

LIGHTNING DATA CENTER MINUTES
FEBRUARY 11, 2011
ST. ANTHONY CENTRAL HOSPITAL, DENVER, CO

Monthly Quote: “The three things I fear most in golf are lightning, Ben Hogan and a downhill putt.” -Sam Snead

1. Meeting began at 12:00 PM and adjourned at 1:10 PM.
2. Members present: Clark, Claus, Collier, Elder, Gift, Cui-Gift, Keen, Langford, Wachtel, and Yarnell. Clark moderated the meeting.
3. Clark advised the members of the Storm Chaser’s Convention taking place on February 18-20, 2011 at the Red Lion hotel here in Denver on Quebec Street, just south of I-70. Complete details are available at www.chasercon.com. Clark also brought in a newspaper article about the Colorado State Legislature passing Senate Bill 40, which requires coaches of youth sports to learn about concussions by taking a free, online course. The article did make specific mention of the adverse effects of repeated concussions, something both Phil and Howard have addressed in previous meetings. A link to a 9news.com article is given below in the “Lightning in the News” section.
4. Langford reported that he had looked up an episode of the TV show “Grey’s Anatomy”, where the plot vehicle was people that were struck by lightning. From what he could see, the emphasis was all drama and no content of interest to the LDC.
5. Last month, Phil Yarnell presented the case of a middle-aged man who was on a tractor in a field and had struck by, or nearly struck by, a lightning flash. The patient told Phil that he gets a small, continuous electrical shock, when moving damp clothes from his 30-year old washer to the dryer. The shock would occur when he touched the damp clothes inside the washer. The patient now uses a dry towel to move the clothes. His roommates do not report being shocked while doing this. Langford suggested the washer should be checked for leakage current as a safety precaution. Others wondered if the patient was wearing different clothing than his roommates, possibly making him more prone to shocks. This led to more discussion about electrosensitivity. Keen wondered what the nominal resistance of a human being is.
6. Howard told us of an experiment that was done many years ago. **Don’t** try this at home! Consider two copper plates side by side. Put the left fingertip on Plate 1 and the right fingertip on Plate 2. Attach the leads from a 60-Hz current source – one to each plate. Slowly increase the amplitude of the current. Most subjects reported feeling electric shock at around 1 milliamp (mA), and muscle contractions would start at around 10 mA. Now, instead of the fingertips touching the plates, the whole hand touches the plate (left hand on Plate 1 and

- right hand on Plate 2). Now, 1 mA of current will not shock the subject because the current density will have decreased since the contact area has increased, since the whole hand is in contact with the plate and not just the fingertip.
7. Phil said many years ago, when he was measuring the electrical signals associated with muscle contraction in the arm, that radio signals were detected after the electrodes were inserted into the arm. Phil also noted some people say they hear radio stations in their head after having fillings at the dentist. Finally, Phil noted schizophrenics often complained of hearing voices in their head. Howard thinks, in most of these cases, that the body may be acting like a primitive crystal radio set, receiving radio transmissions.
 8. Clark wondered if a device could be built that could visualize electromagnetic fields in real time. While field-strength meters can take point measurements of the electric field, they generally cannot construct a real-time whole view of a field. Keen stated there are ways of visually detecting EM fields, such as fluorescent light tubes lighting up in the presence of high voltage potentials. He also reminded us that the aurora borealis is a real time visual display of the earth's magnetic field. Howard stated the University of Colorado has a chamber, which can sense the entire field for cell phones and also the radiation patterns of various antennas. Perhaps this could be an LDC field trip.
 9. Langford showed internet images on his laptop of volcanic lightning from Iceland and Japan.
 10. These minutes do not represent official positions of LDC or its members. They simply reflect the comments made at the meeting.
 11. Next meeting: Friday, March 11, 2011 at 11:45 AM in Main Auditorium at St. Anthony Central Hospital. Subject: TBA.

Respectfully Submitted,

Steven E. Clark, Consulting Meteorologist

In Case You Missed It...Lightning in the News

This is a monthly listing of news and videos about lightning and allied areas as reported in the media. A headline is listed, followed by a link to the article. Please note that some of the links are perishable, which means you'll need to go to the source for the article. Enjoy!

From 9news.com: "Youth Concussion Bill Moves Through State".
On the web at:

<http://www.9news.com/rss/article.aspx?storyid=180877>