

PRACTICUM SESSION – TORTOISE HOUSE, LLC v. THERMO CONTROLS

Plaintiff Tortoise House’s claims arise out of the deaths of its thirty rare and valuable Aldabra tortoises, when a thermostat controlling a heater in the building that housed them (“Tortoise House”) malfunctioned causing overnight temperatures of 110 degrees. The thermostat was manufactured and installed by defendant Thermo Controls Company (“TCC”). It had been installed one day earlier by Gloria Jones, employed by TCC.

Plaintiff will present its expert witness Professor Alan Goldberg, P.E., a registered professional mechanical engineer with degrees from the Massachusetts Institute of Technology. He taught courses including Safe Product Design and Automatic Controls to graduate MIT engineering students for several decades prior to his retirement. While he has experience with various types of thermostats, he has no “hands-on” experience with the particular model of thermostat at issue in this case. He has never testified as an expert witness on thermostats or thermostat installation.

It is agreed that the thermostat turns a heater on when two metal contacts, an upper fixed contact and a movable lower contact, are brought together, closing an electrical circuit and providing current to the heater. Those metal contacts are contained in a fixed glass vial (“reed switch”) inside the thermostat. The contacts come together when a magnet above the glass vial moves close enough to the vial for its magnetic force to pull the lower metal contact up so that it touches the upper contact. That magnet is attached to a bi-metallic coil that expands and contracts in relation to room temperature, thus moving the magnet closer to or away from the glass vial/reed switch.

It is agreed that the TCC thermostat malfunctioned because *something* improperly kept the glass vial close enough to the magnet that the metal contacts in the switch remained closed (providing current that kept the heater running), even as the Tortoise House temperature climbed to 110 degrees. The central dispute relates to what caused the fatal proximity of the magnet and the glass vial containing the switch.

Dr. Goldberg will opine that (1) Jones improperly installed the thermostat with an additional third mounting screw, (2) the oversized head of that third screw broke the epoxy adhesive holding the glass vial in place and pushing it closer to the magnet, and (3) as a result, the switch remained closed (keeping the heater on), even as the temperature rose and the bi-metallic coil moved the magnet as far as it could go away from the vial.

In contrast, defendants will advance a competing causation theory – that one or more cockroaches wedged themselves behind the portion of the bimetallic coil holding the magnet and became trapped there, pressing the magnet down so that it remained close enough to the glass vial that the switch remained closed. Defendants deny the theory of a third oversized screw.

All exhibits to be used in the expert direct and cross examinations have previously been admitted into evidence by stipulation of the parties.