Q. With reference to Hydro's response to IC-27 NLH, page 7, line 10, the Inspection Reports for each line inspected in the 2005 inspection year were requested. Why has only the Inspection Report for TL 201 been provided in the response (reports provided for other lines are WPLM Recommended Action Report, Not Inspection Reports)?

A. Recommended Action reports were mistakenly provided. Inspection Reports are attached.

Inspection Report – TL 201

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 230kV
- Geographic Location: Western Avalon Substation (Chapel Arm) to Hardwoods Substation (St. John's)
- Year of Construction: 1966
- Line Length: 80.6km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 811
- Pole Size: CL2 (85%), CL4 (15%)
- Suspension: 85%
- Angles and Deadends: 15%
- Species (based on inspection data)
  - Douglas Fir 36%
  - Southern Pine 32%
  - Western Red Cedar 32%

Pole Length Breakdown (Percent):

30'	50'	55'	60'	65'	70'	75'	80'
0.5%	7%	18%	18%	27%	18%	11%	0.5%

Past Performance:

- Significant Line Failures:
  - 1984 – Section from Structure 115 to Structure 151 collapsed under estimated 50mm glaze ice and 50kph wind
  - 1994 – Collapse of 7 structure just outside Western Avalon station
- Line Upgrades:
  - 1988 – Sections of the line were upgrades to 3" radial glaze ice by the addition of mid span structures, and reconductoring using 795ACSR
  - 1994 – Replacement of the section that collapsed was upgraded using 1192 ACSR 54/19 conductor
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002. No major pole replacements. Many worn eyebolts on suspension structures replaced. COB insulator periodically replaced.
  - 1985 – Entire line inspected. No poles rejected, signs of decay and poor pole preservative retention noted. No retreatment applied.
  - 1998 – Entire line inspected. 45 poles rejected and replaced in 1998. Preservative levels very low. No retreatment applied.
  - 2003/2004 – 597 poles inspected. 9 poles replaced in spring 2006.

Current Inspection (covered by this report)

- 214 poles (26% of total) inspected – Note: Line inspection now complete
- 64 poles (8.2%) recorded as possible rejections by field crew
- 27 poles (3.5%) scheduled for replacement after analysis
- Major pole issue: rot at pole tops and groundline
- Minor pole issues: some carpenter ants and woodpeckers
- 99 poles after 2006 replacement program (including 62 from 2003/2004 inspection) will require periodic monitoring
- Eyebolt wear on suspension structures continues to be an issue
- Preservative retention: average 0.08pcf (minimum required 0.18pcf)

Future Work

- 2006
    - Replace 27 poles, remaining COB insulators, and other noted defects in 2006 using existing WPLM CJC
    - Scheduled inspection complete
- After 2006
    - Periodically monitor 99 poles, numerous other wood items, and eye bolts
    - Schedule next major inspection for 2014

Inspection Report – TL 210

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 138kV
- Geographic Location: Stony Brook Substation to Cobbs Pond Substation
- Year of Construction: 1969
- Line Length: 85.4km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 606
- Pole Size: CL2 (100%)
- Suspension: 89%
- Angles and Deadends: 11%
- Species (based on inspection data)
  - Douglas Fir 43%
  - Southern Pine 53%
  - Western Red Cedar 4%

Pole Length Breakdown (Percent):

40'	45'	50'	55'	60'	65'	70'	75'
3%	3%	12%	11%	19%	26%	24%	2%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.

Current Inspection (covered by this report)

- 468 poles (77% of total) inspected
- 56 poles (12%) recorded as possible rejections by field crew
- 31 pole (7%) scheduled for replacement after analysis
- Major pole issue: Carpenter Ants
- Minor pole issues: Decay and Shell Separation
- 115 poles after 2006 replacement program will require periodic monitoring
- Pole problems are increasing in frequency on this line
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - 31 pole replacements required. Repair other noted defects in 2006 using existing WPLM CJC
  - 156 poles to be inspected in 2006
- After 2006
  - Periodically monitor 115 poles
  - Schedule next major inspection for 2015

Inspection Report – TL 218

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 230kV
- Geographic Location: Holyrood Substation to Oxen Pond Substation
- Year of Construction: 1966/1983 – Lines joined in 2002 - Mix of TL 236 (10.5km) and TL 242 (27.2 km)
- Line Length: 37.7km
- Basic Line Loading, Original Design:
  - TL 236 Section
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind
  - TL 242 Section
  - 1.5" Radial Glaze

Construction Summary:

- Total Wood Poles: 445
- Pole Size: CL1 (6%), CL2 (94%)
- Suspension: 83%
- Angles and Deadends: 17%
- Species (based on inspection data)
  - Douglas Fir 31%
  - Southern Pine 58%
  - Western Red Cedar 11%

Pole Length Breakdown (Percent):

30'	45'	50'	55'	60'	65'	70'	75'	80'
1%	1%	4%	3%	11%	20%	24%	35%	1

Past Performance:

- Significant Line Failures:
  - 1984 – 2.4km failed near Oxen Pond Station
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.

Current Inspection (covered by this report)

- 221 poles (50% of total) inspected
- 26 poles (12%) recorded as possible rejections by field crew
- 4 pole (2%) scheduled for replacement after analysis
- Major pole issue: Shell Separation
- Minor pole issues: Carpenter Ants
- 32 poles after 2006 replacement program will require periodic monitoring
- Rotten cross brace blocking on entire line
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - 4 pole replacements required. Repair other noted defects in 2006 using existing WPLM CJC
  - 75 poles to be inspected in 2006
- After 2006
  - Periodically monitor 32 poles
  - Schedule next major inspection for 2015

Inspection Report – TL 223

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 138kV
- Geographic Location: Springdale Substation to Indian River Substation
- Year of Construction: 1966
- Line Length: 29.8km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 351
- Pole Size: CL3 (100%)
- Suspension: 92%
- Angles and Deadends: 8%
- Species (based on inspection data)
  - Douglas Fir 0%
  - Southern Pine 98%
  - Western Red Cedar 2%

Pole Length Breakdown (Percent):

45'	50'	55'
45	46	9

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002. No major pole replacements. Cross arm replacement has been an issue over the last few years with approximately 35 replaced in 2002/2003.
  - WPLM – 175 poles inspected in 2004, 10 crossarms replaced

Current Inspection (covered by this report)

- 95 poles (25% of total) inspected
- 15 poles (16%) recorded as possible rejections by field crew
- 1 pole (3%) scheduled for replacement after analysis
- Major pole issue: checking
- Minor pole issues: shell separation
- Rotten cross arms are prominent on this line with 13 replacements in 2006, and 50 to monitor
- 12 poles after 2006 replacement program will require periodic monitoring
- Preservative retention: average 0.133pcf (minimum required 0.18pcf)

Future Work

- 2006
  - Replace 3 pole, 13 cross arms, and other noted defects in 2006 using existing WPLM CJC
  - Inspect another 81 poles in 2006
- After 2006
  - Periodically monitor 24 poles, cross arms and numerous other wood items
  - Schedule next major inspection for 2015

Inspection Report – TL 226

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Single Wood Pole
- Operating Line Voltage: 69kV
- Geographic Location: Deer Lake Substation to Berry Hill Substation
- Year of Construction: 1970
- Line Length: 77.9km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 893
- Pole Size: CL2 (100%)
- Suspension: 77%
- Angles and Deadends: 23%
- Species (based on inspection data)
  - Douglas Fir 1%
  - Southern Pine 98%
  - Western Red Cedar 1%

Pole Length Breakdown (Percent):

30'	35'	40'	45'	50'	55'	60'	65'	70'	75'
1%	28%	41%	13%	7%	5%	3%	1%	0%	1%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.
  - WPLM – 433 poles inspected in 2003/2004, 7 replaced

Current Inspection (covered by this report)

- 271 poles (30% of total) inspected
- 0 poles (0%) recorded as possible rejections by field crew
- 0 poles (0%) scheduled for replacement after analysis
- Major pole issue: none
- Minor pole issues: none
- 3 poles after 2006 replacement program will require periodic monitoring
- Many structures on this line are not plumb. This condition has existed for many years without incident
- Preservative retention: average 0.088pcf (minimum required 0.18pcf)

Future Work

- 2006
  - No poles to be replaced in 2006. Several insulators and guy guards to be replaced, in addition to other noted defects in 2006 using existing WPLM CJC
  - Inspect another 179 poles in 2006
- After 2006
  - Periodically monitor 8 poles, and rusty guy wires and guy grips
  - Schedule next major inspection for 2015

Inspection Report – TL 227

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Single Wood Pole
- Operating Line Voltage: 69kV
- Geographic Location: Berry Hill Substation to Daniel's Harbour Substation
- Year of Construction: 1970
- Line Length: 83.9km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 972
- Pole Size: CL1 (0.5%), CL2 (99.5%)
- Suspension: 87%
- Angles and Deadends: 13%
- Species (based on inspection data)
  - Douglas Fir 0%
  - Southern Pine 100%
  - Western Red Cedar 0%

Pole Length Breakdown (Percent):

35'	40'	45'	50'	55'	60'	65'	70'	75'
58%	25%	1%	7%	3%	4%	1%	0%	1%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.
  - WPLM – 311 poles in 2004

Current Inspection (covered by this report)

- 332 poles (34% of total) inspected
- 4 poles (1%) recorded as possible rejections by field crew
- 1 pole (0.3%) scheduled for replacement after analysis
- Major pole issue: shell separation
- Minor pole issues: some rot
- 3 poles after 2006 replacement program will require periodic monitoring
- Many structures on this line are not plumb. This condition has existed for many years without incident
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - 1 pole replacement required. Repair other noted defects in 2006 using existing WPLM CJC
  - Inspection complete on this line. Remaining poles installed in 2002
- After 2006
  - Periodically monitor 11 poles
  - Schedule next major inspection for 2015
  - Poles installed in 2002 will be inspected in 2013

Inspection Report – TL 234

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 230kV
- Geographic Location: Upper Salmon Substation to Bay D'Espoir Substation
- Year of Construction: 1981
- Line Length: 51.3km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 515
- Pole Size: CL1 (8%), CL2 (92%)
- Suspension: 88%
- Angles and Deadends: 12%
- Species (based on inspection data)
  - Douglas Fir 95%
  - Southern Pine 5%
  - Western Red Cedar 0%

Pole Length Breakdown (Percent):

30	35'	40'	45'	50'	55'	60'	65'	70'	75'
3%	0%	0%	0%	2%	1%	8%	45%	31%	9%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.
  - WPLM Pilot Study – 243 poles in 2002

Current Inspection (covered by this report)

- 272 poles (53% of total) inspected
- 6 poles (2%) recorded as possible rejections by field crew
- 3 pole (1%) scheduled for replacement after analysis
- Major pole issue: Carpenter Ants
- Minor pole issues: Checking
- 18 poles after 2006 replacement program will require periodic monitoring
- Significant wood decay issues with all components other than poles (knee braces, cross arms, cross braces, blocking). Steps being taken to periodically monitor and replace as required
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - 3 pole replacements required. Repair other noted defects in 2006 using existing WPLM CJC
  - Inspection complete on this line. Remaining poles inspected during pilot study in 2002
- After 2006
  - Periodically monitor 18 poles
  - Schedule next major inspection for 2015
  - Poles installed in 2002 will be inspected in 2013

Inspection Report – TL 240

Report Coverage: 2005 inspection year

Report Issued April 20, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 138kV
- Geographic Location: Churchill Falls Substation to Goose Bay Substation
- Year of Construction: 1976
- Line Length: 269.0km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 2640
- Pole Size: CL2 (14%), CL4 (86%)
- Suspension: 96%
- Angles and Deadends: 4%
- Species (based on inspection data)
  - Douglas Fir 0%
  - Southern Pine 100%
  - Western Red Cedar 0%

Pole Length Breakdown (Percent):

45'	50'	55'	60'	65'	70'
2%	15%	20%	41%	17%	4%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.

Current Inspection (covered by this report)

- 248 poles (9% of total) inspected
- 5 poles (2%) recorded as possible rejections by field crew
- 0 pole (0%) scheduled for replacement after analysis
- Major pole issue: Wood Peckers
- Minor pole issues: Internal decay
- 7 poles after 2006 replacement program will require periodic monitoring
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - No pole replacements required. Repair other noted defects in 2006 using existing WPLM CJC
  - 792 poles planned for inspection in 2006, however may be reduced based on results
- After 2006
  - Periodically monitor 7 poles
  - Schedule next major inspection for 2015
  - Line outage restrictions limit maintenance outages on this line.

Inspection Report – TL 241

Report Coverage: 2005 inspection year

Report Issued April 20, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 138kV
- Geographic Location: Peter's Barren Substation to Plum Point Substation
- Year of Construction: 1983
- Line Length: 109.5km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 1082
- Pole Size: CL2 (58%), CL3 (37%), CL4 (5%)
- Suspension: 93%
- Angles and Deadends: 7%
- Species (based on inspection data)
  - Douglas Fir 2%
  - Southern Pine 93%
  - Western Red Cedar 5%

Pole Length Breakdown (Percent):

30'	40'	50'	55'	60'	65'	70'	75'
1%	1%	7%	28%	35%	18%	6%	3%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.

Current Inspection (covered by this report)

- 146 poles (13% of total) inspected
- 5 poles (3%) recorded as possible rejections by field crew
- 0 pole (0%) scheduled for replacement after analysis
- Major pole issue: Rot
- Minor pole issues: Shell Separation and Carpenter Ants
- 10 poles after 2006 replacement program will require periodic monitoring
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - No pole replacements required. Repair other noted defects in 2006 using existing WPLM CJC
  - 163 poles planned for inspection in 2006
- After 2006
  - Periodically monitor 10 poles
  - Schedule next major inspection for 2015

Inspection Report – TL 243

Report Coverage: 2005 inspection year

Report Issued April 20, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 138kV
- Geographic Location: Hinds Lake Substation to Howley Substation
- Year of Construction: 1978
- Line Length: 15.0km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 175
- Pole Size: CL2 (78%), CL4 (22%)
- Suspension: 82%
- Angles and Deadends: 18%
- Species (based on inspection data)
  - Douglas Fir 34%
  - Southern Pine 66%
  - Western Red Cedar 0%

Pole Length Breakdown (Percent):

30'	45'	50'	55'	60'	65'	70'	75'
1%	5%	5%	9%	49%	14%	16%	1%

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002.

Current Inspection (covered by this report)

- 175 poles (100% of total) inspected
- 3 poles (2%) recorded as possible rejections by field crew
- 2 pole (1%) scheduled for replacement after analysis
- Major pole issue: Internal Decay
- Minor pole issues: Shell Separation
- 7 poles after 2006 replacement program will require periodic monitoring
- Preservative retention: unavailable at time of report (minimum required 0.18pcf)

Future Work

- 2006
  - 2 pole replacements required. Repair other noted defects in 2006 using existing WPLM CJC
  - Inspection complete on this line
- After 2006
  - Periodically monitor 7 poles
  - Schedule next major inspection for 2015

Inspection Report – TL 250

Report Coverage: 2005 inspection year

Report Issued April 19, 2006

General Line Description:

- Construction Type: Wood Pole H-Frame
- Operating Line Voltage: 138kV
- Geographic Location: Bottom Brook (Stephenville) Substation to Grandy Brook (near Burgeo) Substation
- Year of Construction: 1987
- Line Length: 123.3km
- Basic Line Loading, Original Design:
  - 1" Radial Glaze
  - 110MPh Gust Wind
  - 0.5" Ice / 55MPh Wind

Construction Summary:

- Total Wood Poles: 1283
- Pole Size: CL2 (58%), CL3 (7%), CL4 (35%)
- Suspension: 76%
- Angles and Deadends: 24%
- Species (based on inspection data)
  - Douglas Fir 12%
  - Southern Pine 80%
  - Western Red Cedar 8%

Pole Length Breakdown (Percent):

40'	45'	50'	55'	60'	65'	70'	75'
2	5	6	11	32	17	14	13

Past Performance:

- Significant Line Failures:
  - No significant line failures recorded
- Line Upgrades:
  - No line upgrades recorded
- Previous Inspections:
  - Standard preventive maintenance inspections (20% annually) until 2002. No major pole replacements.
  - WPLM – 108 poles inspected in 2004

Current Inspection (covered by this report)

- 245 poles (19% of total) inspected
- 11 poles (4%) recorded as possible rejections by field crew
- 8 poles (3%) scheduled for replacement after analysis.
- Major pole issue: rot
- Minor pole issues: shell separation and Wood Pecker holes
- 9 poles after 2005 inspection program will require periodic monitoring
- Preservative retention: average 0.083pcf (minimum required 0.18pcf)

Future Work

- 2006
  - 8 pole replacements and other noted defects to be replaced in 2006 using existing WPLM CJC
  - 321 poles to be inspected in 2006
- After 2006
  - Periodically monitor 13 poles, numerous other wood items
  - Schedule next major inspection for 2015