# EMPIDEFENSE

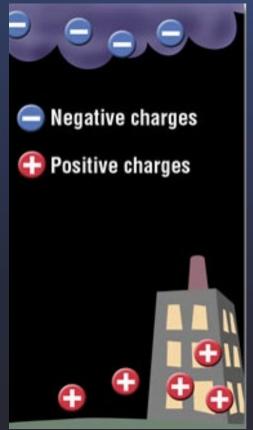
### **Product Specifications**



The CMCE120 is the most advanced lightning protection device on the market and positioned to be the new standard in global lightning protection.

The CMCE120 continuously balances the protected areas electromagnetic field — draining excess current harmlessly into the ground — eliminating upward streamers — preventing the development of lightning within 393 ft radius.

### The Development of Lightning

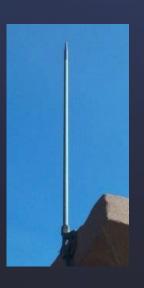






### **Technology Comparison**

#### Collection vs. Suppression



#### **Air Terminal**

- Charges concentrate at points
- Makes itself a target
- Encourages the development of lightning
- Coverage: Requires multiple devices



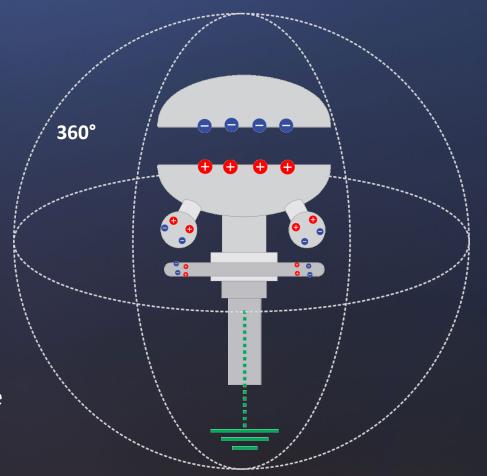
#### **CMCE**

- Excess charges are drained to Earth
- Maintains balanced electromagnetic field
- Eliminates the development of lightning
- Coverage: 393 ft R

## **Operating Principles**

The CMCE absorbs charges from all directions: 360°

- 1. Absorbs charges that appear in the surrounding electromagnetic field,
- 2. Arranges charges internally based on their natural form,
- 3. Creates a controlled flow of leakage current in harmless milliamperes between 50mA and 350mA in fair weather and 700mA to 1.8A in storm phase through the ground wire to the earth.





#### **Product Specifications**



**DEVICE** 6-Modified Capacitors

**COVERAGE** 393.7 ft (120 m) Radius

**DISSIPATION** Up to 900 KV/Microsecond

**DIMENSIONS** 14.5h x 9.5w inches

**WEIGHT** 17.5 lbs. (7.983 kg)

**POWER** No power required

### Installation Examples



The Avanti Company

**Dearborn Industrial Generation Facility** 

#### Background

- Plant Services Ford Motor & AK Steel Plants
- 2016 Lightning Strike to Plant Substation
- Damages
  - Repairs
  - Preventative Maintenance
  - Purchased power to maintain service levels

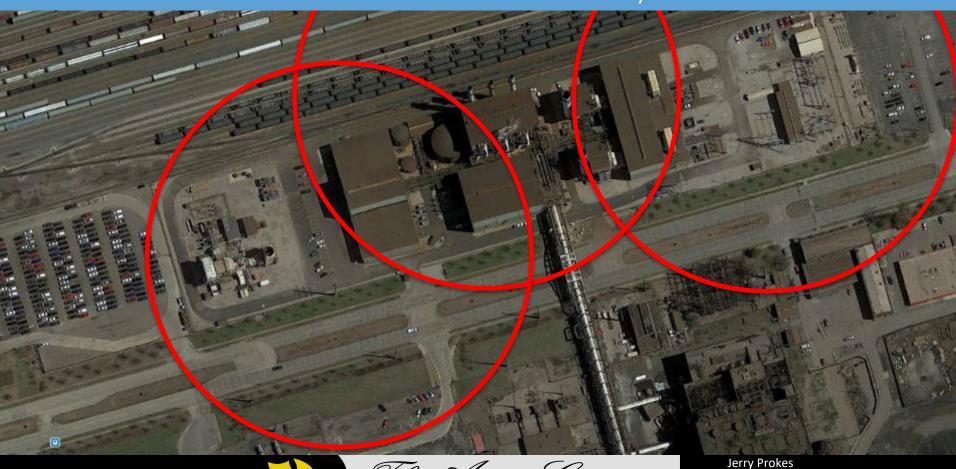
## Project Overview | DIG

**Dearborn Industrial Generation Facility** 





**Dearborn Industrial Generation Facility** 



The Avanti Company



The Avanti Company

**Dearborn Industrial Generation Facility** 



The Avanti Company

#### Project Overview DIG

**Dearborn Industrial Generation Facility** 



(305) 804-5940 jprokes@avanticompany.com

#### **Project Overview**

Crown Castle Tower Project – St. Augustine, FL

#### Background

- Largest tower ownership company in US (40,000)
- Site struck numerous times annually
  - 211' elevation (FAA Limit)
  - Damage to generators and tower equipment
- 2019 Proof of Concept "Pilot Project"
  - 12-month duration
  - no strikes product approval for Crown Castle

Crown Castle Tower Project – St. Augustine, FL







### **Pending Installation**

Cape Canaveral – Cape Canaveral, FL



Citrus Park Utility – Bonita Springs, FL



Island Water Association – Sanibel, FL



Ozark Mountain Regional PWA



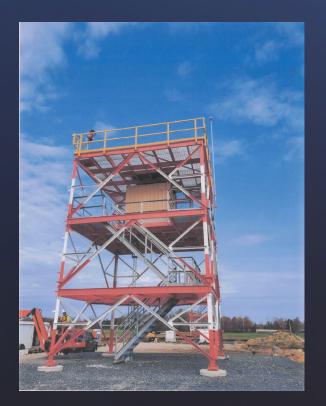


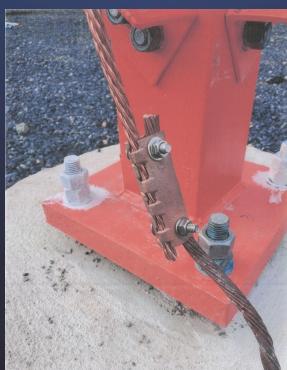


Sarasota County EOC



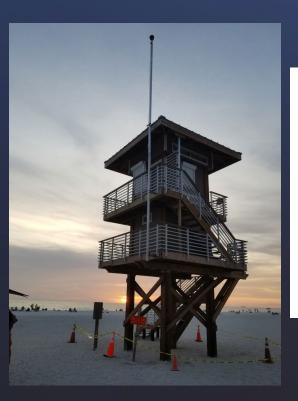
U.S. Air Force







#### Manatee County, FL



#### Manatee County installs lightning protection system on lifeguard towers

By Kimberly Kuizon | Published September 14, 2020 | Manatee County | FOX 13 News

Chief shows off lightning supressors

Kimberly Kuizon reports

**BRADENTON, Fla.** - They're hard to notice at first glance. But the circular objects at the very top of Manatee County's lifeguard stands could be called lifesavers.

"We did something that wasn't on a beach anywhere else in the state of Florida," proclaimed Chief Joe Westerman.



Huntsville International Airport (HSV) CMCE-120UL







State Trust Capital Building – Boca Raton, FL

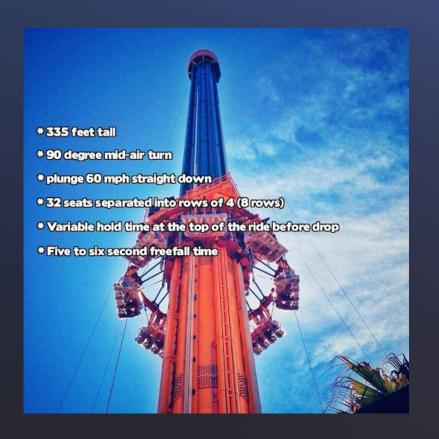




Saltwater Disposal Facilities - North Dakota



#### Falcon's Fury – Busch Gardens Tampa



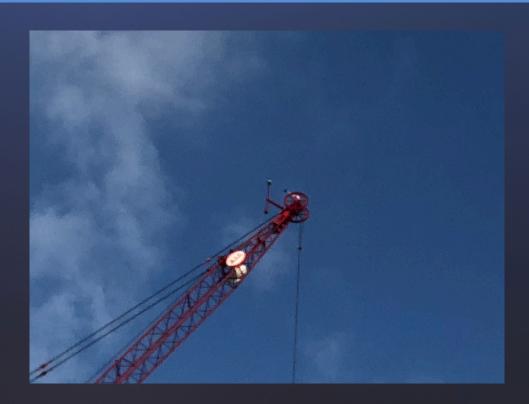


Riverhaus – Covington, KY



#### Crane Installation – Port of Tampa





USTA National Campus – Orlando, FL









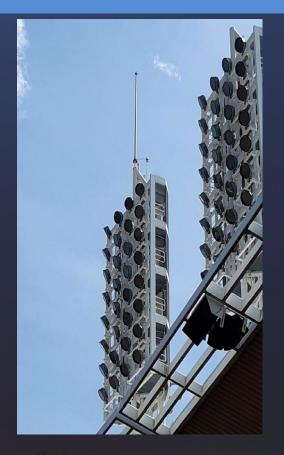


The Avanti Company

Great American Ball Park - Cincinnati, OH









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Residential Installation Example – Deer Lodge, MT



The Avanti Company

#### Marine Installation Examples









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Thank you!

