UG FEEDING OH

I. INTRODUCTION

Design, Construction & Material Standards formed a special committee to establish some basic design guidelines for construction alternatives to be used for OH to UG conversion projects. The following guidelines were established to facilitate the conversion of existing overhead lines to an underground system. The completion of the conversion will have underground systems feeding the overhead. The following standards will accomplish this with safety & reliability in mind. For situations not covered by this standard, contact the standards department.

1. For proper fuse coordination, refer to the system protection section to select the appropriate fuse for underground risers.
2. Terminators or "Pot-heads" and their mounting brackets are included with the associated underground plates.
3. The terminator bracket shall always be installed a minimum of 38 inches below the phase conductor.
4. The riser plates require a warning sign indicating that the underground system feeds the overhead. It will be necessary for these signs to clearly mark the underground cables feeding each overhead fuse cutout phase. This is accomplished by attaching a sign to the pole below each fuse cutout and at the base of the pole adjacent to pole address.
5. See the OH Distribution Standards manual for riser pole installations. For the riser plates DUOA, DUOAF, DUOF, DUOBF, DUOCF, and DUOCF, the underground pot-head jumper connects to the arrester first and then to the top of the cutout. The bottom of the cutout connects to the hot-line clamp. This jumper connection insures that the bottom of the cutout is de-energized in the event of a blown fuse.
6. Plate options are listed on each construction standard.
7. Install fuse cutouts on the street side of the pole for the DUOA plates. Install the top fuse cutout on the street side of the pole for the DUOB plates. Install the top and bottom (A&C phase) fuse cutouts on the street side of the pole for the DUOC plates.
8. Where possible, above grade enclosures (see plate UO-PM) should be utilized when there are easements available, provided the enclosure is not so close to the road or other objects where it presents a safety hazard.
9. See the UG Distribution Standards manual for manhole installations. The manhole needs to be installed as close to the base of the riser pole as possible to maintain consistency for troubleshooting. This will facilitate outage restoration by enabling JEA to know where these manholes are located, and also reduces the length of the radial feed to the riser pole. The PVC manhole should be placed within the sidewalk, where sidewalks are available. The manhole (I. MANH005) shall be sized adequately to permit removal of the elbows in the 3 point junction module (I.JUNLO001) from above the ground with a hot stick without having to enter the manhole or stand on the roadway. The junction module is allowed for use in the PVC

manhole. Warning: do not use the junction module in the pre-cast manholes or make the junction a normal open point.

10. The Engineer shall add "UG FEEDS OH" on the preliminary circuit maps. The circuit map manhole address shall begin with the letter "T", designating an underground termination (in manhole) feeding the overhead.

11. The 21kV surge arresters are included in the plate. The 21kV arresters are used on the 26.4kV system. The 4kV system requires a 3kV arrester and the 13.2kV system require a 10kV arrester. When building for a system other than the 26.4kV system, itemize out the 21kV arrester(s) – ARR LI 014 – and itemize in the 4kV arrester(s) – ARR LI 008 – or the 10kV arrester(s) – ARR LI 011.

12. Pothead bracket bolt holes:

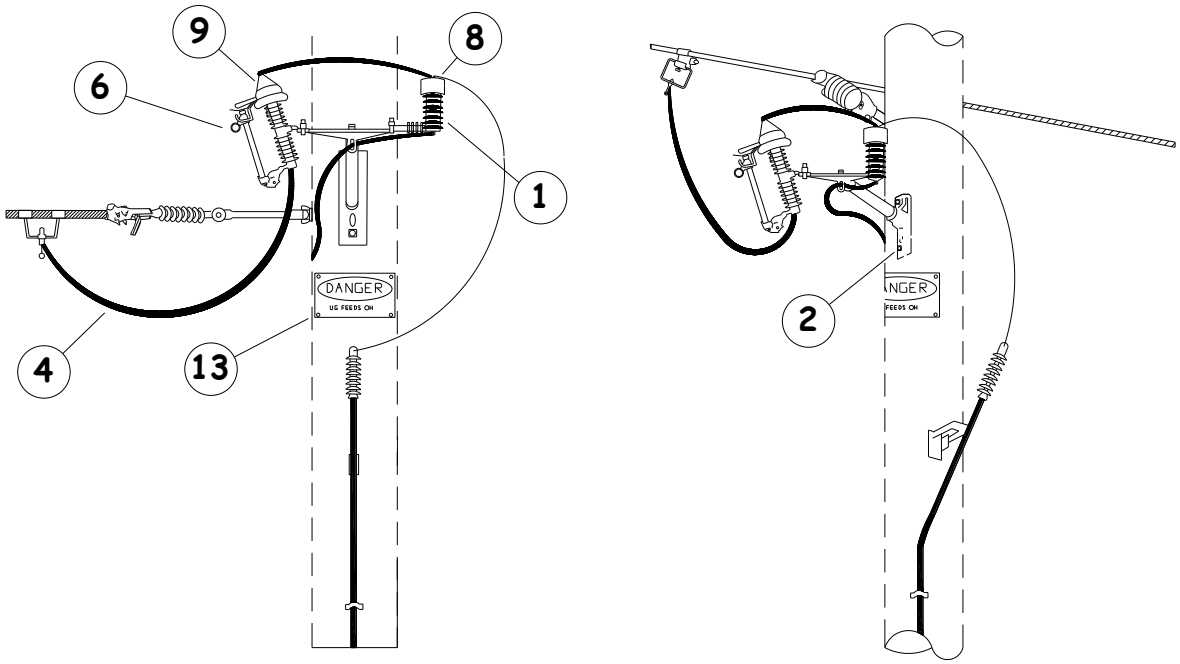
    Tangent: A phase – 58", B phase – 96", C phase – 134"

    Deadend: A phase – 63", B phase – 101", C phase – 139"

DUOAF (FIBERGLASS CONSTRUCTION)

SINGLE PHASE, UNDERGROUND FEEDS OVERHEAD TANGENT

OPTIONS: 10T, 12T, 15T, 20T, 30T, 40T, 50T, 65T, 80T, 100T
BOLT PLATE: NONE

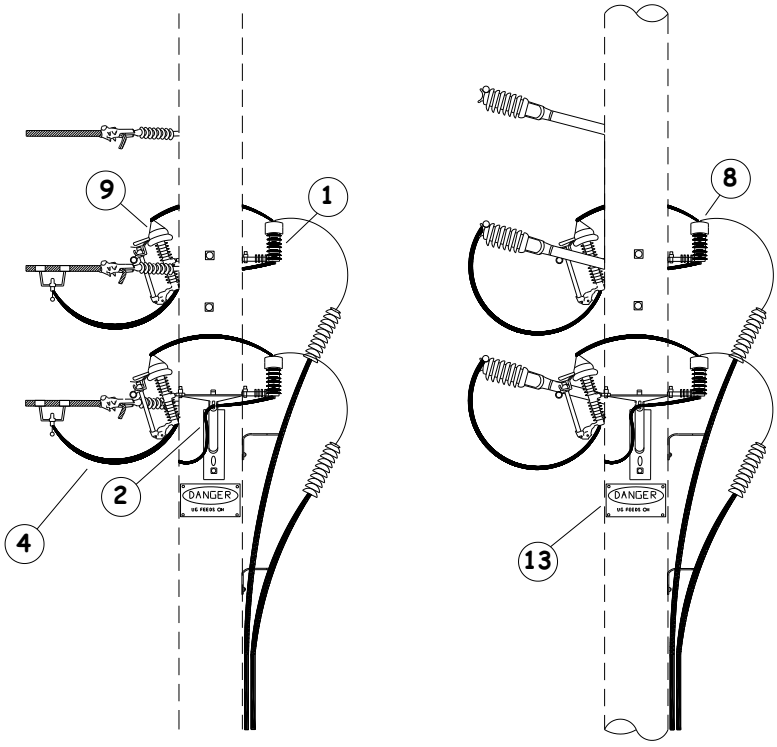


NO.	ITEM ID	QTY	DESCRIPTION
1	ARR LI 014	1	ARRESTER, LIGHTNING, POLYMER, 21kV, RISER POLE
2	BKT AC 008	1	BRACKET, FIBERGLASS, ARRESTER OR CUTOUT
3	BOL MS 035	2	BOLT, MACHINE, SQUARE HEAD, 3/4X12
4	CAI RH 010	10	CABLE, NO. 4 COVERED SOFT DRAWN COPPER, FT
5	CNN VG 003	1	CONNECTOR, VISE TYPE, 6-2 SOL. 10-2 SOL
6	CUT OT 004	1	CUTOUT, FUSED, 150kV BIL, 100 AMP, 27kV
7	FUS OH ***	1	GENERAL CODE FOR T-LINK FUSES
8	GUA AN 002	1	GUARD, ANIMAL, FOR USE WITH TRANSFORMERS AND ARRESTERS
9	GUA AN 006	1	GUARD, ANIMAL, FOR USE WITH FUSE CUTOUTS, SILICONE RUBBER
10	WAS RD 005	4	WASHER, ROUND, 2 IN. DIA., FOR 3/4 IN. BOLT
11	WAS SF 003	2	WASHER, SQUARE, FLAT, 3 IN., FOR 3/4 IN. BOLT
12	WAS SP 002	2	WASHER, SPRING, DOUBLE HELIX, FOR 3/4 IN. BOLT
13	SIG DA 009	2	SIGN, UG FEEDS OH

DUOBF

TWO PHASE, UNDERGROUND FEEDS OVERHEAD TANGENT

OPTIONS: 10T, 12T, 15T, 20T, 30T, 40T, 50T, 65T, 80T, 100T
BOLT PLATE: NONE

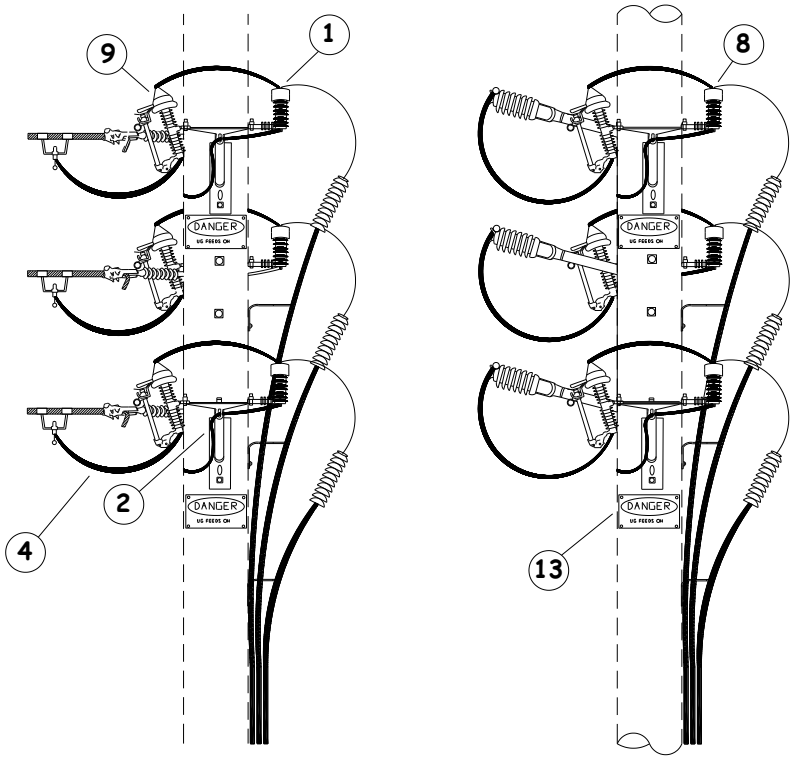


NO.	ITEM ID	QTY	DESCRIPTION
1	ARR LI 014	2	ARRESTER, LIGHTNING, POLYMER, 21kV, RISER POLE
2	BKT AC 008	2	BRACKET, FIBERGLASS, ARRESTER OR CUTOUT
3	BOL MS 035	4	BOLT, MACHINE, SQUARE HEAD, 3/4X12
4	CAI RH 010	20	CABLE, NO. 4 COVERED SOFT DRAWN COPPER, FT
5	CNN VG 003	2	CONNECTOR, VISE TYPE, 6-2 SOL. 10-2 SOL
6	CUT OT 004	2	CUTOUT, FUSED, 150kV BIL, 100 AMP, 27kV
7	FUS OH ***	2	GENERAL CODE FOR T-LINK FUSES
8	GUA AN 002	1	GUARD, ANIMAL, FOR USE WITH TRANSFORMERS AND ARRESTERS
9	GUA AN 006	1	GUARD, ANIMAL, FOR USE WITH FUSE CUTOUTS, SILICONE RUBBER
10	WAS RD 005	8	WASHER, ROUND, 2 IN. DIA., FOR 3/4 IN. BOLT
11	WAS SF 003	4	WASHER, SQUARE, FLAT, 3 IN., FOR 3/4 IN. BOLT
12	WAS SP 002	4	WASHER, SPRING, DOUBLE HELIX, FOR 3/4 IN. BOLT
13	SIG DA 009	3	SIGN, UG FEEDS OH

DUOCF

THREE PHASE, UNDERGROUND FEEDS OVERHEAD TANGENT

OPTIONS: 10T, 12T, 15T, 20T, 30T, 40T, 50T, 65T, 80T, 100T
BOLT PLATE: NONE



NO.	ITEM ID	QTY	DESCRIPTION
1	ARR LI 014	3	ARRESTER, LIGHTNING, POLYMER, 21kV, RISER POLE
2	BKT AC 001	3	BRACKET, ARRESTER/CUTOUT, SINGLE PHASE, POLE MOUNT
3	BOL MS 035	6	BOLT, MACHINE, SQUARE HEAD, 3/4X12
4	CAI RH 010	30	CABLE, NO. 4 COVERED SOFT DRAWN COPPER, FT
5	CNN VG 003	3	CONNECTOR, VISE TYPE, 6-2 SOL. 10-2 SOL
6	CUT OT 004	3	CUTOUT, FUSED, 150kV BIL, 100 AMP, 27kV
7	FUS OH ***	3	GENERAL CODE FOR T-LINK FUSES
8	GUA AN 002	1	GUARD, ANIMAL, FOR USE WITH TRANSFORMERS AND ARRESTERS
9	GUA AN 006	1	GUARD, ANIMAL, FOR USE WITH FUSE CUTOUTS, SILICONE RUBBER
10	WAS RD 005	12	WASHER, ROUND, 2 IN. DIA., FOR 3/4 IN. BOLT
11	WAS SF 003	6	WASHER, SQUARE, FLAT, 3 IN., FOR 3/4 IN. BOLT
12	WAS SP 002	6	WASHER, SPRING, DOUBLE HELIX, FOR 3/4 IN. BOLT
13	SIG DA 009	4	SIGN, UG FEEDS OH