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(Winnipeg Centre)

COURT OF QUEEN'S BENCH OF MANITOBA

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MTS COMMUNICATIONS INC. and)
MTS MOBILITY INC.,)
)
Plaintiffs,)
)
- and -)
)
MANITOBA HYDRO,)
)
Defendant.)
)

For the Plaintiffs:
Michael G. Finlayson
Darcie C. Yale

For the Defendant:
Douglas A. Bedford
Brent A. Czarnecki

Reasons for arbitration decision
delivered:
February 26, 2004

MacINNES, J.

[1] The plaintiffs sued the defendant ("Hydro") for damages arising from the collapse on April 25, 1996 of a microwave tower (the "Tower") located at St. Mary's Road and the Perimeter Highway on the outskirts of Winnipeg, Manitoba. While action was commenced in this court, the parties requested that the matter be heard by way of binding arbitration. The parties have confirmed on the record of the hearing that my decision will be binding upon them without right of appeal or challenge on any basis whatsoever.

[2] The plaintiffs and Hydro filed a Statement of Agreed Facts (Exhibit 2) which sets forth many of the essential material facts. Each called three witnesses, including one expert each, Dr. Bruce Ball for the plaintiffs and Mr. Craig Snyder for Hydro. As well, the parties filed an additional 11 exhibits. Exhibit 1 filed by the plaintiffs is read-ins from the examination for discovery of the Hydro representative, Mr. Barry Malowanchuk. Exhibits 3, 4 and 5 are binders of Agreed Documents. Exhibits 6 to 12 are further documents individually marked.

FACTS

[3] The Tower was designed and erected in or about 1968. It was 337.5 feet high and was guy wire supported at four elevations. It had a central three-legged base support and six support anchors, two on opposite sides of each of the three legs. Each support anchor was a zinc coated galvanized steel I beam installed in an excavation at an angle approximating the slope of the guy wires. The lower portion of the anchor was embedded in concrete (the "deadman"). The upper portion of the anchor was embedded in native soil that was backfilled over the deadman. A connection plate was welded to the upper end of the anchor above the ground, to provide attachment points for the guy wires. All of the guy wires and anchors were interconnected by means of various mechanical attachments. The anchors, guy wires, main structure, and cable sheaths on the Tower were continuous with the Tower grounding system.

[4] On April 25, 1996, the Tower collapsed. One of the guy wires broke free from a support anchor. At the lower end that anchor was significantly reduced in load carrying capacity due to corrosion. The anchor fractured because of corrosion causing the collapse of the Tower.

[5] The Manitoba Telephone System ("MTS") and Hydro have had a long-standing contractual relationship with respect to the sharing of the Interlake Microwave System, the Lake Winnipeg Microwave System and the Wabowden-Whiskey Jack Microwave System (collectively the "Common Microwave Systems") which dates back to about 1968, 1975, and 1976/1977 respectively. That relationship is currently evidenced by an agreement (the "Agreement") pertaining to the Common Microwave Systems executed by MTS and Hydro (at the time referred to as the "Manitoba Hydro-Electric Board") in 1989.

[6] Hydro was the owner of the Interlake Microwave System. MTS was the owner of the Lake Winnipeg Microwave System and the Wabowden-Whiskey Jack Microwave System. Article 7.1 of the Agreement provided that each party was to maintain those portions of the Common Microwave Systems which it owned. The Tower was part of the Interlake Microwave System. Hence, the Tower was owned by Hydro and Hydro was obligated to maintain it.

[7] Pursuant to the Agreement, an Operating Committee was formed, comprised of representatives from both MTS and Hydro. The Operating

Committee met bi-monthly and as otherwise required. Its terms of reference are set forth in a document executed December 23, 1993 (document 3 of Exhibit 3).

[8] The Operating Committee was responsible for regulating the maintenance of the Common Microwave Systems. All expenditures on maintenance were submitted to the Operating Committee for approval. Then such expenditures would be submitted to each utility for approval by the appropriate authority. The tower owner would do the maintenance and pay the costs thereof. An annual accounting would follow whereby the non-owner would contribute equally to the maintenance costs.

[9] The Operating Committee formed a Maintenance Committee as a working committee. It was comprised of representatives from MTS and Hydro and met on a schedule paralleling that of the Operating Committee.

[10] Effective January 1, 1996, MTS was reorganized to act as a holding company for three subsidiary companies: MTS Net Com Inc. (which functioned as a common carrier responsible for the provision of certain telecommunication services in Manitoba), MTS Mobility Inc. (which provided cellular and other wireless services), and one other. Prior to January 1, 1996, MTS Mobility Inc. was a division of MTS.

[11] MTS and Hydro were precluded from selling or assigning their respective interests in the Agreement without the consent of the other. Notwithstanding,

as of April 1, 1996, MTS sold its equipment on the towers to MTS Mobility Inc. but did not obtain Hydro's consent to do so.

[12] Effective March 9, 1998, the name of MTS Net Com Inc. was changed to MTS Communications. Effective January 1, 2000, MTS Mobility Inc. and MTS Communications amalgamated. The name of the amalgamated corporation is MTS Communications Inc.

[13] The parties have agreed that there is no issue with respect to causation, proximity or resulting damage. They have agreed that for purposes of this arbitration only liability is to be determined. Depending upon the resolution of liability, they expressed confidence that damages can be resolved. If not, the parties will come before me on the damage issue.

ISSUES

[14] The plaintiffs say that the issue for determination in this case is whether Hydro met the standard of care required of it for inspection and maintenance of the Tower. The plaintiffs assert that Hydro did not meet the standard of care or that if it did, the standard was deficient. In either case, the plaintiffs assert that Hydro should be found liable to them for the Tower collapse.

[15] Hydro agrees that the foregoing is one of the issues and says that it met the standard of care. It also asserts that there are three additional issues, namely:

- (1) If Hydro was negligent, it says that MTS was guilty of contributory negligence.
- (2) If MTS was guilty of contributory negligence, Hydro says that MTS's breach of the Agreement in failing to obtain the consent of Hydro to its asset sale to MTS Mobility Inc. should preclude MTS Mobility Inc. from any recovery.
- (3) Since Hydro did not consent to MTS Mobility Inc. having equipment on the Tower, MTS Mobility Inc. was, therefore, a trespasser. Thus, Hydro owed a diminished duty of care and has no liability.

[16] I now turn to consider the issues:

- (1) **Did Hydro meet the standard of care required of it for inspection and maintenance of the Tower? Alternatively, was the standard deficient?**

Evidence

[17] Let me first review the evidence which I consider material to this issue.

[18] Mr. Peter J. Klym, an employee of MTS since 1968, testified that at the material time, his primary responsibility was the design, construction and maintenance of microwave towers.

[19] He testified that MTS inspected each of its sites and towers once every four years. It contracted out such inspections to structural engineers who specialized in the inspection and maintenance of communications towers.

[20] Before 1996, inspection of anchors for any tower was only an aboveground visual inspection. MTS relied on its consultants for recommendations as to any change in inspection. Only since the Tower collapsed in 1996 has MTS begun to do shallow subsurface investigations of anchors.

[21] He referred to documents 1 to 4 of Exhibit 5. These are copies of correspondence between MTS and Hydro evidencing a request by MTS in 1987 for tower space for the installation of five cellular antennae at both the Selkirk tower and the Tower, and Hydro's response. As well, he referred to documents 5 and 6 of Exhibit 5 which are copies of similar correspondence in 1993 where MTS requested and Hydro approved the relocation of the cellular antennae on the Tower.

[22] On cross-examination, Mr. Klym admitted that MTS has owned communications towers since the 1950s and at the time of this incident, owned approximately 175 towers. He acknowledged that other companies aside from MTS and Hydro owned towers in Manitoba. To his knowledge none of them had suffered any anchor failure due to corrosion. He was not aware personally, nor

had he heard anything within MTS or from any other source, of any below ground failures of tower anchors as a result of corrosion.

[23] He acknowledged that the inspection forms used by both MTS and Hydro were similar and that neither had any provision in its inspection forms for, nor did either perform, subterranean inspection of anchors.

[24] Mr. Tom Breman became employed with MTS in 1975. He testified that there was a formula in the Agreement for the sharing of space on towers and said that if MTS wanted space on a Hydro tower, it made a formal request. Hydro would then respond after it had considered, and undertaken design analysis with respect to, the request.

[25] Mr. Malowanchuk testified on behalf of Hydro. He graduated with an Engineering degree in 1974 and has been employed with Hydro since. He reviewed Hydro's inspection reports and related records of the Tower (documents 14 to 25 of Exhibit 3). He confirmed that neither the inspection, nor the inspection report, included underground inspection of anchors. The corrosion inspections referred to in the reports were strictly aboveground visual inspections.

[26] He said that at the material time, Hydro inspected each of its towers every three years. The Tower was inspected September 16, 1993 so that its next inspection would have occurred in September 1996 which, of course, was approximately four months after the Tower collapse.

[27] Mr. Malowanchuk testified that he had learned at a joint utility conference, in the spring of 1991, that Minnkota Power Cooperative had suffered a tower collapse due to anchor corrosion. He communicated this information to Mr. Carry Wong, a structural engineer with Hydro, and asked him to follow up. Mr. Wong did so and then reported at a November 26, 1992 meeting of Hydro personnel. By that meeting, Hydro had in its possession two communications from Great Plains Tower Systems Inc., namely, a letter dated February 26, 1991 and a newsletter dated August 29, 1991 (documents 64 and 65 of Exhibit 4), a letter from Occupational Safety and Health Administration of the U.S. Department of Labor dated December 19, 1990 (the "O.S.H.A. letter") and an attachment to it entitled "Guy Anchor Support Systems – Corrosion Control Implementation – Recommended Guidelines for Prioritizing Guy Anchor Systems" (documents 63 and 67 of Exhibit 4).

[28] Relevant excerpts from these documents are as follows:

- Document 63 – the O.S.H.A. letter:

A recent accident near Langdon, North Dakota, involving the collapse of a communications tower.... This tower was a guy line supported triangulation tower that collapsed due to the failure at a line anchor point. The steel anchor rod, embedded in concrete below ground, separated due to severe corrosion and deterioration of the anchor system. ...

There are possibly thousands of similar towers susceptible to this same risk. Therefore, we would highly recommend that tower owners and companies who perform inspection, maintenance, and repair, conduct an in-depth inspection and evaluation to determine the structural integrity of the tower's anchor system....

- Document 67 – the attachment to the O.S.H.A. letter:

Corrosion Problem

Radio and microwave tower construction presents many challenging corrosion problems including some that are not always obvious. In particular, the use of steel anchor rods for guy angle structures introduces several underground corrosion mechanisms. When galvanized steel anchor rod systems are used, they often contribute to accelerated corrosion failure.

- Document 64 – the Great Plains letter dated February 26, 1991:

... [M]ost tower anchors are susceptible to deterioration and or failure. ... The only way to satisfactorily inspect an anchor shaft is to excavate it down to the concrete deadman.

- Document 65 – the Great Plains newsletter dated August 29, 1991:

... In addition to our normal tower projects, we are involved in an ongoing job of unearthing and servicing the anchor shafts of approximately 80 towers this year (about 400 holes) before the ground freezes again this winter. ... We are finding rusty deteriorating [sic] anchors in the newest wet sandy anchor sites to the dry buttes and ridges of the Dakotas and everything in between. None of these problem anchors were big hi-power usage towers, they were mostly remote sites with seemingly low current flow type potentials in the soil and sites. Our analogy is, no pattern discovered, all anchors are susceptible to corrosion from one factor or combination of several.

[29] Mr. Malowanchuk was referred to document 32 of Exhibit 3. It includes a memorandum dated December 8, 1992 from him to File. The memorandum recorded the meeting of Hydro personnel on November 26, 1992 held to discuss possible corrosion to communications tower anchors which could be a structural concern. It recorded that the meeting was prompted by information received detailing the failure of a communications tower owned by Minnkota Power Cooperative. It recorded that Mr. Wong had expressed concern that although Hydro had had problems at only a few locations, its use of channel iron rather

than solid rod at many anchor locations might make Hydro very susceptible. It recorded that Mr. Wong had obtained and introduced a contractor's estimate of \$2,000 to \$3,000 U.S. to excavate the anchors at a site, inspect them, paint them with protectant and install cathodic protection. It also recorded that in relation to the budget, it was agreed that as part of the 1993/94 tower inspection program, two locations would be inspected, namely, Beaver Creek and Whitemouth Lake. Once the results were known, further action, if necessary, would be considered.

[30] Mr. Malowanchuk said that the Beaver Creek and Whitemouth Lake sites were chosen by Hydro, as in Hydro's view, based upon the information Mr. Wong had received from Minnkota Power Cooperative, they most closely replicated the circumstances which Minnkota found at the site of its tower failure.

[31] Document 62 of Exhibit 4 is an interoffice memorandum of Hydro dated November 9, 1993. It reported on Hydro's attendance at Beaver Creek. Two anchors were exposed. One had no evidence of corrosion whatsoever, and the other had evidence of minor corrosion only. As a result, Hydro did not go out and excavate at its tower sites. Mr. Malowanchuk testified that there were 18,000 steel transmission line towers in Manitoba and that Hydro had had a problem at only one tower.

[32] Mr. Malowanchuk testified that in the fall of 1994, Hydro returned to Beaver Creek and, as well, attended at Whitemouth Lake. It re-inspected the

two anchors previously inspected at Beaver Creek and also inspected the third anchor. As well, it inspected the anchors at Whitemouth Lake. Very minor surface rust was noted but there was nothing which gave rise to any structural concern.

[33] On cross-examination, Mr. Malowanchuk confirmed that Hydro had not passed documents 63, 64, 65 and 67 on to MTS. As well, he acknowledged that the anchors of the Tower had never been inspected below ground prior to the Tower collapse.

[34] He also confirmed that when MTS wanted a change in equipment or in the location of equipment on a tower owned by Hydro, MTS was required to make a request. Hydro would refer the request to its in-house structural people for analysis and consideration.

[35] Mr. Glenn Penner is employed by Hydro as a structural engineer involved in design and analysis of design of communications towers.

[36] He testified that when a request was made for modification of equipment on a Hydro tower, the request was referred to the structural engineering department for an analysis to determine the effect of such proposed modification on the structural integrity of the tower. The analysis was done by use of a computer model to which the new proposed load was added and a determination made on the basis of the computer model. He said that in both 1993 and 1995, analyses of the Tower were done in respect of MTS's requests. No inspection

was made of the condition of the Tower or of the anchors below grade. Therefore, Hydro would not have known to what extent anchor corrosion might have existed or might have affected the structural integrity of the Tower.

[37] Dr. Ball testified as an expert witness on behalf of the plaintiffs. He graduated from the University of Alberta in 1973 with a Ph.D. in Metallurgical Engineering. He described himself as a professional engineer who had practiced as a consultant for over 30 years, his area of practice being that of failure analysis and failure prevention. He said that he had investigated in excess of 10,000 failures and accidents throughout his career. However, this included only three to eight communications towers whose failure was the result of anchor corrosion, the admitted cause of the failure in this case.

[38] Dr. Ball admitted that he was not aware of any hydro-electric utility in the mid 1990s digging up or excavating all of its tower anchors for purposes of inspection for corrosion. Further, he confirmed that any general inspection or maintenance program would have to be subject to reasonable expenditure. He said that one would not be expected to incur a substantial increase in maintenance budget unless one had a real conviction that a serious problem existed. He said that he would have recommended to Hydro that it put in place a program for the performance of a soil resistivity check at each anchor as each tower came up for its scheduled inspection. He acknowledged that such a program would not have helped in this instance since the Tower had been

inspected in 1993 and at the time of the Tower collapse, its next scheduled inspection was September 1996.

[39] Dr. Ball did not purport to have knowledge or experience as to the standard of inspection or maintenance of communications tower anchors in Manitoba or Canada, nor in my view of his evidence did he have sufficient experience or expertise to offer an opinion in that regard.

[40] Dr. Ball testified concerning the Canadian Standards Association, CSA Standard S37-M86 and, in particular, Appendix F thereof, as well as the updated version, namely CSA Standard S37-94 including Appendix F. He acknowledged that the standard was one for design, not maintenance. He said that the standard was not mandatory but rather was representative of good industry practice. In fact, in his opinion, it represented the minimum standard of care.

[41] Having reviewed both CSA Standard S37-M86, including Appendix F (Exhibit 9) and its updated version, CSA Standard S37-94, including Appendix F (document 11 of Exhibit 3 and pages 860 and 861 of document 93 of Exhibit 4), I conclude the following excerpts relevant for consideration in this dispute:

- CSA Standard S37-M86:

3. General Design

3.1

The design of the structure, including foundations and anchorages, shall be executed by an Engineer in accordance with all the requirements of this Standard for a specific geographic location.

Note: *An existing structure should not be modified or have loads added to it without having the physical condition and loading of the structure verified by inspection and the design confirmed by an Engineer to determine that the requirements of this Standard are met. A structure designed to an earlier version of this Standard may be checked to the requirements of that earlier edition for the modified condition. If a structure requires strengthening as a result of a modification, it should be strengthened to meet the latest edition of this Standard.*

11.5 Corrosion Protection

...

11.5.2

For anchorage steel not encased in concrete, additional corrosion protection to the galvanizing shall be provided.

Note: *See Appendix F on corrosion protection.*

Appendix F Corrosion Protection of Guy Anchorages

Note: *This Appendix is not a mandatory part of this Standard.*

F1. General

F1.1

In recent years there has been a serious increase in the corrosion rate of galvanized steel anchor shafts in direct contact with the soil. ... While the majority of the problems have occurred at sites where the installation is about 20 years old or more, there have recently been a few cases that have been less than 10 years old. ...

F1.2

F1.2.1

There are a number of corrosion mechanisms that can attack the anchor shaft. These are

...

(d) soil corrosion.

...

F3. Inspections

F3.1

Inspection of existing installations is very important. ...

An inspection of all of the anchors is necessary and not just a random sample. Experience has shown a wide variation in the corrosion action across a tower site.

- CSA Standard S37-94:

Preface

This is the fifth edition of CSA Standard S37, *Antennas, Towers, and Antenna-Supporting Structures*. This edition replaces and supersedes previous editions, published in 1986, 1981, 1976, and 1965.

...

Most design Standards are written to address the requirements of new structures. The Technical Committee of this Standard has also been concerned about the effect of changes on existing structures. While it is not mandatory to upgrade existing towers when new versions of the Standard are published, communication structures are frequently subject to changes in attached equipment. This necessitates verification to the current version. Changes are therefore carefully considered so as not to cause significant economic impact for minor changes in equipment.

3.5 Existing Structures

Before an existing structure is modified or has loads added to it

- (a) the physical condition and information required for analysis of the structure shall be verified by inspection;
- (b) the adequacy of the structure shall be evaluated in accordance with this Standard; and
- (b) any deficiencies shall be corrected.

7. Corrosion Protection

...

7.5 Anchorage Steel

...

7.5.3

For anchorage steel located below grade and not encased in concrete, further corrosion protection in addition to the galvanizing shall be provided.

Note: *See Appendix F, Corrosion Protection of Guy Anchorages.*

Appendix F

The identical language referred to above as found in Appendix F to CSA Standard S37-M86 appears in Appendix F to CSA Standard S37-94.

[42] Dr. Ball opined that the combination of the Preface and Section 3.5 of CSA Standard S37-94 made mandatory the inspection of anchors on communication structures where there was a change in the attached equipment.

[43] In his opinion, the change in equipment on the Tower would also implicate Section 7.5.3 of CSA Standard S37-94. He testified that "shall" in that section meant that as a matter of good practice you shall do it. It was his opinion, therefore, that when the changes were made on the Tower in 1995 (and probably in 1993 as well), it was incumbent on whoever was ascertaining whether the Tower could tolerate the change to look not only at the superstructure of the Tower but also at the substructure. In his view, it was mandatory therefore that the anchors complied with Appendix F.

[44] Mr. Snyder testified as an expert witness on behalf of Hydro. His expertise was acquired through extensive business and related practical experience in the construction, maintenance and servicing of telecommunications towers since approximately 1989 and his membership and participation in certain professional associations related to the erection, inspection and maintenance of towers.

[45] He testified that until 1991, he and his companies in the tower maintenance business did not excavate tower anchors for inspection. On

September 25, 1990, he was a witness to a tower collapse in Langdon, North Dakota, on a project his company was working on. His brother and his business partner were on the tower at the time of the collapse and were seriously injured. This accident was the genesis of his special interest in tower anchor excavation and inspection. He testified that following this accident and as a result of his new interest, he began to discover that anchor corrosion was more widespread than he had known or believed and that it was not something that the industry considered being a problem at all.

[46] He reviewed the Hydro inspection reports and related records with respect to the Tower (documents 14 to 25 of Exhibit 3) and testified that as of the date of the inspections reported upon, the Hydro inspections and inspection reports were standard or common as compared with other tower inspections and inspection reports of that time. In his experience, excavation and inspection of anchors on communications towers was fairly uncommon prior to April 1996. Companies were not looking for corrosion, and even if they saw corrosion above ground; they probably would not have drawn the corollary that there would be anything to be concerned with below ground.

[47] He confirmed that the inspection intervals and the inspection methodology followed by Hydro as described in its inspection reports were consistent with that which he commonly saw in the industry in the years 1984 through 1996.

[48] He testified that while soil resistivity tests could be helpful, these were not a common practice in the industry because they incurred cost without providing useful, specific information.

[49] On cross-examination, he testified that he became aware sometime in the early 1990s that the soil in the Red River basin was highly corrosive. As well, he testified that as with him and his company, it was his experience that a tower failure is usually the event that motivates people to change and become more particular in their tower inspection practices.

[50] He confirmed that CSA Standard S37-M86 described a concern about corrosion of buried steel anchors and, as well, provided some guidance regarding the inspection of such anchors. He said that he agreed with what was stated in the Note at Section 3.1 of the Standard, that an existing structure should not be modified or have loads added to it without having the physical condition and loading of the structure verified by inspection, and the design should be confirmed by an engineer to determine that the requirements of the Standard were met.

[51] He acknowledged as well that although the Standard was not mandatory, the people involved in its preparation were people involved in the communications towers industry. He said that he would expect structural engineers engaged in tower design in Canada to be aware of the Canadian

Standards Association standards and any updates to them within a short period, no more than six months from their release.

[52] He confirmed that where changes were being made to an existing tower structure, it would make sense to re-analyze and inspect the structure and that such inspection with respect to the addition of new loads should occur not just above ground but also at the anchors below ground.

[53] He acknowledged that while, in his view, Hydro's practice at the material time conformed with industry standard, the industry standards of which he spoke were those in the United States. He clearly stated both in his written report (document 94 of Exhibit 4) and in his evidence that he could not comment as an expert on what the maintenance and inspection practices of tower service companies were in Canada in April 1996.

Analysis

[54] A standard of care is not something determined in a vacuum. Rather, it is informed by, or dependent upon, the facts material to the incident under examination which facts give rise to the inquiries, what is the standard of care, and was it met.

[55] In this case, the parties focused primarily on the issues of what was the standard of care in the general inspection and maintenance of communications towers and if the general standard of care was met, was it deficient. Less focus was given to the standard of care (and whether it was met) in circumstances

where, as here, changes were made to the Tower by the addition or relocation of equipment upon it, either of which would affect the load bearing capacity of the Tower and its structural soundness including its anchor supports.

[56] Having considered the evidence, I am satisfied that CSA Standard S37 did not provide a standard in Manitoba or Canada for the general inspection and maintenance of communications towers. Rather, the evidence is clear that CSA Standard S37 is primarily a standard for design. As well, I am satisfied that neither expert witness was qualified to opine as to the industry standard in Manitoba or Canada for the general inspection and maintenance of communications towers, including the Tower. The best evidence of the industry standard in Manitoba for the general inspection and maintenance of communications towers was that from the representatives of the plaintiffs and Hydro, including the documentary evidence tendered at the hearing.

[57] The parties' practice in Manitoba was confirmed by the evidence of Mr. Snyder as being consistent with his industry experience in his locale, namely, the Dakotas and midwestern United States. And Dr. Ball's evidence was that he was not aware of communications tower owners who, in the 1990s, had undertaken dig programs to inspect for underground anchor corrosion.

[58] I conclude, therefore, that in the 1980s and 1990s to and including the date of the Tower collapse, the industry standard in Manitoba for the general inspection and maintenance of communications towers was that conducted by

the parties themselves, namely, regularly conducted visual aboveground inspection and maintenance of a tower without excavation or subterranean examination of its anchor supports. Further, I conclude that Hydro complied with that standard.

[59] As for the question — was the industry standard for general inspection and maintenance of communications towers deficient — I do not have a sufficient evidentiary basis upon which to make a determination.

[60] In my view, however, the real question in this case is not what was the industry standard for the general inspection and maintenance of communications towers, including the Tower, or whether that standard was met, or if so whether that standard was deficient, but whether Hydro was negligent in its inspection and maintenance of the Tower given the particular factual circumstances of this case.

[61] To that question, I would answer that it was.

[62] It is clear from the evidence that Hydro was aware of the Minnkota Power Cooperative tower collapse caused by anchor corrosion.

[63] As well, it is clear that Hydro had received the O.S.H.A. letter reporting upon a recent collapse of a communications tower near Langdon, North Dakota, a document attached to the O.S.H.A. letter entitled "Guy Anchor Support Systems – Corrosion Control Implementation – Recommended Guidelines for

Prioritizing Guy Anchor Systems", and the two communications from Great Plains.

[64] The evidence is that these documents and this information were provided by Mr. Malowanchuk to Mr. Wong. As requested, Mr. Wong looked into the matter and indeed obtained a quotation from Great Plains dated November 10, 1992 for the excavation and inspection of anchors. The quotation was \$2,600 U.S. for six anchors and \$2,100 U.S. for three.

[65] With the foregoing and perhaps other information, Mr. Wong reported to Hydro personnel concern about anchor corrosion. Indeed, Hydro acted upon that concern by excavating anchors at Beaver Creek and later at Beaver Creek and Whitemouth Lake.

[66] While I am satisfied that even with this knowledge, Hydro's conduct was not in breach of the industry standard for general inspection and maintenance, given both its overall experience with its numerous communications towers and the practice within the industry itself in the 1990s (which was to do only visual and aboveground inspections of communications towers), the existence of CSA Standards S37-M86 and S37-94 including Appendix F to each, coupled with the requests of MTS in 1987, 1993 and 1995 for the addition and/or relocation of equipment on the Tower, create a different issue and obligation.

[67] It is true on the evidence that the Standard is one related to design and not maintenance. Further, neither the Standard nor Appendix F is mandatory.

While Dr. Ball opined that, in circumstances where a change in or relocation of equipment on a tower is to occur, the Standard makes mandatory both actual inspection of the tower and the provisions of Appendix F relative to the anchors, I need not accept his opinion as valid in order to reach the conclusion which I have.

[68] I am satisfied that with all of the information which Hydro had including the provisions of the Standard and Appendix F, it was not sufficient simply to have its structural engineering department do a computer analysis in responding to and approving a request for change. Where a request for change in, or change in location of, equipment on a tower has been received and is under analysis and consideration, to excavate and visually inspect the tower anchors is both simple and, on the evidence, inexpensive to do. Indeed, the cost probably could have been passed on by Hydro to MTS as part of its inspection and approval process. Regardless, in my view, excavation and visual inspection of the Tower anchors in these circumstances was something that Hydro should have done in order to meet its duty of care. Not only did the Standard (whether mandatory or not) specifically instruct that this should be done, but in my view, common sense would so dictate as well. Hydro's failure to do so in the circumstances was, in my view, negligent and a breach of its duty of care owed to MTS.

[69] Had the underground inspection been done, I infer confidently that Hydro would have discovered the anchor corrosion surely in 1995 and probably in 1993, the problem would have been remedied, and the Tower collapse on April 25, 1996 would have been avoided.

[70] In the circumstances, I conclude that Hydro was negligent in not excavating and inspecting the anchors of the Tower on both of those occasions and that its negligence caused the Tower collapse.

(2) Was MTS guilty of contributory negligence?

Evidence

[71] Let me review the evidence which I consider material to this issue.

[72] Mr. Klym confirmed that both the Operating Committee and the Maintenance Committee are joint committees of MTS and Hydro. He said that he reviewed the minutes of meetings of both committees and that in so doing, looked for reference to towers and/or antennae but not really to any other issue. If there were matters that he felt had to be spoken to, he would bring them to the attention of Mr. Breman, one of MTS's representatives on the Maintenance Committee. He said as well that normally the inspection reports of both Hydro and MTS were made available to the Maintenance Committee.

[73] Mr. Breman testified that he attended Maintenance Committee meetings regularly and that when he could not, he sent a member of his staff. He was provided with an agenda prior to every meeting and decisions taken at a meeting

were recorded in its minutes. He received copies of the minutes of the Maintenance Committee meetings. He said that at every meeting the minutes of the past meeting were reviewed. He acknowledged that Hydro sent him information respecting the Common Microwave Systems and, in particular, Hydro's towers, and he redirected that information to those at MTS who, in his view, should receive it.

[74] Both Mr. Klym and Mr. Breman testified that, to their knowledge, there were no discussions at Maintenance Committee meetings respecting an anchor corrosion problem. Mr. Breman acknowledged that there was mention made by Hydro at one of the Maintenance Committee meetings at which he was not present concerning tower inspections at Beaver Creek, but both he and Mr. Klym said that they were not aware of any discussion respecting Whitemouth Lake. Both said that they had not seen a copy of the anchor inspection report for Beaver Creek and Whitemouth Lake found at document 68 of Exhibit 4.

[75] Further, while both Mr. Klym and Mr. Breman admitted that MTS received documents 31 and 32 of Exhibit 3, being a letter from Hydro to Mr. Anderson of MTS, and the 1992-1993 Annual Report for Hydro Surveillance and Maintenance of Radio and Microwave Towers, the last page of which is Mr. Malowanchuk's memorandum to File dated December 8, 1992 referring to the issue of corrosion of communications tower anchors and the failure of a Minnkota Power Cooperative tower, neither they nor, to their knowledge, anyone at MTS took

particular note of that memorandum or of the facts reported in it. Both Mr. Klym and Mr. Breman were adamant that they were not aware of the Minnkota Power Cooperative tower collapse by reason of corrosion nor of documents 63, 64, 65 and 67 of Exhibit 4 reporting upon the tower collapse at Langdon, North Dakota, and warning of the existence of evidence of tower anchor corrosion.

[76] Mr. Klym acknowledged the collapse of an MTS tower at Jackhead both in early 1993 and again in January 1994. The first collapse was repaired but not much more was done given that it was treated as an oddity. After the second collapse, a fuller investigation was conducted and the conclusion was that the failure appeared to be a tensile failure caused by fatigue, not corrosion. The recommendation was that all of the anchors should be strengthened or replaced. MTS acted accordingly. The point, however, is that this was not evidence to them of anchor failure by reason of corrosion.

[77] Mr. Malowanchuk testified that he attended a meeting on December 7, 1993 with Minnkota Power Cooperative personnel. Messrs. Klym, Breman and another employee of MTS attended with him. He testified that Minnkota reported upon the circumstances of three tower failures, two by reason of sabotage and the one that he had earlier heard of by reason of corrosion. He said, as well, that they produced pictures which showed anchor corrosion. His trial testimony that the Minnkota meeting of December 7, 1993 discussed corrosion failure of an anchor was contrary to the evidence he had given on

examination for discovery on October 28, 2003, approximately two months before the hearing before me. He provided an explanation for the difference in his evidence on discovery as compared with at the hearing, but ultimately acknowledged that he could not recall how extensive the discussion had been regarding the tower collapse due to anchor corrosion. He acknowledged that it was possible MTS did not hear it as the emphasis of the meeting was on restoration following a tower collapse as distinct from the cause of the collapse.

[78] As well, he acknowledged that while he was concerned about anchor corrosion based upon the information and material which Hydro had received concerning the Minnkota Power Cooperative tower failure and the Langdon tower failure (documents 63, 64, 65 and 67 of Exhibit 4), he was not aware of MTS having received any of that information. MTS denied receipt.

Analysis

[79] On the evidence, I am satisfied that MTS was not aware of the particular information surrounding the Minnkota or Langdon tower failures by reason of anchor corrosion or of Hydro's concerns about that issue.

[80] More particularly, in the circumstances here, Hydro had the obligation to inspect the anchors of the Tower as a result of MTS's 1993 and 1995 requests and it was that failure which has given rise to my finding of negligence against Hydro. In my view, MTS could not reasonably be expected to have involved itself in Hydro's contractual obligation as the owner of the Tower to analyze,

consider and respond to MTS's requests. To that end, Hydro referred the requests for analysis to its structural engineering department. Even if MTS had knowledge of the possibility of anchor corrosion, it surely was neither required nor expected to impose itself upon Hydro or its structural engineering department in its analysis and consideration of MTS's requests.

[81] In the circumstances, I conclude that MTS was not guilty of contributory negligence.

(3) If MTS was guilty of contributory negligence, does its breach of the Agreement in failing to obtain the consent of Hydro to its asset sale to MTS Mobility Inc. preclude MTS Mobility Inc. from any recovery?

[82] As I have found MTS not guilty of contributory negligence, issue 3 need not be addressed.

(4) Since Hydro did not consent to MTS Mobility Inc. having equipment on the Tower, was MTS Mobility Inc. a trespasser and, if so, does that result in a diminished duty of care owed by Hydro to MTS Mobility Inc.?

[83] In my view, the simple answer to this question is that in the circumstances, there is no diminished duty of care owed by Hydro to MTS Mobility Inc. by reason of this fact.

[84] I note that Hydro's breaches occurred in respect of requests made in 1993 and 1995, both being at times when MTS Mobility Inc. was a division of MTS. There was at that time no diminished duty of care owed by Hydro to MTS and/or to MTS Mobility Inc. Given that the collapse was caused by reason of anchor corrosion and given my conclusion that this would have been apparent both in 1995 and probably in 1993, I am satisfied that the Tower collapse was inevitable given the extent of the anchor corrosion, absent excavation and inspection of the anchor and remediation of the problem. At the time that the negligence occurred, the owner of the equipment in question was not a trespasser. There is, in my view, in the circumstances, no basis for any diminution in Hydro's liability.

[85] In the circumstances, therefore, I find Hydro's negligence to be the cause of the Tower collapse and that Hydro is liable to the plaintiffs for the damages incurred.

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