



## Engineering Sciences Section – 2004

### C25 Electrical Accident, Sabotage, Homicide, or Death by Other Means?

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At this presentation, a case will be presented in which electrocution was speculated to be the possible manner of death. Investigation will reveal whether it was an electrical accident, sabotage, homicide, or death by some other means.

When the Olympics came to Atlanta in the summer of 1996, the city was in a “feel-good frenzy” as a writer in *The Atlanta Journal Constitution* put it. Hundreds of thousands of people, both locals and out-of-towners, were enjoying the “high-octane mixture of athletic excellence and world-class partying.”

The Olympic games were held at Centennial Olympic Park, which was constructed specifically for the Olympics but remains a permanent structure of downtown Atlanta.

On Friday, July 26, the ninth day of the 1996 Summer Games, a pipe bomb placed near the main stage in the park exploded, injuring more than 100 people, many of them permanently, and killed Alice Hawthorne, a mother who had traveled to Atlanta with her daughter to see the Olympics. The fatal bombing in Atlanta was a terrorist attack aimed at thousands of innocent persons gathered at the Olympic Park. Eric Rudolph has been charged with the bombing.

He is also accused of the January, 1997, double bombing outside a suburban Atlanta clinic that performed abortions, the double bombing of an Atlanta lesbian nightclub a month later, and the January, 1998, bombing of a Birmingham, Alabama, clinic that performs abortions.

On April 18, 2000, an FBI Agent was suspected to have been fatally electrocuted by means of a sabotaged appliance in his cabin residence in Andrews, North Carolina by Eric Rudolph. The agent was on assignment in searching for Rudolph who is believed to have gone into hiding after the last bombing in the 517,000-acre Nantahala National Forest (also known as the Smoky Mountains) in western North Carolina.

The FBI engaged this forensic engineer to do an investigation to determine if an electric cooking stove or an electric wall heater where the deceased was found sitting against was the cause of a possible electrocution.

Upon examination of the scene by the writer, it was noted that the room and all objects had been black-dusted for fingerprints. The body had been removed as well as the television set, bed covering, clothes and all personal effects.

Visual inspection revealed an older style golden colored four-element cooking stove (with oven) unplugged and moved away from the wall between the bed and kitchen counter wall. The stove had previously been up against the wall and within approximately 1 ½ inches from the edge of a built-in electric radiant wall heater. Examination of the stove found that all five switches were in the “off” position. Dust and cobwebs were found all over the rear of the stove suggesting no previous recent tampering with the stovetop. The stove was grounded and connected to a three-prong plug without a ground contrary to the manufacturers instructions. While this is potentially hazardous, it was not a factor in this case. One wire from one heating element was found broken off. The rest of the stove remained unremarkable.

The wall-mounted air heater was grounded via a grounding stud. Both spiral resistance-heating elements functioned and were unremarkable. The thermostat control was intermittent and clicks were heard when the control knob was pushed in. The rest of the heater remained unremarkable. The circuit breaker supplying the stove and the heater was also unremarkable.

The local medical examiner had previously hired a local electrician to measure for voltages between the stove and the heater. The electrician measured 36-70 Volts ac. The victim was in contact with the stove and the heater. The medical examiner's investigation upon autopsy revealed that the victim had red eyes and had almost bitten through his tongue about ½ inch from its tip. The head and shoulders were burnt. There was rectal defecation at the time of death. The previous day the victim expressed great discomfort in breathing in a somewhat horizontal position in a dentist chair. The victim's heart was 700 g versus 350-375 g normal weight. He had a “rotten” cold and enlarged lymph nodes. Above all, the victim had been consuming “Ma Huang” an Oriental herbal remedy that contains Ephedra for weight loss.<sup>1</sup>

It was determined by this forensic engineer by use of an electronic equivalent (CSA-STD) of a human impedance model that the voltage between the stove and the heater was non-lethal, non-shocking and was due to stray capacitive leakage currents in the insignificant micro amp range. There was no defect in the stove or heater that would produce shocking or lethal currents to a human body. As well, no evidence of willful tampering or suspicious non-accidental conditions was found.

The coroner's office later revealed that the probable cause of death was due to the effect of “Ma Huang” on previous medical conditions. This was not an electrical homicide.

Eric Rudolph who had been on the FBI's Ten Most Wanted List at the time of this incident was recently captured on May 31, 2003, in western North Carolina.

#### **Reference:**

<sup>1</sup> U.S. Food & Drug Administration and National Council for Agricultural Health Fraud.

#### **Electrocution, Homicide, Accident**