



GAIL FARBER, Director

# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91805-1331  
Telephone: (626) 458-5100  
<http://dpw.lacounty.gov>

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

August 29, 2013

IN REPLY PLEASE  
REFER TO FILE

EP-4

Ms. Manpreet Singh, Regulations Coordinator  
Department of Toxic Substances Control  
Regulations Section, MS 23A  
P.O. Box 806  
Sacramento, CA 95812-0806

Dear Ms. Singh:

### **COMMENTS REGARDING THE PROPOSED STANDARDS FOR MANAGEMENT OF HAZARDOUS WASTE SOLAR MODULES**

On behalf of the County of Los Angeles Department of Public Works, Environmental Programs Division (County), I would like to express our appreciation to the Department of Toxic Substances Control (DTSC) for its work in developing proposed standards for the management of hazardous waste solar modules and allowing affected stakeholders the opportunity to comment on the proposed regulations.

As the County's lead agency responsible for the development and implementation of programs related to waste management, including the management of universal, hazardous and industrial waste, we are indeed affected by these proposed regulations. We are charged with the responsibility to protect public health and the environment from the unsafe management of post-consumer products by providing collection opportunities and educational outreach. The proposed regulations classify solar modules as universal waste and thus places a burden on local governments to divert these wastes from municipal landfills.

As described in DTSC's Initial Statement of Reasons (ISOR), the desired goal of the proposed regulations is to help protect the environment by reducing the number of solar modules disposed in municipal landfills. The ISOR further states that since local governments have already developed collection programs for universal waste, they will provide a resource for residents and small quantity generators to take their solar modules which will subsequently be recycled. However, the proposed regulations do not take into account the significant added costs this will impose on such programs.

In recent years, local governments have had to manage a number of products classified as universal waste, such as batteries and compact fluorescent light bulbs. These products and related expenses had to be integrated into existing household

Ms. Manpreet Singh  
August 29, 2013  
Page 2

hazardous waste/electronic waste programs and have put an added strain on these already costly programs. Local governments can ill-afford another "ban without a plan." The responsibility for the management of universal waste, including post-consumer solar modules, should be a shared responsibility. However, noticeably absent from the proposed regulations is the responsibility for producers of solar modules to manage their products after their useful life.

We have been a strong supporter of extended producer responsibility (EPR) which strives to shift the responsibility for the proper management of products at the end of their useful life away from local government to the producers. With producers sharing the burden for the post-consumer management of their products, they would be incentivized to make their products less toxic and thus more readily recyclable. We strongly recommend DTSC incorporate EPR into these proposed regulations. Not only would EPR lift some of the burden away from local governments in managing post-consumer solar modules, but it would aid the intent of the regulations which is to keep these products away from municipal landfills and thus protect public health and the environment. Moreover, EPR would incentivize producers to create a new generation of solar modules that are less toxic and easier to recycle.

We appreciate your leadership in developing these regulations and hope you can incorporate our comments. If you have any questions, please contact me at (626) 458-3500, Monday through Thursday, 7 a.m. to 5:30 p.m.

Very truly yours,

GAIL FARBER  
Director of Public Works

  
PAT PROANO  
Assistant Deputy Director  
Environmental Programs Division

TM:dy  
P:\Sec\DTSC Solar Modules

**From:** Matthew Garamone <MGaramone@FIRSTSOLAR.COM>  
**Sent:** Tuesday, September 03, 2013 6:36 AM  
**To:** DTSC REGS@DTSC; Manpreet.Singh@dtsc.ca.gov  
**Cc:** Ohta, Ronald@DTSC; Algazi, Andre@DTSC; Palmer, Karl@DTSC  
**Subject:** Revised Standards for Management of Hazardous Waste Solar Modules - Comments

First Solar, Inc. ("First Solar") offers its comments on DTSC's second revision to its Standards for Management of Hazardous Waste Solar Modules (the "2nd Revised Regulations") released for public comment on August 15, 2013.

Because DTSC's 2nd Revised Regulations differ minimally from DTSC's June 27, 2013 revised regulations, First Solar's July 11, 2013 comments on those regulations remain applicable. Most importantly, DTSC should consider revising the definition of PV module in both the conditional exemption and universal waste management scheme to ensure that the definition is internally consistent and allows for physically damaged modules to be managed under either regulatory option.

As currently drafted, the definition of PV modules in the 2nd Revised Regulations is internally inconsistent with respect to damaged modules. DTSC defined PV module to include modules that "are cracked or otherwise damaged," but at the same time explicitly excluded "physically-damaged, -deteriorated, or -altered PV modules" from the definition of PV modules. Thus, damaged modules would appear to be simultaneously included in and excluded from the PV module definition.

Additionally, the breadth of DTSC's exclusion of "physically-damaged, -deteriorated, or -altered" modules from the definition of PV module will render the second exclusion in the definition meaningless, of "fractured or fragmented portions of a PV module that are no longer recognizable as a PV module." It would appear that no damaged module can fall under the second exclusion without also qualifying as a "physically-damaged, -deteriorated, or -altered module" under the first definition. This will result in the second exclusion having no independent effect.

The first exclusion is so broad that it not only renders the second exclusion meaningless, it also negates the effect of every provision of the 2nd Revised Regulations dealing with broken or damaged modules (See, e.g., § 66261.6(a)(8)(B), (D); § 66273.7.1(c)(1); § 66273.33(d)(1)(C)). If broken modules are excluded from the definition of PV module, then they cannot even qualify for management under the conditional exemption or the universal waste management scheme. Instead, the generator will be required to manage the broken modules as hazardous wastes.

It is inefficient to require generators to treat physically damaged modules differently from undamaged modules. Cracked modules often continue to function as designed and are no less recyclable than intact modules. Furthermore, the structure and inherent stability of PV modules means that cracked and broken modules are no more likely to release hazardous constituents to the environment than intact modules. As noted by industry stakeholders in their August 2010 comments, PV modules are fundamentally different from other types of wastes – such as CRTs – that will release hazardous constituents to the environment if broken. DTSC even appears to have acknowledged that fact in defining PV modules to include "cracked or otherwise damaged" modules. So long as broken modules are properly contained, as envisioned in the 2<sup>nd</sup> Revised Regulations, they should be eligible for management under the same program as intact modules. DTSC should therefore amend the 2nd Revised Regulations so that physically damaged modules remain eligible for management under the conditional exemption and universal waste management scheme unless they are so

physically damaged that they are unrecognizable as PV Modules, at which point management as hazardous wastes will be appropriate.

We therefore respectfully request recommend that DTSC amend subpart (b) of the definition of PV module in Sections 66260.10 and 66273.9 of the 2nd Revised Regulations by combining the first and second exclusions. By combining the exemptions, DTSC would eliminate the inconsistencies described above and would allow for the management of broken modules under the conditional exemption and universal waste management scheme, as follows:

Photovoltaic (PV) Module”

...

(b) Does not mean:

- (1) physically-damaged, -deteriorated, or -altered PV modules, including ~~(2)~~ fractured or fragmented portions of a PV module, that are no longer recognizable as a PV module,
- ~~(2)~~ solar-powered electronic devices that have one or more photovoltaic cells incorporated into their structures.

We appreciate you taking the time to consider these comments and would be happy to discuss them with you at your convenience.

Regards,

**Matthew D. Garamone**

Corporate Environmental Director and Senior Counsel – Environmental, Health & Safety  
First Solar, Inc. |



 Please consider the environment before printing this e-mail.

The information contained in this email message is intended only for the individual(s) named above. If you are not an intended recipient of this message (or the employee or agent responsible for delivering this message to an intended recipient), you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify me by email ([mgaramone@firstsolar.com](mailto:mgaramone@firstsolar.com)), and destroy the original message. Thank you.