Elevating and Amusement Devices Safety Division

DIRECTOR’S RULING

Ref. No.: 63/88
Rev. No.: 

Date: June 3/88

Subject: BECKETT ELEVATORS EQUIPPED WITH VV DRIVES TO BE REWIRED TO ELIMINATE POTENTIALLY UNSAFE CONDITIONS

Sent to: ALL ELEVATOR CONTRACTORS IN SCOPE A1, B1 & F1

1. INTRODUCTION

1.1 A contractor, maintaining Beckett elevators equipped with VV drives (controls) has noted that a failure of the contractor "H" could cause the machine brake to open without power being applied to the driving motor thus creating unsafe conditions, contrary to the requirements of clause 3.12.8 of CAN3-B44, Safety Code for Elevators.

1.2 The generator is fed through the main contacts of the contactor H. Contacts of an auxiliary time delayed relay "TA" signals to the directional (U or D) and main (M) contactors that the generator is running. The coils of contactor H and relay TA are connected in parallel.

   It is possible that contactor H fails to pick up, thus not energizing the generator, while simultaneously relay TS picks up giving signal to contactors D, U, M for “running conditions” and allowing the brake to be opened. Since the generator and drive motor are without power, the car will drift at uncontrolled speed up or down depending on the load in the car, creating unsafe conditions, (See excerpts from Beckett schematics on page 3 of this Ruling).

1.3 In order to prevent the possibility of the car having uncontrolled motion, the contractor proposed the following changes to the wiring of Beckett VV controllers (see schematics on page 2 of this Ruling).
   a) For units with direct DELTA start (marked w/o ∆-Υ in the schematics), use the existing N.O. auxiliary contact 23/24 on contactor H, which is presently unused or install a new contact if necessary and wire it between terminals TA/4 and 16 (see also 1.4. below).
   b) For units with STAR-DELTA start (marked w/ ∆-Υ in the schematics) relocate the existing N.O. auxiliary contact 23/24 from terminals 17/17A to between TA/4 and terminal 16. (see also 1.4. below). Install jumper between terminals 17 and 17A.

1.4 Beckett Elevator Ltd. agreed with the proposed changes but suggested that the H auxiliary contact 23/24 could be wired in the present location of the P (N.O.) contact 13/14, leaving this P contact obsolete.

2. ORDER TO CONTRACTORS MAINTAINING BECKETT ELEVATORS WITH VV DRIVES

2.1 On your next visit to subject elevators, you are required to check if the conditions described in 1.1. and 1.2. above, exist on such elevators.

2.2 If the possibility for unsafe operation is identified, necessary wiring changes shall be carried out immediately, following guidelines given in 1.3. or 1.4. above.

2.3 If, for any reason, you cannot obtain authorization for the changes from the elevator owner, you must notify this Branch immediately, in writing, indicating installation numbers of relevant elevators.

T. GORDON, P.Eng. Director
See item 1.3. and 1.4. of the Ruling

a) For DELTA unit (w/o Δ-Y )
   wire presently unused
   N.O. contact H
   
   ![Diagram of H and 23/24]

b) For STAR-DELTA unit (w/ Δ-Y )
   relocate N.O. contact H-23/24
   from terminals 17/17A as shown.
   In addition, place jumper
   between terminals 17/17A.

Excerpts from schematics of Beckett VV controllers