

# Graphics Compliance Monitoring Program

A Utility's catalog of Hazard Alerting Devices is the first line of defense against legal liability resulting from accidents. Signs, labels and tags alert the public, employees and contractors of potential environmental hazards.





Uticom Systems, Inc. 109 Independence Way Coatesville, PA 19320 610-857-2655 F: 610-857-2986 www.uticom.net graphics@uticom.net











# Graphics Compliance Monitoring Program Assessment & Design

### Assessment

# Uticom will provide an on-site infrastructure and environmental evaluation to assess existing hazard alerting devices.

### Infrastructure Assessment

A Uticom Identification and Compliance Specialist will assess a representative collection of infrastructure to include transmission, substation and distribution equipment locations.

- Assess and evaluate current use of hazard alerting devices and associated risks.
- Provide coordination with applicable departments to ensure organizational consistency.
- Create a digital catalog of current infrastructure and hazard alerting devices.
- Conduct a needs based assessment identifying additional postings to augment protection.

### **Environmental Assessment**

Uticom will provide a detailed review of the utility's regional environmental conditions, as well as the current performance of existing posting following these steps:

- Complete a weathering study focusing on temperature, precipitation and UV effects to aid in product engineering.
- Assess physical state of existing hazard alerting devices including signs, labels, tags and other postings.
- Conduct chemical/laboratory testing to determine product construction focusing on fading, adhesion failure and breaking.
- Environmental assessment aimed at decreasing carbon footprint through engineering more durable of postings.

## Design

#### An electronic catalog of updated hazard alerting devices will be created based on industry standards.



**Upper and lower case letters: ANSI Z535.2-2007 B3.3.9** The first letter of first word in a sentence is capitalized. A single word in upper case letters provides emphasis.

Letter Size: ANSI Z535.2-2007 B3.3.13 Larger letter fonts enhance legibility at a greater viewing distance.

Separation of word message content: ANSI Z535.2-2007 B3.3.7 Using an outline format enhances readability.

Multi-lingual formats: ANSI Z535.2-2007 B5 Communicate the sign's hazard information to a broader audience.

**Multi-hazard formats: ANSI Z535.2-2007 B6** Identify the additional hazard of underground cables with an additional message panel and symbols.

**Illumination: ANSI Z535.2-2007 B3.12.1** All hazard alerting devices shall be displayed with illumination or retro-reflectorization.



# **Graphics Compliance Monitoring Program Engineering, Installation and Compliance Monitoring**

# Engineering

A complete material specification will be developed based on the applicable industry standards in addition to the unique environmental and durability requirements of the utility.

- Material selection based on environmental assessment
- Unique part number and detailed material specification
- Catalog of specifications to ensure product integrity and manufacturing consistency
- Summary material descriptions for use by procurement



#### U7000 Series **Technical Material Specification** Revised 2/14/12

- Base material: 0.007" retro-reflective sheeting, road sign grade with enclosed optical lens elements, engineering grade. Printed using automotive grade solvent based ink, thickness dry .0004" +/-.0001" with 30 micron emulsion, applied using a 158 mesh screen. Short term UV 1.0 cured inks are not acceptable.
- 2.0 Over laminate: 0.002" UV filtering PVDF over laminate from EI Dupont.
- Adhesive: 0.0015" solvent based, permanent acrylic ASTM grade D 4956 Class 1 with .007" protective liner, kraft coated one side, with back slit. After 72 hours non removable intact. Water based adhesives or film liners are not acceptable in any part of this construction. 3.0
- Durability: Minimum lifetime exterior durability of 20 -25 years with proper surface preparation. Defective materials will be replaced at no charge. Parts shall be date stamped with month and 4.0 year of manufacture.
- 5.0 Compliance: ANSI Z535.(1-5)-2011 compliant. Vendor must monitor all applicable standards and update graphics as changes occur.

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# Installation

#### Uticom will provide a detailed installation guide based on ANSI/NESC viewing distances.

- Installation matrix based on substation measurements
- Permanent installation marking kit
- Marking and development of 911 substation signs
- Detailed placement drawings for additional infrastructure

Substation Name	Gates	Total fencing	Sign Spacing	Number of signs
Ringgold Substation	1	300'	35'	16
Kingston Springs Substation	1	300'	35'	16
North Taylor Substation	2	1280'	35'	42
Dilworth Road Substation	1	700'	35'	25
Franklin Substation	1	200'	35'	11
Cantonville Substation	2	2600'	35'	80
Foster-Aiken Substation	1	700'	35'	25
Williston Road Substation	1	700'	35'	25

# Monitoring

- Uticom will continually monitor the Utility's state of compliance.
- The first year's fee includes a 12 month needs based assessment to ensure continued compliance and include the following:
  - Automatic electronic updates when regulations or standards change •
  - Annual audit report detailing status, independent lab testing, findings and/or recommendations
- An optional digital post-installation catalog is available.
- All future hazard alerting device design needs are included in the annual monitoring fee.

