

Met Towers

(Meteorological towers)

Possible hazard to low altitude flight operations

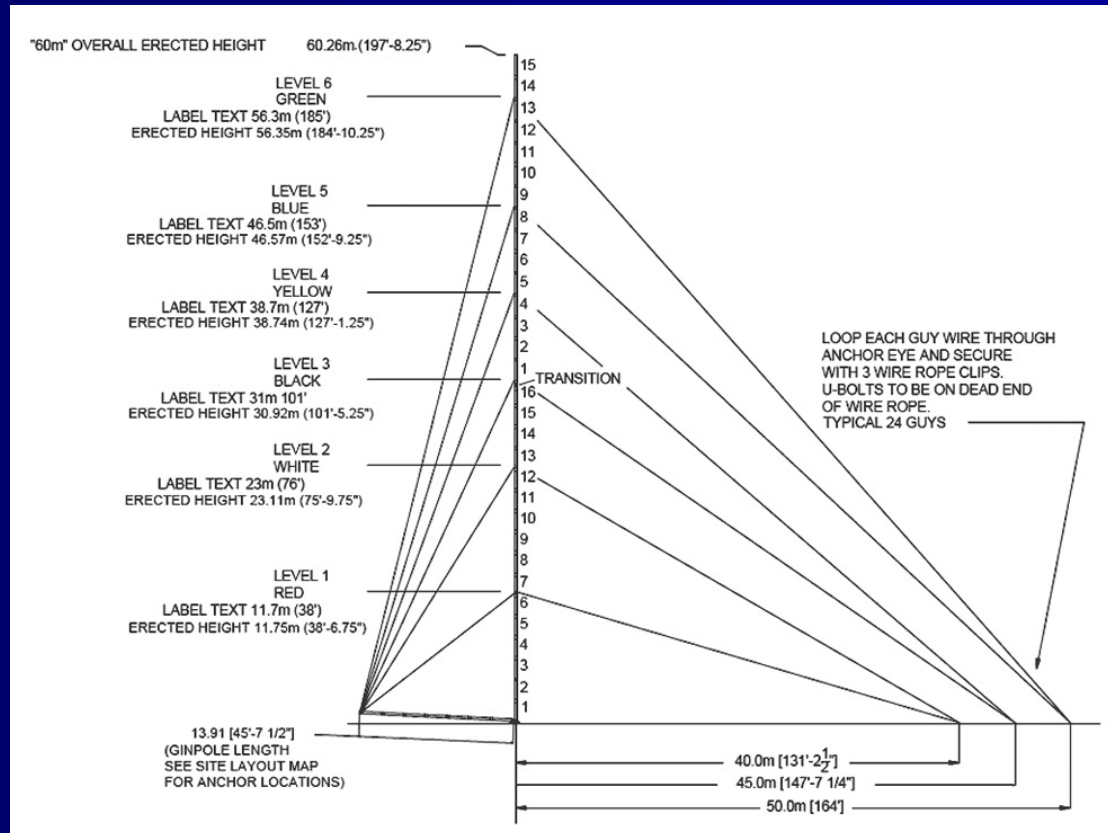
Met Towers

- MET towers (*Meteorological towers*), are used to gather wind data necessary for site evaluation and development of wind energy projects.
- They can be erected very rapidly and may be on site from a few days to up to a year or longer.

Met Towers

- Towers generally range in height from 30, 50, 60 and 80 meter tall.
- Any tower less than 200 feet in height is not required by regulation to be lighted.
- At this time there is no standardized notification system in place to indicate when and where these towers are erected.

Met Towers



Standard footprint of a tower

Met Tower Photo's

- The following Photo's were taken:
 - At Altitudes of:
 - 500 Feet AGL
 - 300 Feet AGL
 - 100 Feet AGL
 - Between: 12:15 & 12:30 PM Local
 - At a distance of 1/8th of a mile

Sachs Tower 500' North View



Sachs Tower

500' West View



Sachs Tower 500' South View



Sachs Tower 500' East View



Sachs Tower 300' North View



Sachs Tower 300' West View



Sachs Tower 300' South View



Sachs Tower 300' East View



Sachs Tower 100' North View



Sachs Tower 100' West View



Sachs Tower 100' South View



Sachs Tower 100' East View



Heins Tower

500' North View



Heins Tower

500' West View



Heins Tower

500' South View



Heins Tower

500' East View



Heins Tower

300' North View



Heins Tower

300' West View



Heins Tower

300' South View



Heins Tower

300' East View



Heins Tower 100' North View



Heins Tower

100' West View



Heins Tower 100' South View



Heins Tower

100' East View



Greenslade Tower 500' North View



Greenslade tower 500' west View



Greenslade Tower

500' South View



Greenslade Tower

500' East view



Greenslade Tower 300' North View



Greenslade Tower

300' West View



Greenslade Tower

300' South View



Greenslade Tower

300' East View



Greenslade Tower 100' North View



Greenslade Tower 100' West View



Greenslade Towers

100' South View



Greenslade Tower 100' East View



Greenslade Tower Light Night OPS



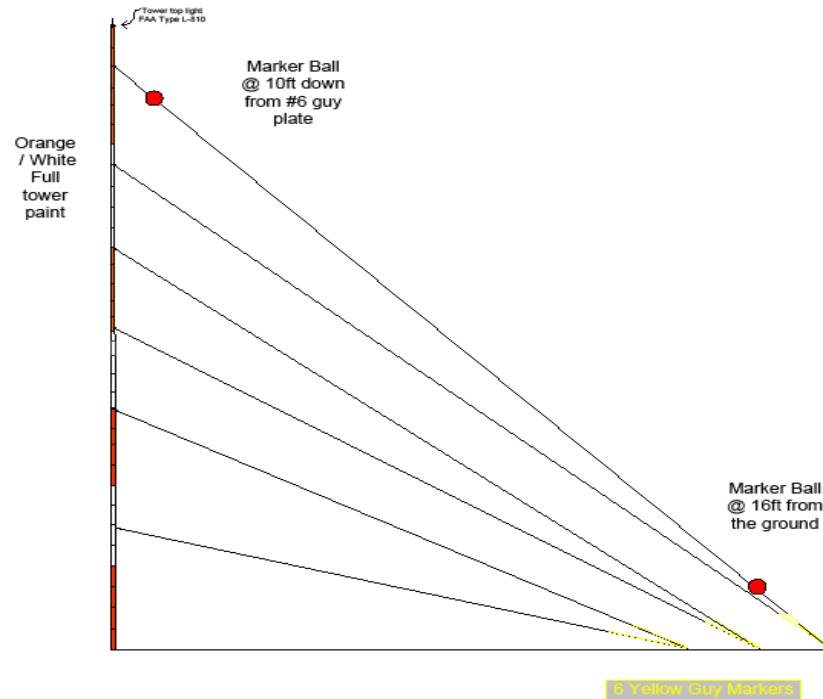
Sachs Tower Light Night OPS



DNV-GEC Tower Marking Scheme - C

DNV-GEC Tower Marking Scheme C

Proposed tower marking scheme for aerial visibility



Met Tower Light

AV70 Solar Aviation Light

Typical Applications

- Solar Airstrip Light
- Solar Barricade Light
- Solar Caution Light
- Solar Taxiway Light (ICAO)
- Solar Threshold Light
- Solar Obstruction Light

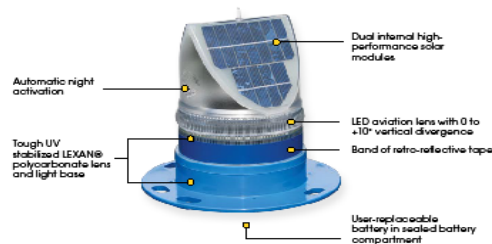
Major Benefits

- **3.7km visible range (flashing)**
- Integrated solar/battery system
- Dual internal high-performance solar modules angled to maximize solar collection
- IP68 waterproof rating
- User-replaceable battery
- ICAO Compliant AV70 Solar Taxiway Light
- Ultra-high intensity LEDs (no changing globes ever)



Accepted by Commercial Part 139 Airports under the FAA Advisory Circular AC150/5370-2E for construction and barricade installations.

The AV70 Solar Taxiway Light meets the requirements of ICAO Annex 14 Volume 1, "Aerodrome Design and Operations", 4th edition July 2004, paragraph 5.3.17.7.



The solar powered AV70 airfield light offers enormous benefits over traditional battery and hard-wired airfield lights including low maintenance and no underground wiring.

These completely self-contained LED lights are designed to suit a range of aviation and general applications including emergency airstrip, caution, taxiway, and threshold lighting.

The unit has two high-performance solar modules mounted within the lens, which maximize solar collection and provide reliable operation in a range of environment conditions.

The focal plane of the light is designed to provide a vertical divergence of between 0 and +10 degrees, and the user-replaceable battery ensures a service life of up to 12 years.

The AV70 is made from tough, durable UV stabilized LEXAN® polycarbonate, and incorporates an internal photodiode for automatic night activation once the ambient light threshold drops sufficiently.

Completely self-contained and able to be installed in minutes, the AV70 is the preferred choice of remote airfields throughout Australia - where the units mark indigenous airstrips, and regional council's and mining strips around the country.

AV70-CS

Optional internal RF module enables remote control of lantern, and flash synchronisation when all lights are set to the same flash characteristics.



Flight Light Inc.
2708 47th Ave.
Scotts Valley, CA 95023-3404
Ph: (916) 394-2800 Toll Free: (800) 906-3548
Fax: (916) 394-2809 Web: www.flightlight.com

Met Tower FAA Paint

5 4 3 2 1

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PRODUCTION IN PART OR WHOLE WITHOUT
FOR OF INFO SYSTEMS IS PROHIBITED.

REV	DESCRIPTION	DATE	APPROVED
A	REVISIONS	2/2007	EMB

15 ORANGE

14 ORANGE

13 ORANGE

12 ORANGE

11 ORANGE

10 WHITE

9 WHITE

8 WHITE

7 WHITE

6 WHITE

5 ORANGE

4 ORANGE

3 ORANGE

2 ORANGE

1 ORANGE

ITEM NO.	PART NUMBER	QTY.
1	S4073_TUBE_BASE_FLARED_LANCED_DRILLED_ORANGE_10INX87	1
2	S4075_TUBE_FLARED_LANCED_ORANGE_10INX87TV2	7
3	S4076_TUBE_FLARED_LANCED_WHITE_10INX87TV2	7
4	S4074_TUBE_FLARED_LANCED_WHITE_10INX73TV2	1
5	S4072_ADAPTER-TOWER TRANSITION SECTION, 10IN-BIN, GALVANIZED, WHITE	1
6	S4077_TUBE_FLARED_LANCED_ORANGE_8INX87	10
7	S4078_TUBE_FLARED_LANCED_WHITE_8INX87	5

FAA COMPLIANT
PAINTED VERSION

16 WHITE ——— TRANSITION - WHITE

15 WHITE

14 WHITE

13 WHITE

12 ORANGE

11 ORANGE

10 ORANGE

9 ORANGE

8 WHITE

7 WHITE

6 WHITE

5 WHITE

4 ORANGE

3 ORANGE

NOTES:

1. PAINT SCHEME DERIVED FROM FAA AC70/7460-1K (CANADIAN VERSION CAR 621-19).
2. TOWER DIVIDED INTO SEVEN SECTIONS, ROUNDED TO THE NEAREST WHOLE TUBE.

Met Tower Billing



Pioneer Windworks LLC
222 North Elm Street
La Farge, WI 54639
608-333-7041

Invoice

Date	Invoice #
8/31/2009	299

PAID

Bill To
PGO Wind

Project	P.O. No.	Terms
Olmsted CTY met		Net 30

Description	Qty	Rate	Amount
NRG 60m XHD Tall Tower Kit: Includes Logger, (6) #40 Calibrated Anemometers, (2) #200 Vane, Temp Sensor, Cables and Grounding.		14,568.75	14,568.75T
Digital iPack - CDMA or GSM depending on coverage.		1,332.00	1,332.00T
Met tower visibility package - optimum guy-line marking to deter collisions with machinery.		320.00	320.00T
NRG complete tower painting to FAA specs	1	2,800.00	2,800.00T
NRG High Visibility guy-line ball markers	2	439.38	878.76T
Avlite AV70 - top-of-tower light - includes materials/labor to create mount		495.00	495.00T
NRG Screw-in Anchor - 3 extra needed at winch	3	30.00	90.00T
Equipment Subtotal			20,484.51
Professional Met Tower Installation: Installation includes standard NRG anchor setting in normal soils, sensor mounting per customer specifications, programming of data logger and iPack, tower erection, on-site testing and commissioning, guy wire safety markers, and site commissioning report.		5,750.00	5,750.00T
Subtotal			
Sales Tax (0.0%)			
Total			



Pioneer Windworks LLC
222 North Elm Street
La Farge, WI 54639
608-333-7041

Invoice

Date	Invoice #
8/31/2009	299

PAID

Bill To
PGO Wind

Project	P.O. No.	Terms
Olmsted CTY met		Net 30

Description	Qty	Rate	Amount
Cell Phone Service: 12 months prepaid @ \$50/month plus \$65 set up fee		665.00	665.00T
Lodging @ \$70/room/night - 2 rooms, 1 night	2	70.00	140.00T
Meals @ \$30/day/person - 4 people, 2 days	8	30.00	240.00T
Roundtrip mileage from La Farge, WI @ \$1.25/mile	268	1.25	335.00T
Labor and expenses subtotal			7,130.00
Prepaid Installation Deposit of \$20,500.00			-20,500.00
Subtotal			\$7,114.51
Sales Tax (0.0%)			\$0.00
Total			\$7,114.51