



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

REPLY TO
ATTENTION OF
CENWO-ED-DC

07 January 2000

To Whom It May Concern:

Dear Sirs:

Omaha District COE will now be specifying that a UL certified surge arrestor be applied to above ground insulating flanges applied to Jet Fuel Pipelines and located in Class 1, Division 2, Group D Hazardous Areas. There has been a desire for a UL rated product for this type of installation for quite some time, but none existed. We are now aware that one exists. The OVP manufactured by Dairyland Electrical Industries, Inc., meets these requirements.

The specification paragraph that Omaha District will include in future fueling projects that would apply to this product is included as Enclosure 1. The detail that we will show on project drawings is included as Enclosure 2.

I trust that this information will prove useful to others in their design and construction efforts for fueling projects.

Sincerely,

A handwritten signature in cursive script that reads "Kenneth E. Andersen".

Kenneth E. Andersen
Electrical Engineer
Design Branch
Omaha District Corps of Engineers

- 2 Enclosures
1. Specification
2. Detail

2.2.6.4 Isolating Gasket Kits (Insulating) for Flanges

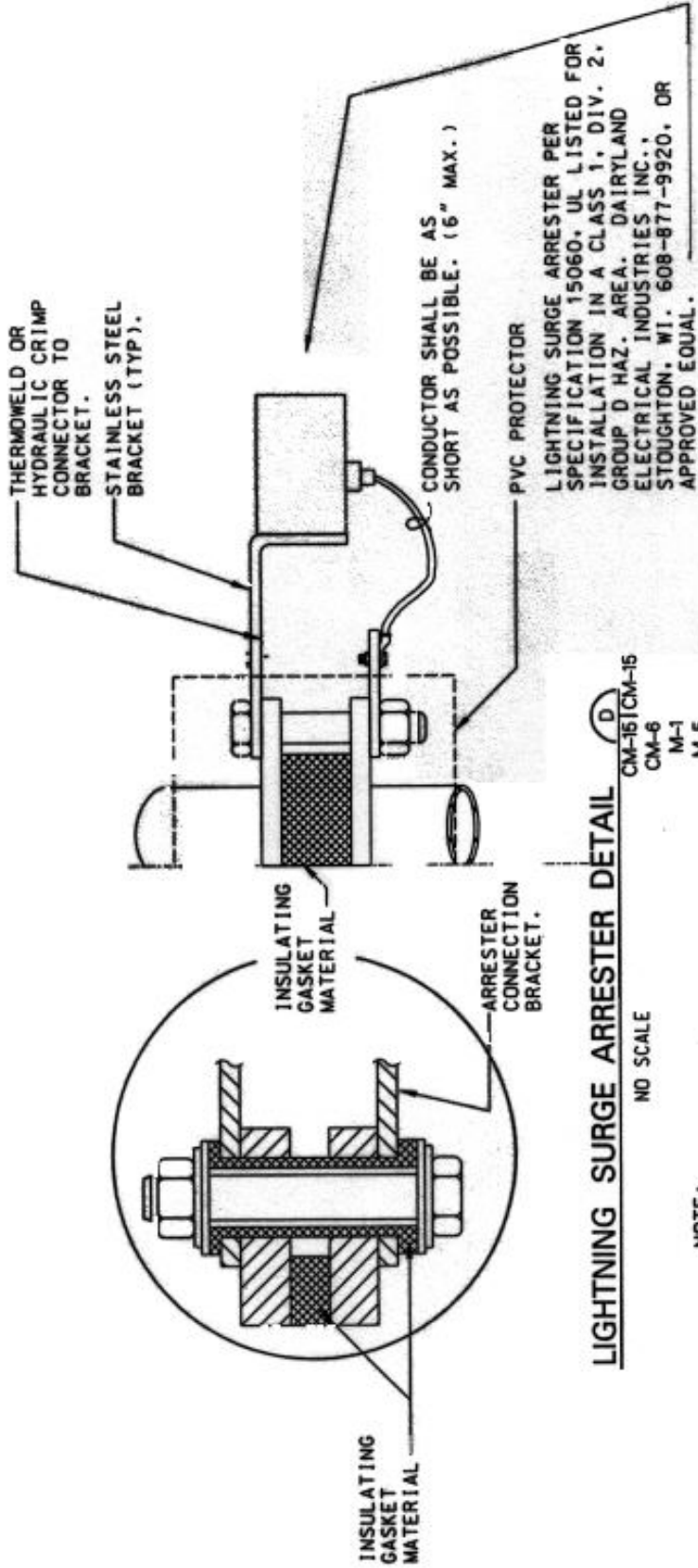
Provide ASTM D229 electrical insulating material of 1,000 ohms minimum resistance; material shall be resistant to the effects of aviation hydrocarbon fuels. Provide full face insulating gaskets between flanges. Provide full surface 0.03-inch thick wall thickness, spiral-wound mylar insulating sleeves between the bolts and the holes in flanges; bolts may have reduced shanks of a diameter not less than the diameter at the root of threads. Provide 0.125-inch thick high-strength phenolic insulating washers next to flanges and provide flat circular stainless steel washers over insulating washers and under bolt heads and nuts. Provide bolts 0.5-inch longer than standard length to compensate for the thicker insulating gaskets and the washers under the bolt heads and nuts. Exterior above grade flanges separated by electrically isolating gasket kits shall be provided with weatherproof lightning surge arrester devices. The surge arrester shall bolt across flanges separated by insulating gasket kits per detail on contract drawings. The arrester shall have the following features:

- a. Weatherproof NEMA 4 enclosure.
- b. Bidirectional and bipolar protection.
- c. Constructed of solid state components, no lights, fuses or relays shall be used that will require maintenance or replacement.
- d. Withstand unlimited number of surges at 50,000 Amperes.
- e. Maximum clamping voltage of 700 Volts based on a IEEE C62.41 8x20microsecond wave form at 50,000 Amperes peak measured at the device terminals (zero lead length).
- f. A U.L. listed arrester for installation in class 1, Division 2, Group D hazardous areas.

Install the mounting bracket and leads on the flange side of the bolt insulating sleeve and washer, and size in accordance with this schedule.

Line Size (Inches)	Bolt Size (Inches)
2	5/8
2-1/2	5/8
3	5/8
4	5/8
6	3/4
8	3/4
10	7/8
12	7/8
14	1
16	1

(Note: Allowance must be made for the 1/32-inch thickness of the insulating sleeve around the bolts when sizing the mounting lugs.)



LIGHTNING SURGE ARRESTER DETAIL

NO SCALE
 CM-15 CM-15
 CM-6
 M-1
 M-5

NOTE:

WRAP ENTIRE INSULATING FLANGE IN PVC PIPING AND SECURE WITH STAINLESS STEEL BAND CLAMP. LEAVE LIGHTNING SURGE ARRESTER EXPOSED.

LIGHTNING SURGE ARRESTER PER SPECIFICATION 15060, UL LISTED FOR INSTALLATION IN A CLASS 1, DIV. 2, GROUP 0 HAZ. AREA. DAIRYLAND ELECTRICAL INDUSTRIES INC., STOUGHTON, WI. 608-877-9920, OR APPROVED EQUAL.