Stakeholder MEETING 2017

Field-Adjustable Products
Facilitators

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*DLC*

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*D+R International*
Agenda

• Stakeholder Input Process
• Current policy recap
• Call for info
• Discussion!
DLC receives requests from stakeholders

Prioritization process to identify items for development

Prioritized items are researched and drafts created

Drafts reviewed by Technical Committee and stakeholders

Drafts revised based on input

Finalize and publish policy
Stakeholder Input Process

Technical Roadmap

- Goal of providing greater transparency and predictability to DLC activities, policies, and future plans
- Field Adjustability policy targeted for Q1 of 2018
Why Field Adjustable Products?

• Growing market trend
• Allows manufacturers to achieve greater economies of scale
• Potential for greater end user satisfaction
• Provide flexibility for innovation

Industry input is crucial!
Current Policy Recap

• Explicitly field adjustable products are ineligible
  – Exception for dimming (down only)

• Some field adjustability is allowed
  – Have unique SKU for each adjustable setting
  – Adjustable products which are clearly intended to be adjusted up stream
  – Rotatable products (on some PUDs)
Have Field Adjustable Products?

Send your model numbers & spec sheets with brief description:

- What is adjusted on the product?
- What performance changes as a result?
- Who has the ability to adjust? Who is intended to adjust?
- Why was this a design consideration (as opposed to a new product)?

E-mail: pmolsick@energy-solution.com
Subject: DLC Field Adjustable Products
Discussion

(See handouts)
Discussion Session Goals

1. A better idea of the field adjustable market
   - Where it is and where it’s heading
2. Understanding of what effect field adjustable features have on product quality and performance
3. Understanding of implications on product testing and listing on the QPL
4. Ideas for how DLC can address
Discussion Session Ground Rules

• Please sign in on the Roster

• Please state your name and organization
  – At least the first two times you speak
  – Allows us take more detailed notes

• Self-police (and speak up) on any areas where you feel anti-trust issues may become problematic

• Be courteous to others!

• Don’t be afraid to speak up

• Presentations will be posted on the website (no need for photos)
Naming Conventions

- How are your field adjustable products named? Do you use different SKUs or the same?

  Carry one SKU with multiple FA aspects
  - so multiple submissions to DLC aren’t required
## Adjustable Features

- What features do you see that are field adjustable?

<table>
<thead>
<tr>
<th>Feature</th>
<th>Affected Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive current</td>
<td>Increased/decreased light output</td>
</tr>
<tr>
<td>Optical system</td>
<td>Precisely controlled light</td>
</tr>
<tr>
<td>“Non-dynamic” color</td>
<td>Proper CCT for end use</td>
</tr>
<tr>
<td>Lenses</td>
<td></td>
</tr>
<tr>
<td>Uplight/Downlight %</td>
<td></td>
</tr>
</tbody>
</table>
Adjustable Features

• What market trends do you see for each feature?

• Fewer Products/No Change/More Products
  – Drive current: More
  – Optical system: Average->More
  – Non-dynamic color: Viability unknown, but potential for more
  – Lenses: Average->More
  – Uplight/Downlight: More coming through labs
**Adjustable Features**

- What mechanisms are used to adjust each feature?

<table>
<thead>
<tr>
<th>Feature</th>
<th>Mechanisms Used (dip switch, special tool, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive current</td>
<td>Tool plugged into driver (within 1% of any output); Wireless tuner; Mechanical based on leads (w/ resistors);</td>
</tr>
<tr>
<td>Optical system</td>
<td>Screw; Flashlight style;</td>
</tr>
<tr>
<td>“Non-dynamic” color</td>
<td>Same as drive current; mechanical switch</td>
</tr>
<tr>
<td>Lenses</td>
<td>Physical replacement (w/ screw)</td>
</tr>
<tr>
<td>Uplight/Downlight %</td>
<td>Mechanical switch changing current to array; remote adjustments; Other mechanical adjustments;</td>
</tr>
</tbody>
</table>
### Adjusting Products

- Where does the adjustability typically occur?

<table>
<thead>
<tr>
<th>Location</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>All</td>
</tr>
<tr>
<td>Distributor</td>
<td>Sometimes, depending on the “type” of distributor</td>
</tr>
<tr>
<td>Installer/Contractor</td>
<td>All</td>
</tr>
<tr>
<td>Facility Manager</td>
<td></td>
</tr>
<tr>
<td>End User</td>
<td></td>
</tr>
</tbody>
</table>
Adjusting Products

• Can adjustable products be adequately programmed/adjusted at the intended level?
  – Is training offered?
  – Are products designed with training in mind?
  – Instructions can be downloaded
  – Similar to retrofit kits
Listing on the QPL

• Given the variable performance, how do you suggest DLC represent the performance on the QPL? How can the range of adjustability be shown?

• Should DLC prioritize certain PUDs for field adjustability? If so, which?
Side Effects

• What is the chance that field adjustable products provide less energy savings due to poor/incorrect installation/adjustment?

• How can differing wattage/savings scenarios be justified for utilities?

• Where does field adjustability and controls begin/end? Where is the line drawn?
Manufacturer Benefits

• Do you feel that adding field adjustable features adds to the overall quality of the product? If so, why?

• How will stocking more field adjustable products help supply chain efficiency?
Other comments/questions

Open discussion
Thank You

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