### **ADDENDUM 01**

## DMC Electrical Infrastructure Upgrades Darling Marine Center; Walpole, ME University of Maine; Orono, ME

Date: September 2, 2021

To: Prospective Bidders

From: University of Maine System 5765 Service Building Orono, ME 04469-5765

This Addendum forms a part of the Contract Documents and Modifies the original Bid Documents and Specifications dated July 9, 2021. Portions of the bid and contract documents not altered by this Addendum remain in full force.

Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the bidder to disqualification.

This Addendum Consists of the following:

- Specification Changes
- Drawing Changes

## **SPECIFICATION CHANGES**

- 1. Section 00 11 00 SUMMARY OF WORK, Paragraph 1.01 Summary A. Project Description, ADD 3.
  - **3.** The primary electrical power to the lower campus has been shut down since May 2021. Since then, the buildings on the lower campus have operated with temporary generators. The University, to minimize the use of the temporary generators, and to accomplish this project as quickly as possible, has purchased the following items that will be provided to the Successful Bidder for installation:
    - a) 3800 LF of Electrical Cable, 1/0 alum conductor 15kv 133% 220 mil epr full concentric overall jacket; Okonite Spec # 163-23-3072 (Product Data Sheet Accompanying)
    - b) 2800 LF of 4" schedule 40 PVC conduit, 20-foot lengths
    - c) 10 Precast Concrete Manholes

# DRAWING CHANGES

1. Drawing ES0.0 Delete and Replace with Drawing ES0.0 dated 8/17/21.

END OF ADDENDUM 01



# **Okoguard® URO-J**

### 15kV Underground Primary Distribution Cable-Jacketed **Red Identification Stripes**

Filled Strand Aluminum Conductor/105°C Rating 100% and 133% Insulation Levels

#### Insulation

Okoguard is Okonite's registered trade name for its exclusive ethylene-propylene rubber (EPR) based, thermosetting compound, whose optimum balance of electrical and physical properties is unequaled in other solid dielectrics. Okoguard insulation, with the distinctive red color and a totally integrated EPR system, provides the optimum balance of electrical and physical properties for long, problem free service.

The triple tandem extrusion of the screens with the insulation provides optimum electrical characteristics.

The compressed conductors are filled with a water swellable agent. This construction slows the migration of water through the strands in the event of a mechanical dig-in followed by external exposure to water.

An insulation screen of ethylene-propylene rubber is extruded over the insulation. The copper concentric wires are uniformly spaced around the insulation screen. The overall polyethylene jacket provides protection against mechanical damage and corrosion. Product identification is provided through the use of three red stripes placed 120° apart in the black jacket, with an NESC lightning bolt.

#### Applications

Okoguard URO-J cables provide maximum circuit longevity in underground residential distribution systems. They can be buried directly or installed in underground ducts or conduits.

#### **Specifications**

Central Conductor: Aluminum per ASTM B-609, Class B stranded per B-231. Filled Strand: Water swellable agent meets or

exceeds ICEA T-31-610 water penetration resistance and ANSI/NEMA class A connectorability requirements.

Conductor Screen: Extruded semiconucting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Insulation: Extruded Okoguard meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and C68.5.

Insulation Screen: Extruded semiconducting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Concentric Conductor: Bare copper wires. Jacket: Black Okolene with red extruded stripes meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5 for polyethylene jackets.

#### **Product Features**

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed ICEA standards.

Meets RUS 1728.204 for cables with filled strand or solid conductor and 133% insulation level.

- 105°C continuous operating temperature.
- 140°C emergency rating.
- 250°C short circuit rating.
- Excellent corona resistance.
- Low dielectric constant and power factor.
- Screens are clean stripping.
- Exceptional resistance to "treeing".
- Filled strand conductor.
- Moisture resistant.
- Overall jacket provides extended life.
- Excellent resistance to most chemicals.
- Can be listed by UL as Type MV-90 on Special Orders.
- CSA C68.5 listed, LTGG (-40°C), SR.
- **Design Options:**
- Additional conductor sizes Copper central conductor Copper flat strap concentric neutral Product identification via colored jackets. Semiconducting jackets.
- Improved Temperature Rating.

Okoguard insulation system has been tested and gualified for operation at 105°C continuous and 140°C emergency operating temperature.

 Minimum installation temperature of -40°C.



- A Conductor-Stranded Aluminum with Filled Strand
- B Strand Screen Extruded Semiconducting EPR
- Insulation-Okoguard EPR D Insulation Screen - Extruded
- Semiconducting EPR Concentric Conductor-Bare
- Copper Wires Encapsulating Jacket-Okolene with Extruded ID Stripes & NESC lightning bolt

# Okoguard URO-J

15kV Underground Primary Distribution Cable-Jacketed

**Red Identification Stripes** 

Filled Strand Aluminum Conductor/105°C Rating 100% Insulation Level



Product Data Section 2: Sheet 36

Okoguard Insulation: 175 mils 100% Insulation Level

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FULL NEUTRAL												
▲ 163-23-2060	2(7X)	0.68	30	0.75	10X14	0.99	517	626	170	125	185	135
163-23-2066	1(19X)	0.72	30	0.79	13X14	1.03	588	698	195	145	210	155
▲ 163-23-2072	1/0(19X)	0.76	30	0.83	16X14	1.07	667	778	220	160	235	175
163-23-2075	2/0(19X)	0.80	30	0.87	14X12	1.14	793	910	250	185	270	205
163-23-2078	3/0(19X)	0.85	30	0.92	16X12	1.19	910	1029	285	210	310	230
163-23-2081	4/0(19X)	0.90	30	0.98	14X10	1.29	1131	1238	320	240	350	260
163-23-2084	250(37X)	0.97	30	1.04	16X10	1.35	1270	1418	350	270	380	295
163-23-2090	350(37X)	1.07	40	1.17	18X.1078	1.50	1603	1793	425	310	460	340
1/3 NEUTRAL												
162-23-2060	2(7X)	0.69	30	0.76	6X14	1.00	475	579	150	120	165	135
162-23-2066	1(19X)	0.72	30	0.79	6X14	1.03	506	617	175	140	185	150
162-23-2072	1/0(19X)	0.76	30	0.83	6X14	1.07	550	662	195	155	215	170
162-23-2075	2/0(19X)	0.80	30	0.87	7X14	1.11	612	726	225	180	240	195
162-23-2078	3/0(19X)	0.85	30	0.92	9X14	1.16	697	889	255	200	275	220
162-23-2081	4/0(19X)	0.90	30	0.98	11X14	1.21	794	922	285	235	310	255
162-23-2084	250(37X)	0.97	30	1.04	13X14	1.28	895	1018	305	250	330	275
162-23-2090	350(37X)	1.07	40	1.17	18X14	1.41	1138	1315	375	310	405	335
162-23-2093	500(37X)	1.20	40	1.30	16X12	1.57	1476	1691	450	370	490	405
162-23-2096	750(37X)	1.39	40	1.49	16X.0966	1.86	2066	2402	545	460	595	505
162-23-2099	1000(61X)	1.54	40	1.68	18X.1052	2.06	2645	3059	620	520	675	570

(1) Individual wire size and count may vary. The resulting combination meets the 1/3 or full neutral, size requirement.

Okonite's web site, www.okonite.com contains the most up to date information.

▲ Authorized stock Item. Available from our Customer Service Centers.

#### Ampacities

(2) Full neutral, single phase ampacities are based on ICEA P-117-734 for 90°C or 105°C conductor temperature, 25°C ambient temperature, 100% load factor, and earth thermal resistivity of RHO 90.

One third neutral ampacities are based on triplexed or triangular configuration for the same conditions stated above.

IE OKONITE COMPANY Ramsey, New Jersey 07446

# GENERAL NOTES- SITE ELECTRICAL

1. THE COMPLETE INSTALLATION SHALL CONFORM WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES, INCLUDED BUT NOT LIMITED TO APPROVED EDITIONS OF THE FOLLOWING: NATIONAL ELECTRICAL SAFETY CODE (ANSI C2): NATIONAL ELECTRICAL CODE (NFPA 70): OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND ALL AMENDMENTS THERETO. NOTHING CONTAINED IN THE DRAWINGS AND SPECIFICATIONS SHALL BE CONSTRUED TO CONFLICT WITH THESE LAWS, CODES, AND ORDINANCES, AND THEY ARE THEREBY INCLUDED IN THESE SPECIFICATIONS. OBTAIN PERMITS AND REQUEST INSPECTIONS FROM ALL AUTHORITIES HAVING JURISDICTION. COMPLY WITH ALL POWER, TELEPHONE, CABLE TELEVISION PROVIDER REGULATIONS AND STANDARDS.

2. PROVIDE UNDERGROUND ELECTRICAL WARNING TAPE: 6" WIDE PLASTIC TAPE, COLORED RED WITH SUITABLE LEGEND DESCRIBING BURIED ELECTRICAL LINES FOR ALL UNDERGROUND CONDUITS. LOCATE 12 INCHES BELOW FINISHED GRADE.

3. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED. CONTRACTORS SHALL HIRE A UTILITIES MARKING FIRM.

4. FINAL LOCATION OF NEW UTILITIES MAY VARY FROM PLANS PENDING FIELD COORDINATION.

5. PROVIDE EXPANSION FITTINGS FOR ALL UNDERGROUND CONDUIT CONNECTED TO FIXED ABOVE GROUND STRUCTURES.

6. PROVIDE A LISTED INTERSYSTEM BONDING TERMINAL AT THE SERVICE ENTRANCE. INSTALL IN ACCORDANCE WITH NFPA 70,250.94

7. REFER TO ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.

8. ALL CONDUIT AND PRIMARY CABLE SUPPLIED BY OWNER TO BE INSTALLED BY CONTRACTOR. FITTINGS & CONNECTORS ARE BY CONTRACTOR.

PROVIDE A CREDIT FOR PURCHASE AND INSTALL OF NEW TRANSFORMER









CONTRACTOR TO PROVIDE UNIT PRICE FOR ANY ADDITIONAL AREAS REQUIRING CONDUIT OVER LEDGE

