

Restaurant Investigation #2

June 2006

Mr. Michael Manning
Insurance Company #1
Colorado

Re:	<i>Insured:</i>	Restaurant #1
	<i>Loss Location:</i>	Kentucky
	<i>Claim No.:</i>	N/A
	<i>Date of Loss:</i>	January 2004
	<i>ICI Project No.:</i>	<omitted>

Dear Mr. Manning,

On January 2004, a fire occurred in a restaurant that was operated by the insured, Mr. Michael Chong, and owned by Mr. Brant Toudreau. The approximate 5500 ft² one-story restaurant was built in 1984 as a Restaurant #2. Mr. Toudreau reportedly performed a major renovation of the structure, including electrical distribution system renovation in the early part of 2003. Mr. Chong reportedly opened for business in 2003.

Mr. Bill Bulloney of Insurance Company #1, contacted Investigation Company #1 (IC1) and requested IC1's assistance in determining the origin and cause of the fire. Mr. Paul Rubin, Fire Investigator of IC1, was assigned to conduct the fire origin and cause investigation. On February 2004, Mr. Rubin contacted the author of this report, Scott A. Jones, P.E., C.F.E.I. of IC1, (812) 944-9988, to assist in the cause investigation of the fire.

Mr. Rubin reported that Mr. Chong's spouse and two unidentified restaurant workers left the restaurant at 10:00 P.M. during the evening prior to the fire. The fire was called in at 00:20 A.M. on the day of loss. There were no known individuals in the restaurant at the time of the fire. The premises fire alarm reportedly was not connected at the time of the fire. The Fire Department arrived to extinguish the fire. Detailed site and interview information is contained in Mr. Rubin' origin and cause report, which is available under separate cover.

Observations

On February 2004, the author inspected the subject structure. Mr. Rubin and Mr. Rick Anderson, Battalion Chief for the Fire Department were in attendance for a portion of the inspection.

The majority of the asphalt shingle over plywood roof structure had been consumed or fallen into the structure (*Photograph 3* – looking to the northwest and *Photograph 4* – looking to the southwest). The south wall of the structure appeared as shown in *Photograph 1*. The wood storage structures at the rear (east) side of the structure were intact (*Photograph 2*). The north side of the structure appeared as shown in *Photograph 5*.

High voltage, decorative, skeleton (i.e., self-supporting) neon tubing was situated along the front (west) eaves and along the eaves of the front entryway (*Photograph 6*).

Electrical service to the structure was supplied via three 7200 Volt AC/240 Volt AC transformers connected in a Y configuration (*Photograph 7*). The electrical service to the facility had been severed by the time of the inspection, but service appeared to have been supplied to two of the three weatherheads situated on the east exterior wall of the structure (*Photograph 8*).

The gutter board situated to the north of the front entryway was discovered with an extensively charred end and two drilled holes, presumably to permit neon conductors to enter into the building (*Photographs 9, 10, and 11*). The gutter board had dropped from the front eaves structure.

The author performed an excavation through the debris in the southwest portion of the dining area. A south-facing view of the region is shown in *Photograph 14*. A southeast-facing view of the dining region is shown in *Photograph 13*. The excavation included the area situated in back of the checkout counter (*Photograph 12*).

The excavation revealed two 15,000 Volt AC neon transformers with secondary (i.e., high voltage) conductors connected to the transformers. One of the transformers, which was situated to the north of the checkout counter, is shown in *Photograph 15*. A section of secondary neon conductor was discovered lying on top of the front wall as shown in *Photograph 25*.

Close examination of the header plate situated on top of the front wall section at the intersection of the entryway roof revealed melted sections of a NM-B conductor that had been situated on or near the neon secondary conductors that traversed the region (*Photograph 20*). The author excavated the eaves region (*Photograph 21*) and discovered melted, balled copper within the eaves.

Two separated sections of neon secondary conductors were discovered among the remnants of the dining room excavation (*Photographs 22 and 23*). One section of the

GTO-15 neon conductors had a fused and melted section, presumably from arcing with a grounded object.

Figure 1, which was created from *Photograph 24*, shows an annotated view of the sustained arcing on the neon secondary conductor. The damage consisted of fused strands and metal transfer to another conductor. The author discovered the particular section in the debris behind the checkout counter.

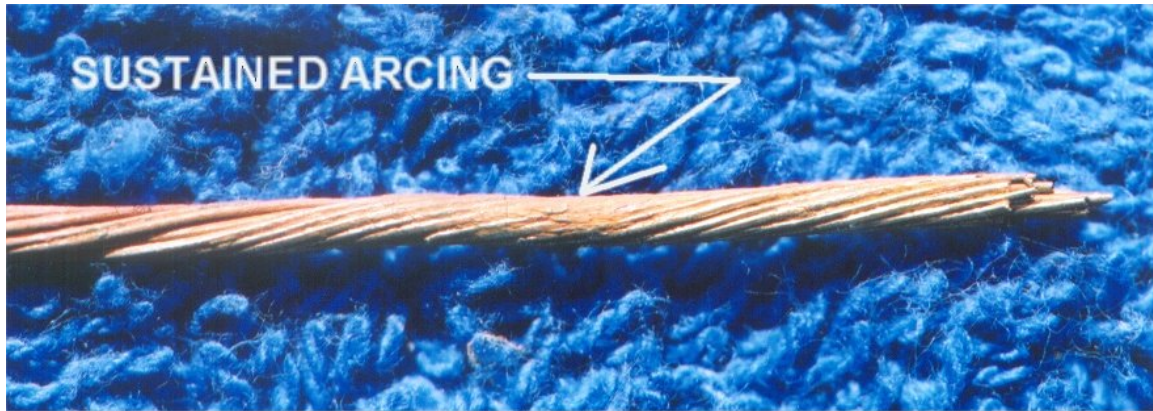


Figure 1 - Sustained Arcing Indications on GTO-15 Neon Secondary Conductor

Heavy lifting equipment was employed to remove four gas-fired roof-mounted furnace/makeup air units from the debris (*Photographs 16 through 19*). All four units were extensively damaged from the roof collapse. None of the units showed abnormal combustion patterns emanating from their respective burner sections. The finned aluminum evaporators and condensers showed damage consistent with heat attack from within the restaurant to the affected units.

Discussion/Conclusions

Following the author's site visit, Mr. Rubin collected additional information from the Fire Department first responders regarding the first observed fire breakthrough in the roof. The first reported location of fire breakthrough the roof was shown at the "X" in the plan diagram of the structure (Appendix A). The location of the recovery point of the arced neon conductors and the location of the shorted NM-B conductors are shown at the location marked with a star.

As can be seen in the Appendix A diagram, the fire breakthrough the roof and the noted, shorted conductors were separated by approximately 10 to 15 feet.

Examination of the roof-mounted gas-fired furnaces showed no fire patterns consistent with fire origin within any of the enclosures. The heat and fire attack appeared to have originated from within the restaurant. *It is not believed that the roof-mounted furnaces were causal to the subject fire event.*

There were no conductor-to-conductor or conductor-to-ground shorts discovered along the service or premises distribution conductors other than the damage noted on the NM-B distribution conductors situated above and behind the checkout counter (reference *Photograph 20*). It should be noted that large sections of the premises distribution conductors were trapped beneath the collapsed roof sections and consequently were not inspected.

The ignition source for the fire was not determined. The first fuel to the fire was not determined.

Evidence

The subject arced neon secondary conductors that were discovered by the author during the site visit were preserved as evidence to protect them from loss and added weathering damage. The subject conductors will be destroyed upon receipt of your written authorization.

The conclusions drawn in this investigation are based on an analysis of the information collected during the site visit, researched data and engineering knowledge, and information provided by the fire investigator. Information or data that becomes available at a later date may justify the modification of the results or conclusions at that time. IC1 maintains additional information regarding the subject claim on file and the preparation of a more detailed report can be undertaken if warranted in the future.

We appreciate the opportunity to work with you on this claim. Pending further direction this file will now be placed in a closed status. Please let us know if we can be of further assistance on this claim or any future claims.

Sincerely,

Investigation Company #1

Scott A. Jones, P.E., C.F.E.I.
Mechanical Engineer

cc: Mr. Bill Bulloney
Insurance Company #1
Kentucky