

1 Q. Please provide electronic documents describing overhead and underground  
2 distribution mainline and URD feeder inspection, testing, and maintenance  
3 programs and practices. These documents should describe the activities to be  
4 conducted by equipment type, the time period between time-based activities, and  
5 what triggers condition-based activities.

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7

8 A. Overhead Distribution Lines (New)

9 As per PUB-NLH-092 Attachment 1 “new major line extensions or replacements will  
10 receive a visual inspection within two years of construction. The next scheduled  
11 visual inspection will be ten years after the 1<sup>st</sup> inspection. Climbing inspections may  
12 be required at the discretion of the supervisor” (see PUB-NLH-092 Attachment 1  
13 and PUB-NLH-092 Attachment 4.)

14

15 Overhead Distribution Lines (Existing)

16 The frequency of line structure inspections for existing lines is set by the  
17 Distribution Maintenance Committee, in consultation with Operations staff in each  
18 region. Inspection frequencies typically range from five years to ten years,  
19 depending on the overall age of the line, exposure to the elements (high wind  
20 and/or salt conditions), and trouble history (see PUB-NLH-092 Attachment 1 and  
21 PUB-NLH-092 Attachment 4).

22

23 Underground/Submarine Cable Structures

24 The overhead structures supporting underground/submarine cables are inspected  
25 on an annual or semi-annual schedule, depending on the criticality of the asset, the  
26 age of the structure, environmental conditions, and the previous

1 trouble/maintenance history (see PUB-NLH-092 Attachment 2 and PUB-NLH-092  
2 Attachment 3).

3

4 Submarine Cables

5 Diving inspections are performed on an as required basis but generally are  
6 performed every three years by an outside contractor.

7

8 For all of the inspections listed above, condition-based activities are triggered when  
9 an inspector notes an abnormal condition on the form provided for the particular  
10 inspection. For minor conditions, repairs may be done while the inspector is on site.

11 For others, a work order would be created based on the report and submitted to  
12 the appropriate crew for action.



**DISTRIBUTION LINE MAINTENANCE MANUAL**

<b>TITLE: Transformer Structure / Line Structure Inspection</b>	<b>Inst. No.</b> 020
	<b>Rev. No.</b> 3
	<b>Page 1 of 1</b>

**1.0 Introduction:**

All distribution transformers (Pole top , Padmounts, Step-down ) & associated structures will be inspected visually as determined by the System Maintenance Review and will receive a climbing inspection at the discretion of the supervisor. This includes Diesel Plant & Single Phase Power Transformers .

**1.1** Line structures will be inspected visually as per the System Maintenance Review, however, new major line extensions or replacements will receive a visual inspection, within two years of construction. The next scheduled visual inspection will be 10 years after the 1<sup>st</sup> inspection. Climbing inspections may be required at the discretion of the supervisor.

**2.0 Procedure:**

Each transformer structure / line structure will be carefully inspected following the standard form # 120 and any additional instruction given by the Supervisor. Visual inspections may be aided by the use of binoculars

**3.0 Checklist:**

To complete the checklist refer to Standard Code Instructions.

<b>APPROVED BY:</b> Distribution Maintenance Committee	<b>ISSUED DATE:</b> 1990/12/10	<b>REV. DATE:</b> 2012/11/14
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Distribution System: \_\_\_\_\_  
Line #: \_\_\_\_\_

**Asset Information**

Pole # \_\_\_\_\_ # of Anchors \_\_\_\_\_  
 Unique # \_\_\_\_\_  
 Pole Height \_\_\_\_\_  
 Treatment \_\_\_\_\_ Geographic Location \_\_\_\_\_  
 Wood Species \_\_\_\_\_  
 Class \_\_\_\_\_ Community/Highway \_\_\_\_\_  
 Vintage \_\_\_\_\_  
 Structure Type/s \_\_\_\_\_

**DMM INSTRUCTION # 100**

**Underground / Submarine Cable & Str Inspection**

- Climbing Inspection
- Visual Inspection

Structure Condition (Check box if condition is OK, N/A - Not Applicable  
or Circle box if condition is abnormal and comment)

Code	Item	Code	Item
03	<input type="checkbox"/> INSULATOR	27	<input type="checkbox"/> GROUND WIRE
04	<input type="checkbox"/> INSULATOR TIES	32	<input type="checkbox"/> SWITCH NUMBER
05	<input type="checkbox"/> INSULATOR HARDWARE	44	<input type="checkbox"/> CONNECTIONS
06	<input type="checkbox"/> CROSSARM A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>	50	<input type="checkbox"/> WARINING SIGNS
07	<input type="checkbox"/> CROSSARM HARDWARE	56	<input type="checkbox"/> LIGHTING ARRESTOR
08	<input type="checkbox"/> HOT LINE CLAMP	58	<input type="checkbox"/> EROSION
09	<input type="checkbox"/> PRIMARY LEAD	61	<input type="checkbox"/> CONDUIT
10	<input type="checkbox"/> CUTOUTS	64	<input type="checkbox"/> TERMINATORS
19	<input type="checkbox"/> GUY WIRE	65	<input type="checkbox"/> UNDERGROUND/ SUBMARINE CABLE
20	<input type="checkbox"/> GUY WIRE BONDED	68	<input type="checkbox"/> NECKLACES
21	<input type="checkbox"/> GUY GUARD	80	<input type="checkbox"/> STRUCTURE/UNIQUE NUMBER TAG
22	<input type="checkbox"/> ANCHORS	95	<input type="checkbox"/> GROUNDING TO STANDARD
24	<input type="checkbox"/> POLE    A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>		

Code

Comments  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspector \_\_\_\_\_ Date \_\_\_\_\_  
 Supervisor \_\_\_\_\_ Date \_\_\_\_\_  
 W/O Assigned for Corrective Action. W/O # \_\_\_\_\_ Date \_\_\_\_\_



**DISTRIBUTION LINE MAINTENANCE MANUAL**

<b>TITLE:</b> <b>Underground / Submarine Cable &amp; Structure Inspection</b>	<b>Inst. No.</b> 100 <b>Rev. No.</b> 2 <b>Page 1</b> <b>of</b> 1
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**1.0 Introduction:**

All underground / submarine cable & structures will be inspected visually as determined by the System Maintenance Review and will receive a climbing inspection at the discretion of the supervisor.

**2.0 Procedure:**

Each underground / submarine cable & structure will be carefully inspected following the standard form # 100 and any additional instruction given by the Supervisor.

**3.0 Checklist:**

To complete the checklist refer to Standard Code Instructions.

<b>APPROVED BY:</b> Distribution Maintenance Committee	<b>ISSUED DATE:</b> 1990/12/10	<b>REV. DATE:</b> 2011/03/01
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Distribution System: \_\_\_\_\_  
Line #: \_\_\_\_\_

**Asset Information**

Pole # \_\_\_\_\_ # of Anchors \_\_\_\_\_  
 Unique # \_\_\_\_\_ Aliant Attached \_\_\_\_\_ Strand  Drop   
 Pole Height \_\_\_\_\_ CATV Attached \_\_\_\_\_ Strand  Drop   
 Treatment \_\_\_\_\_ Trans # \_\_\_\_\_ kVA \_\_\_\_\_ Voltage \_\_\_\_\_  
 Wood Species \_\_\_\_\_ Sec. Wire (Type/Size) \_\_\_\_\_  
 Class \_\_\_\_\_ Sec. Leads (Type/Size) \_\_\_\_\_  
 Vintage \_\_\_\_\_ Geographic Location \_\_\_\_\_  
 Structure Type/s \_\_\_\_\_ Community/Highway \_\_\_\_\_

**DMM INSTRUCTION # 20**  
**Transformer Structure / Line Structure Inspection**

- Climbing Inspection
- Visual Inspection

**Also to be used for Recloser / Voltage Regulator / Sectionalizer Structure Inspections**

Structure Condition (Check box if condition is OK, N/A - Not Applicable  
or Circle box if condition is abnormal and comment)

Code	Item	Code	Item
01 <input type="checkbox"/>	BRUSH A__ B__ C__ D__ E__	31 <input type="checkbox"/>	SECONDARY NEUT.TIED TO SYSTEM NEUT.
02 <input type="checkbox"/>	PRIMARY CONDUCTOR	32 <input type="checkbox"/>	SWITCH / DEVICE NUMBER
03 <input type="checkbox"/>	INSULATOR	35 <input type="checkbox"/>	TANK CONDITION A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>
04 <input type="checkbox"/>	INSULATOR TIES	36 <input type="checkbox"/>	COND OF BANDS & RADS A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>
05 <input type="checkbox"/>	INSULATOR HARDWARE	38 <input type="checkbox"/>	STREET LIGHT
06 <input type="checkbox"/>	CROSSARM A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>	39 <input type="checkbox"/>	PLATFORM
07 <input type="checkbox"/>	CORSSARM HARDWARE	40 <input type="checkbox"/>	BUSHINGS
08 <input type="checkbox"/>	HOT LINE CLAMP	44 <input type="checkbox"/>	CONNECTIONS
09 <input type="checkbox"/>	PRIMARY LEAD	46 <input type="checkbox"/>	LOCK
10 <input type="checkbox"/>	CUTOUPS	49 <input type="checkbox"/>	DOOR
11 <input type="checkbox"/>	NEUTRAL BRACKET	50 <input type="checkbox"/>	WARNING SIGNS
13 <input type="checkbox"/>	SECONDARY HARDWARE	51 <input type="checkbox"/>	PROTECTIVE MECHANICAL BARRIERS
14 <input type="checkbox"/>	SECONDARY TIES	53 <input type="checkbox"/>	GROUNDING / BONDING - PAD MOUNT
15 <input type="checkbox"/>	SECONDARY CONNECTIONS	54 <input type="checkbox"/>	OIL LEAKS
16 <input type="checkbox"/>	SERVICE DROPS	56 <input type="checkbox"/>	LIGHTING ARRESTOR
19 <input type="checkbox"/>	GUY WIRE	64 <input type="checkbox"/>	TERMINATORS
20 <input type="checkbox"/>	GUY WIRE BONDED	80 <input type="checkbox"/>	STRUCTURE / UNIQUE NUMBER TAG
21 <input type="checkbox"/>	GUY GUARD	81 <input type="checkbox"/>	MOUNTINGS BOLTS
22 <input type="checkbox"/>	ANCHORS	87 <input type="checkbox"/>	CONCRETE PAD
23 <input type="checkbox"/>	CRIB A__ B__ C__	96 <input type="checkbox"/>	GROUND WIRE TIED TO CASE GROUND
24 <input type="checkbox"/>	POLE A__ B__ C__	97 <input type="checkbox"/>	GROUND WIRE TIED TO SYSTEM NEUTRAL
25 <input type="checkbox"/>	SECONDARY LEADS	98 <input type="checkbox"/>	NEUTRAL TIED TO H2
26 <input type="checkbox"/>	SECONDARY WIRE	99 <input type="checkbox"/>	H2 TIED TO X2 (DUAL BUSHINGS)
27 <input type="checkbox"/>	GROUND WIRE	100 <input type="checkbox"/>	X2 BONDED TO TANK
28 <input type="checkbox"/>	GROUND WIRE MOULDING	101 <input type="checkbox"/>	X2 BONDED TO NEUTRAL

Secondary Voltage  $\emptyset$ -N \_\_\_\_\_  $\emptyset$ - $\emptyset$  \_\_\_\_\_  
 Secondary AMPS A $\emptyset$  \_\_\_\_\_ B- $\emptyset$  \_\_\_\_\_ C- $\emptyset$  \_\_\_\_\_ N \_\_\_\_\_

Code	Comments
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

Inspector \_\_\_\_\_ Date \_\_\_\_\_  
 Supervisor \_\_\_\_\_ Date \_\_\_\_\_  
 W/O Assigned for Corrective Action. W/O # \_\_\_\_\_ Date \_\_\_\_\_