Market Monitoring, Verification and Enforcement for EELA

Market Verification of Lighting Products in Sweden

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Presentation Outline

• Who we are
• Planning of Market Verification and Enforcement (MVE)
• Alternative activities
• National level
• International collaboration
• Benefits of the MVE
• Proposed MVE structure for EELA region
About the Swedish Energy Agency (SEA)

• Part of the Swedish Government
• National authority for energy policy issues
• Subordinate to the Ministry of Infrastructure
• The Director-General is appointed by the Government
• Government funded
• 400 employees
• ISO 14001 (environment) and ISO 50001 (energy)
EU: ca 30 Products Regulated by MEPS and Energy Labelling
How to Work Efficiently?

Requires:

- Technical analysis of products
  - In-house testing
  - External testing
  - Technical reports (public)

- Market assessments
  - Inspection
  - Commercial data
  - Technical reports (public)

Constant loop between:

- Policy development
- Market surveillance
- Policy evaluation
Planning of MVE

- The MVE is planned annually and reported to EU
- Product categories are distributed with a long term plan
- Example:

<table>
<thead>
<tr>
<th>Product Category</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic light sources</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Office Luminaires</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Street Lights</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Connected Lighting</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decoration Lighting</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>x</td>
</tr>
</tbody>
</table>

- Parallell with the plan, additional MVE is made
Sharing of Responsibilities Internally

- **The legal department**
  - Plans the MVE
  - Formally selects products to be tested
- **The testing department (Testlab)**
  - Purchases products
  - Inspects packages
  - Tests products
  - Writes the technical PASS/FAIL report for the legal department
  - Writes market status reports for the policy department
- **The legal department**
  - Contacts the producer if the product FAILs
Activity Alternatives

• Information campaigns
  • Stake holder meetings with policy updates
  • Web page
  • Weekly email correspondence from dedicated email address (”lighting@energyagency.gov”) with both consumers, producers and distributors
  • Informing researchers about policy

• Request of documentation
  • CE-compliance
  • Data sheets
  • Test reports
Activity Alternatives

- Inspection visits to
  - Online e-commerce stores
  - Physical stores (control of available information)
- Purchase of products
  - Inspection of package information
  - Testing of product performance
Testing of Light Sources – Sphere for volume testing

- Flux (lumen)
- Power (Watt)
- Efficacy (lm/W)
- Colour Temperature
- Colour Rendering
- Flicker (PST, SVM)
- Power factor
- Total Harmonic Distortion
Near field Goniometer

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- **Directional Properties (Beam angle)**
Aging of Products

- 400 E27 sockets
- Power quality log
- Dual Timers
- 2.5h on/0.5h off for 3600h
- 3 phase 10kW power supply
- Room temperature 25°C +/- 15°C
Common findings

- Missing Documentation
  - CE-compliance
  - Data sheet
- Missing information on package
  - Lack of color temperature information
- Wrong information on package
  - Tested data out of range from package information
- Test result failing MEPS requirement
  - Lumen/W (not so common for LED)
  - Wrong Energy Class
- Test result failing other quality requirement
  - Color rendering
Effectiveness of MVE Alternatives

- Information Campaigns – Very Efficient
- Inspection of Technical Documentation – Limited Effect
- Inspection of Package Information – Very Efficient
- Testing of product performance – Very Efficient
Time usage

• Annual Planning
  • Short time, the testing department is aware of the market status and suggests products to the legal department
• Purchase of products – Rather time consuming
• Registratition and labelling of products – Short time
• Testing of products – Rather short time
• Technical reporting – Time consuming (IT and admin)
• Legal process – Very time consuming
Suggested EELA MVE

• Use pre market testing
  • Keeps laboratories operating
  • High control of market status
• Post market testing
  • Supplier guarantees in the CE-compliance document
  • MVE Authority samples the market
• Focus on system for quick technical report generation
  • Make use of integrated report generators of commercial lab equipment
• Prepare for straightforward legal procedure
• Work closely with policy developers to remove obstacles and loopholes
THANK YOU

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