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ANSI B
11" X 17"

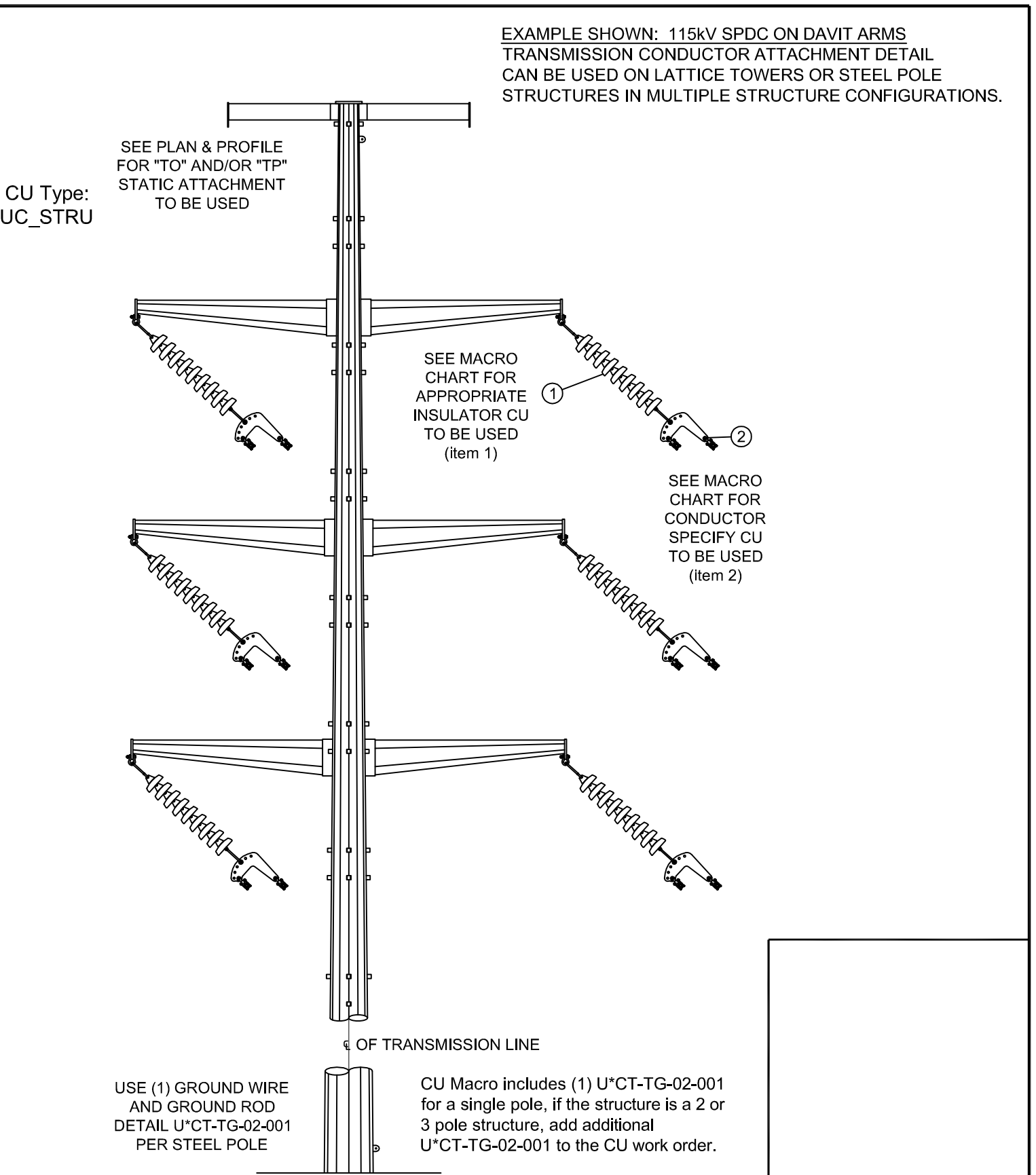
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 2 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1DBAB-IC2-A	U*CT-TS-SB17-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D5-9
		U*M-TM1DBAB-IC2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1DBAB-IC2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1DBAB-ID2-A	U*CT-TS-SB17-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1DBAB-ID2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1DBAB-ID2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1DBAB-GJ2-A	U*CT-TS-SB17-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1DBAB-GJ2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1DBAB-GJ2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2DBAB-IC2-A	U*CT-TS-SB17-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D5-16
		U*M-TM2DBAB-IC2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2DBAB-IC2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2DBAB-ID2-A	U*CT-TS-SB17-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2DBAB-ID2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2DBAB-ID2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2DBAB-GJ2-A	U*CT-TS-SB17-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2DBAB-GJ2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2DBAB-GJ2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3DBAB-IC2-A	U*CT-TS-SD17-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D8-21
		U*M-TM3DBAB-IC2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3DBAB-IC2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3DBAB-ID2-A	U*CT-TS-SD17-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3DBAB-ID2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3DBAB-ID2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3DBAB-IE2-A	U*CT-TS-SD17-IE	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3DBAB-IE2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3DBAB-IE2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3DBAB-GJ2-A	U*CT-TS-SD17-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3DBAB-GJ2-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3DBAB-GJ2-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

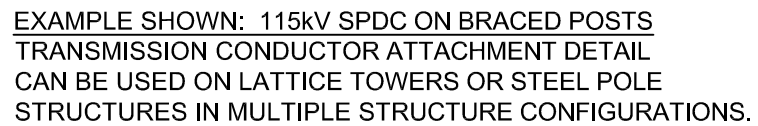
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR DOUBLE CIRCUIT ANGLE SUSPENSION SINGLE STRING SUSPENSION			Revision	
						00	
						Date	
						3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxDBAB	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016	Sheet 1	

ANSI B
11" X 17"

CU Type:
UC_STRU



SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT OR SMALL ANGLE TO 15° BRACED POST STRUCTURE

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:	2/26/2016
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TM2.23.TMxDBBB

Sheet 1

CU Type:
UC_STRU

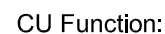
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*__).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"

	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - SINGLE IDLERS				Revision
							00
							Date
							3/1/2016
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxDBIN	Sheet 1
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016		

CU Type:
UC_STRU



For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - DUAL CLAMP JUMPER POST			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxDBJN		Sheet 1
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 2 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 24/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1DBON-IC2-B	U*CT-TS-CF40-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10
		U*M-TM1DBON-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DBON-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1DBON-ID2-B	U*CT-TS-CF40-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DBON-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DBON-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1DBON-GJ2-B	U*CT-TS-CF40-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DBON-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DBON-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2DBON-IC2-B	U*CT-TS-CF40-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17
		U*M-TM2DBON-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DBON-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2DBON-ID2-B	U*CT-TS-CF40-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2DBON-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DBON-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2DBON-GJ2-B	U*CT-TS-CF40-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2DBON-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DBON-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3DBON-IC2-B	U*CT-TS-CH56-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22
		U*M-TM3DBON-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DBON-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3DBON-ID2-B	U*CT-TS-CH56-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DBON-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DBON-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3DBON-IE2-B	U*CT-TS-CH56-IE	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DBON-IE2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DBON-IE2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3DBON-GJ2-B	U*CT-TS-CH56-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DBON-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DBON-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

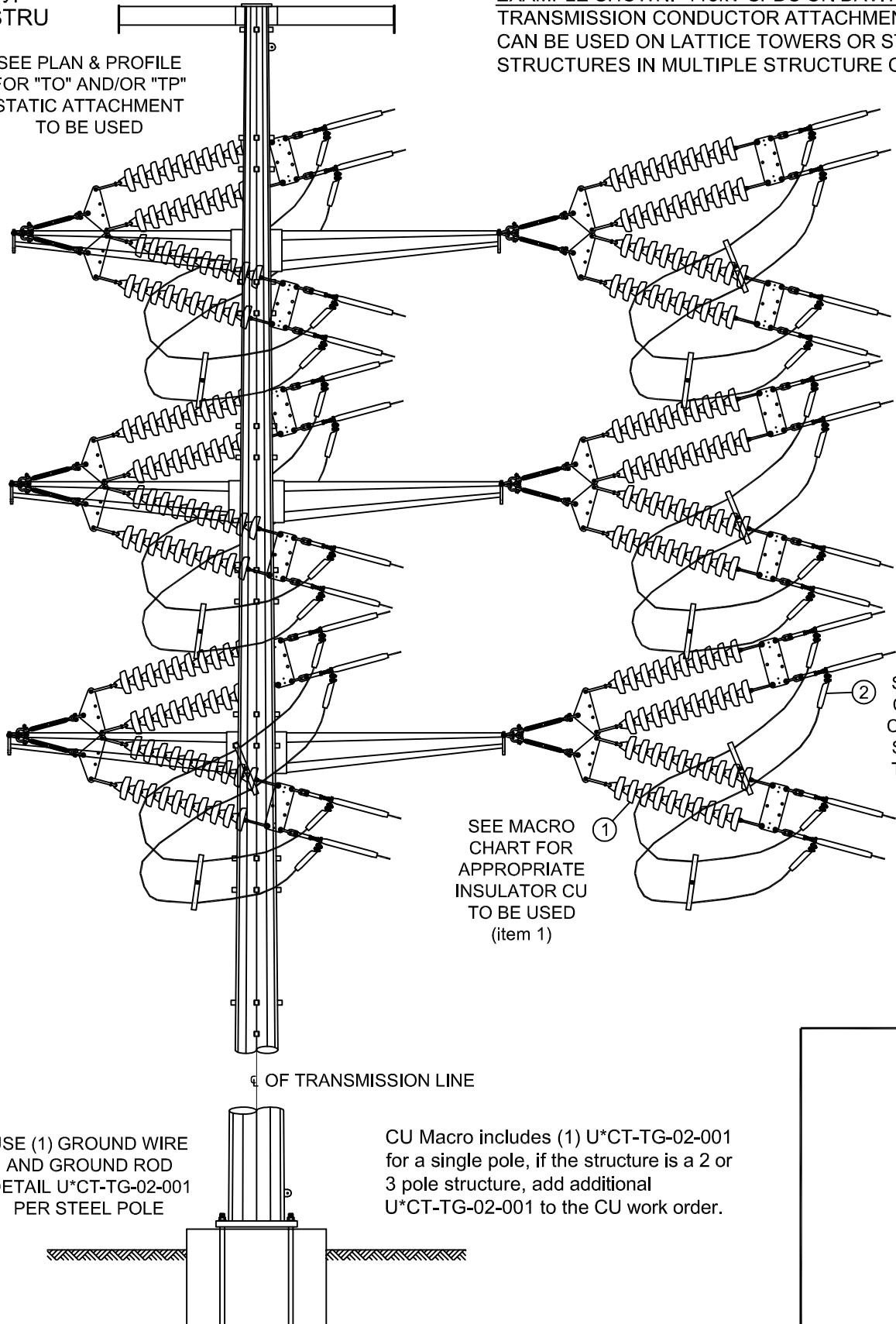
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED



EXAMPLE SHOWN: 115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - BUNDLED CONDUCTOR
DOUBLE CIRCUIT TANGENT OR ANGLE DEAD END
CDE - DOUBLE STRING DE - NO JUMPER

Revision
00
Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart
Date App.: 2/26/2016

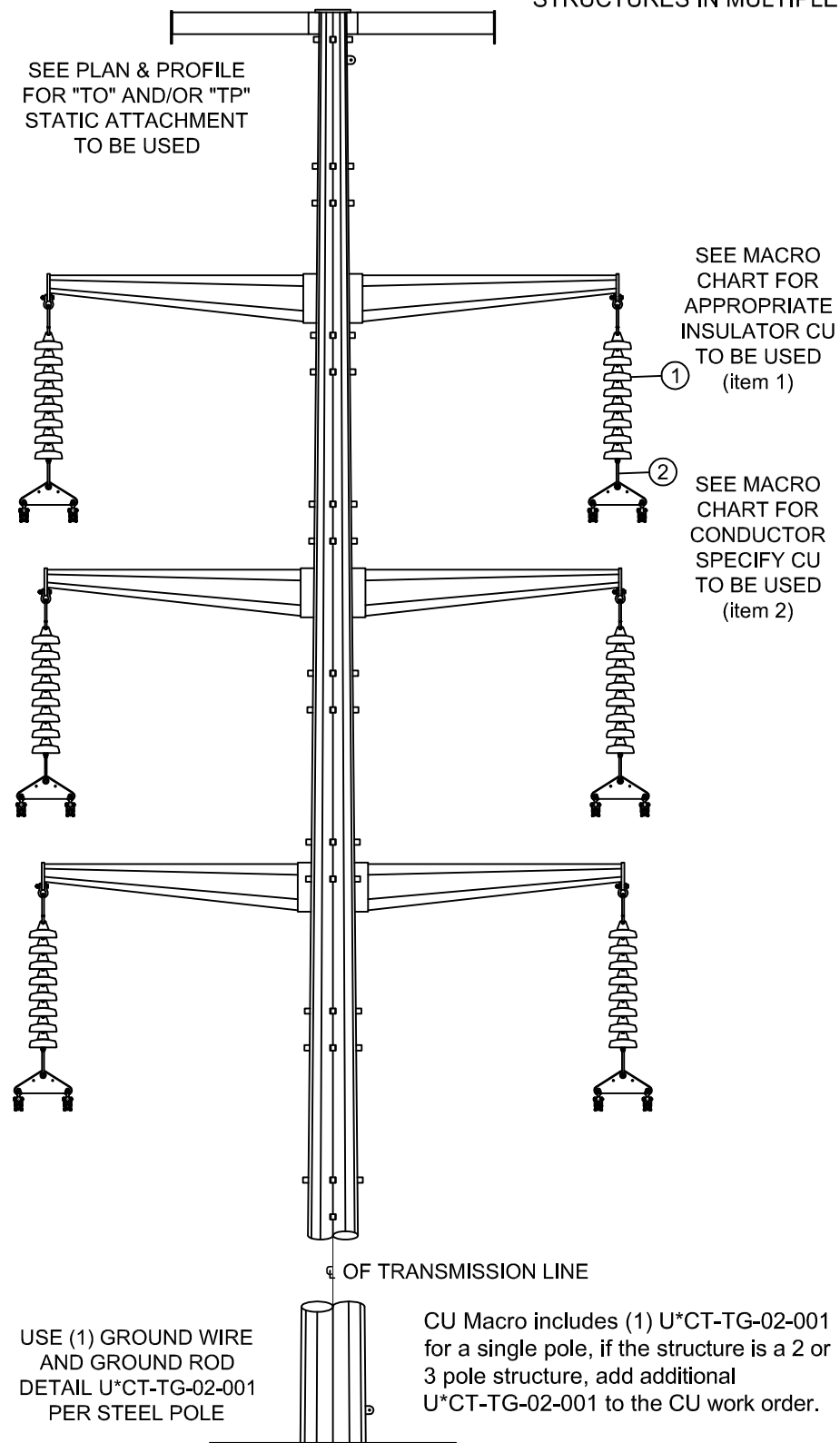
TM2.23.TMxDBON

Sheet 1

ANSI B
11" X 17"

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.



USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: $3/16" = 1'-0"$



**IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL**

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT SUSPENSION SINGLE STRING SUSPENSION

Revision
00
Date
3/1/2016

Drwn. By:	
L.A. Best	

Date Dr.:
1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

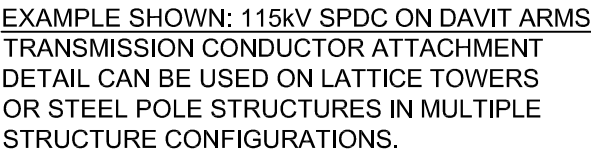
Date App.:	2/26/2016
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TM2.23.TMxDBTB

Sheet 1

ANSI B
11" X 17"

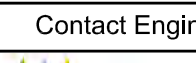
CU Type:
UC_STRU



STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

SEE SHEET 2
FOR 115KV
AND HIGHER

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR DOUBLE CIRCUIT ANGLE SUSPENSION TO 30° SINGLE STRING SUSPENSION			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxDNAA	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

EXAMPLE SHOWN: 115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR DOUBLE CIRCUIT ANGLE SUSPENSION TO 30° SINGLE STRING SUSPENSION			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxDNAA	Sheet 2	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SPECIAL APPLICATION FOR HIGHWAY AND RAILROAD CROSSINGS

CU Type:
UC_STRU

EXAMPLE SHOWN:
115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.

SEE SHEET 2
FOR 115kV
AND HIGHER

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"

IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
DOUBLE CIRCUIT ANGLE SUSPENSION TO 30°
2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxDNAE

Sheet 1

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 2 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 6/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1DNAE-IB2-B	U*CT-TS-SE16D-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-9
		U*M-TM1DNAE-IB2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNAE-IB2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM1DNAE-IC2-B	U*CT-TS-SE16D-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DNAE-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNAE-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1DNAE-ID2-B	U*CT-TS-SE16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DNAE-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNAE-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1DNAE-GJ2-B	U*CT-TS-SE16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DNAE-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNAE-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2DNAE-IC2-B	U*CT-TS-SE16D-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-16
		U*M-TM2DNAE-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DNAE-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2DNAE-ID2-B	U*CT-TS-SE16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2DNAE-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DNAE-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2DNAE-GJ2-B	U*CT-TS-SE16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2DNAE-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DNAE-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3DNAE-IC2-B	U*CT-TS-SG16D-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-21
		U*M-TM3DNAE-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNAE-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3DNAE-ID2-B	U*CT-TS-SG16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DNAE-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNAE-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3DNAE-IE2-B	U*CT-TS-SG16D-IE	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DNAE-IE2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNAE-IE2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3DNAE-GJ2-B	U*CT-TS-SG16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DNAE-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNAE-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

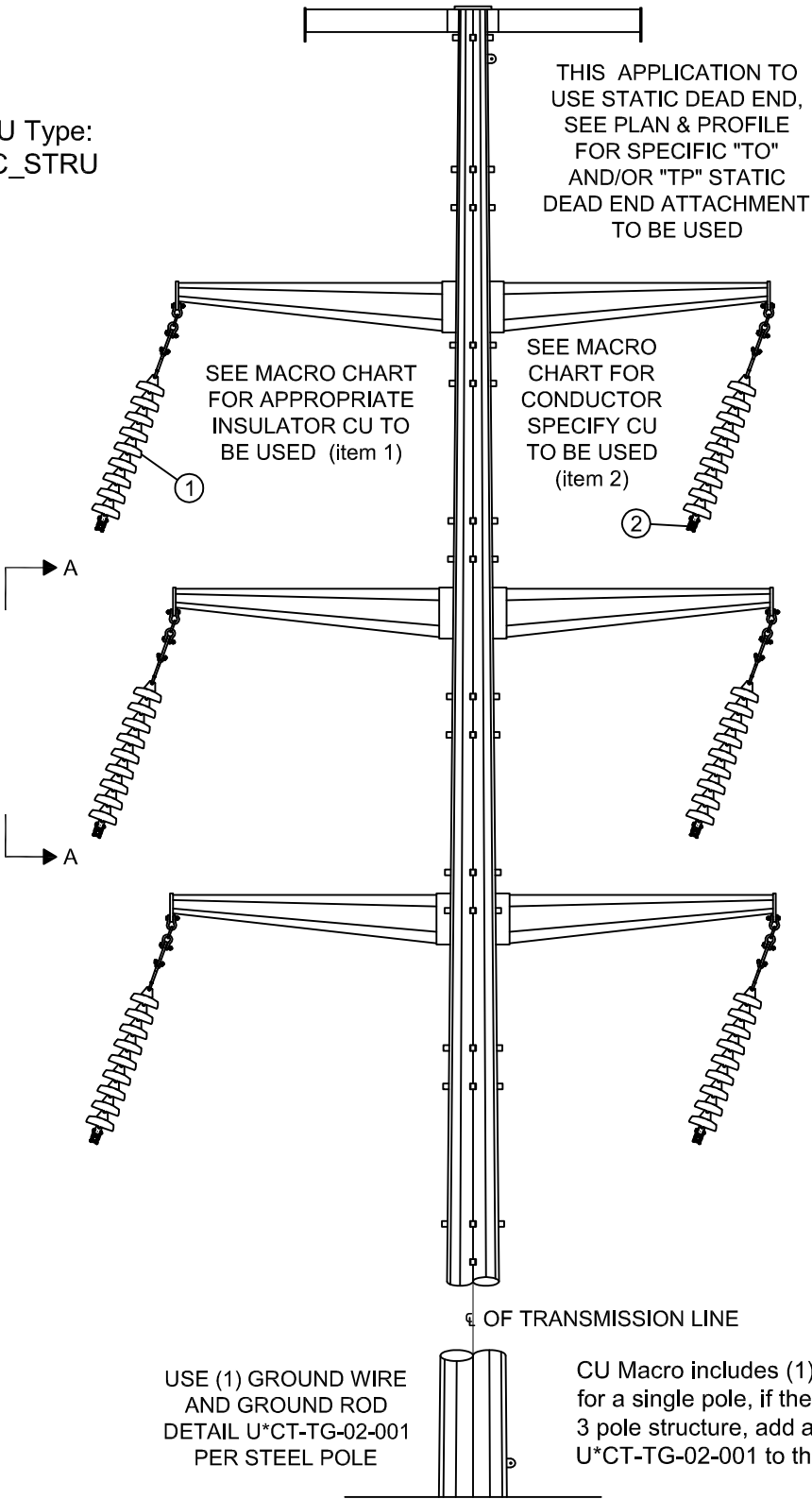
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE
STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS
MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

SPECIAL APPLICATION FOR
HIGHWAY AND RAILROAD CROSSINGS

CU Type:
UC_STRU



EXAMPLE SHOWN:
115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
DOUBLE CIRCUIT ANGLE SUSPENSION TO 30°
2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE

Revision
00
Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart

Date App.: 2/26/2016

TM2.23.TMxDNAE

Sheet 2

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 2 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 24/structure	CU for Idler String (item 1B) 6/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1DNIB-IC2-B	U*CT-TS-CE36-IC U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-9P-D5-8
		U*M-TM1DNIB-IC2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1DNIB-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1DNIB-ID2-B	U*CT-TS-CE36-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1DNIB-ID2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1DNIB-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1DNIB-GJ2-B	U*CT-TS-CE36-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1DNIB-GJ2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1DNIB-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2DNIB-IC2-B	U*CT-TS-CE36-IC U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-9P-D5-15
		U*M-TM2DNIB-IC2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2DNIB-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2DNIB-ID2-B	U*CT-TS-CE36-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2DNIB-ID2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2DNIB-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2DNIB-GJ2-B	U*CT-TS-CE36-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2DNIB-GJ2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2DNIB-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3DNIB-IC2-B	U*CT-TS-CG52-IC U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22	U*CT-TI-9P-D8-20
		U*M-TM3DNIB-IC2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNIB-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3DNIB-ID2-B	U*CT-TS-CG52-ID U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3DNIB-ID2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNIB-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3DNIB-IE2-B	U*CT-TS-CG52-IE U*CT-TS-SC10-05	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3DNIB-IE2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNIB-IE2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3DNIB-GJ2-B	U*CT-TS-CG52-GJ U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3DNIB-GJ2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNIB-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

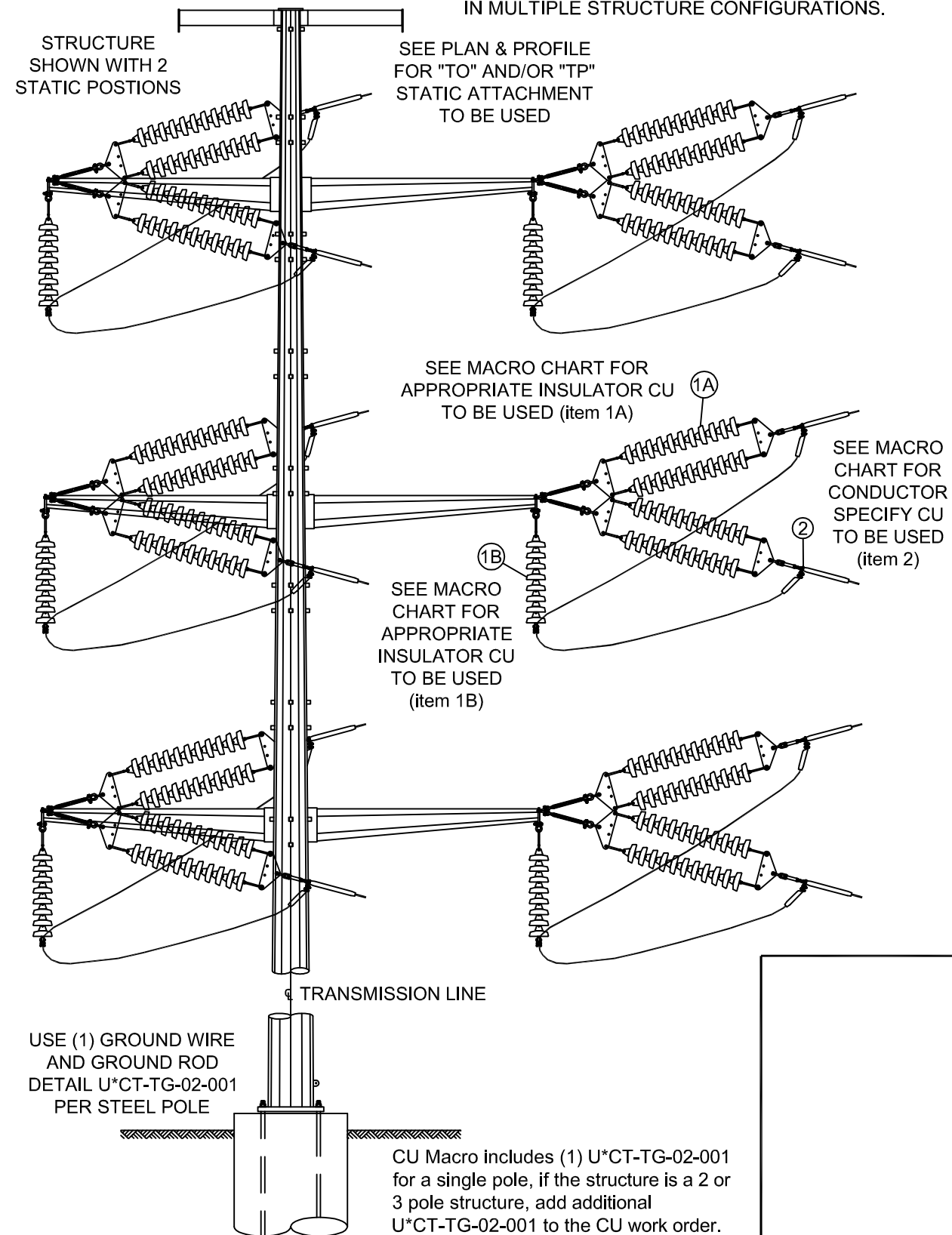
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 5/32" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - SINGLE STRING IDLER				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxDNIB		Sheet 1

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 2 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 24/structure	CU for Post Jumper (item 1B) 6/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1DNJB-IC2-B	U*CT-TS-CE36-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-1Y-HF
		U*M-TM1DNJB-IC2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1DNJB-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1DNJB-ID2-B	U*CT-TS-CE36-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1DNJB-ID2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1DNJB-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1DNJB-GJ2-B	U*CT-TS-CE36-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1DNJB-GJ2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1DNJB-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2DNJB-IC2-B	U*CT-TS-CE36-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-2Y-HF
		U*M-TM2DNJB-IC2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2DNJB-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2DNJB-ID2-B	U*CT-TS-CE36-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2DNJB-ID2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2DNJB-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2DNJB-GJ2-B	U*CT-TS-CE36-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2DNJB-GJ2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2DNJB-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3DNJB-IC2-B	U*CT-TS-CG52-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22	U*CT-TI-3Y-HF
		U*M-TM3DNJB-IC2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNJB-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3DNJB-ID2-B	U*CT-TS-CG52-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3DNJB-ID2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNJB-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3DNJB-IE2-B	U*CT-TS-CG52-IE U*CT-TS-PI01-05	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3DNJB-IE2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNJB-IE2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3DNJB-GJ2-B	U*CT-TS-CG52-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3DNJB-GJ2-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3DNJB-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

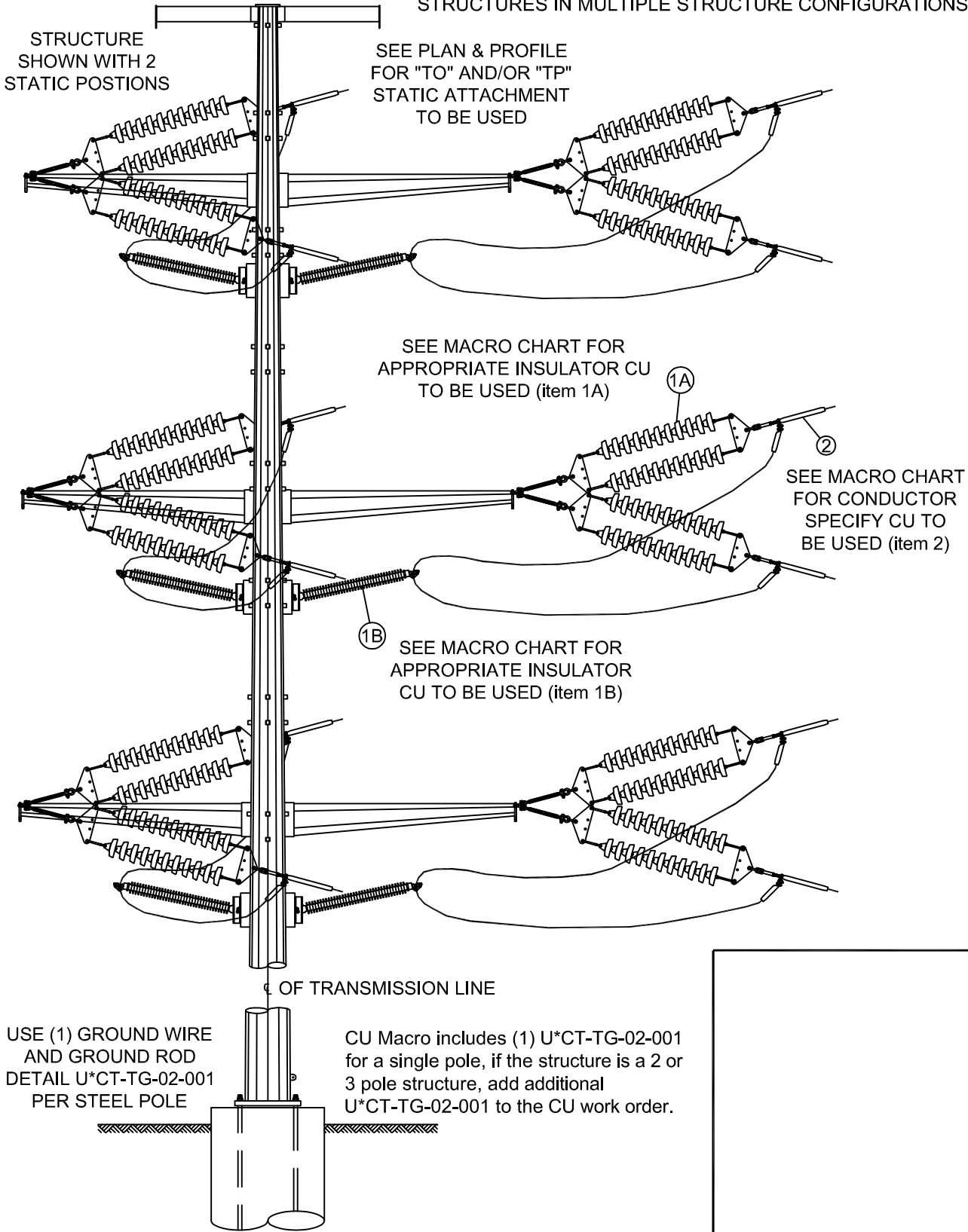
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN
BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

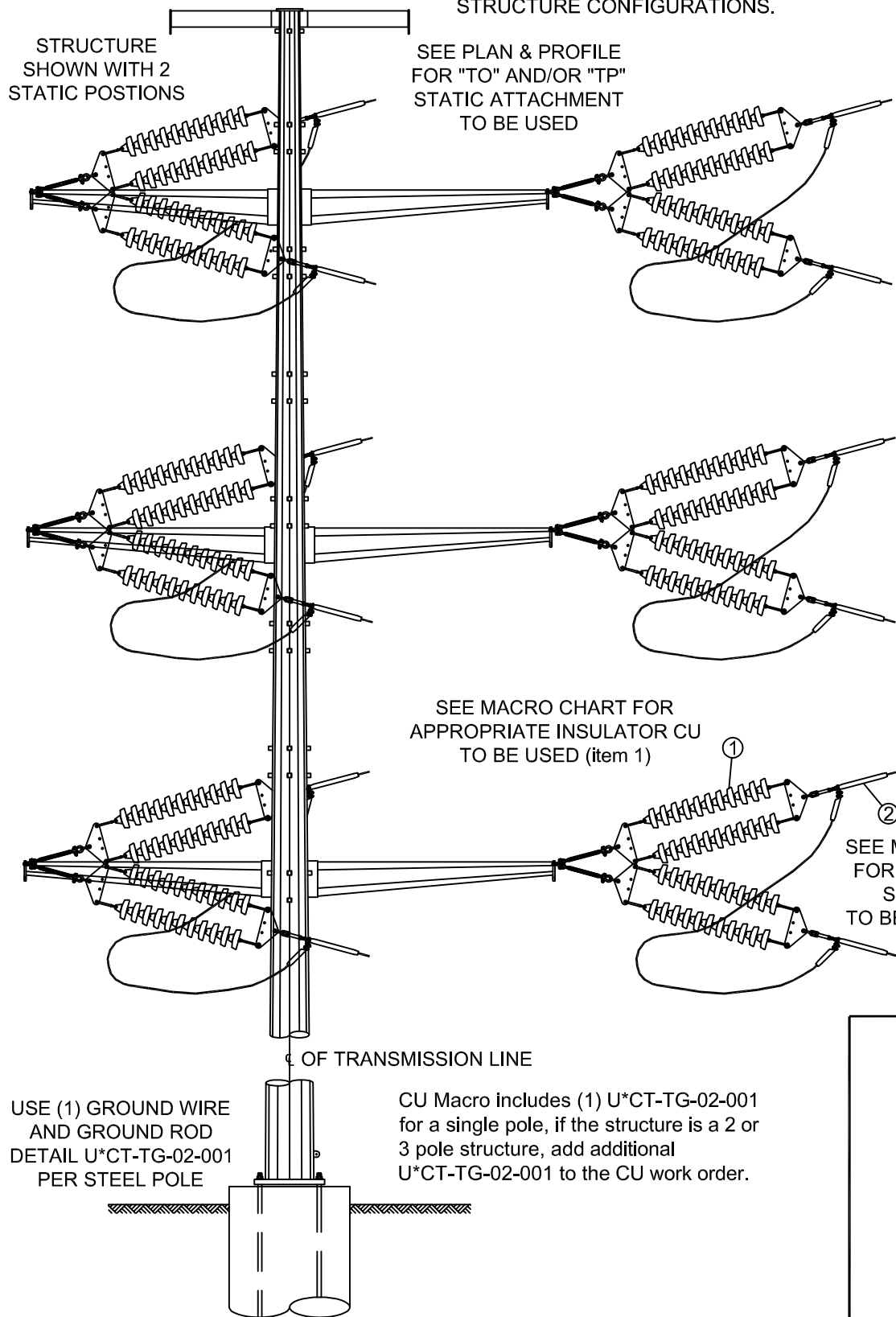


Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 5/32" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - JUMPER POST				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxDNJB		Sheet 1

ANSI B
11" X 17"

CU Type:
UC_STRU

EXAMPLE SHOWN: 115KV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED
ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.



STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*__).

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

SEE MACRO CHART FOR
APPROPRIATE INSULATOR CU
TO BE USED (item 1)

SEE MACRO CHART
FOR CONDUCTOR
SPECIFY CU
TO BE USED (item 2)

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: $5/32" = 1'-0"$



IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
DOUBLE CIRCUIT TANGENT OR ANGLE DEAD END
CDE - DOUBLE STRING DE - NO JUMPER

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.
2/26/2016

TM2.23.TMxDNOB

Sheet 1

ANSI B
11" X 17"

CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

SEE MACRO
CHART FOR
APPROPRIAT
INSULATOR C
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

4. OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

SEE SHEET 2
FOR 115kV
AND HIGHER

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
DOUBLE CIRCUIT TANGENT SUSPENSION
SINGLE STRING SUSPENSION

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:	2/26/2016
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Approved By:
Barry R. Hart

Date App.	2/26/2016
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TM2.23.TMxDNTA

Sheet 1

CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

SEE MACR
CHART FO
APPROPRIA
INSULATOR
TO BE USE
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

EXAMPLE SHOWN: 115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
DOUBLE CIRCUIT TANGENT SUSPENSION
SINGLE STRING SUSPENSION

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:	2/26/2016
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Approved By:
Barry R. Hart

Date App.	2/26/2016
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TM2.23.TMxDNTA

Sheet 2

ANSI B
11" X 17"

**SPECIAL APPLICATION FOR
HIGHWAY AND RAILROAD CROSSINGS**

CU Type:
UC_STRU

THIS APPLICATION TO
USE STATIC DEAD END,
SEE PLAN & PROFILE
FOR SPECIFIC "TO"
AND/OR "TP" STATIC
DEAD END ATTACHMENT
TO BE USED

SEE MACRO CHART
FOR APPROPRIATE
INSULATOR CU TO
BE USED (item 1)

SEE MACRO CHART
FOR CONDUCTOR
SPECIFY CU TO
BE USED (item 2)

VIEW A - A

SEE SHEET 2
FOR 115kV
AND HIGHER

OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR DOUBLE CIRCUIT TANGENT SUSPENSION 2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxDNTE	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 2 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 6/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1DNTE-IB2-B	U*CT-TS-SE16D-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-8
		U*M-TM1DNTE-IB2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNTE-IB2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM1DNTE-IC2-B	U*CT-TS-SE16D-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DNTE-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNTE-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1DNTE-ID2-B	U*CT-TS-SE16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DNTE-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNTE-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1DNTE-GJ2-B	U*CT-TS-SE16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1DNTE-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1DNTE-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2DNTE-IC2-B	U*CT-TS-SE16D-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-15
		U*M-TM2DNTE-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DNTE-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2DNTE-ID2-B	U*CT-TS-SE16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2DNTE-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DNTE-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2DNTE-GJ2-B	U*CT-TS-SE16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2DNTE-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2DNTE-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3DNTE-IC2-B	U*CT-TS-SG16D-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-20
		U*M-TM3DNTE-IC2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNTE-IC2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3DNTE-ID2-B	U*CT-TS-SG16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DNTE-ID2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNTE-ID2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3DNTE-IE2-B	U*CT-TS-SG16D-IE	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DNTE-IE2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNTE-IE2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3DNTE-GJ2-B	U*CT-TS-SG16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3DNTE-GJ2-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3DNTE-GJ2-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

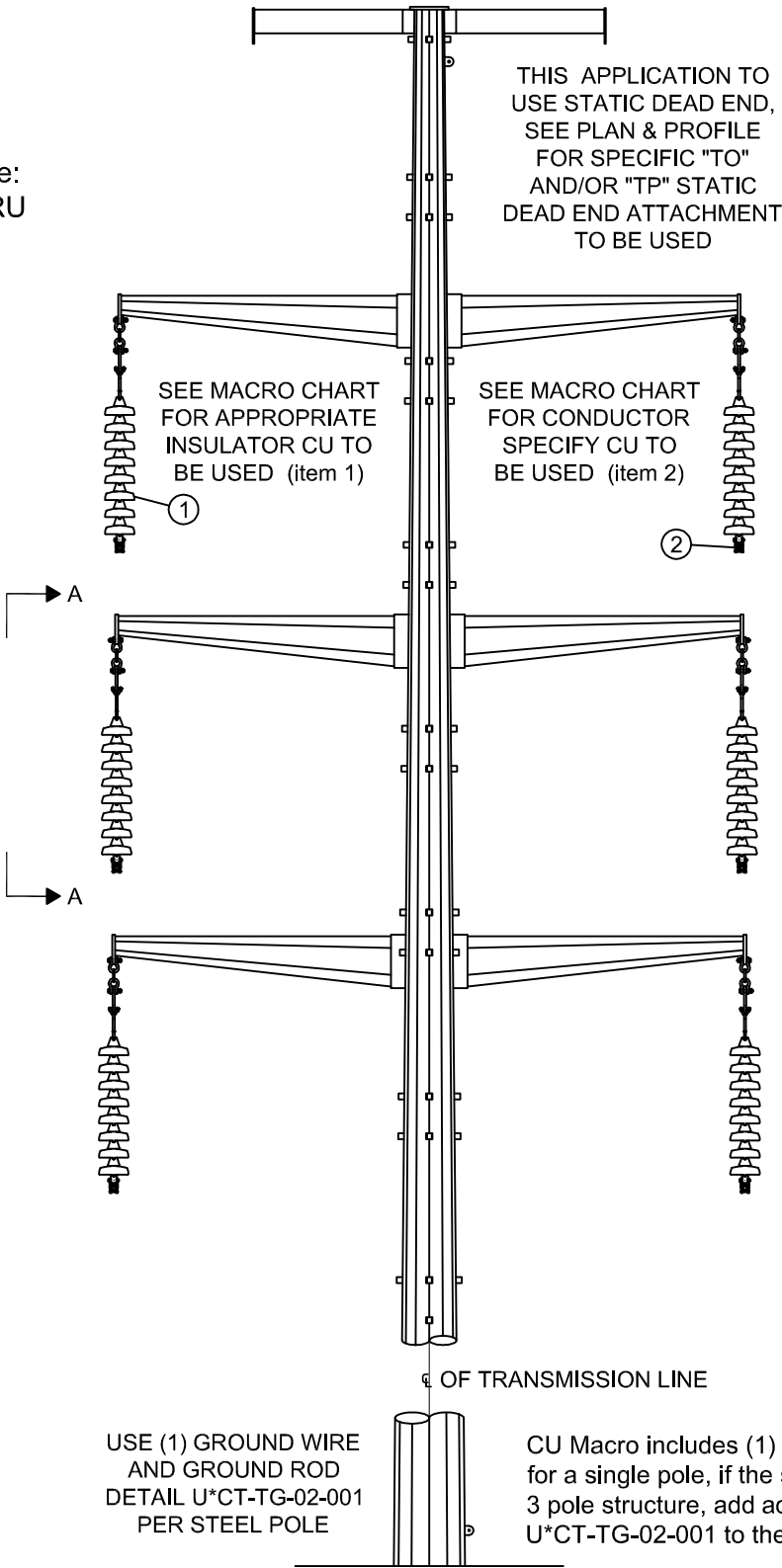
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

SPECIAL APPLICATION FOR
HIGHWAY AND RAILROAD CROSSINGS

CU Type:
UC_STRU



EXAMPLE SHOWN:
115kV SPDC ON DAVIT ARMS
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
DOUBLE CIRCUIT TANGENT SUSPENSION
2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE

Revision
00
Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart

Date App.: 2/26/2016

TM2.23.TMxDNTE

Sheet 2

ANSI B
11" X 17"

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE
STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS
MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT ANGLE SUSPENSION SINGLE STRING SUSPENSION			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSBAB	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Braced Post (item 1) 3/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SBBB-IC-A	U*CT-TS-SJ16-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-1Y-BF
		U*M-TM1SBBB-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SBBB-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SBBB-ID-A	U*CT-TS-SJ16-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SBBB-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SBBB-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SBBB-GJ-A	U*CT-TS-SJ16-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SBBB-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SBBB-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SBBB-IC-A	U*CT-TS-SJ16-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-2Y-BF
		U*M-TM2SBBB-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SBBB-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SBBB-ID-A	U*CT-TS-SJ16-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2SBBB-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SBBB-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SBBB-GJ-A	U*CT-TS-SJ16-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2SBBB-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SBBB-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SBBB-IC-A	U*CT-TS-SJ16-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-3Y-BF
		U*M-TM3SBBB-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SBBB-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SBBB-ID-A	U*CT-TS-SJ16-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SBBB-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SBBB-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SBBB-IE-A	U*CT-TS-SJ16-IE	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SBBB-IE-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SBBB-IE-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SBBB-GJ-A	U*CT-TS-SJ16-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SBBB-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SBBB-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	

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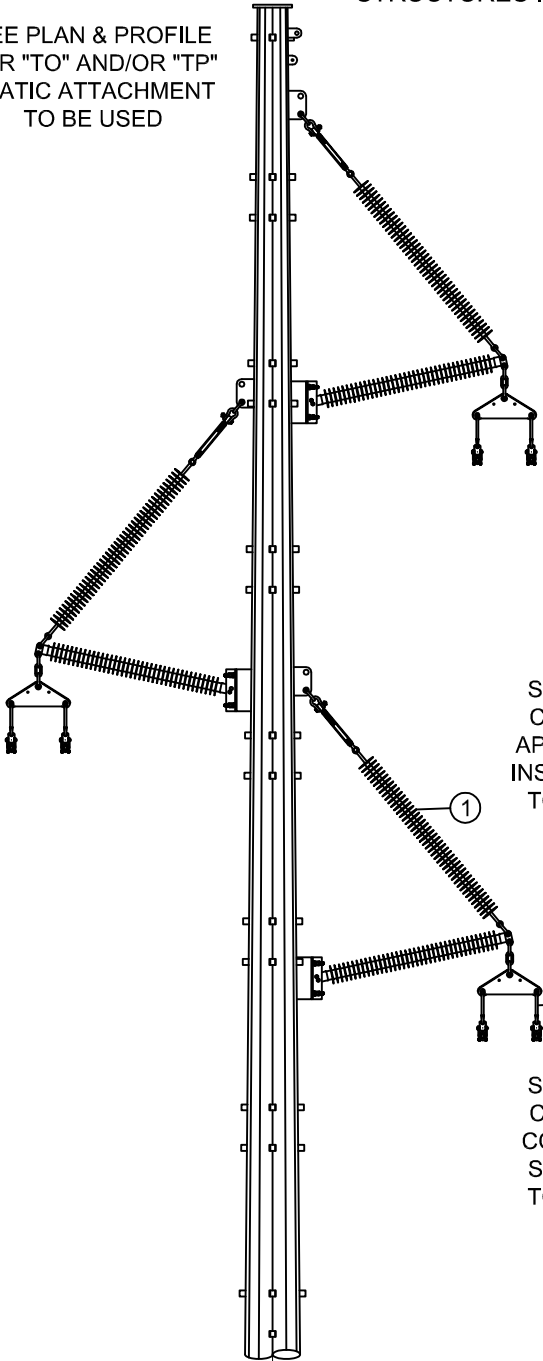
CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

EXAMPLE SHOWN: 115kV SPSC ON BRACED POSTS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.



SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
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Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - BUNDLED CONDUCTOR
SINGLE CIRCUIT TANGENT OR SMALL ANGLE TO 15°
BRACED POST STRUCTURE

Revision
00
Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart

Date App.: 2/26/2016

TM2.23.TMxSBBB

Sheet 1

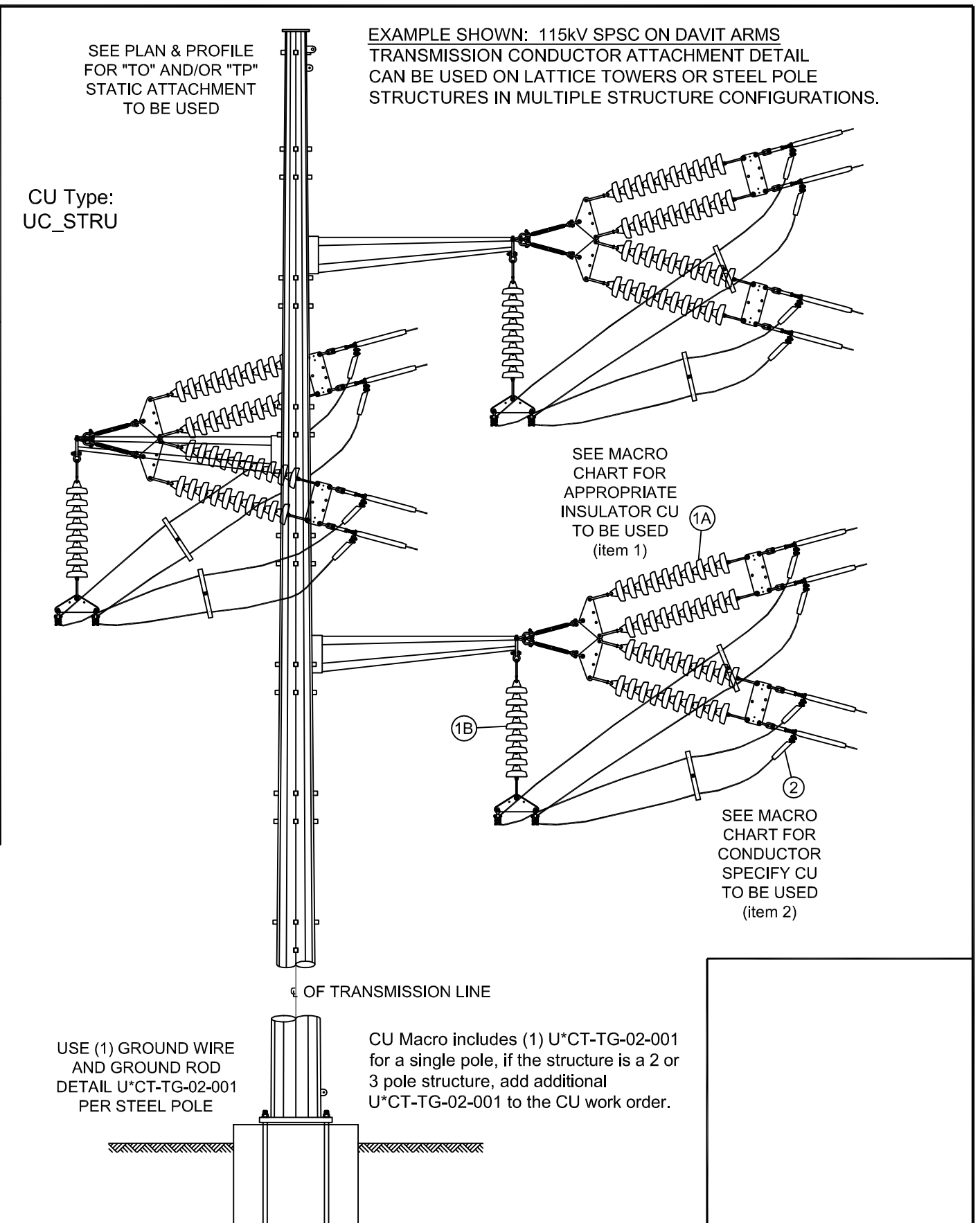
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 12/structure	CU for Idler String (item 1B) 3/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SBIN-IC-B	U*CT-TS-CF40-IC U*CT-TS-SB15-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-9P-D5-8
		U*M-TM1SBIN-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SBIN-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SBIN-ID-B	U*CT-TS-CF40-ID U*CT-TS-SB15-ID	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SBIN-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SBIN-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SBIN-GJ-B	U*CT-TS-CF40-GJ U*CT-TS-SB15-GJ	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SBIN-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SBIN-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SBIN-IC-B	U*CT-TS-CF40-IC U*CT-TS-SB15-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-9P-D5-15
		U*M-TM2SBIN-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SBIN-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SBIN-ID-B	U*CT-TS-CF40-ID U*CT-TS-SB15-ID	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SBIN-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SBIN-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SBIN-GJ-B	U*CT-TS-CF40-GJ U*CT-TS-SB15-GJ	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SBIN-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SBIN-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SBIN-IC-B	U*CT-TS-CH56-IC U*CT-TS-SD15-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22	U*CT-TI-9P-D8-20
		U*M-TM3SBIN-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SBIN-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SBIN-ID-B	U*CT-TS-CH56-ID U*CT-TS-SD15-ID	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SBIN-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SBIN-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SBIN-IE-B	U*CT-TS-CH56-IE U*CT-TS-SD15-IE	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SBIN-IE-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SBIN-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SBIN-GJ-B	U*CT-TS-CH56-GJ U*CT-TS-SD15-GJ	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SBIN-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SBIN-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - SINGLE STRING IDLER				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSBIN		Sheet
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			1

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A)

1A

1B

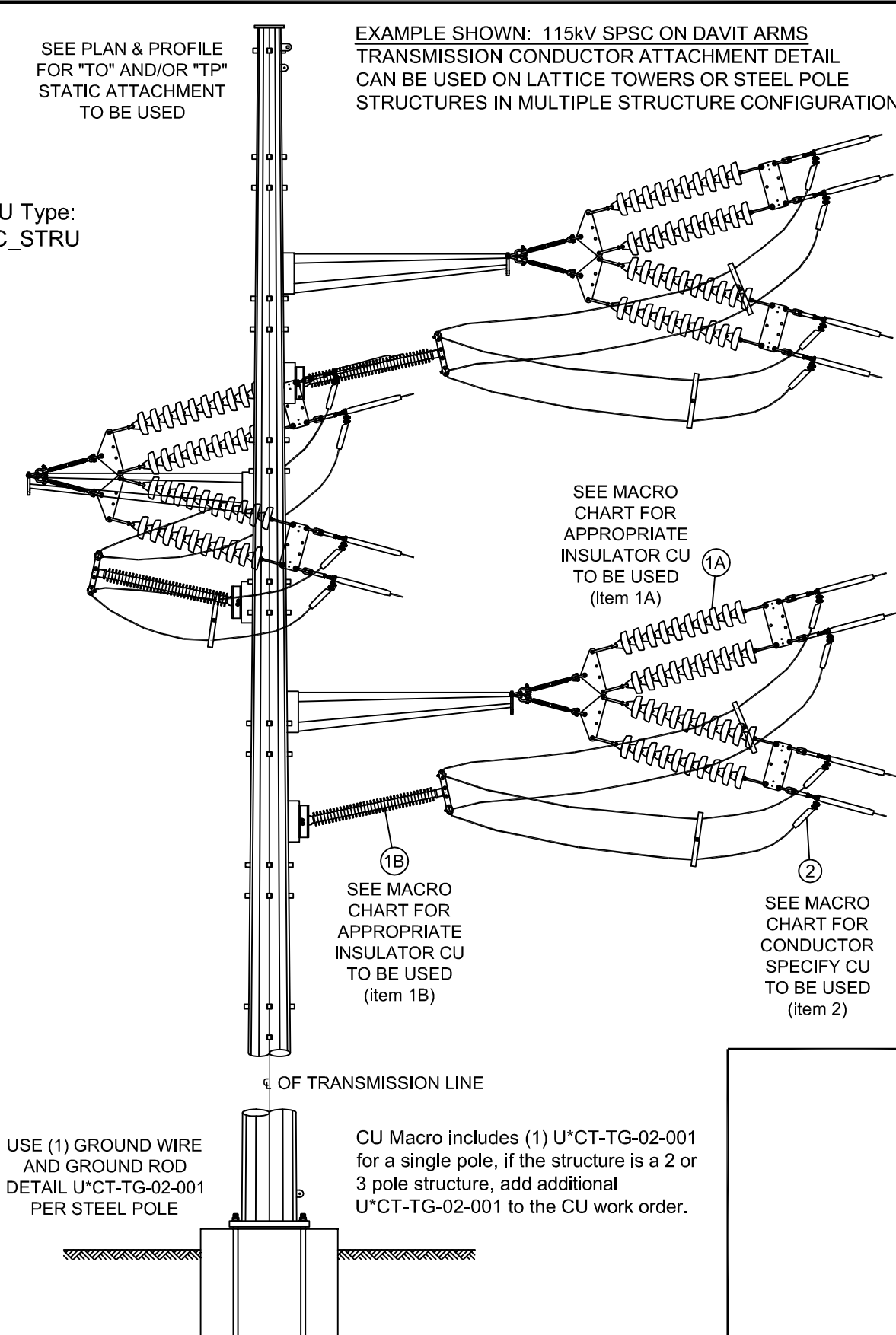
SEE MACRO
CHART FOR

2

SEE MACRO
CHART FOR

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE
STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS
MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - DUAL CLAMP JUMPER POST			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSBJN	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

The diagram illustrates a vertical steel pole tower structure with multiple cross-arms. Conductors are attached to the cross-arms using insulators and hardware. The drawing includes labels for 'TO' and 'TP' static attachment, 'CU Type: UC_STRU', and an example of a 115kV SPSC on davit arms. It also references macro charts for insulator and conductor specifications.

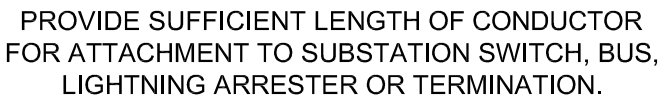
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

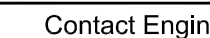
Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - NO JUMPER					Revision	
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							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSBON	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

CU Type:
UC_STRU



For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 1/4" = 1'-0"	
 IBERDROLA USA	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT TERMINAL DEAD END AT SUB BAY CDE - DOUBLE STRING DE					Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSBQN	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT DETAIL
CAN BE USED ON LATTICE TOWERS OR STEEL POLE
STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

The diagram illustrates a vertical transmission tower structure with four horizontal arms extending from its sides. Each arm is equipped with a 115kV SPSC (Self-Protecting Self-Cleaning) insulator and a transmission conductor attachment detail. The tower structure is shown in a simplified line-drawing style, with the arms and insulators clearly defined. The insulators are represented by a series of stacked, trapezoidal shapes. The conductor attachment detail is shown as a small, complex structure at the end of each arm. The diagram includes several callouts and text blocks providing additional information and references.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT SUSPENSION SINGLE STRING SUSPENSION			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSBTB	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

Macro for structure shown: U*M-TM3SBVX-ID-N	
345kV unguyed single circuit angle suspension with bundled 1192.5 ACSR 45/7 Bunting conductor & (1) 36 OPGW and (1) 7#7 (7/16) static wires in suspension	
component CU	qty
U*CT-TI-9P-D8-21	6
U*CT-TS-SW17-ID	2
U*CT-TO-S-VS-S-O	1
U*CT-TP-S-VS-S-H	1
U*CT-TG-02-001	3
U*PT-TR-02-Z-04	2
U*ZT-TX-01-LSWOUT	1

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

USE U*PT-TR-02-Z-04 FOR TIE
ASSEMBLY BETWEEN STEEL POLES

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

IF GUYING
REQUIRED:
REFER TO PLAN
& PROFILE FOR
"TM2.23.TR" GUYING
ASSEMBLIES &
"TM2.23.TH" ANCHOR
ASSEMBLIES

USE INSULATED
19#8 GUYING
ASSEMBLIES
TM2.23.TR-02-X

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

LINE OF TRANSMISSION

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 1/8" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - BUNDLED CONDUCTOR
SINGLE CIRCUIT ANGLE SUSPENSION
SINGLE STRING VEE SUSPENSION

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:	2/26/2016
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Approved By:
Barry R. Hart

Date App.:	2/26/2016
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TM2.23.TMxSBVX

Sheet 1

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 6/structure	Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 6/structure			
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SBVX-IC-A	U*CT-TS-SU17-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D5-9	345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SBVX-IC-A	U*CT-TS-SW17-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D8-21			
		U*M-TM1SBVX-IC-E			(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-IC-E			(1) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				
		U*M-TM1SBVX-IC-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-IC-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-IC-V			(2) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-IC-V			(2) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-IC-W			(2) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-IC-W			(2) U*CT-TP-S-DS-S-H				
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SBVX-ID-A	U*CT-TS-SU17-ID	(1) U*CT-TO-S-VS-S-O				1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SBVX-ID-A	U*CT-TS-SW17-ID	(1) U*CT-TO-S-VS-S-O			U*CT-TS-SW17-IE	(1) U*CT-TO-S-VS-S-O	
		U*M-TM1SBVX-ID-E			(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-ID-E			(1) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				
		U*M-TM1SBVX-ID-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-ID-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-ID-V			(2) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-ID-V			(2) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-ID-W			(2) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-ID-W			(2) U*CT-TP-S-DS-S-H				
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SBVX-GJ-A	U*CT-TS-SU17-GJ	(1) U*CT-TO-S-VS-S-O				1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SBVX-IE-A	U*CT-TS-SW17-IE	(1) U*CT-TO-S-VS-S-O			U*CT-TS-SW17-GJ	(1) U*CT-TO-S-VS-S-O	
		U*M-TM1SBVX-GJ-E			(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-IE-E			(1) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-IE-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				
		U*M-TM1SBVX-GJ-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-IE-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-GJ-V			(2) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-IE-V			(2) U*CT-TP-S-VS-S-H				
		U*M-TM1SBVX-GJ-W			(2) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-IE-W			(2) U*CT-TP-S-DS-S-H				
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SBVX-IC-A	U*CT-TS-SU17-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D5-16	CU Type: UC_STRU	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SBVX-GJ-A	U*CT-TS-SW17-GJ	(1) U*CT-TO-S-VS-S-O					
		U*M-TM2SBVX-IC-E			(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-E			(1) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				
		U*M-TM2SBVX-IC-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-IC-V			(2) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-V			(2) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-IC-W			(2) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-GJ-W			(2) U*CT-TP-S-DS-S-H				
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SBVX-ID-A	U*CT-TS-SU17-ID	(1) U*CT-TO-S-VS-S-O				1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SBVX-GJ-A	U*CT-TS-SW17-GJ	(1) U*CT-TO-S-VS-S-O					
		U*M-TM2SBVX-ID-E			(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-E			(1) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				
		U*M-TM2SBVX-ID-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-ID-V			(2) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-V			(2) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-ID-W			(2) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-GJ-W			(2) U*CT-TP-S-DS-S-H				
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SBVX-GJ-A	U*CT-TS-SU17-GJ	(1) U*CT-TO-S-VS-S-O				1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SBVX-GJ-A	U*CT-TS-SW17-GJ	(1) U*CT-TO-S-VS-S-O					
		U*M-TM2SBVX-GJ-E			(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-E			(1) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H				
		U*M-TM2SBVX-GJ-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-N		(1) U*CT-TO-S-VS-S-O	(1) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-GJ-V			(2) U*CT-TP-S-VS-S-H				U*M-TM3SBVX-GJ-V			(2) U*CT-TP-S-VS-S-H				
		U*M-TM2SBVX-GJ-W			(2) U*CT-TP-S-DS-S-H				U*M-TM3SBVX-GJ-W			(2) U*CT-TP-S-DS-S-H				
USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.																
CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.																
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).																
Contact Engineering Standards - Transmission for the creation of new standards and CUs.											Drawing Scale: 1/8" = 1'-0"					
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - BUNDLED CONDUCTOR SINGLE CIRCUIT ANGLE SUSPENSION SINGLE VEE STRINGS						Revision						
										00						
										Date						
Drwn. By:		Date Dr.:		Checked By:		Date Ck.:		Approved By:		Date App.:		TM2.23.TMxSBVX				
L.A. Best														1/19/2016		Gauvin/Becken/Hart
											Sheet 2					

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNAA-IB-A	U*CT-TS-SA11-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D3-5
		U*M-TM5SNAA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM5SNAA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNAA-IC-A	U*CT-TS-SA11-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM5SNAA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM5SNAA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNAA-ID-A	U*CT-TS-SA11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM5SNAA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM5SNAA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNAA-IB-A	U*CT-TS-SA11-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D3-6
		U*M-TM4SNAA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM4SNAA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNAA-IC-A	U*CT-TS-SA11-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM4SNAA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM4SNAA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNAA-ID-A	U*CT-TS-SA11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM4SNAA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM4SNAA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNAA-IB-A	U*CT-TS-SA11-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D3-7
		U*M-TM6SNAA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNAA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNAA-IC-A	U*CT-TS-SA11-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM6SNAA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNAA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNAA-ID-A	U*CT-TS-SA11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM6SNAA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNAA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNAA-GJ-A	U*CT-TS-SA11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM6SNAA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNAA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	

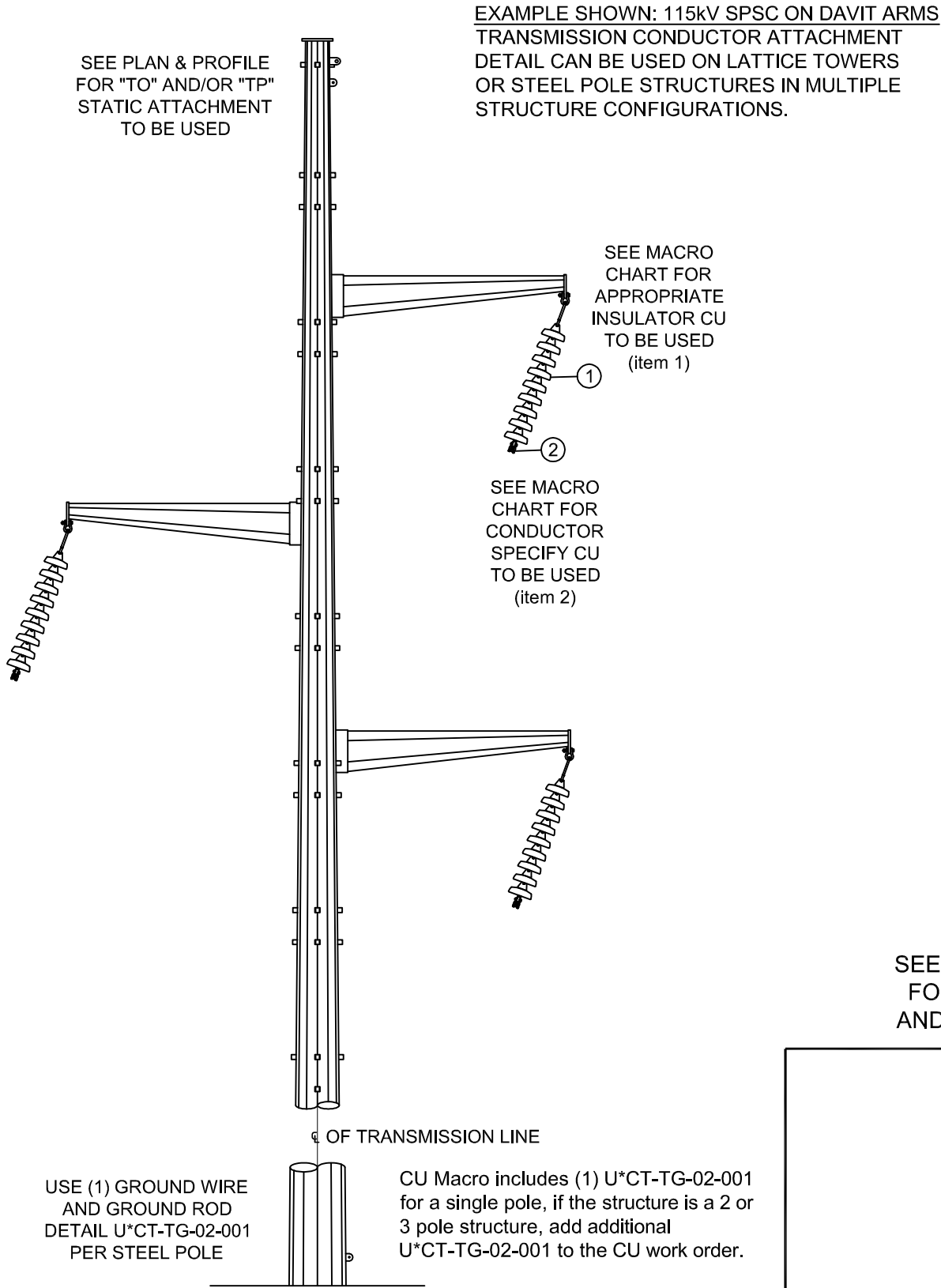
USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT ANGLE SUSPENSION TO 30° SINGLE STRING SUSPENSION				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNAA		Sheet
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			1

ANSI B
11" X 17"CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: $\frac{3}{16}'' = 1'-0''$



IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT ANGLE SUSPENSION TO 30°
SINGLE STRING SUSPENSION

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxSNAA

Sheet 2

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNAE-IB-B	U*CT-TS-SA11-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5
		U*M-TM5SNAE-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM5SNAE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNAE-IC-B	U*CT-TS-SA11-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM5SNAE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM5SNAE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNAE-ID-B	U*CT-TS-SA11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM5SNAE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM5SNAE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNAE-IB-B	U*CT-TS-SA11-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6
		U*M-TM4SNAE-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM4SNAE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNAE-IC-B	U*CT-TS-SA11-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM4SNAE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM4SNAE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNAE-ID-B	U*CT-TS-SA11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM4SNAE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM4SNAE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNAE-IB-B	U*CT-TS-SA11-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7
		U*M-TM6SNAE-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM6SNAE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNAE-IC-B	U*CT-TS-SA11-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM6SNAE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM6SNAE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNAE-ID-B	U*CT-TS-SA11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM6SNAE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM6SNAE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNAE-GJ-B	U*CT-TS-SA11-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM6SNAE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM6SNAE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

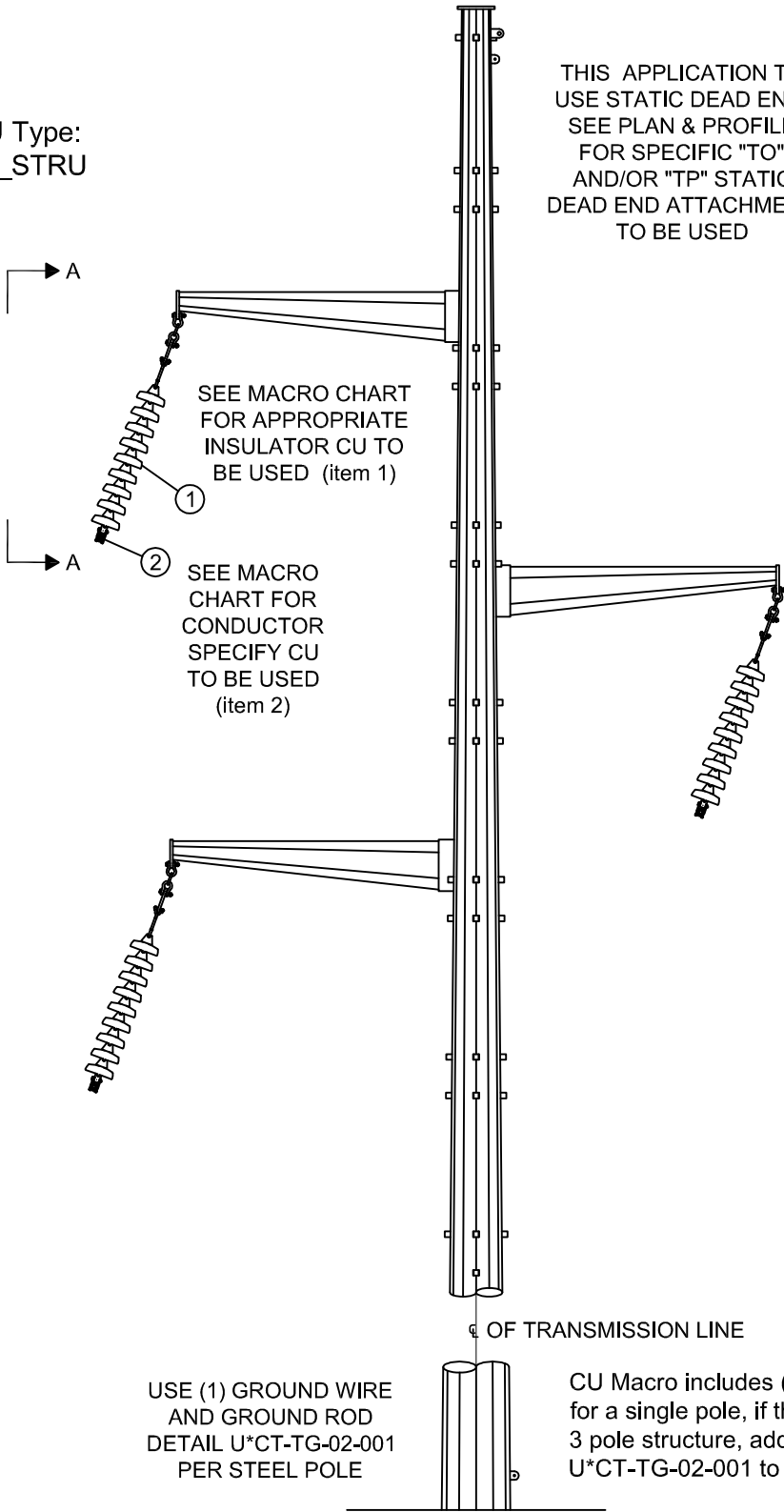
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

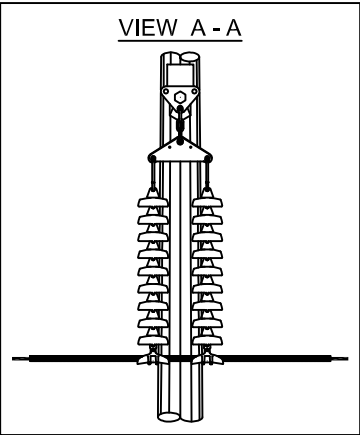
For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

SPECIAL APPLICATION FOR
HIGHWAY AND RAILROAD CROSSINGS

CU Type:
UC_STRU



EXAMPLE SHOWN:
115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.



SEE SHEET 2
FOR 115kV
AND HIGHER

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT ANGLE SUSPENSION TO 30°
2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE

Revision
00
Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart

Date App.: 2/26/2016

TM2.23.TMxSNAE

Sheet 1

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 3/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNAE-IB-B	U*CT-TS-SA11-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-9
		U*M-TM1SNAE-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNAE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNAE-IC-B	U*CT-TS-SA11-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNAE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNAE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNAE-ID-B	U*CT-TS-SA11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNAE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNAE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNAE-GJ-B	U*CT-TS-SA11-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNAE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNAE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNAE-IC-B	U*CT-TS-SA11-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-16
		U*M-TM2SNAE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNAE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNAE-ID-B	U*CT-TS-SA11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNAE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNAE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNAE-GJ-B	U*CT-TS-SA11-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNAE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNAE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNAE-IC-B	U*CT-TS-SC11-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-21
		U*M-TM3SNAE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNAE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
345kV	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNAE-ID-B	U*CT-TS-SC11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNAE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNAE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNAE-IE-B	U*CT-TS-SC11-IE	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNAE-IE-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNAE-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNAE-GJ-B	U*CT-TS-SC11-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNAE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNAE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

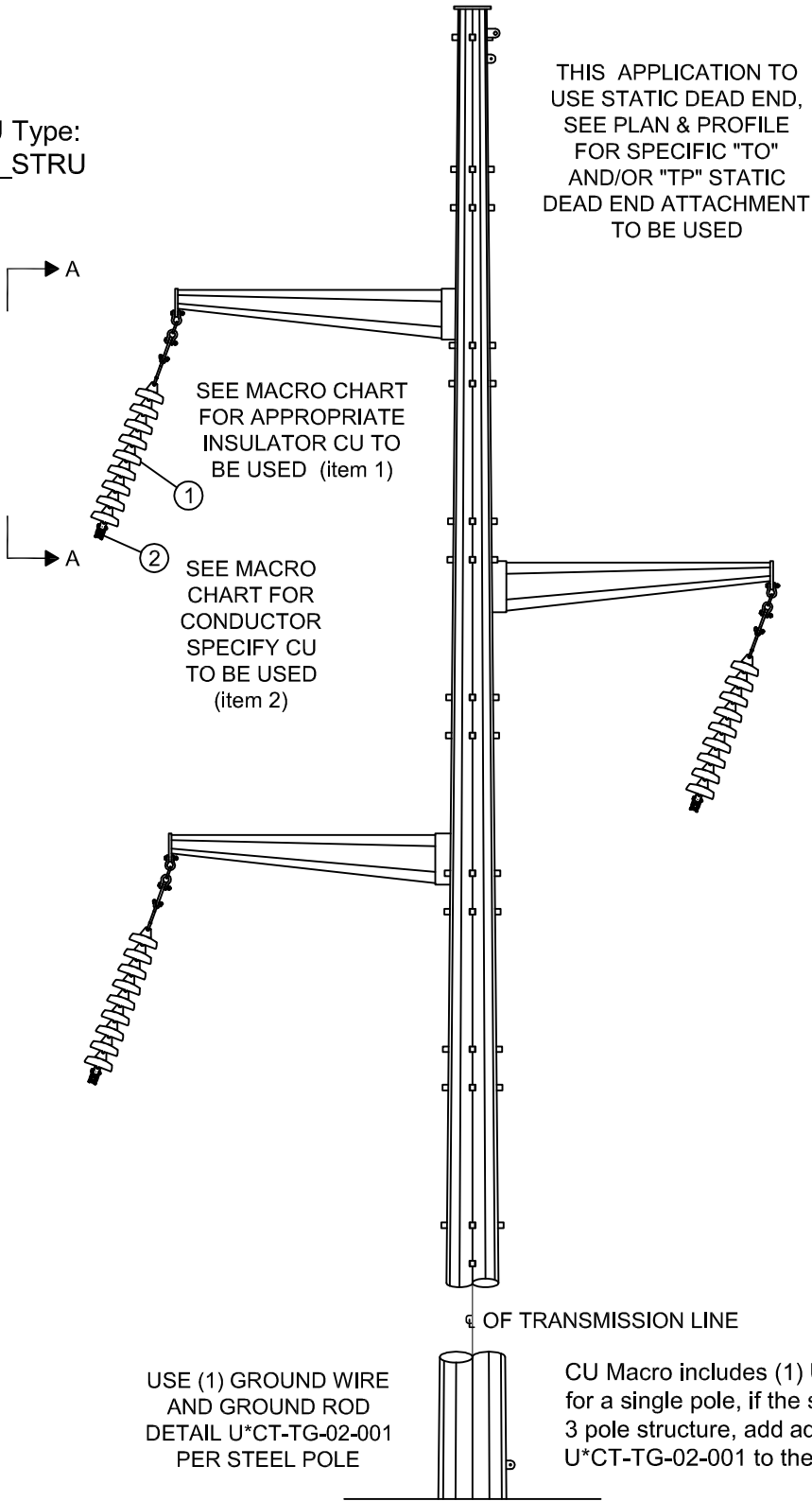
STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE
STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS
MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

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For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

SPECIAL APPLICATION FOR
HIGHWAY AND RAILROAD CROSSINGS

CU Type:
UC_STRU



EXAMPLE SHOWN:
115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT ANGLE SUSPENSION TO 30°
2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE

Revision
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Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart

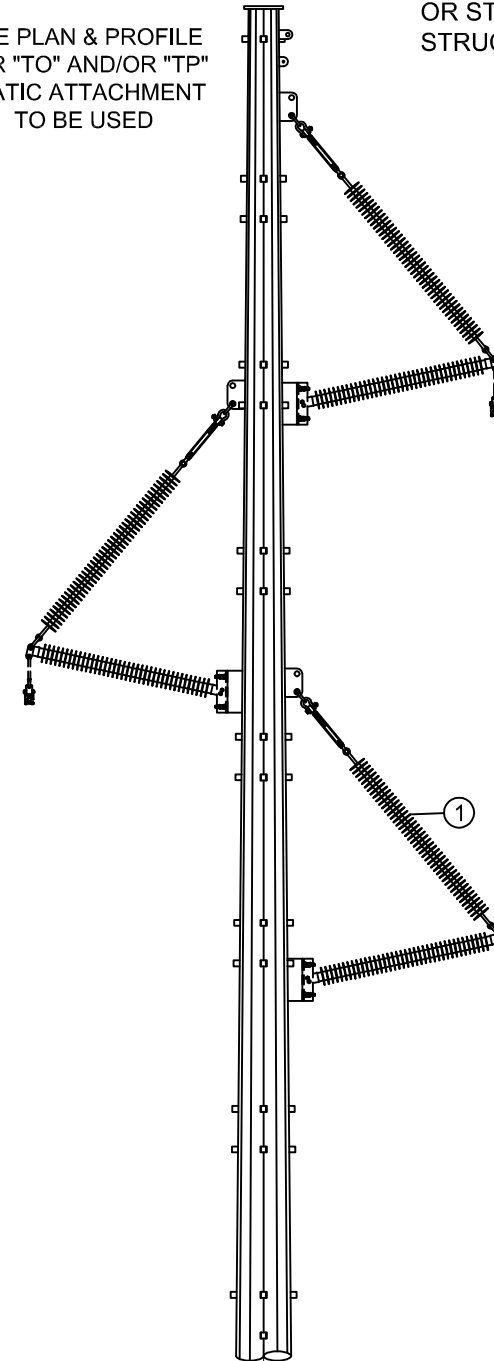
Date App.: 2/26/2016

TM2.23.TMxSNAE

Sheet 2

ANSI B
11" X 17"CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON BRACED POSTS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.



SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

SEE SHEET 2
FOR 115KV
AND HIGHER

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR SMALL ANGLE TO 15° BRACED POST STRUCTURE			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNBA	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Braced Post (item 1) 3/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNBA-IB-A	U*CT-TS-SI11-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TI-1Y-BF
		U*M-TM1SNBA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNBA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNBA-IC-A	U*CT-TS-SI11-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SNBA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNBA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNBA-ID-A	U*CT-TS-SI11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SNBA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNBA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNBA-GJ-A	U*CT-TS-SI11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SNBA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNBA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNBA-IC-A	U*CT-TS-SI11-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-2Y-BF
		U*M-TM2SNBA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SNBA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNBA-ID-A	U*CT-TS-SI11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2SNBA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SNBA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNBA-GJ-A	U*CT-TS-SI11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2SNBA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SNBA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNBA-IC-A	U*CT-TS-SI11-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-3Y-BF
		U*M-TM3SNBA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNBA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNBA-ID-A	U*CT-TS-SI11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SNBA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNBA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNBA-IE-A	U*CT-TS-SI11-IE	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SNBA-IE-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNBA-IE-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNBA-GJ-A	U*CT-TS-SI11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SNBA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNBA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	

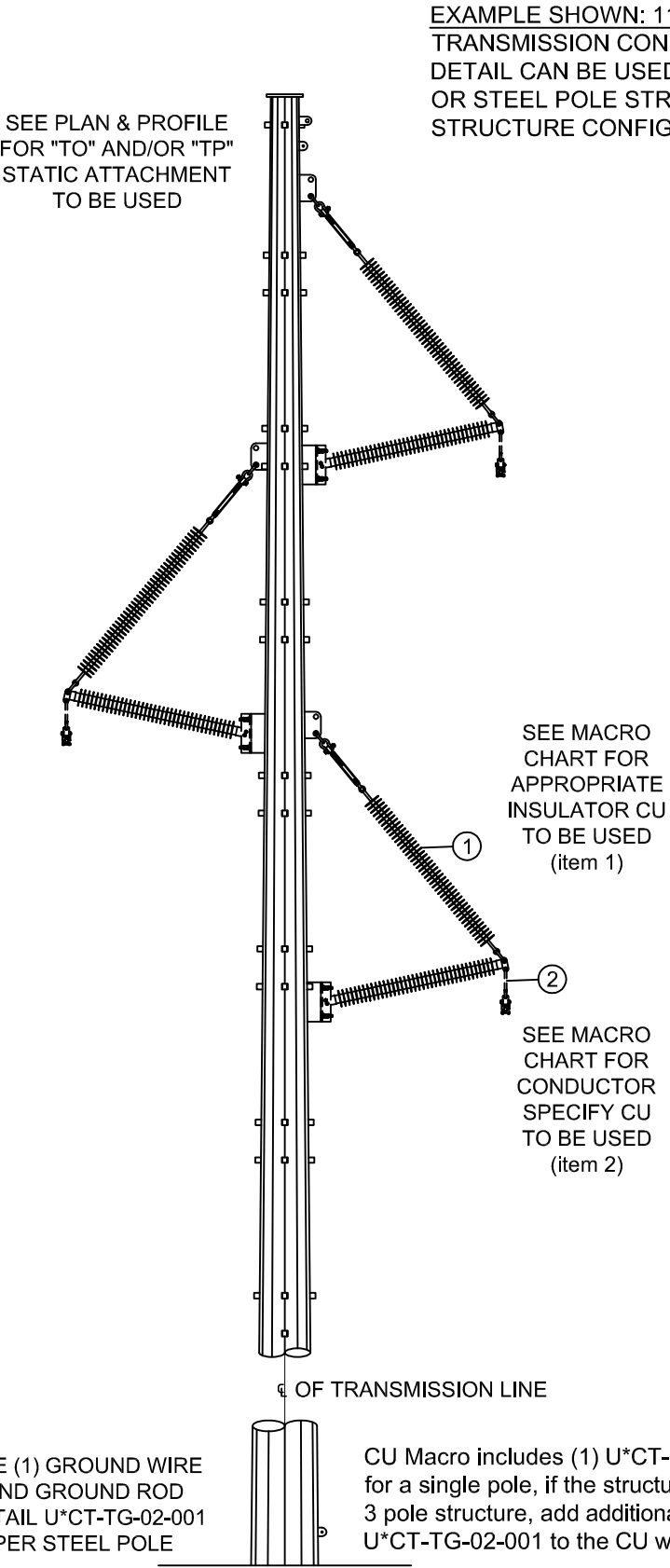
USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU



Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR SMALL ANGLE TO 15° BRACED POST STRUCTURE			Revision	
						00	
						Date	
						3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNBA	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016	Sheet	2

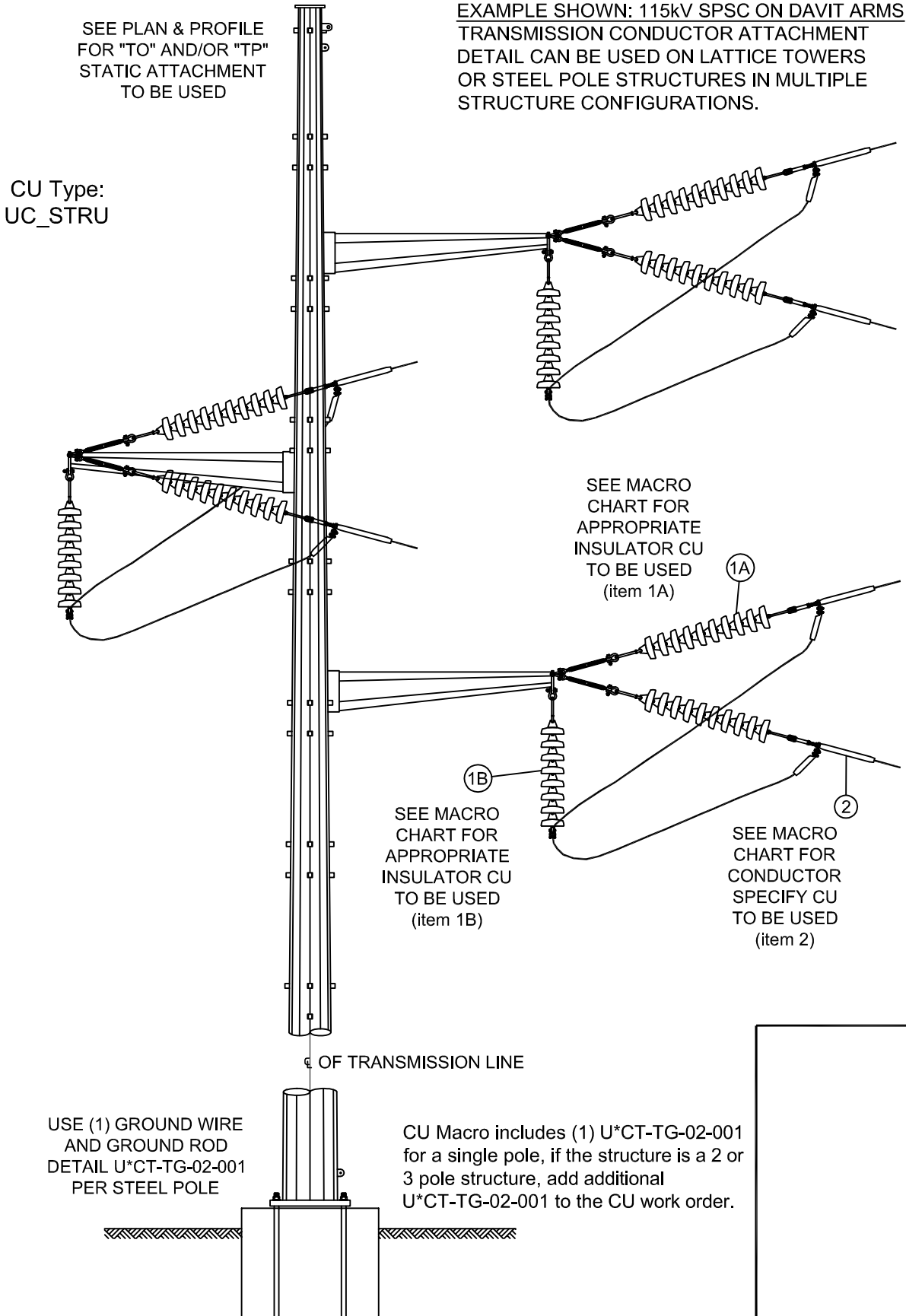
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure	CU for Idler String (item 1B) 3/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNIA-IC-B	U*CT-TS-CA32-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-9P-D5-8
		U*M-TM1SNIA-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIA-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNIA-ID-B	U*CT-TS-CA32-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIA-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIA-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNIA-GJ-B	U*CT-TS-CA32-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIA-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIA-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNIA-IC-B	U*CT-TS-CA32-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-9P-D5-15
		U*M-TM2SNIA-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIA-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNIA-ID-B	U*CT-TS-CA32-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNIA-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIA-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNIA-GJ-B	U*CT-TS-CA32-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNIA-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIA-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNIA-IC-B	U*CT-TS-CC32-IC U*CT-TS-SC10-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22	U*CT-TI-9P-D8-20
		U*M-TM3SNIA-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIA-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNIA-ID-B	U*CT-TS-CC32-ID U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNIA-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIA-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNIA-IE-B	U*CT-TS-CC32-ID U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNIA-IE-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIA-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNIA-GJ-B	U*CT-TS-CC32-GJ U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNIA-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIA-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - SINGLE STRING DE - SINGLE IDLER				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIA		Sheet 1
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

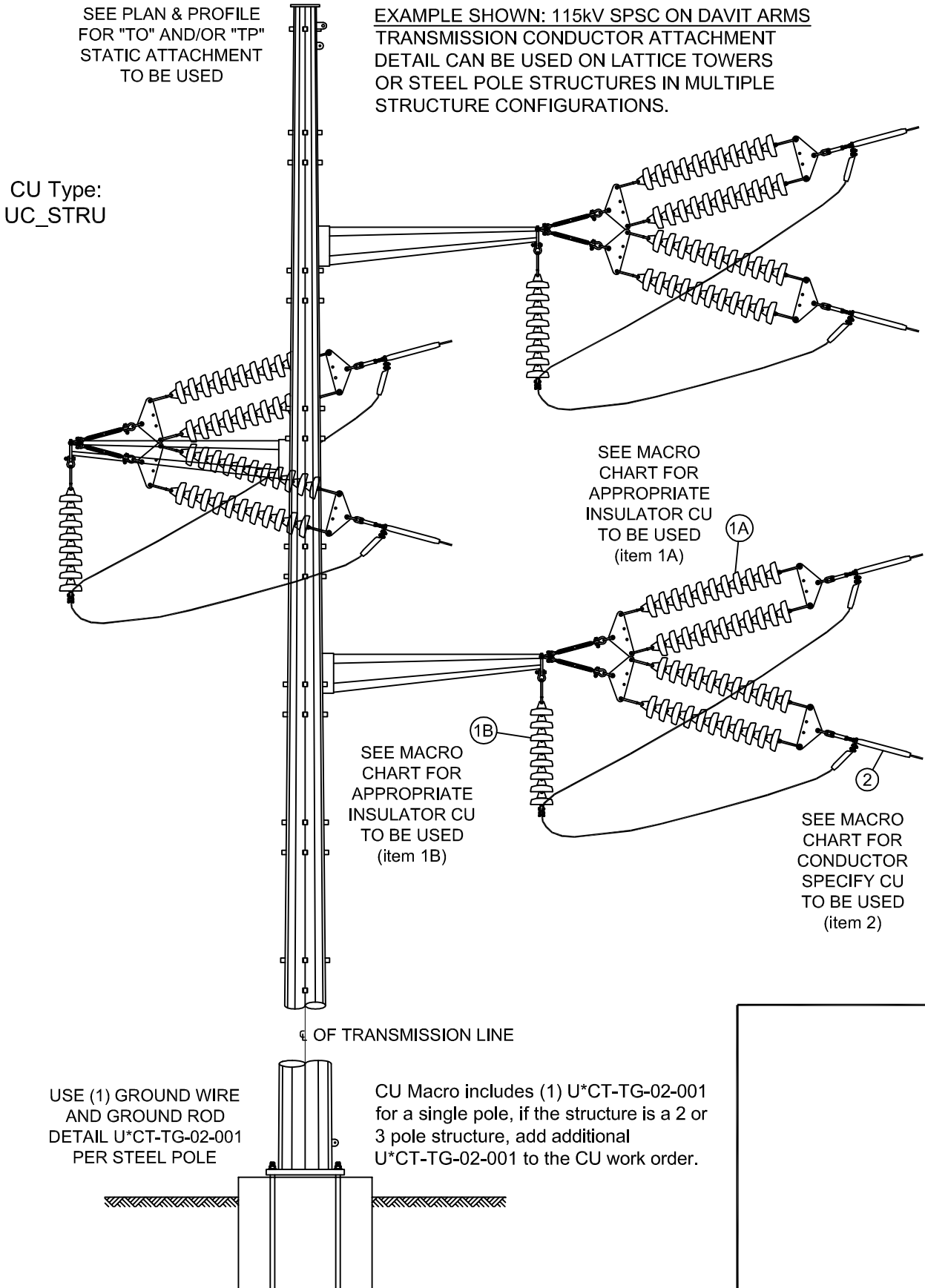
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 12/structure	CU for Idler String (item 1B) 3/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNIB-IC-B	U*CT-TS-CE36-IC U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-9P-D5-8
		U*M-TM1SNIB-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNIB-ID-B	U*CT-TS-CE36-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIB-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNIB-GJ-B	U*CT-TS-CE36-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIB-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNIB-IC-B	U*CT-TS-CE36-IC U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-9P-D5-15
		U*M-TM2SNIB-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNIB-ID-B	U*CT-TS-CE36-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNIB-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNIB-GJ-B	U*CT-TS-CE36-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNIB-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNIB-IC-B	U*CT-TS-CG52-IC U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22	U*CT-TI-9P-D8-20
		U*M-TM3SNIB-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNIB-ID-B	U*CT-TS-CG52-ID U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNIB-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNIB-IE-B	U*CT-TS-CG52-IE U*CT-TS-SC10-05	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNIB-IE-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIB-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNIB-GJ-B	U*CT-TS-CG52-GJ U*CT-TS-SC10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNIB-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNIB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE.
REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR
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CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TANGENT OR ANGLE DEAD END
CDE - DOUBLE STRING DE - SINGLE STRING IDLER

Revision
00
Date
3/1/2016

Drwn. By:
L.A. Best

Date Dr.:
1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxSNIB

Sheet 1

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115KV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A)

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1B)

1A

1B

2

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

SEE SHEET 2
FOR 115kV
AND HIGHER

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - SINGLE IDLER					Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIE	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

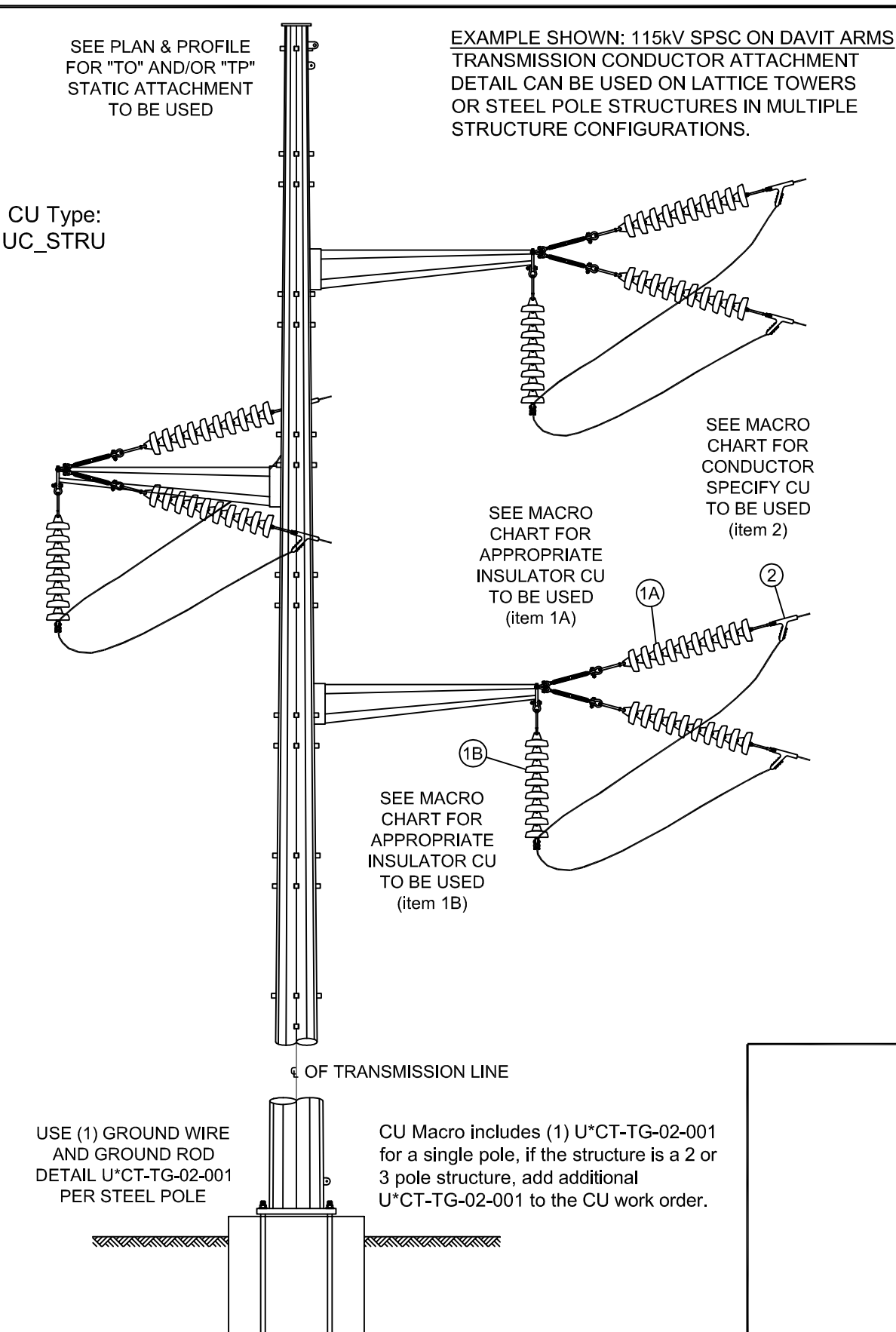
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure	CU for Idler String (item 1B) 3/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNIE-IB-B	U*CT-TS-NA68-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-9P-D5-8
		U*M-TM1SNIE-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNIE-IC-B	U*CT-TS-NA68-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNIE-ID-B	U*CT-TS-NA68-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNIE-GJ-B	U*CT-TS-NA68-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNIE-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNIE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNIE-IC-B	U*CT-TS-NA68-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-9P-D5-15
		U*M-TM2SNIE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNIE-ID-B	U*CT-TS-NA68-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNIE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNIE-GJ-B	U*CT-TS-NA68-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNIE-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNIE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE.
REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR
STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - SINGLE IDLER			Revision	00
						Date	3/1/2016
						Sheet	2
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNIE	

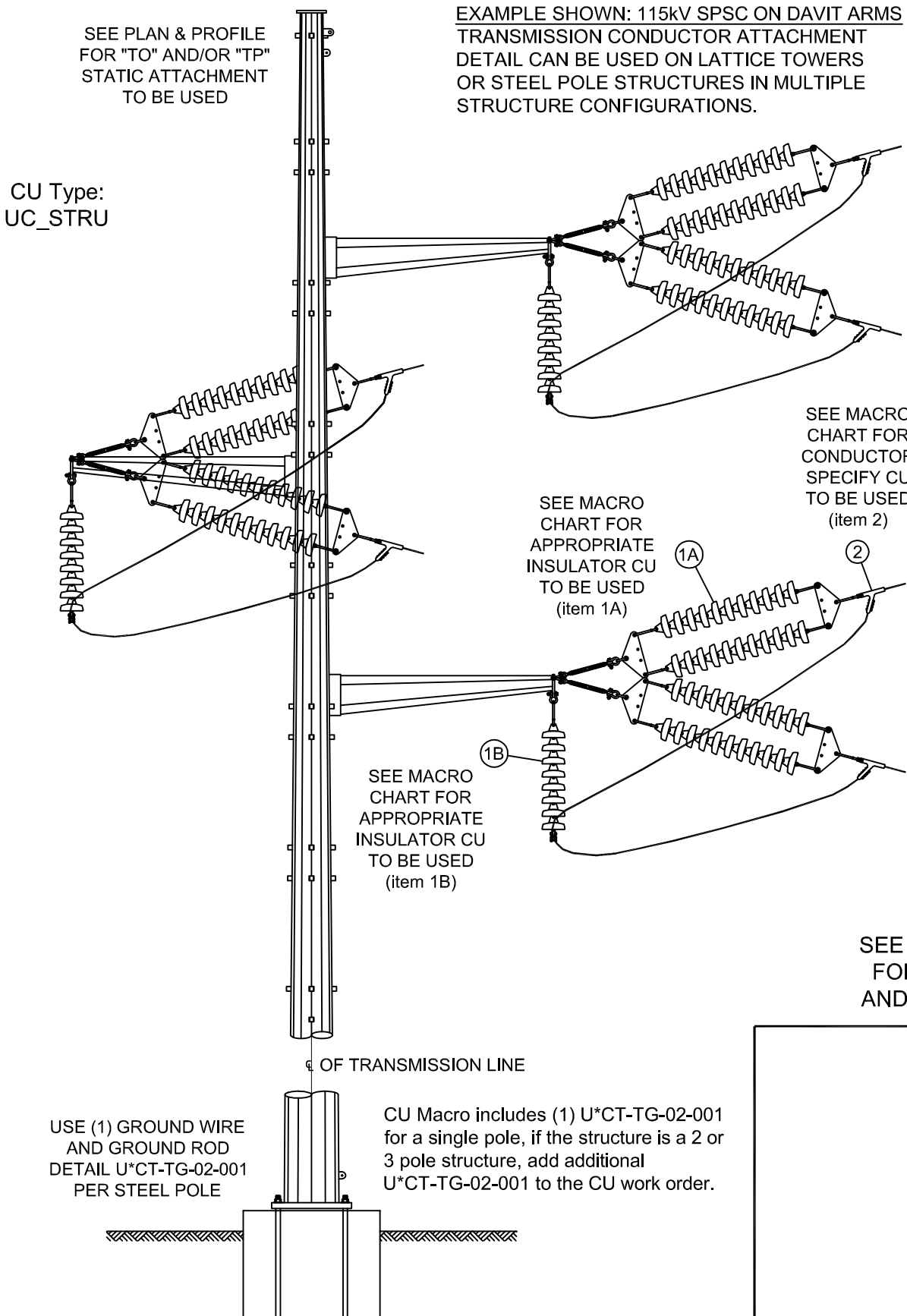
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 12/structure	CU for Idler String (item 1B) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNIF-IB-B	U*CT-TS-NE80-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5	U*CT-TI-9P-D3-4
		U*M-TM5SNIF-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNIF-IC-B	U*CT-TS-NE80-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNIF-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIF-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNIF-ID-B	U*CT-TS-NE80-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNIF-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNIF-IB-B	U*CT-TS-NE80-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6	U*CT-TI-9P-D3-5
		U*M-TM4SNIF-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNIF-IC-B	U*CT-TS-NE80-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNIF-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIF-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNIF-ID-B	U*CT-TS-NE80-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNIF-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNIF-IB-B	U*CT-TS-NE80-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-9P-D3-6
		U*M-TM6SNIF-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNIF-IC-B	U*CT-TS-NE80-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIF-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIF-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNIF-ID-B	U*CT-TS-NE80-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIF-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNIF-GJ-B	U*CT-TS-NE80-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIF-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIF-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
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						3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIF	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016	Sheet 1	

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO CHART FOR CONDUCTOR SPECIFY CU TO BE USED (item 2)

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1A)

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1B)

OF TRANSMISSION LINE

USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - SINGLE IDLER			Revision	
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							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIF	Sheet 2	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A)

1A

1B

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1B)

2

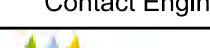
SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU

The diagram shows a vertical steel pole structure with two sets of davit arms extending horizontally. Each set of arms supports two insulators and a conductor. Callout 1A points to the top insulator of the right set of arms. Callout 1B points to the bottom insulator of the right set of arms. Callout 2 points to the conductor of the right set of arms. The diagram is a technical drawing showing the structural details and component specifications for a transmission tower configuration.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - SINGLE IDLER - FOC					Revision	
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L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115KV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1A)

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1B)

SEE MACRO CHART FOR CONDUCTOR SPECIFY CU TO BE USED (item 2)

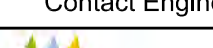
OF TRANSMISSION LINE

USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - SINGLE IDLER - FOC					Revision	
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							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIH	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

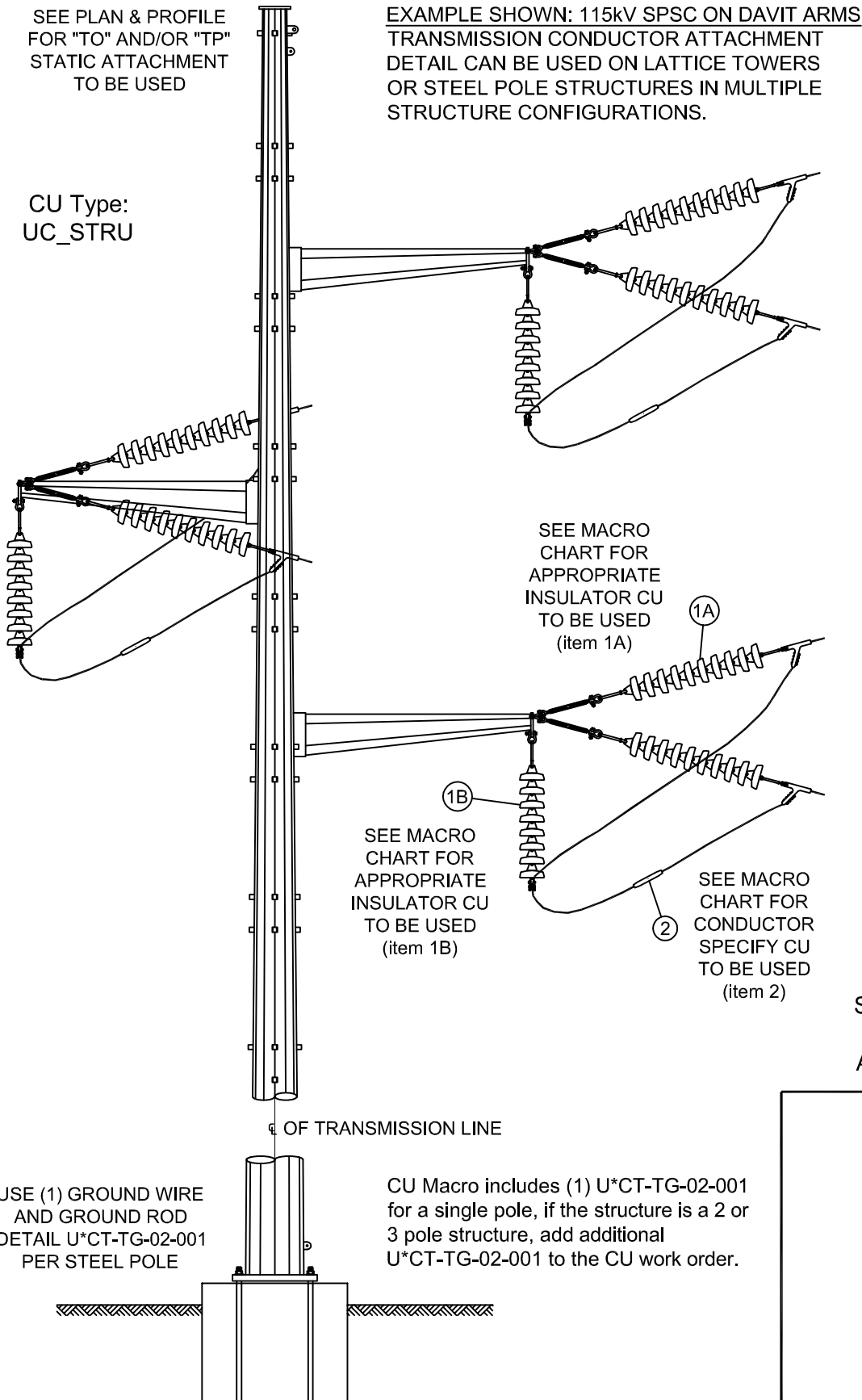
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure	CU for Idler String (item 1B) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNIJ-IB-B	U*CT-TS-NA70-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5	U*CT-TI-9P-D3-4
		U*M-TM5SNIJ-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIJ-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNIJ-IC-B	U*CT-TS-NA70-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNIJ-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIJ-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNIJ-ID-B	U*CT-TS-NA70-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNIJ-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIJ-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNIJ-IB-B	U*CT-TS-NA70-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6	U*CT-TI-9P-D3-5
		U*M-TM4SNIJ-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIJ-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
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		U*M-TM4SNIJ-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIJ-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNIJ-ID-B	U*CT-TS-NA70-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNIJ-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIJ-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNIJ-IB-B	U*CT-TS-NA70-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-9P-D3-6
		U*M-TM6SNIJ-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIJ-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
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		U*M-TM6SNIJ-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIJ-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
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		U*M-TM6SNIJ-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIJ-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNIJ-GJ-B	U*CT-TS-NA70-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIJ-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIJ-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

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STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE.
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							Date	3/1/2016
							Sheet	1
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNIJ		

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

EXAMPLE SHOWN: 115KV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1A)

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1B)

SEE MACRO CHART FOR CONDUCTOR SPECIFY CU TO BE USED (item 2)

USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

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Drawing Scale: 3/16" = 1'-0"

	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - SINGLE IDLER - LS					Revision
							00
							Date
							3/1/2016
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIJ	Sheet 2
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016		

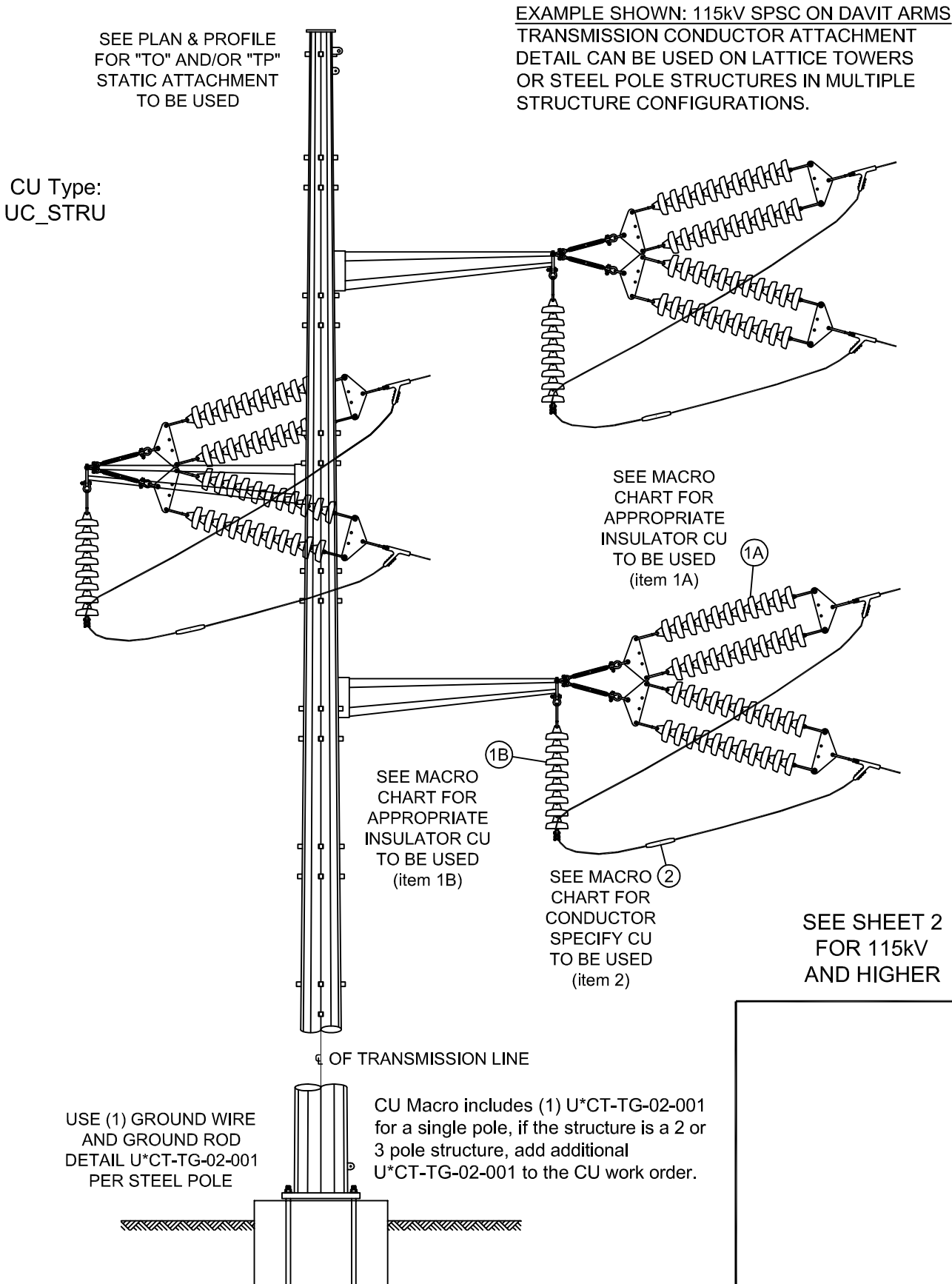
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 12/structure	CU for Idler String (item 1B) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNIK-IB-B	U*CT-TS-NE82-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5	U*CT-TI-9P-D3-4
		U*M-TM5SNIK-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIK-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNIK-IC-B	U*CT-TS-NE82-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNIK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNIK-ID-B	U*CT-TS-NE82-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNIK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNIK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNIK-IB-B	U*CT-TS-NE82-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6	U*CT-TI-9P-D3-5
		U*M-TM4SNIK-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIK-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNIK-IC-B	U*CT-TS-NE82-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNIK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNIK-ID-B	U*CT-TS-NE82-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNIK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNIK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNIK-IB-B	U*CT-TS-NE82-IB U*CT-TS-SA10-02	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-9P-D3-6
		U*M-TM6SNIK-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIK-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNIK-IC-B	U*CT-TS-NE82-IC U*CT-TS-SA10-03	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNIK-ID-B	U*CT-TS-NE82-ID U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNIK-GJ-B	U*CT-TS-NE82-GJ U*CT-TS-SA10-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNIK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNIK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - SINGLE IDLER - LS			Revision	00
						Date	3/1/2016
						Sheet	1
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNIK	

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

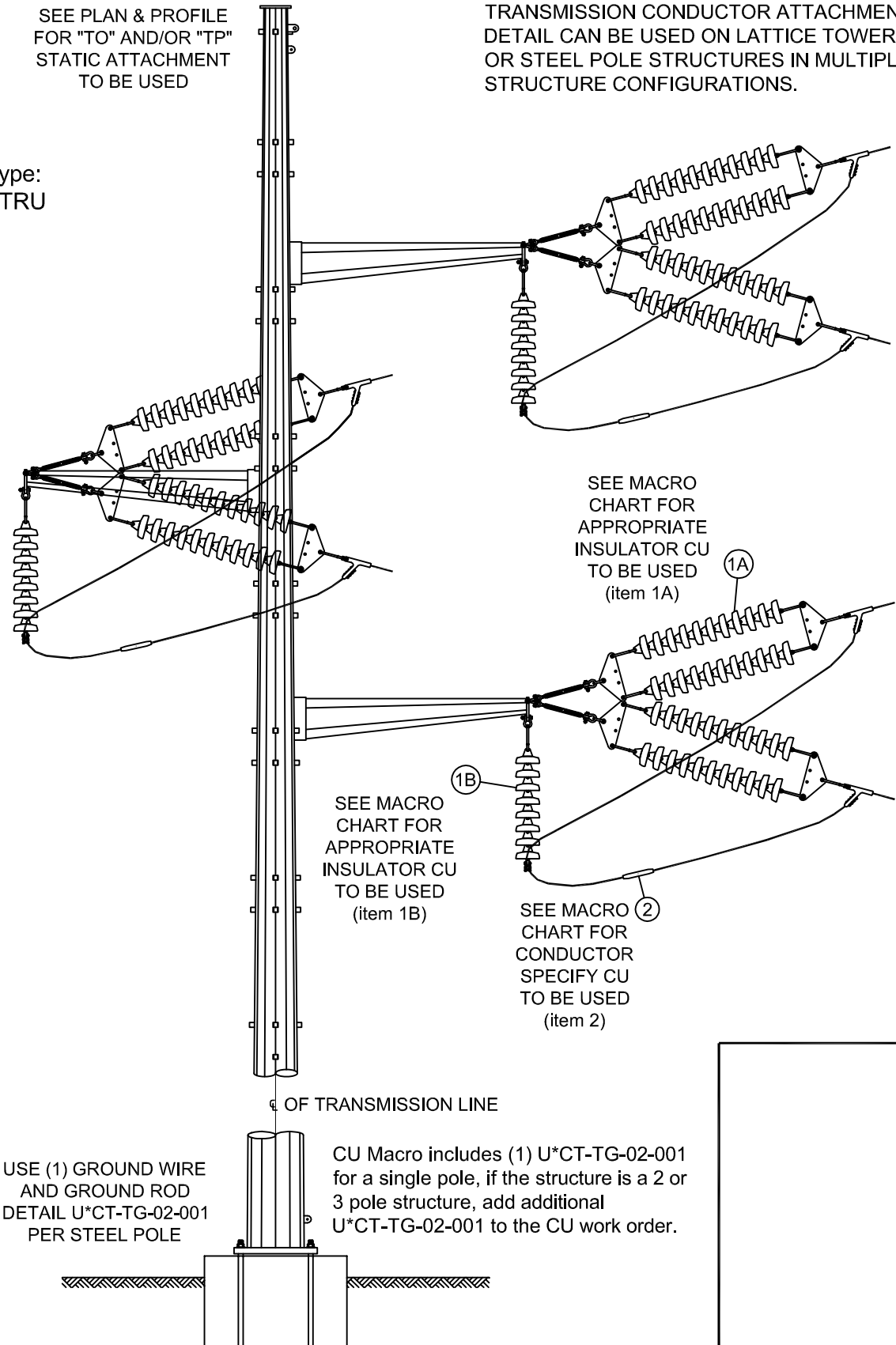
CU Type:
UC_STRU

EXAMPLE SHOWN: 115KV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A)

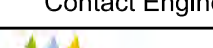
1A

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.



USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - SINGLE IDLER - LS					Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNIK	Sheet 2	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

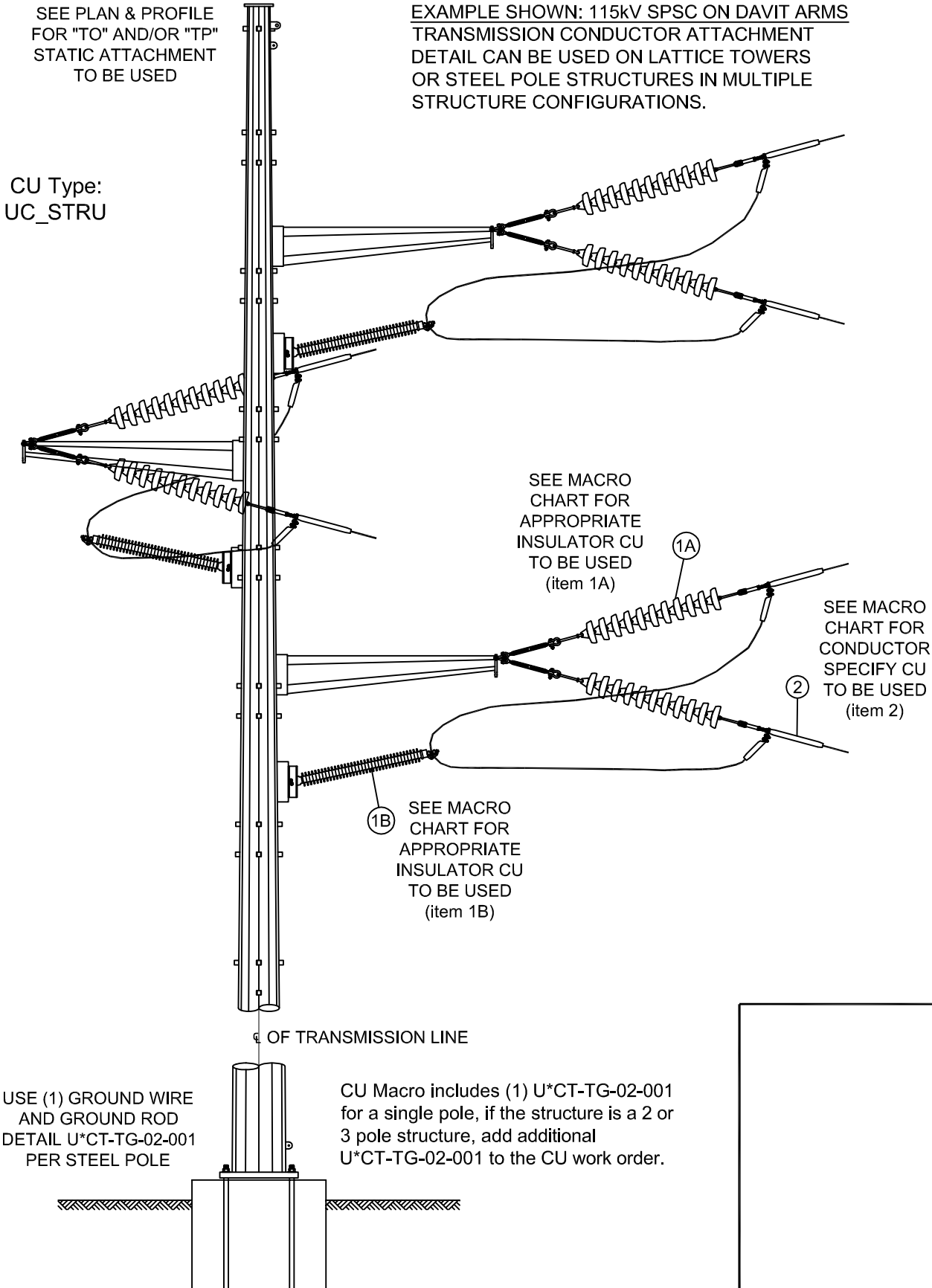
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure	CU for Post Jumper (item 1B) 3/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNJA-IC-B	U*CT-TS-CA32-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-1Y-HF
		U*M-TM1SNJA-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJA-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNJA-ID-B	U*CT-TS-CA32-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJA-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJA-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNJA-GJ-B	U*CT-TS-CA32-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJA-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJA-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNJA-IC-B	U*CT-TS-CA32-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-2Y-HF
		U*M-TM2SNJA-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJA-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNJA-ID-B	U*CT-TS-CA32-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNJA-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJA-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNJA-GJ-B	U*CT-TS-CA32-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNJA-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJA-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNJA-IC-B	U*CT-TS-CC32-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22	U*CT-TI-3Y-HF
		U*M-TM3SNJA-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNJA-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNJA-ID-B	U*CT-TS-CC32-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNJA-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNJA-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNJA-IE-B	U*CT-TS-CC32-IE U*CT-TS-PI01-05	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNJA-IE-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNJA-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNJA-GJ-B	U*CT-TS-CC32-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM3SNJA-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM3SNJA-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - SINGLE STRING DE - POST JUMPER				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNJA		Sheet 1

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A)

1A

1B

2

SEE MACRO
CHART FOR
CONDUCTOR

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - POST JUMPER			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNJB	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A & 1B)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED

The diagram illustrates a vertical steel pole structure with multiple cross-arms. Conductors are attached to the cross-arms using insulators and spacers. The drawing includes labels for 'CU Type: UC_STRU', 'EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS', and references to macro charts for insulator and conductor specifications. Callouts 1A and 1B point to specific insulator and conductor attachment details.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

The diagram shows a vertical steel pole. At the top, a transmission line is shown with a label 'C OF TRANSMISSION LINE' pointing to its center. Below the transmission line, a ground wire is attached to the pole. The ground wire is labeled 'USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE'. The pole is shown with a cross-section and a hatched area representing the ground level. To the right of the pole, there is a text box with the following text: 'SEE SHEET 2 FOR 115kV AND HIGHER'. Above this text box, there is a label '(item 2)'.

(item 2)

SEE SHEET 2
FOR 115kV
AND HIGHER

C OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - POST JUMPER					Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNJE	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

CU Type:
UC_STRU

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1A & 1B)

1A

2

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

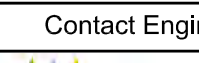
OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - POST JUMPER			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNJE	Sheet 2	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

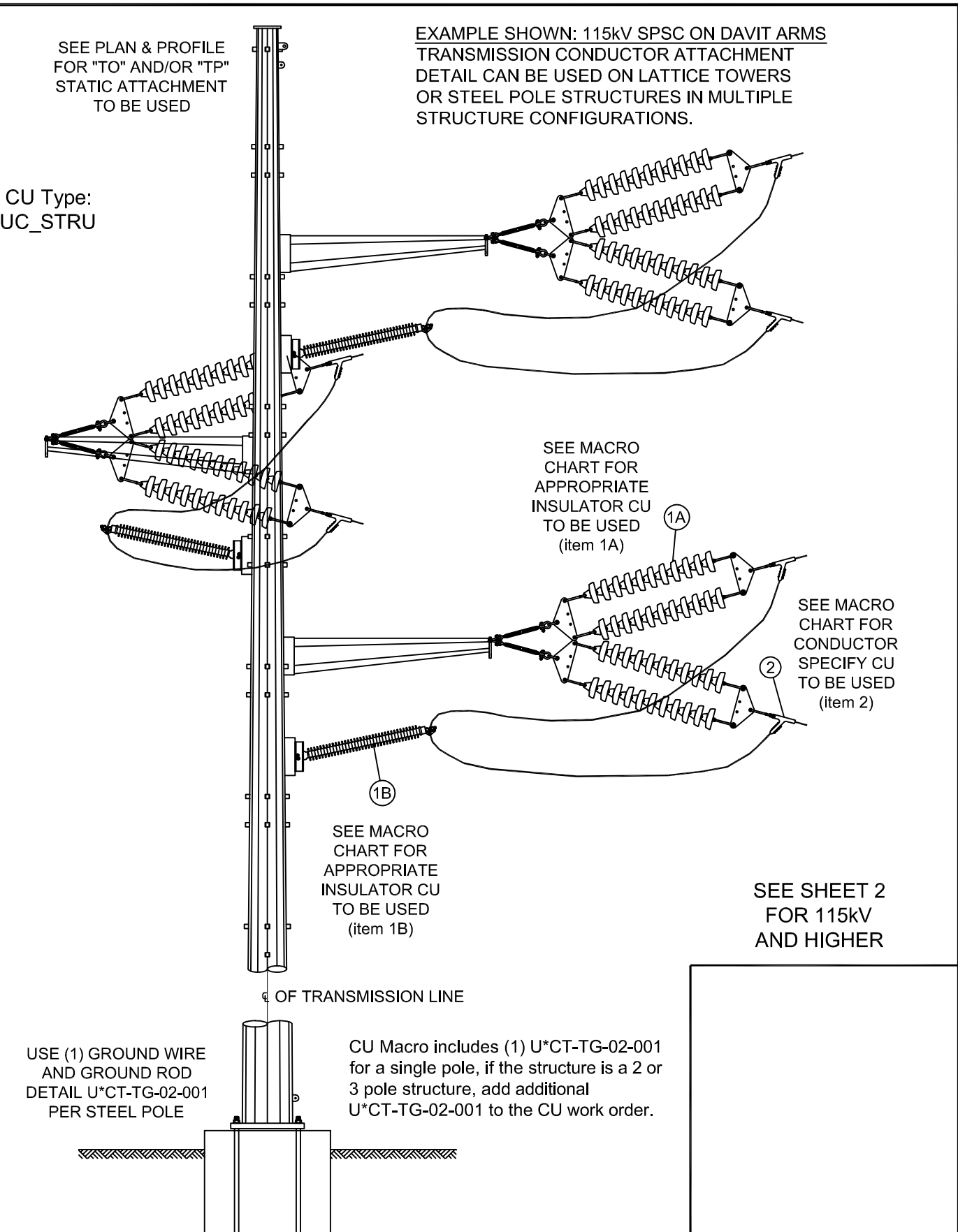
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 12/structure	CU for Post Jumper (item 1B) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNJF-IB-B	U*CT-TS-NE80-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5	U*CT-TI-5Y-HF
		U*M-TM5SNJF-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNJF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNJF-IC-B	U*CT-TS-NE80-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNJF-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNJF-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNJF-ID-B	U*CT-TS-NE80-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNJF-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNJF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNJF-IB-B	U*CT-TS-NE80-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6	U*CT-TI-4Y-HF
		U*M-TM4SNJF-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNJF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNJF-IC-B	U*CT-TS-NE80-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNJF-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNJF-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNJF-ID-B	U*CT-TS-NE80-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNJF-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNJF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNJF-IB-B	U*CT-TS-NE80-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-6Y-HF
		U*M-TM6SNJF-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNJB-IC-B	U*CT-TS-NE80-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJB-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNJB-ID-B	U*CT-TS-NE80-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJB-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNJB-GJ-B	U*CT-TS-NE80-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJB-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE.
REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR
STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - POST JUMPER			Revision	00
						Date	3/1/2016
						Sheet	1
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNJF	

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

EXAMPLE SHOWN: 115KV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

CU Type:
UC_STRU

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1A)

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1B)

SEE MACRO CHART FOR CONDUCTOR SPECIFY CU TO BE USED (item 2)

OF TRANSMISSION LINE

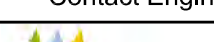
USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

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							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNJF	Sheet 2	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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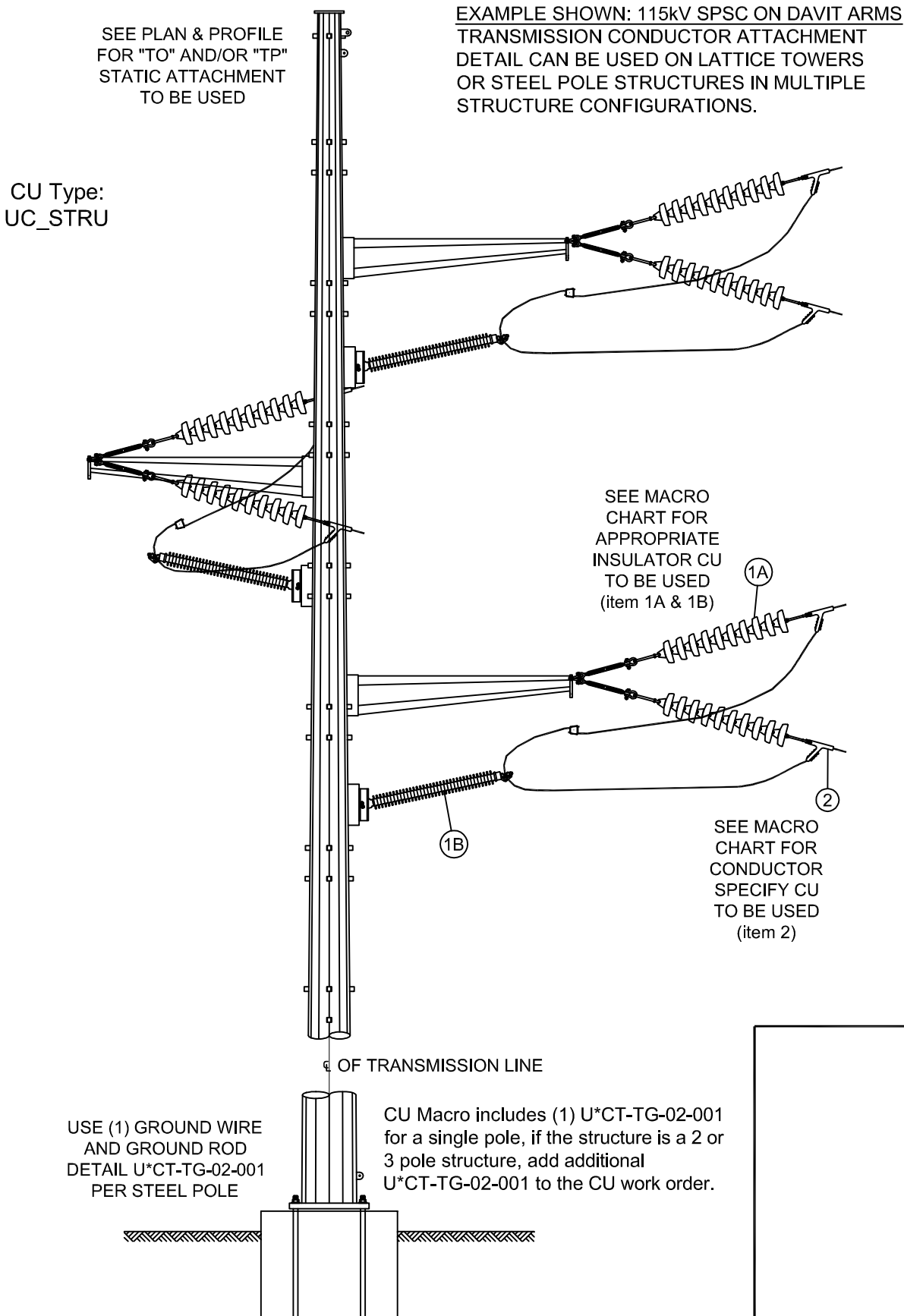
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure	CU for Post Jumper (item 1B) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNJG-IB-B	U*CT-TS-NA69-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5	U*CT-TI-5Y-HF
		U*M-TM5SNJG-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNJG-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNJG-IC-B	U*CT-TS-NA69-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNJG-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNJG-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNJG-ID-B	U*CT-TS-NA69-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM5SNJG-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNJG-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNJG-IB-B	U*CT-TS-NA69-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6	U*CT-TI-4Y-HF
		U*M-TM4SNJG-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNJG-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNJG-IC-B	U*CT-TS-NA69-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNJG-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNJG-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNJG-ID-B	U*CT-TS-NA69-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM4SNJG-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNJG-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNJG-IB-B	U*CT-TS-NA69-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-6Y-HF
		U*M-TM6SNJG-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJG-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNJG-IC-B	U*CT-TS-NA69-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJG-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJG-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNJG-ID-B	U*CT-TS-NA69-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJG-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJG-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNJG-GJ-B	U*CT-TS-NA69-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJG-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJG-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE.
REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR
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CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - POST JUMPER - FOC			Revision	
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						3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNJG	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016	Sheet 1	

ANSI B
11" X 17"

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115KV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1A)

1A

1B

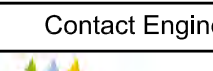
2

SEE MACRO CHART FOR CONDUCTOR

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - POST JUMPER - FOC					Revision	
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							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNJH	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 6/structure	CU for Post Jumper (item 1B) 3/structure
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNJJ-IB-B	U*CT-TS-NA70-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-6Y-HF
		U*M-TM6SNJJ-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJJ-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNJJ-IC-B	U*CT-TS-NA70-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJJ-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJJ-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNJJ-ID-B	U*CT-TS-NA70-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJJ-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJJ-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNJJ-GJ-B	U*CT-TS-NA70-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJJ-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJJ-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNJJ-IB-B	U*CT-TS-NA70-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-1Y-HF
		U*M-TM1SNJJ-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJJ-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNJJ-IC-B	U*CT-TS-NA70-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJJ-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJJ-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNJJ-ID-B	U*CT-TS-NA70-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJJ-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJJ-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
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		U*M-TM1SNJJ-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJJ-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNJJ-IC-B	U*CT-TS-NA70-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-2Y-HF
		U*M-TM2SNJJ-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJJ-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNJJ-ID-B	U*CT-TS-NA70-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNJJ-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJJ-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
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		U*M-TM2SNJJ-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJJ-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE.
REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR
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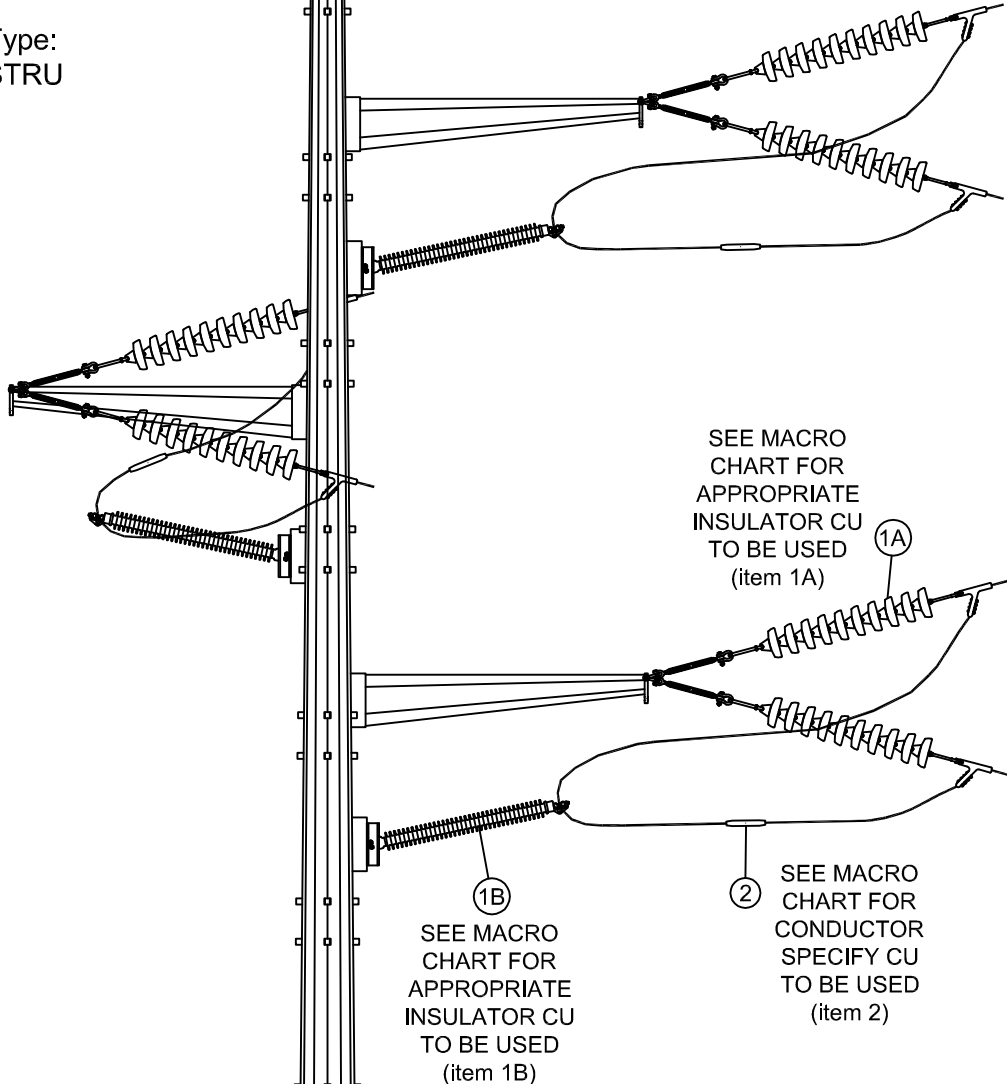
CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

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FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
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USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
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Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TANGENT OR ANGLE DEAD END
STRAIN CLAMPS - SINGLE STRING DE - POST JUMPER - LS

Revision
00
Date
3/1/2016

Drwn. By: L.A. Best
Date Dr.: 1/19/2016

Checked By: Gauvin/Becken/Hart

Date Ck.: 2/26/2016

Approved By: Barry R. Hart

Date App.: 2/26/2016

TM2.23.TMxSNJJ

Sheet 1

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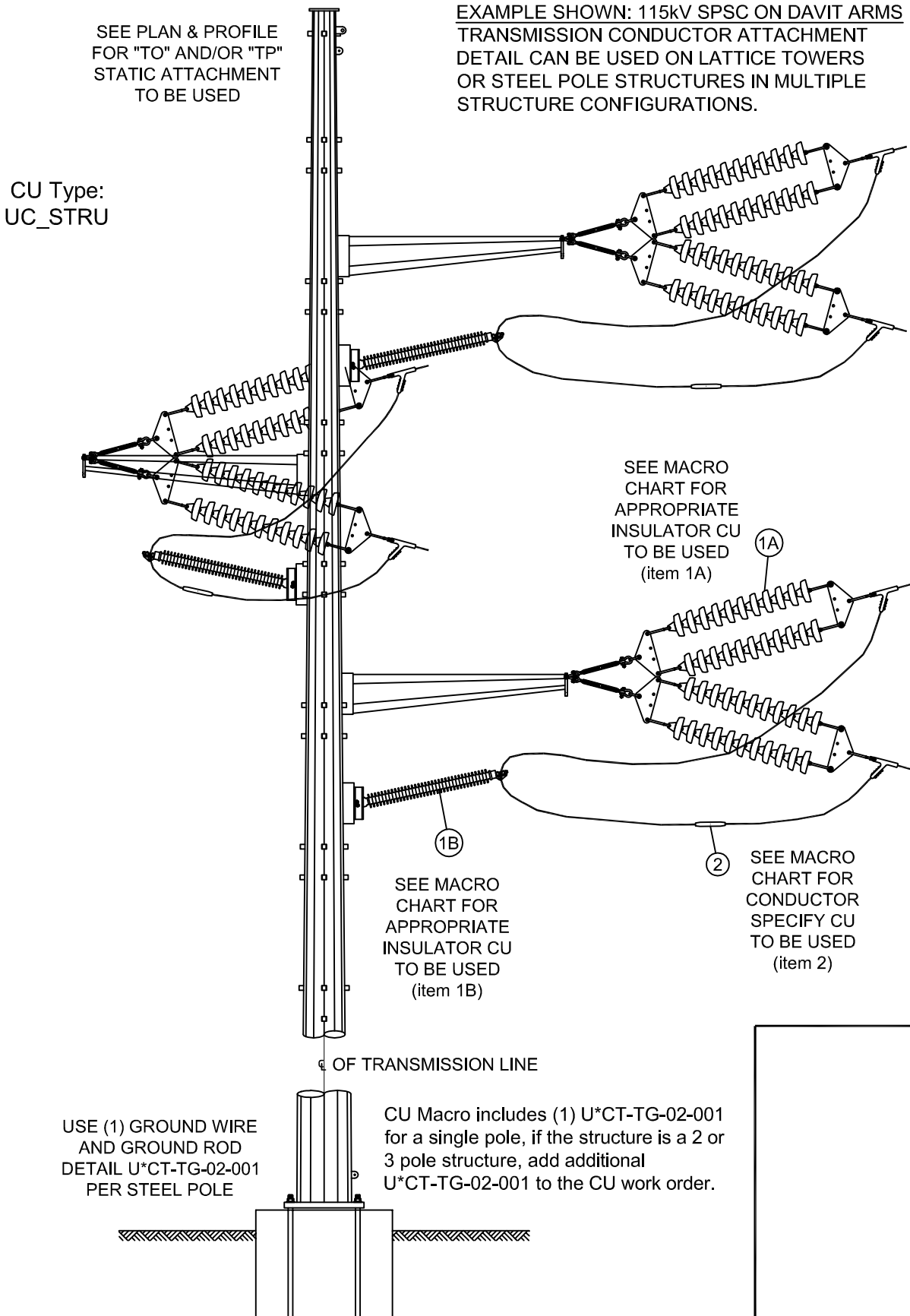
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1A) 12/structure	CU for Post Jumper (item 1B) 3/structure
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNJK-IB-B	U*CT-TS-NE82-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	U*CT-TI-6Y-HF
		U*M-TM6SNJK-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJK-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNJK-IC-B	U*CT-TS-NE82-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNJK-ID-B	U*CT-TS-NE82-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNJK-GJ-B	U*CT-TS-NE82-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM6SNJK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNJK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNJK-IB-B	U*CT-TS-NE82-IB U*CT-TS-PI01-03	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	U*CT-TI-1Y-HF
		U*M-TM1SNJK-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJK-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNJK-IC-B	U*CT-TS-NE82-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNJK-ID-B	U*CT-TS-NE82-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNJK-GJ-B	U*CT-TS-NE82-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM1SNJK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNJK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNJK-IC-B	U*CT-TS-NE82-IC U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	U*CT-TI-2Y-HF
		U*M-TM2SNJK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNJK-ID-B	U*CT-TS-NE82-ID U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNJK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNJK-GJ-B	U*CT-TS-NE82-GJ U*CT-TS-PI01-04	(1) U*CT-TO-S-DE-S-O			
		U*M-TM2SNJK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNJK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TANGENT OR ANGLE DEAD END
STRAIN CLAMPS - DOUBLE STRING DE - POST JUMPER - LS

Revision
00
Date
3/1/2016

Drwn. By:
L.A. Best

Date Dr.:
1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxSNJK

Sheet 1

ANSI B
11" X 17"

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*__).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - SINGLE STRING DE - NO JUMPER			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNOA	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

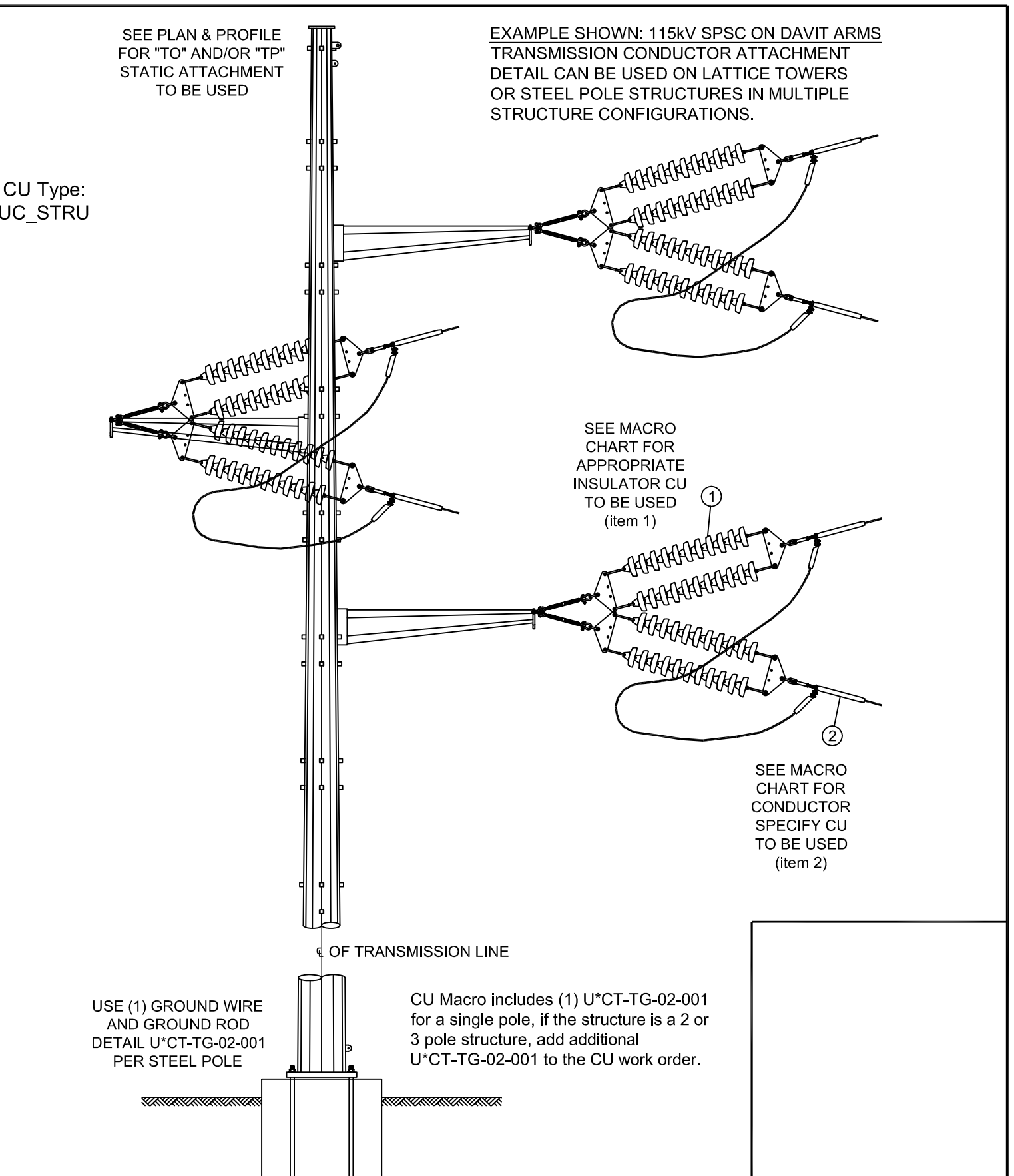
Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 12/structure
115kV	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNOB-IC-B	U*CT-TS-CE36-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10
		U*M-TM1SNOB-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNOB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNOB-ID-B	U*CT-TS-CE36-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNOB-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNOB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNOB-GJ-B	U*CT-TS-CE36-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNOB-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNOB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNOB-IC-B	U*CT-TS-CE36-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17
		U*M-TM2SNOB-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNOB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNOB-ID-B	U*CT-TS-CE36-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNOB-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNOB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNOB-GJ-B	U*CT-TS-CE36-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNOB-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNOB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNOB-IC-B	U*CT-TS-CG52-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-22
		U*M-TM3SNOB-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNOB-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNOB-ID-B	U*CT-TS-CG52-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNOB-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNOB-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNOB-IE-B	U*CT-TS-CG52-IE	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNOB-IE-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNOB-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNOB-GJ-B	U*CT-TS-CG52-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNOB-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNOB-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.						Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END CDE - DOUBLE STRING DE - NO JUMPER			Revision	
						00	
						Date	
						3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNOB	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016	Sheet 1	

Voltage	Conductor	CU Macro	CU for Conductor Specify (Item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 6/structure	
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNOE-IB-B	U*CT-TS-NA68-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5	
		U*M-TM5SNOE-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNOE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNOE-IC-B	U*CT-TS-NA68-IC	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM5SNOE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNOE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNOE-ID-B	U*CT-TS-NA68-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM5SNOE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM5SNOE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNOE-IB-B	U*CT-TS-NA68-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6	
		U*M-TM4SNOE-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNOE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNOE-IC-B	U*CT-TS-NA68-IC	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM4SNOE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNOE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNOE-ID-B	U*CT-TS-NA68-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM4SNOE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM4SNOE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNOE-IB-B	U*CT-TS-NA68-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7	
		U*M-TM6SNOE-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNOE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNOE-IC-B	U*CT-TS-NA68-IC	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM6SNOE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNOE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNOE-ID-B	U*CT-TS-NA68-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM6SNOE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNOE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNOE-GJ-B	U*CT-TS-NA68-GJ	(1) U*CT-TO-S-DE-S-O		(1) U*CT-TP-S-DE-S-H		
	U*M-TM6SNOE-GJ-F			(1) U*CT-TP-S-DE-S-H			
	U*M-TM6SNOE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H			
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNOE-IB-B	U*CT-TS-NA68-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	
		U*M-TM1SNOE-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNOE-IC-B	U*CT-TS-NA68-IC	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM1SNOE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNOE-ID-B	U*CT-TS-NA68-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM1SNOE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNOE-GJ-B	U*CT-TS-NA68-GJ	(1) U*CT-TO-S-DE-S-O		(1) U*CT-TP-S-DE-S-H		
	U*M-TM1SNOE-GJ-F			(1) U*CT-TP-S-DE-S-H			
	U*M-TM1SNOE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H			
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNOE-IC-B	U*CT-TS-NA68-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	
		U*M-TM2SNOE-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNOE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNOE-ID-B	U*CT-TS-NA68-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM2SNOE-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNOE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNOE-GJ-B	U*CT-TS-NA68-GJ	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM2SNOE-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNOE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

SEE MACRO CHART FOR APPROPRIATE INSULATOR CU TO BE USED (item 1)

SEE MACRO CHART FOR CONDUCTOR SPECIFY CU TO BE USED (item 2)

CU Function:
U_TL69 for 35kV & 46kV,
U_TG69 for 69kV through 344kV,
U_T345 for 345kV & greater.

For correct CU:
substitute 2 for NYSEG,
3 for CMP or 4 for RG&E
in place of asterisk (U*_).

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

OF TRANSMISSION LINE

USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.					Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - SINGLE STRING DE - NO JUMPER			Revision
						00
						Date
						3/1/2016
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNOE
						Sheet 1

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 12/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNOF-IB-B	U*CT-TS-NE80-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-5
		U*M-TM5SNOF-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM5SNOF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNOF-IC-B	U*CT-TS-NE80-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM5SNOF-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM5SNOF-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNOF-ID-B	U*CT-TS-NE80-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM5SNOF-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM5SNOF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNOF-IB-B	U*CT-TS-NE80-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-6
		U*M-TM4SNOF-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM4SNOF-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
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		U*M-TM4SNOF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNOF-IB-B	U*CT-TS-NE80-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D3-7
		U*M-TM6SNOF-IB-F			(1) U*CT-TP-S-DE-S-H	
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115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNOF-IB-B	U*CT-TS-NE80-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10
		U*M-TM1SNOF-IB-F			(1) U*CT-TP-S-DE-S-H	
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		U*M-TM1SNOF-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNOF-GJ-B	U*CT-TS-NE80-GJ	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17
		U*M-TM1SNOF-GJ-F			(1) U*CT-TP-S-DE-S-H	
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	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNOF-IC-B	U*CT-TS-NE80-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNOF-IC-F			(1) U*CT-TP-S-DE-S-H	
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		U*M-TM2SNOF-GJ-F		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

SEE PLAN & PROFILE FOR "TO" AND/OR "TP" STATIC ATTACHMENT TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.

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STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

OF TRANSMISSION LINE

USE (1) GROUND WIRE AND GROUND ROD DETAIL U*CT-TG-02-001 PER STEEL POLE

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Contact Engineering Standards - Transmission for the creation of new standards and CUs.



IBERDROLA USA

IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - NO JUMPER

Revision00Date3/1/2016

Drwn. By: L.A. BestDate Dr.: 1/19/2016Checked By: Gauvin/Becken/HartDate Ck.: 2/26/2016Approved By: Barry R. HartDate App.: 2/26/2016

TM2.23.TMxSNOF

Sheet 1

Drawing Scale: 3/16" = 1'-0"

ANSI B
11" X 17"

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

CU Type:
UC_STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
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							00	
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Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNOG		
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			
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ANSI B
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CU Type:
UC_STRU

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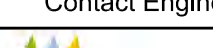
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Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNOH	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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ANSI B
11" X 17"

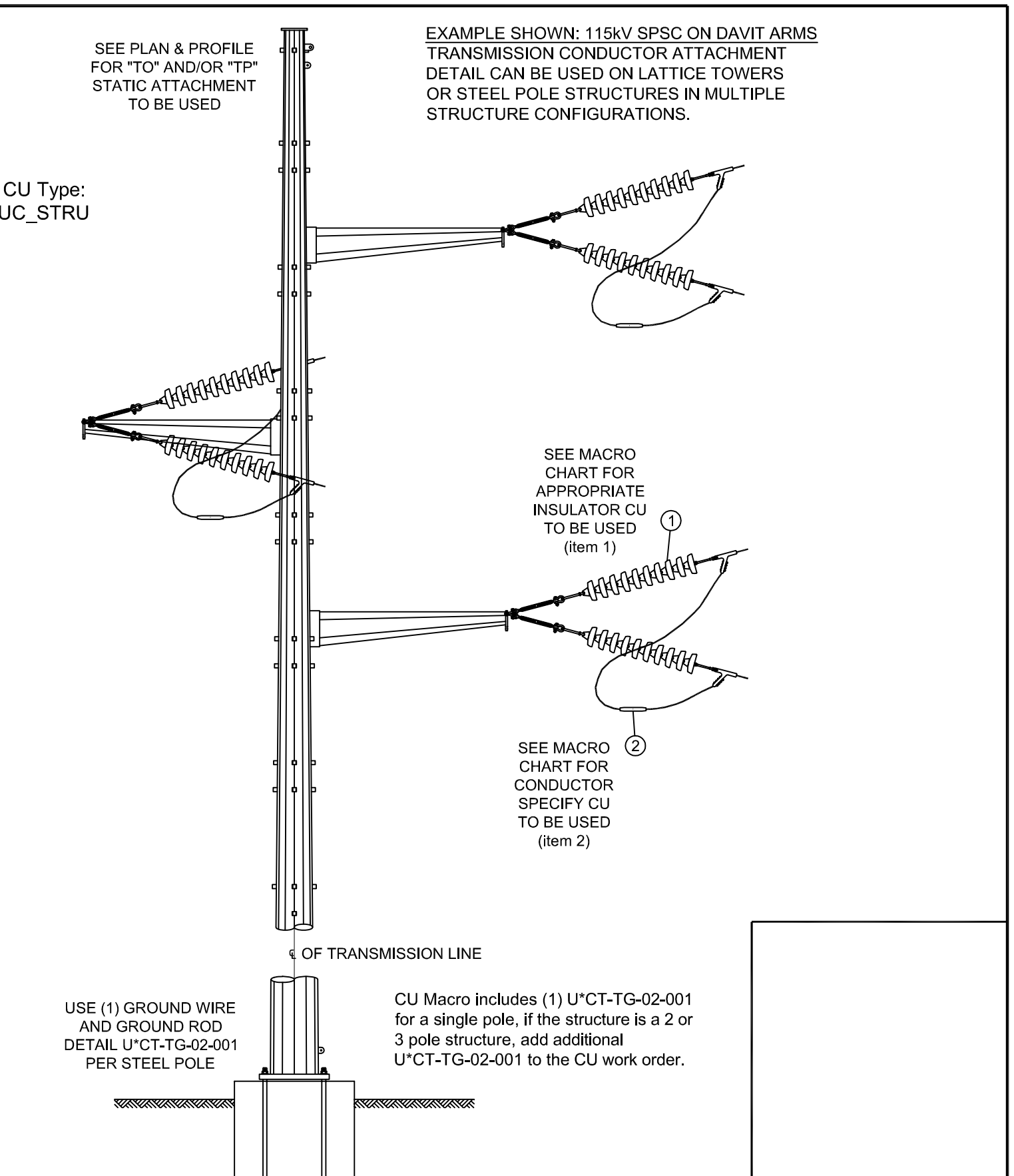
Voltage	Conductor	CU Macro	CU for Conductor Specify (Item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 6/structure			
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							00	
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Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNOJ	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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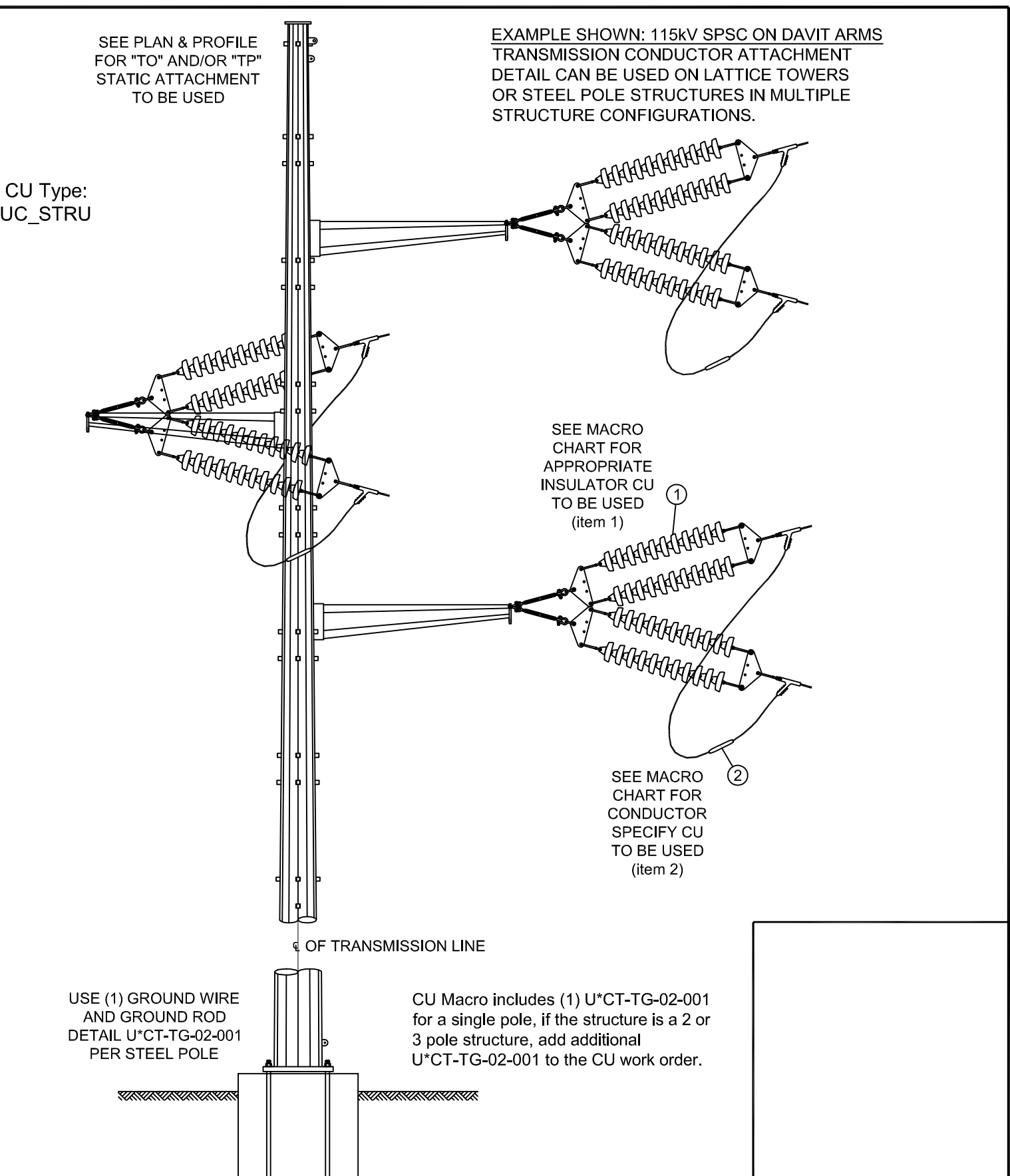
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		U*M-TM6SNOK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNOK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNOK-GJ-B	U*CT-TS-NE82-GJ	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM6SNOK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM6SNOK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNOK-IB-B	U*CT-TS-NE82-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-10	
		U*M-TM1SNOK-IB-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOK-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNOK-IC-B	U*CT-TS-NE82-IC	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM1SNOK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNOK-ID-B	U*CT-TS-NE82-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM1SNOK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNOK-GJ-B	U*CT-TS-NE82-GJ	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM1SNOK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM1SNOK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNOK-IC-B	U*CT-TS-NE82-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-17	
		U*M-TM2SNOK-IC-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNOK-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNOK-ID-B	U*CT-TS-NE82-ID	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM2SNOK-ID-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNOK-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNOK-GJ-B	U*CT-TS-NE82-GJ	(1) U*CT-TO-S-DE-S-O			(1) U*CT-TP-S-DE-S-H
		U*M-TM2SNOK-GJ-F			(1) U*CT-TP-S-DE-S-H		
		U*M-TM2SNOK-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H		

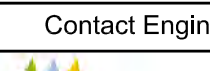
USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
		IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR ANGLE DEAD END STRAIN CLAMPS - DOUBLE STRING DE - NO JUMPER - LS			Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNOK	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Horiz. Post (item 1) 3/structure
35kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM5SNPA-IB-A	U*CT-TS-PI02-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TL-5Y-HF
		U*M-TM5SNPA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM5SNPA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM5SNPA-IC-A	U*CT-TS-PI02-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM5SNPA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM5SNPA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM5SNPA-ID-A	U*CT-TS-PI02-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM5SNPA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM5SNPA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
46kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM4SNPA-IB-A	U*CT-TS-PI02-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TL-4Y-HF
		U*M-TM4SNPA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM4SNPA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM4SNPA-IC-A	U*CT-TS-PI02-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM4SNPA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM4SNPA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM4SNPA-ID-A	U*CT-TS-PI02-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM4SNPA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM4SNPA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
69kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM6SNPA-IB-A	U*CT-TS-PI02-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TL-6Y-HF
		U*M-TM6SNPA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNPA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM6SNPA-IC-A	U*CT-TS-PI02-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM6SNPA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNPA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM6SNPA-ID-A	U*CT-TS-PI02-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM6SNPA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNPA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM6SNPA-GJ-A	U*CT-TS-PI02-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM6SNPA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM6SNPA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

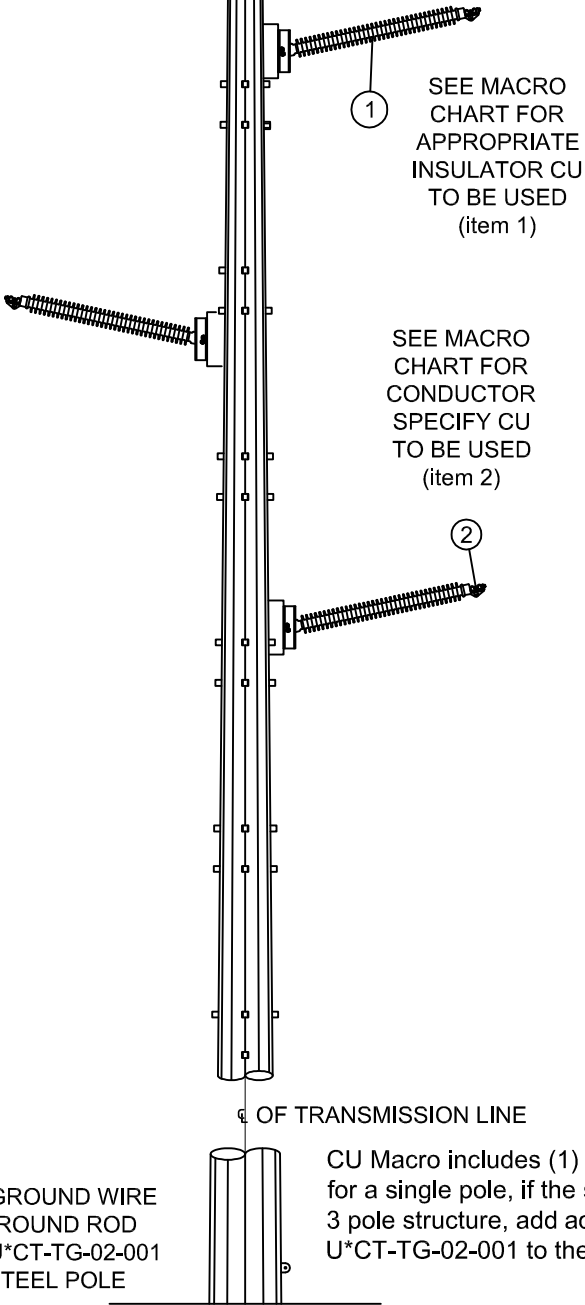
CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

EXAMPLE SHOWN: 115kV SPSC ON HORIZONTAL POSTS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.



SEE SHEET 2
FOR 115kV
AND HIGHER

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT OR SMALL ANGLE TO 15° HORIZONTAL POST STRUCTURE				Revision	
							00	
							Date	3/1/2016
Drwn. By: L.A. Best	Date Dr.: 1/19/2016	Checked By: Gauvin/Becken/Hart	Date Ck.: 2/26/2016	Approved By: Barry R. Hart	Date App.: 2/26/2016	TM2.23.TMxSNPA		Sheet 1

ANSI B
11" X 17"CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

EXAMPLE SHOWN: 115kV SPSC ON HORIZONTAL POSTS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

4 OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001 for a single pole, if the structure is a 2 or 3 pole structure, add additional U*CT-TG-02-001 to the CU work order.

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U TL69 for 35kV & 46kV, U TG69 for 69kV through 344kV, U T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 3/16" = 1'-0"



IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TANGENT OR SMALL ANGLE TO 15°
HORIZONTAL POST STRUCTURE

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxSNPA

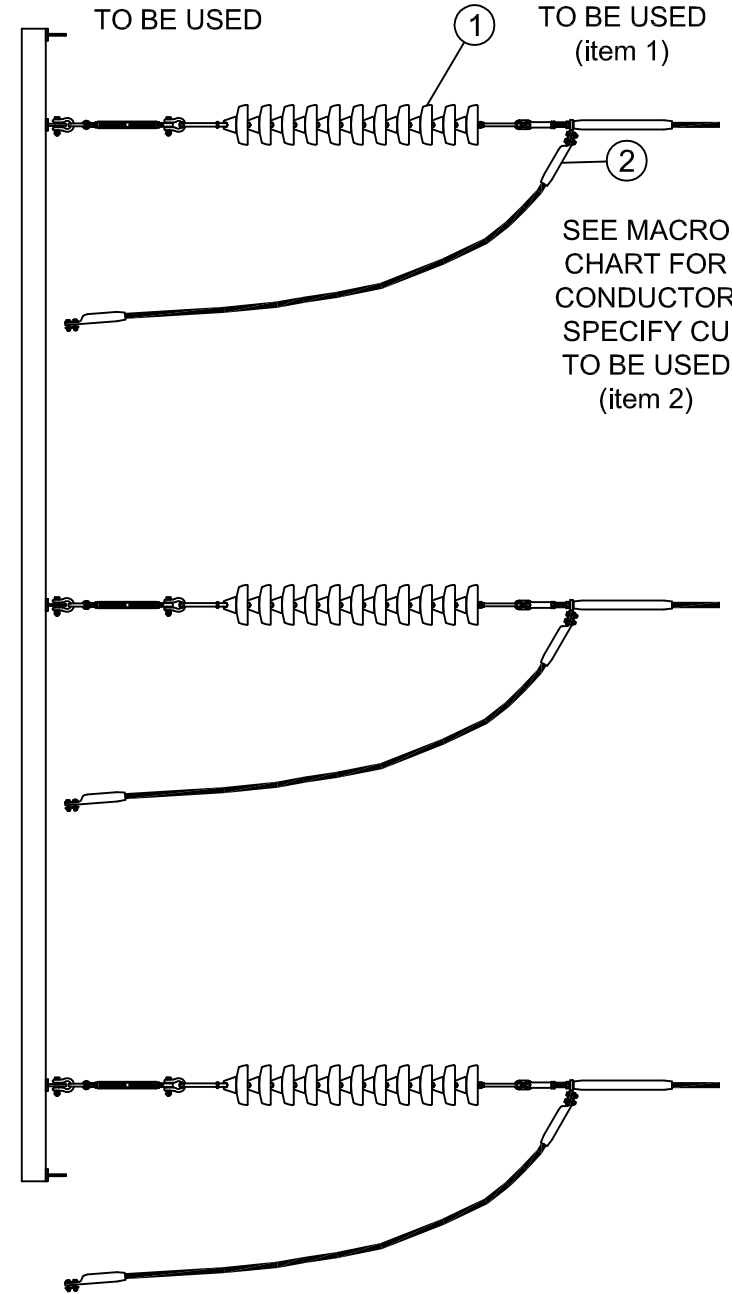
Sheet 2

ANSI B
11" X 17"

CU Type:
UC_STRU

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

EXAMPLE SHOWN:
115kV SC AT SUB BAY
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.



SEE SHEET 2
FOR 115KV
AND HIGHER

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Drawing Scale: 1/4" = 1'-0"



**IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL**

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TERMINAL DEAD END AT SUB BAY
CDE - SINGLE STRING DE

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:	2/26/2016
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Approved By:
Barry R. Hart

Date App.	2/26/2016
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TM2.23.TMxSNQA

Sheet 1

ANSI B
11" X 17"CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
____ TO BE USED

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

PROVIDE SUFFICIENT LENGTH OF CONDUCTOR
FOR ATTACHMENT TO SUBSTATION SWITCH, BUS,
LIGHTNING ARRESTER OR TERMINATION.

EXAMPLE SHOWN:
115kV SC AT SUB BAY
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.

USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: 1/4" = 1'-0"



IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TERMINAL DEAD END AT SUB BAY
CDE - SINGLE STRING DE

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxSNQA

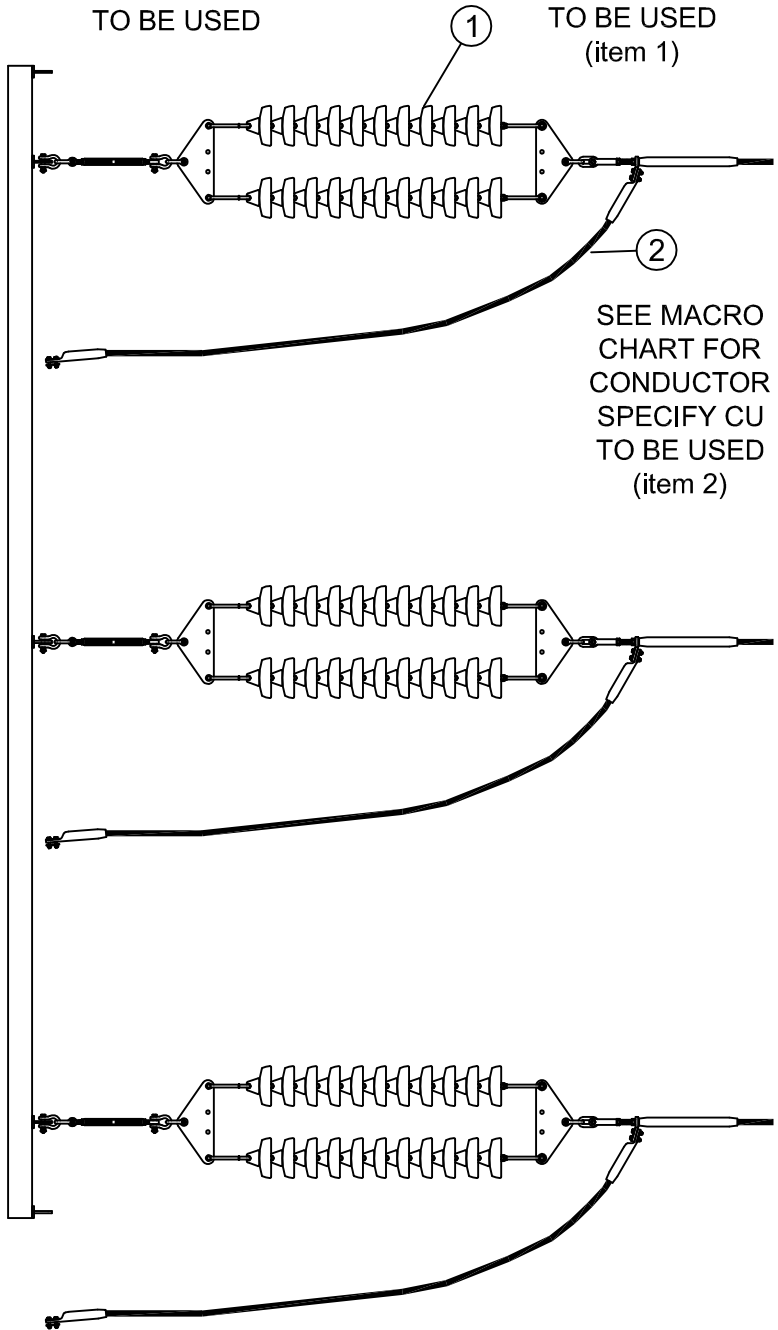
Sheet 2

ANSI B
11" X 17"CU Type:
UC_STRU

SEE PLAN & PROFILE
FOR "TO" AND/OR "TP"
STATIC ATTACHMENT
TO BE USED

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

EXAMPLE SHOWN:
115kV SC AT SUB BAY
TRANSMISSION CONDUCTOR
ATTACHMENT DETAIL CAN BE
USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES
IN MULTIPLE STRUCTURE
CONFIGURATIONS.



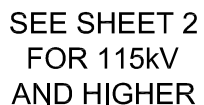
PROVIDE SUFFICIENT LENGTH OF CONDUCTOR
FOR ATTACHMENT TO SUBSTATION SWITCH, BUS,
LIGHTNING ARRESTER OR TERMINATION.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 1/4" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL	TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TERMINAL DEAD END AT SUB BAY CDE - DOUBLE STRING DE					Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNQB	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

CU Type:
UC STRU

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS TRANSMISSION CONDUCTOR ATTACHMENT DETAIL CAN BE USED ON LATTICE TOWERS OR STEEL POLE STRUCTURES IN MULTIPLE STRUCTURE CONFIGURATIONS.



STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
 IBERDROLA USA	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT SUSPENSION SINGLE STRING SUSPENSION				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNTA	Sheet 1	
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

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DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 3/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNTA-IB-A	U*CT-TS-SA11-IB	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D5-8
		U*M-TM1SNTA-IB-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNTA-IB-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNTA-IC-A	U*CT-TS-SA11-IC	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SNTA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNTA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNTA-ID-A	U*CT-TS-SA11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SNTA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNTA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNTA-GJ-A	U*CT-TS-SA11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM1SNTA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM1SNTA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNTA-IC-A	U*CT-TS-SA11-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D5-15
		U*M-TM2SNTA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SNTA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNTA-ID-A	U*CT-TS-SA11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2SNTA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SNTA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNTA-GJ-A	U*CT-TS-SA11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM2SNTA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM2SNTA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
345kV	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNTA-IC-A	U*CT-TS-SC11-IC	(1) U*CT-TO-S-VS-S-O		U*CT-TI-9P-D8-20
		U*M-TM3SNTA-IC-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNTA-IC-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNTA-ID-A	U*CT-TS-SC11-ID	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SNTA-ID-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNTA-ID-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1590 ACSR 54/19 Code Word: Falcon	U*M-TM3SNTA-IE-A	U*CT-TS-SC11-IE	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SNTA-IE-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNTA-IE-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM3SNTA-GJ-A	U*CT-TS-SC11-GJ	(1) U*CT-TO-S-VS-S-O		
		U*M-TM3SNTA-GJ-E			(1) U*CT-TP-S-VS-S-H	
		U*M-TM3SNTA-GJ-M		(1) U*CT-TO-S-DS-S-O	(1) U*CT-TP-S-DS-S-H	

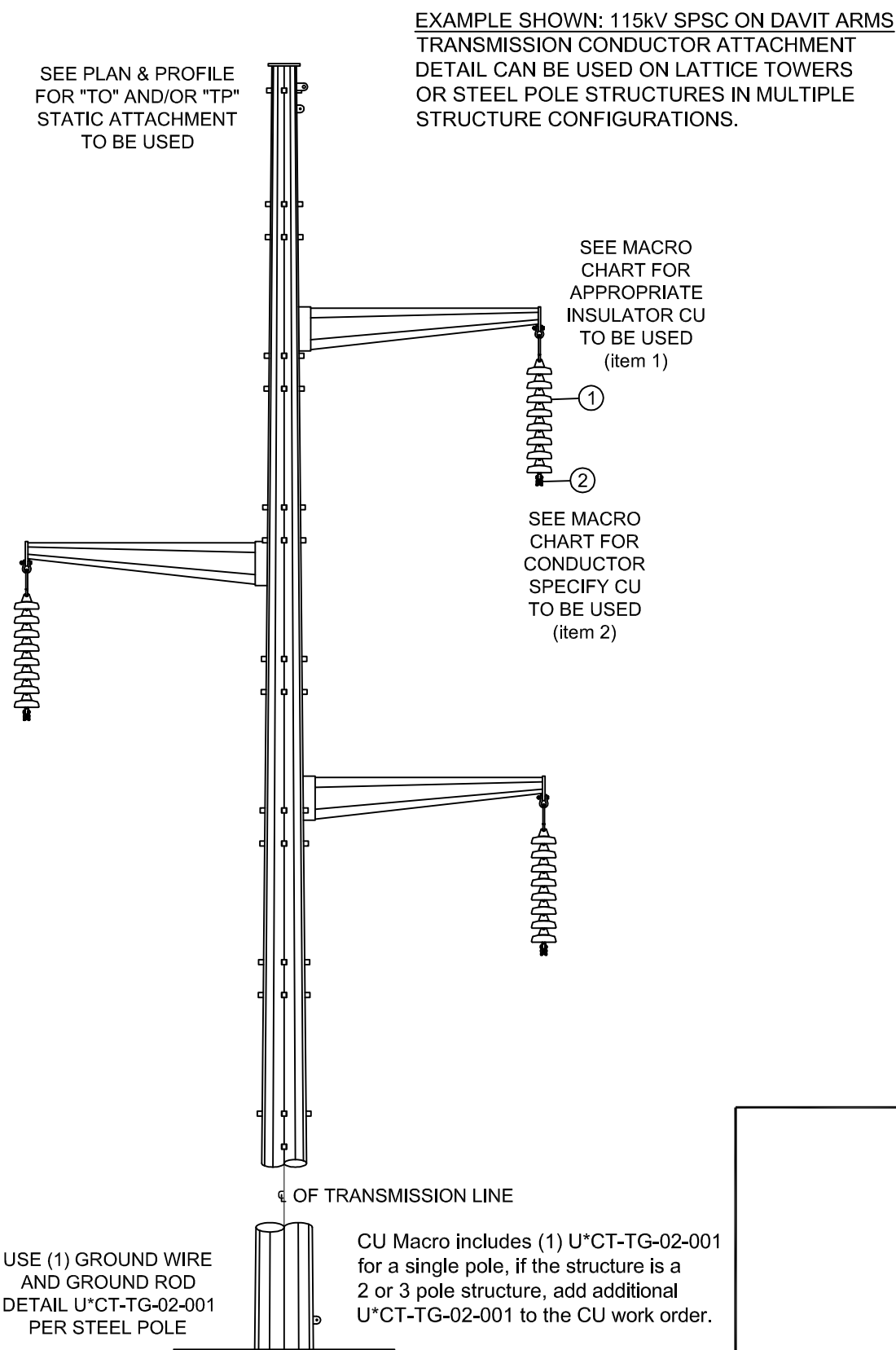
USE THE MACRO CUs INSTEAD OF INDIVIDUAL CU COMPONENTS FOR EASE OF WORK ORDER ENTRY.

STEEL STRUCTURE CONFIGURATION TO BE SHOWN ON PLAN AND PROFILE AS TM2.23.TE
STRUCTURE TYPE. REFER TO IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS
MANUAL TM2.23.TE SECTION FOR STEEL STRUCTURE NAMING CONVENTION.

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

CU Type:
UC_STRU



Contact Engineering Standards - Transmission for the creation of new standards and CUs.							Drawing Scale: 3/16" = 1'-0"	
	IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL		TRANSMISSION CONDUCTOR ATTACHMENT DETAILS FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR SINGLE CIRCUIT TANGENT SUSPENSION SINGLE STRING SUSPENSION				Revision	
							00	
							Date	
							3/1/2016	
Drwn. By:	Date Dr.:	Checked By:	Date Ck.:	Approved By:	Date App.:	TM2.23.TMxSNTA		Sheet 2
L.A. Best	1/19/2016	Gauvin/Becken/Hart	2/26/2016	Barry R. Hart	2/26/2016			

ANSI B
11" X 17"

SPECIAL APPLICATION FOR HIGHWAY AND RAILROAD CROSSINGS

THIS APPLICATION TO
USE STATIC DEAD END,
SEE PLAN & PROFILE
FOR SPECIFIC "TO"
AND/OR "TP" STATIC
DEAD END ATTACHMENT
TO BE USED

EXAMPLE SHOWN: 115kV SPSC ON DAVIT ARMS
TRANSMISSION CONDUCTOR ATTACHMENT
DETAIL CAN BE USED ON LATTICE TOWERS
OR STEEL POLE STRUCTURES IN MULTIPLE
STRUCTURE CONFIGURATIONS.

CU Type:
UC_STRU

→ A

→ A

SEE MACRO
CHART FOR
CONDUCTOR
SPECIFY CU
TO BE USED
(item 2)

SEE MACRO
CHART FOR
APPROPRIATE
INSULATOR CU
TO BE USED
(item 1)

VIEW A - A

SEE SHEET 2
FOR 115kV
AND HIGHER

CL OF TRANSMISSION LINE

USE (1) GROUND WIRE
AND GROUND ROD
DETAIL U*CT-TG-02-001
PER STEEL POLE

CU Macro includes (1) U*CT-TG-02-001
for a single pole, if the structure is a 2 or
3 pole structure, add additional
U*CT-TG-02-001 to the CU work order.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

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IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION CONDUCTOR ATTACHMENT DETAILS
FOR STEEL STRUCTURES - NON-BUNDLED CONDUCTOR
SINGLE CIRCUIT TANGENT SUSPENSION
2 SINGLE STRING SUSPENSION/PHASE - 1 YOKE/PHASE

Revision
00
Date
3/1/2016

Drwn. By:	Date Dr.:
L.A. Best	1/19/2016

Checked By:
Gauvin/Becken/Hart

Date Ck.:
2/26/2016

Approved By:
Barry R. Hart

Date App.:
2/26/2016

TM2.23.TMxSNTE

Sheet 1

THIS IS A COMPUTER GENERATED
DRAWING - DO NOT REVISE MANUALLY

ANSI B
11" X 17"

Voltage	Conductor	CU Macro	CU for Conductor Specify (item 2) 1 per structure	CU for Static Wire Attachment Detail - standard 36 fiber OPGW	CU for Static Wire Attachment Detail - AWLD/EHS Steel	CU for Insul String (item 1) 3/structure
115kV	477 ACSR 18/1 Code Word: Pelican	U*M-TM1SNTE-IB-B	U*CT-TS-SE16D-IB	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-8
		U*M-TM1SNTE-IB-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNTE-IB-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM1SNTE-IC-B	U*CT-TS-SE16D-IC	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNTE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNTE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM1SNTE-ID-B	U*CT-TS-SE16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNTE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNTE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM1SNTE-GJ-B	U*CT-TS-SE16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM1SNTE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM1SNTE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
230kV	795 ACSR 26/7 Code Word: Drake	U*M-TM2SNTE-IC-B	U*CT-TS-SE16D-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D5-15
		U*M-TM2SNTE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNTE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM2SNTE-ID-B	U*CT-TS-SE16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNTE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNTE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	1033.5 ACSR 45/7 Code Word: Ortolan	U*M-TM2SNTE-GJ-B	U*CT-TS-SE16D-GJ	(1) U*CT-TO-S-DE-S-O		
		U*M-TM2SNTE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM2SNTE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
	795 ACSR 26/7 Code Word: Drake	U*M-TM3SNTE-IC-B	U*CT-TS-SG16D-IC	(1) U*CT-TO-S-DE-S-O		U*CT-TI-9P-D8-20
		U*M-TM3SNTE-IC-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNTE-IC-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
345kV	1192.5 ACSR 45/7 Code Word: Bunting	U*M-TM3SNTE-ID-B	U*CT-TS-SG16D-ID	(1) U*CT-TO-S-DE-S-O		
		U*M-TM3SNTE-ID-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNTE-ID-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
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		U*M-TM3SNTE-IE-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNTE-IE-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	
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		U*M-TM3SNTE-GJ-F			(1) U*CT-TP-S-DE-S-H	
		U*M-TM3SNTE-GJ-O		(1) U*CT-TO-S-DE-S-O	(1) U*CT-TP-S-DE-S-H	

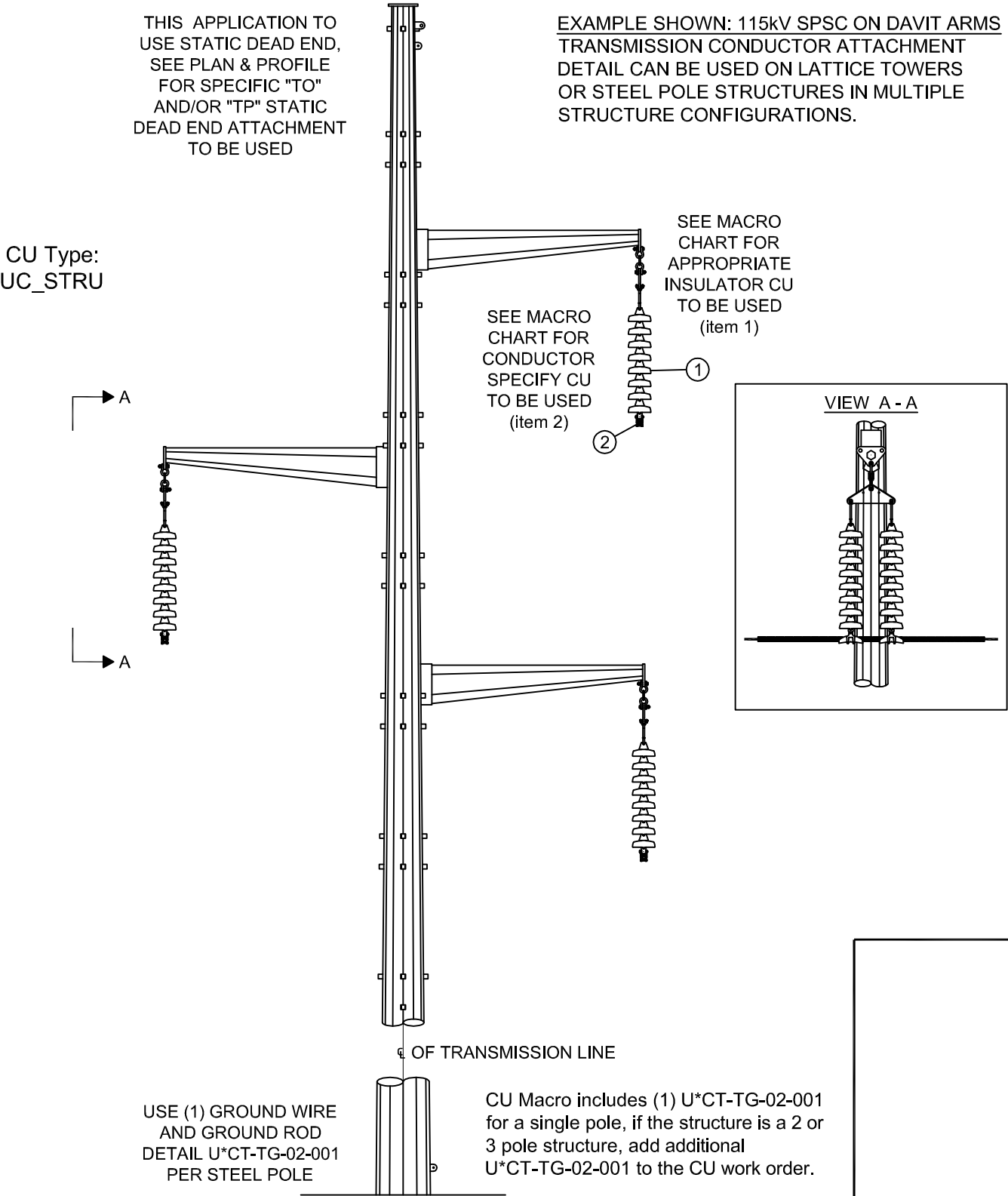
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SINGLE CIRCUIT TANGENT SUSPENSION
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TM2.23.TMxSNTE

Sheet 2