

Minutes May 9, 1997 Lightning Data Center St. Anthony Hospital

Quote of the Month:

"During the early years of ballooning, it was not known just how far an unprotected man could safely venture into this ocean of air...In 1862, the British Association for the Advancement of Science decided to send one of their colleagues up to...make scientific measurements...John Glaisher, a scientist of some reputation who had founded the British Meteorological Society...was joined in the experiment by Henry Coxwell...The weather was threatening, but they dared not delay their departure...No sooner had they cut loose than a driving rain began...Thunder and lightning crashed about them as they crouched against the sides of their basket, trying to shield the bundle of delicate scientific instruments with their bodies...Then, all at one, the sky lightened."

Louise B. Young in Sowing the Wind, 1990

1. Meeting began at 11:30 am and adjourned at 1:30 pm.
2. Members present: Cherington, Collier, Fischer, Foley, Hodge, Kamin, Keen, Kimberling, Kithil, Siemon, Swanson, Toler, T. Wachtel, Yarnell.
3. Three members called me to inform us that they could not attend the meeting because of scheduling conflicts. Howard Wachtel is preparing to leave for the May 1997 conference in Bologna, Italy. Dan Breed is leaving for the NCAR project in Mexico. Jim Dye of NCAR will attend our June meeting and will speak about nitric oxide production by lightning. Bob Glancy raised a question for LDC members to consider: Are there increased risks to people in trucks with blades (for snow removal or other construction work) touching the ground during lightning storms?

Michael Foley and Anton Seimon responded to Bob's question that the blade on the front of the truck does not increase the risk for the people inside a closed cab. Rick Kithil again reminded us that there is no absolutely safe place.

4. I brought the following articles:

a. Kline, R. Book review: "Wiard: The Life and Times of Nikola Tesla, Biography of a Genius" by Marc J. Seifer in *Scientific American* 1997 (April) p 108-111.

The reviewer states: ".....a supposedly forgotten figure who has at least three organizations devoted to promoting his memory (...in Lackawanna, NY...in Colorado Springs...in Belgrade, Yugoslavia). Tesla has been the subject of three previous full-length biographies....The U.S. Postal Service has honored Tesla with a stamp, and an international electrical unit is named after him.....Born to a leading Serbian family in a small village and trained at an Austrian polytech school, Tesla worked on a lighting installation in Strasbourg, where he secretly tested his idea for an alternating-current (induction) motor."

b. Toomingas, A: Provocation of the electromagnetic distress syndrome. *Scand J Work Environ Health* 1996;22:457-8.

The author states: Many Swedish patients are distressed by fears of "electric fields." A 35 year old plumber had symptoms of fatigue, headache, and lack of concentration. He feared negative influences from electric fields. A provocation

study was performed in a whole-body electromagnetic coil at 34 or 100 micro T randomly mixed with sham exposures. He was unable to relate his symptoms at either field intensity. He was able to return to work.

c. Holle RL, Lopez RE, Howard KW, Cummins KL, Malone MD, Krider EP: An isolated winter cloud-to-ground lightning flash causing damage and injury in Connecticut. *Bull Amer Meteor Soc* 1997;78:437-441.

The authors state: The NLDN calculated the position of the flash using....date provided by 10 network sensors that reported the flash. The flash had a 50% probability of being located inside an ellipse with a semimajor axis of 400 m and a semiminor axis of 200 m centered on the computed flash location. Recent improvements to the NLDN provide an expected accuracy of 0.5 to 1.0 km over most of the continental United States. The flash contained only one return stroke and lowered positive charge to ground.....During winter there is added danger that flashes will lower positive charge to ground and have relatively large peak currents and a subsequent large continuing current.

5. Phil Yarnell brought a videotape of a patient who presented with a "clenched hand syndrome" after a lightning storm. The patient, a prison guard, felt a shock in his hand during the storm. His hand was touching a console. Phil likened this condition to cases of focal dystonia following trauma. The differential diagnoses include: functional disorder, causalgia, RSD. Most felt that the disorder was organic rather than functional. The patient also has symptoms of heat intolerance.

Phil presented a second case of a patient who was struck on a golf course in Montana. He suffered atrial fibrillation and was taken to the hospital. He suffered ruptured tympanic membranes. Since then he has had pain and numbness in his feet. On examination, he has loss of position sense in the lower limbs and loss of hair on the legs. Phil believes the patient has a lesion of the conus medullaris of the spinal cord.

6. George Hodge participated in a court case where a TV repairman was found guilty of criminal fraud. The repairman charged insurance companies for "lightning damage" to TV sets. One of the TV sets had nothing wrong with it except that it need a missing fuse.
7. Rich Collier has been working with NASA on a report on the threat of lightning to the space shuttle launch pad in Florida. An analytic report will be available soon. All those present interested in receiving the report signed a form so Rich can send the finished report to them.
8. Cheryl Toler read a report from Peggy Gustafson. Speakers fees (\$175) were paid for the AAPT meeting this summer. The Safety Seminar was attended by 25 people. The funds received were distributed (\$350 for LDC; \$150 for Rich Kithil who organized and presented the Seminar). Carl Swanson asked if there are funds for handouts for LDC presentations, etc. Phil Yarnell asked if there are funds for reprints of published articles. We decided to postpone these fiscal issues to next month when Peggy is present. We again expressed our gratitude to Centura for providing the monthly lunch meetings for LDC.
9. Dick Fischer made us aware of an article from Orlando, Florida where 2 horses were accidentally electrocuted (277 volts) from a faulty electrical connection. The horses were standing on wet terrain.

10. Anton Seimon was a speaker at a seminar sponsored by State Farm and National Weather Service on Civil Defense matters in Bloomington, IL. 350 people attended the seminar. Anton will be making field trips this year videotaping and studying the relationship between tornadoes and lightning.

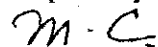
Anton reported to us the death of Bernard Vonnegut on April 25, 1997. Anton knew him and describes him as the "father of cloud seeding." Anton will write a memorial to Bernard Vonnegut in a future issue of our minutes.

11. Carl Swanson's photographs of lightning will be displayed at the Boulder Creek Art Festival during the Memorial weekend. Carl mentioned that he and Ken Langford spoke to a group of Outdoor Volunteers at an Aurora Hospital. One subject that received much discussion was: Using the flash-to-bang method, when should people be ordered out of the swimming pool when thunder is heard in the distance? Some in the audience suggested 10 seconds. Ken and Carl suggested at least 15 seconds. Rich Keen said that storms move at a speed of 30 miles per hours.

Carl suggested that the instructions given to people caught in an open field during a lightning storm should include the following recommendation: After one assumes the crouched position, one should cover the ears with hands to lessen the chance of blast effects to the ear drums.

12. Julie Kimberling reported that Michael Boyson now has all the outpatient data on lightning patients for the years 1993 to 1995. Julie, Michael, and I shall meet on Thursday, May 15 to analyze our data. Following that, we shall review death certificate data and Storm Data with Holly Hedegaard and Bob Glancy.
13. Rich Kithil distributed the News from NLSI. (Attached to LDC minutes).
14. Rich Keen reported data from the Coal Creek Canyon Weather Station. For the first time in the 15 years that the Station has been reporting, there has been no lightning for the month of April, and thus far in May. Rich spoke to the Colorado Mountain Climbing Club. An important message for the group: Anticipate lightning: 1) Look for the Anvil Cloud, and 2) Listen for thunder.
15. Next meeting: Friday the thirteenth of June, 1997 at 11:30 am in the Main Auditorium of St. Anthony Central Hospital.

Respectfully submitted,



Michael Cherington, MD
Chair, LDC