

DTSC Workshop

Proposed Regulations Photovoltaic (PV) Modules



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Megan Cambridge and Neena Sahasrabudhe
DTSC Policy and Program Support Division

Agenda

- Review of PV Module Law (Health and Safety Code, Section 25259)
- Draft of Proposed Regulations
- Rulemaking Schedule
- Open Discussion

What is a PV Module?

Solar Cell

- made of semiconductor material that absorbs photons of sunlight
- below anti-reflective surface

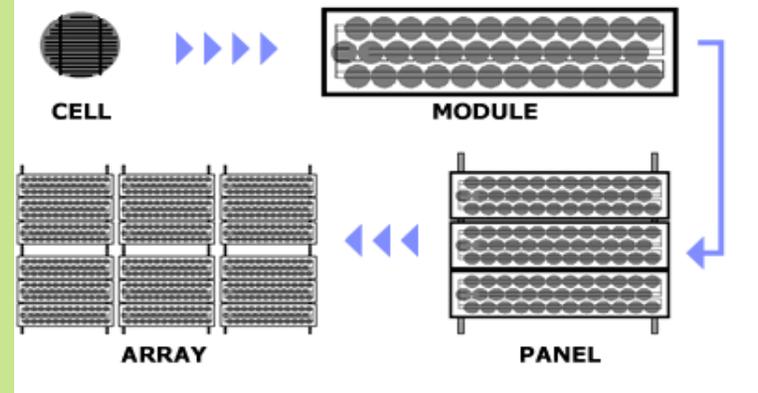
PV modules

- solar cells soldered together in a series

Solar Panels made up of PV modules



From Cell to Array



Panels form array

Health and Safety Code, Section 25259 ***(SB 489 - Monning, Chapter 419, Statute 2015)***

- HSC – Division 20, Chapter 6.5
Hazardous Waste Control Law,
ARTICLE 17. Photovoltaic Modules
- Effective Jan. 1, 2016.



“The department may, by regulation, designate end-of-life photovoltaic modules that are identified as hazardous waste as a universal waste and subject those modules to universal waste management.”

Edits to Proposed Regulations

- Applicability
- Definitions
- Notification
- UW Standards
- Labeling
- Personal Training
- Treatment



§ 66273.7.1- Applicability Section

Replaced term Class I landfill with Permitted Hazardous Waste Disposal Facility



(Page no.5, Line no.20)

§ 66273.9 - Definitions

Photovoltaic (PV) Modules

- Identified as a hazardous waste
- The modules exhibit the characteristic of toxicity as specified in article 3 of chapter 11 of this division

(Page no.6, Line no.15-21)



§ 66273.9 - Definitions

- Deleted the term “Intact” PV modules to broaden eligible.



§ 66273.9 - Definitions

Edited “PV modules- does not mean”

- Physically - damaged, fractured or fragmented PV modules, that are no longer recognizable as PV modules.
- Solar-powered electronic devices with photovoltaic cells in their structures (e.g., calculators, or solar front yard lamps).



(Page no.6, Line no.22-26)

§ 66273.32 - Notifications

Updated subsections

- Universal handler of PV modules notifies the Department now under subsection (g)
- New subsection (h) to notify via e-mail (PVmodules@dtsc.ca.gov)



Notification shall include

- Name of universal waste handler (UWH)
- ID Number of UWH
- Telephone number of UWH
- Mailing address physical address of UWH
- Name, telephone number and e-mail address of the contact person at UW site AND
- Model number of PV modules

(Page no.7, Line no.23-39)

Universal Waste Management Standards for PV Modules

- Moved from section 66273.33 (batteries, lamps, mercury)
- To Section 66273.33.5 (electronic devices, CRTs)



§ 66273.33.5 - Universal Waste Management Requirements for Electronic Devices, CRTs, CRT Glass and PV Modules

- UWH for PV modules complies with all applicable requirements
 - Handler prohibited from disposing UW
 - Notify the Department and other applicable authorities
 - Manage the UW appropriately – avoid releases
 - Labeling
 - Accumulation time limits
 - Personnel training
 - Responses to releases
 - Offsite shipments
 - Tracking UW shipments



§ 66273.33.5

- Authorization requirements for UWH
- Required to comply with Article 7 – treatment
- Exempt from article 7, if UWH manages the intact PV modules accordingly



§ 66273.34. Labeling/Marking

- Section (g) will be removed from the proposed PV modules regulations - it does not apply to PV modules.
- Added Subsection (h) and (i) applicable to PV modules

§ 66273.36. Personnel Training

- Slight language modification “(e.g., hazards due to leaded glass in CRT devices or CRTs, and hazards *such as* cadmium, lead, or selenium in PV modules);”



(Page no.12, Line no. 22-24)

§ 66273.51 Prohibitions

- Subsection (e)
- (f) Prohibited from transporting more than 100 kilograms or 220 pounds of PV modules at any one time unless the PV modules are contained as described in section 66273.33.5, subsection (d)(1)(B).



(Page no.14, Line no. 17-18)

Article 7: Authorization Requirements for UWH of PV modules.

➤ Section 66273.70. Applicability- to PV modules.

❖(c)(2)(E) Dismantling PV modules as specified in section 66273.72.

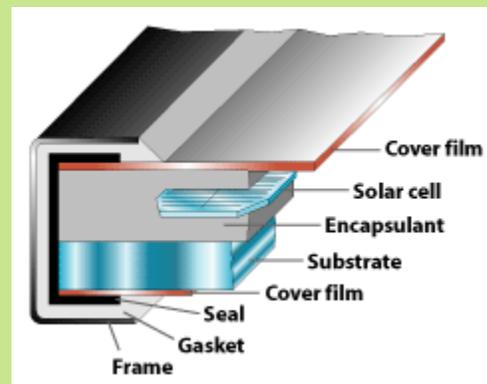
❖(c)(3)(C) Treating PV modules as specified in section 66273.73.



Article 7 – Disassembling/Draining Activities (66273.72)

Added subsection (f) - dismantling PV modules, authorized if complies with:

- Dismantles or manual segregation of components
- Complies with notification & recordkeeping
- Protects person managing and prevent releases



Article 7 – Authorization for Treatment Activities (66273.73)

- Handler deemed to be the generator of hazardous waste if exhibits waste criteria except:
 - Scrap metal exclusion
- Complies with notification and recordkeeping



Article 7 – Requirements

- Closure Plan and Financial Requirements.
- Closure of Universal Waste Treatment Facilities.
- Closure inspection including verification through sampling



Rulemaking Schedule

Public notice

Fall 2017

Public hearing following 45- day comment period

Response to public comments

January 2018

DTSC submits for OAL Review

Spring 2018

Effective date (*maximum of one year from notice*)

More Information

- Web site:

<http://www.dtsc.ca.gov/HazardousWaste/PVRegs.cfm>

- Questions to:

PVModules@dtsc.ca.gov



Open Discussion

