcement Bureau  
Federal Communications Commission  
445-12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Dr. Rashmi Doshi, Chief  
Laboratory Division  
Office of Engineering and Technology  
Federal Communications Commission  
7435 Oakland Mills Rd  
Columbia MD 21046-1609

Re: Violation of Part 18 Regulations; Galaxy Legacy Selective Wattage  
RF Lighting Device (Electronic Ballast); Conducted Emission Limit,  
Labeling and Marketing Violations.

Dear Mr. Jacobs and Dr. Doshi:

This office represents ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated. The purpose of this letter and the attached Conducted Emissions Test Report is to request on behalf of ARRL that the Commission investigate and commence an enforcement proceeding in order to halt immediately the marketing and retail sale of an RF lighting device in the United States known as the Galaxy Legacy Selective Wattage Ballast. This device is intended for agricultural/horticultural deployment and is known as a "grow light." The device has been thoroughly tested by ARRL's laboratory as per the attached Test Report and has been found to grossly exceed the Conducted Emission limits set forth in Section 18.307(c) of the Commission's Rules. As well, the device is also being imported, marketed and sold in violation of, at least, Section 18.213 of the Commission's Rules at numerous retail outlets in the United States including Liquid Sun of Holyoke,

Massachusetts (from which ARRL purchased the unit used for testing in ARRL's laboratory).

The instant complaint is one of several being filed contemporaneously pertaining to various RF lighting ballasts which have been tested by ARRL's laboratory. As well, ARRL previously filed a complaint dated March 12, 2014 against an RF lighting ballast device imported and marketed by a company called Lumatek, about which apparently nothing has been done to date.

ARRL has received numerous complaints from amateur radio operators of significant noise in the Medium (MF) and High Frequency (HF) bands between 1.8 MHz and 30 MHz from "grow lights" and other Part 15 and Part 18 RF lighting devices. In response to these complaints, among other things, ARRL purchased the Galaxy grow light at retail from a company called Liquid Sun, located at 8 Lynwood Avenue, Suite 105, Holyoke, Massachusetts. ARRL tested the device in its laboratory. The results of the tests made by ARRL are in the attached Conducted Emissions Test Report (the "Report"). These devices are easily capable of emitting RF noise sufficient to preclude Amateur Radio MF and HF communications (and as well AM Broadcast station reception) throughout entire communities.

The Galaxy grow light has been imported by Sunlight Supply, a company located in Vancouver, Washington. See, <http://www.sunlightsupply.com>. In addition to Liquid Sun in Massachusetts, the device is apparently available at retail sources including but not limited to those listed at page 1 of the attached Test Report and at [www.sunlightsupply.com/page/findretailer](http://www.sunlightsupply.com/page/findretailer).

As can be seen from the Report, ARRL tested the conducted emissions from this device according to the IEEE C63.4-2009 standard for Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment. At page 5, the Report concludes from the conducted emissions tests that the six highest emissions from the device in the HF band *vastly* exceed the Quasi-Peak limit specified in Section 18.307(c) of the Rules. For example, the Quasi-Peak limit in the bands between 3.0 and 30 MHz is 48 dB $\mu$ V. The Galaxy device has a Quasi-Peak Interference Voltage at 6.3 MHz of 106 dB $\mu$ V. At 12.9 MHz, the Quasi-Peak Interference Voltage is 63 dB $\mu$ V. As per Appendix C of the Test Report, in both phase-to-ground and neutral-to-ground operating conditions, the conducted emissions limits are exceeded, sometimes by extreme margins, throughout most of the HF frequency range.

The level of conducted emissions from this device is so high that, as a practical matter, one RF ballast operated in a residential environment would create preclusive interference to Amateur radio HF communications throughout entire neighborhoods.

As discussed in Appendix B of the Report, there are, in addition to the blatantly excessive conducted emissions from this device, substantive marketing violations associated with this device. The Report indicates that there no FCC label or sticker on the device, as called for by Section 18.209(b) of the Rules for devices subject to Declarations

of Conformity or certification. Nor is there any FCC compliance information anywhere in the documentation for the device, or in or on the box, or on the device itself. Marketing of the device therefore does not comply with, at least, Sections 18.209 or 18.213(d) of the Commission's rules, which requires that RF lighting devices must provide an advisory statement, either on the packaging or with other user documentation, notifying the user that the operation of the device might cause interference to radio equipment operating between 0.45 MHz and 30 MHz. Variations of the language are permitted but presentation in a legible font or text style is required. No such notice is included with this device. Pursuant to Section 2.909 of the Commission's rules, the party responsible for FCC compliance with rules governing RF devices is, in the case of devices that are subject to a grant of equipment authorization, the equipment authorization grantee. Or, in the case of a device subject to a grant of a Declaration of Conformity, the responsible party is the importer. In this case, because there is no apparent grantee of equipment authorization, the Commission should look to the importer of the device as the responsible party.

ARRL respectfully requests that all such devices be removed from retail sale and marketing. Those devices that have been sold to consumers, or which are available for retail sale should be tracked and recalled. It is also requested that the importer of this device be subjected to a forfeiture proceeding commensurate with the Commission's enforcement policies.

Given the foregoing, on behalf of the more than 730,000 licensed radio amateurs in the United States, who have a significant interest in avoiding interference from these noncompliant devices, ARRL respectfully requests that your office take the appropriate action with respect to this device without delay.

Should any additional information be called for, please contact either the undersigned, General Counsel for ARRL, or Mr. Mike Gruber of the ARRL's staff, whose contact information is listed on the attached Report. Thank you very much for your consideration of this request.

Sincerely,

*Christopher D. Imlay*  
Christopher D. Imlay  
General Counsel, ARRL

Attachment

Copies to: Liquid Sun Massachusetts  
8 Lynwood Avenue  
Suite 105  
Holyoke, MA 01040

Sunlight Supply, Inc.  
5408 N.E. 88<sup>th</sup> Street, Bldg. A  
Vancouver, WA 98665