DL15 on Converter Control Board lits when it is sensed a difference between the anodic and cathodic voltage while exposing both in radiography mode and fluoroscopy mode. This is an hardware sensing, and it is not possible, because it can be unsafe, to be masked. But there are chances to make some test in order to try to locate where’s is the fault.

In R306.4x generator the circuit which senses the High Voltage balance is in the Convert Control Board

\[ \text{Diagram of Convert Control Board} \]

ON R306.4x (Program H.F. US) bypass can be performed, just for testing purpouse, opening DL273 on CCB: DO NOT SELECT MORE THAN 40kV FLUOROSCOPY MODE, DO NOT USE RADIOGRAPHY MODE

ON R305.3x (Endeavour) bypass can be performed automatically, when FLUOROSCOPY MODE IS SELECT AND VOLTAGE IS 40kV

In R306.3x generators the circuit which senses the High Voltage balance is in the Main Controller board, specially made in Analog Processing Unit (ADUC Simm-like Module)

\[ \text{Diagram of Main Controller Board} \]

the problem can derive from different situation:
High Voltage Divider opened

In this case the problem is in the internal of High Voltage transformer:  
In case of correct generation, the kV regulator on CCB/MCU will be feedbacked with half of the value of the actual high Voltage value:  
Bypassing the  
The circuit will regulate 40kV but on tube there will be 80kV: ON GENERATOR 40kV IS READ, but using an oscilloscope connected to

ON R306.4x -> TP100 – GROUND, TP300 – GROUND one of the two legs will be zeroed, the other will be two times the regular expected value (2 Volts)

ON R306.3x -> Measure directly on High Voltage transformer results the same as for R306.4x.

High Voltage Diodes in Short circuit
In this case the problem is in the internal of High Voltage transformer:
In this case only one H.V. transformed leg will make a correct high voltage generation, the kV regulator on CCB/MCU will be feedbacked with half of the value of the actual high Voltage value: Bypassing the
The circuit will regulate 40kV on one leg of high Voltage and on tube there will be 40kV: ON GENERATOR 40kV IS READ.

**High Voltage Cable shorted to ground**
The case is exactly like high Voltage Diodes in short circuit case, but it is possible to make one further step in order to localize the problem.
In most of the case it is sufficient to remove both of the cables from the H.V. transformer tabk and measure with an Ohmmeter the insulation between the high voltage cable pin and the outer shield on the High Voltage plug.

If it is not possible to determinate it you can try making fluoroscopy in FLUOROSCOPY CALIBRATION MODE without the cable insertion in high Voltage Transformer.

1) You have to spill out oil from the High Voltage tank and fill at list till half of the high voltage plug
2) Switch On generator an fluoroscopy calibration.
You’ll have enough time to record on your scope the high voltage (TP100/300 or high Voltage measurement on high Voltage transformer)

If High Voltage will be present on both legs of high voltage transformer, the problem is in one of the two cables
If the High Voltage is still unbalanced the problem is in high voltage diode.

DO NOT TEST THE CONNECTION OF A SINGLE CABLE, because on the cable left open you’ll have indicted HIGH VOLTAGE and this is very dangerous