



# STANDARDS NEW ACTIVITY REPORT FORM (SNARF)

Date Prepared: Sep. 18th, 2020 Revised (if Applicable): \_\_\_\_\_

**SNARF for:** Revision of

SEMI PV76 - Test Method for Durability of Low Light Intensity Organic Photovoltaic (OPV) and Dye-Sensitized Solar Cell (DSSC)

With Title Change To

SEMI PV76 - Test Method for Durability of Low Light Intensity Organic Photovoltaic (OPV) and Dye-Sensitized Solar Cell (DSSC) and Perovskite Solar Cell(PSC)

**Originating Global Technical Committee:** Photovoltaic

**Originating TC Chapter:** Taiwan

**Task Force (TF) in which work is to be carried out:** Organic and Dye Sensitized Solar Cell and Perovskite Solar Cell Task Force (OPV/DSSC/PSC TF)

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Refer to *Procedure Manual* § 2.2.4 for more information on properly filling out the SNARF.

## 1. Rationale:

### a: Describe the need or problem addressed by this activity.

(Indicate the customer, what benefits they will receive, and if possible, quantify the impact on the return on investment [ROI] if the Document is implemented.)

The advantages of organic and dye-sensitized solar cells are low manufacturing cost, low pollution, thin, light and flexible, etc. The innovative application of DSSC/OPV/PSC devices shall change people's lifestyle like to integrate with indoor charging for 3C consumer products anywhere.

The current technology challenge for DSSC/OPV/PSC products still focused on serious packaging problem that certainly appear in subtropical environments. Some stability issues relate to the erosion of the electrolyte, the glass adhesion failure, the barrier gas and barrier water etc. In general, environmental degradation factors (humidity, temperature, pressure, light) will seriously impact DSSC/OPV/PSC device performance and reliability, and shorten its life time.

Therefore, this activity shall develop a durability test method to evaluate DSSC/OPV/PSC device characteristics in process, especially do qualification test in subtropical warm and humidity environment either indoors or outdoors. This activity will also develop a principle and guild line for DSSC/OPV/PSC industries to follow in coming future, and speed up the packaging design of DSSC/OPV/PSC products as well.

The current SEMI PV76 measures the durability test method for OPV/DSSC. PSC has the same



capacitance effect as DSSC/OPV. In order to make the original method more clearly applicable to PSC. This activity shall modify and add the title and text to the PSC wording, and it has been clearly stated that this method is suitable for DSSC/OPV/PSC.

**b: Estimate effect on industry. Check one of the following:**

1: Major effect on entire industry or on multiple important industry sectors

- identify the relevant sectors: \_\_\_\_\_

2: Major effect on an industry sector

- identify the relevant sector: \_\_\_\_\_

3: Major effect on a few companies

- identify the relevant companies: \_\_\_\_\_

4: Slight effect or effect not determinable

**c: Estimate technical difficulty of the activity. Check one of the following:**

I: No Difficulty – Proven concepts and techniques exist or quick agreement is anticipated

II: Some Difficulty – Disagreements on known requirements exist, but developing consensus is possible

III: Difficult – Limited expertise and resources exist and/or achieving consensus is difficult

IV: Extremely Difficult – Expertise and resources are scarce and/or achieving consensus is very difficult

**2. Scope:**

**a: Describe the technical areas to be covered or addressed by this Document development activity.**

*(For Subordinate Standards, list common concepts or criteria that the Subordinate Standard inherits from the Primary Standard, as well as differences from the Primary Standard.)*

The proposed standard aims to develop a durability test method to evaluate DSSC/OPV/PSC device characteristics in process, especially for subtropical warm and humidity environment either indoors or outdoors. This activity will develop an evaluation principle and guideline for DSSC/OPV/PSC industries to follow and speed up the packaging design of DSSC/OPV/PSC products as well.

The new standard will specify:

1. DSSC/OPV/PSC light soaking test evaluation indoors or outdoors
2. DSSC/OPV/PSC thermal cycle test evaluation
3. DSSC/OPV/PSC damp heat test evaluation

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**b: Expected result of activity**



- New Standard or Safety Guideline (including replacement of an existing Standard or Safety Guideline)
- New Subordinate Standard to an existing Standard or to a new Primary Standard to be developed concurrently with this new Subordinate Standard
- New Preliminary Standard
- Major revision to an existing Standard or Safety Guideline
- Line-item revision to an existing Standard or Safety Guideline
- Line-item revision to two or more existing Standards or Safety Guidelines
- Reapproval of a Standard or Safety Guideline
- Removal of a Standard or Safety Guideline
- Withdrawal of a Standard or Safety Guideline
- Reinstatement of a Standard or Safety Guideline
- Publication of an existing Standard or Safety Guideline as an American National Standard
- New Auxiliary Information
- Modification of existing Auxiliary Information

**For a new Subordinate Standard, identify the Primary Standard here:** \_\_\_\_\_

For revision of existing Standard(s) or Safety Guideline(s), identify the Standard(s) or Safety Guideline(s) that are to be revised here: \_\_\_\_\_, and identify which parts of the Standard(s) or Safety Guideline(s) that are to be revised. (Check all that apply.)

- Modification of an existing part of Standard(s) or Safety Guideline(s) including Appendices, Complementary Files, and Supplementary Materials**
- Addition of one or more Appendices or Complementary Files to an existing Standard or Safety Guideline**
- Addition of one or more Related Information sections or Various Materials to an existing Standard or Safety Guideline**
- Revision or addition of one or more Subordinate Standards to an existing Primary Standard**

**For Standards, identify the Standard Subtype below:**

- Classification
- Practice
- Test Method
- Miscellaneous (describe:)
- Guide
- Specification
- Terminology

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### 3. Projected Timetable for Completion:

**a: General Milestones**

- a. Activity Start: 2020.9.18
- b. 1<sup>st</sup> Draft by: 2020.12.1
- c. (Optional) Informational Ballot by: 2020.12.10
- d. Letter Ballot by: 2020.12.10
- e. TC Chapter Approval By: 2020.12.25

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### 4. Liaisons:

**a: List SEMI Global Technical Committees, TC Chapters, Subcommittees, or Task Forces in your or other Regions/Locales that should be kept informed regarding the progress of this activity.**  
(Refer to SEMI Standards organization charts and global technical committee charters as needed.)

**b: List any planned Type I Liaisons with external nonprofit organizations (e.g., SDO) that should receive Draft**



Documents from Standards staff for feedback during this activity and be notified when the Letter Ballot is issued (see Procedure Manual § 7).

**c: Intercommittee Ballots (check one):**

will be issued – identify the recipient global technical committee(s): \_\_\_\_\_

will not be issued

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**5. Safety Considerations:**

**The resulting Document is expected (Check one):**

to be a Safety Guideline

NOT to be a Safety Guideline

**NOTE FOR 'to be a Safety Guideline':** When all safety-related information is removed from the Document, the Document is NOT technically sound and complete – Refer to § 15.1 of the *Regulations* for special procedures to be followed.

**NOTE FOR 'NOT to be a Safety Guideline':** When all safety-related information is removed from the Document, the Document is still technically sound and complete.

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**6. Intellectual Property Considerations:**

**a: For a new Standard or Safety Guideline and for any part to be modified or added in a Revision of published Standards and Safety Guidelines (Check one):**

the use of patented technology is NOT required.

patented technology is intended to be included in the proposed Standard(s) or Safety Guideline(s).

**(If the second box is checked, check one):**

Letter of Intent received

Letter of Intent not received

**b: For Revision, Reapproval, Reinstatement, or Withdrawal of existing Standard(s) and Safety Guideline(s) (Check one):**

there is no known material patented technology necessary to use or implement the Standard(s) and Safety Guideline(s)

there is previously known material patented technology necessary to use or implement the Standard(s) and Safety Guideline(s)

**c: The body of the Document and any Appendices, Complementary Files, Related Information sections, or Various Materials that may or may not be a part of the Document by reference (Check one):**

will incorporate Copyrighted Item

the incorporation of Copyrighted Item will NOT be required

**NOTE FOR 'the use of patented technology or the incorporation of Copyrighted Item(s) is NOT required':** If in the course of developing the Document, it is determined that the use of patented technology or Copyrighted Item(s) is necessary for the Document, the provisions of *Regulations* § 16 must be followed.

**NOTE FOR 'will incorporate Copyrighted Item':** A copyright release letter must be obtained from the copyright owner prior to publication.

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**7. Comments, Special Circumstances:**



**8. TC Member Review (Check one):**

took place between (put dates here: 12/10/2020 and 12/24/2020 ) before approval at the TC Chapter Meeting, or

took place between (put dates here: MM/DD/YYYY and MM/DD/YYYY ) before approval by the GCS, or

is not required for this SNARF.

**NOTE FOR 'TC Member Review':** A TC Member Review is required by the *Regulations* for a period of at least two weeks before approval of a new, or a major revision of an existing, Standard or Safety Guideline. (See *Regulations* ¶ 8.2.1)

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**9. Approval Dates:**

TC Chapter or GCS: \_\_\_\_\_

Recorded in TC Chapter Minutes: \_\_\_\_\_

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