Electricity hazard involving heating element of furnaces/kilns

The following electrical safety hazard involving the elements of furnaces has been identified. After an investigation of the furnace operation it was concluded that operators could come into contact with the heating element and with electrical voltages in excess of 50 V.

Contributing factors are:

- The inherent design of the furnace with exposed heating elements
- Breakdown of insulation on the elements (Photograph 1)
- Activities which should use other heating methods e.g. material contained in electrical conducting material (Photograph 2)

It is apparent that there are other furnaces being used across UWA that are constructed in a similar way and allow the operator to come into contact with hazardous voltages on the heating element.

The recommendations from the University Electrician and UWA Safety and Health are:

- All furnaces must have a micro switch fitted to isolate power to the heating element when the door is opened
- All new furnaces purchased have this feature installed

To facilitate this process the University Safety Committee has approved the contribution of %50 to the cost of installation of the micro switch to existing furnaces.

Photograph 1 The element to the left of the broken one show an area of oxidisation where the insulated surface has evaporated and electrical connectivity exists.
Photograph 2 Example of inappropriate use of a furnace