

## CASE STUDY 1: THERMAL STRESS IN A BAKERY

Serious incidents of thermal stress can occur in common workplace situations. The following is potentially one such situation and you are asked to review the situation and discuss what actions could be taken to minimise the risk of the workers suffering any thermal stress.

The time allowed for this exercise is 20 minutes, which will be followed by a group discussion of your suggestions.

### WORKPLACE SITUATION:

Two young workers (28 and 22 years of age) are baking bread in electric ovens during the early hours of the morning. Specific details of the situation are:

1. *Source of heat* – Hot bread ovens.
2. *Nature of work undertaken* – Routine baking of bread during which bread is placed into and taken out of ovens at frequent intervals (Photograph 1). The ovens are opened briefly every 10-15 minutes to check the progress of baking.

The breadmaking process involves sustained physical exertion while mixing dough, lifting flour bags and placing and removing trays of bread in the ovens. Rest breaks are intermittent and dictated by the process.

3. *Duration of exposure* – The electric ovens are in operation from 2.00am to 8.00am each shift. Exposure to the heat source (oven) is intermittent throughout this six hour period.
4. *Control technologies* – The bakery is fitted with an old air-conditioned system which is ineffective in reducing the heat build-up around the ovens. Personal protective equipment (PPE) is limited to gloves for handling of hot trays.

5. *Physical condition and capability of workers* – Both workers are physically fit and experienced in the tasks undertaken. Neither worker has a medical history or is taking any medication which may affect their capacity to work in hot conditions.
6. *Training* – Little or no training has been given to the workers in regard to heat stress.
7. *Climatic conditions* – The bakery is located within a temperate climate where the average daytime temperature is 25°C and the night time temperature is 18°C during the summer months.

**TASK FOR DISCUSSION:**

What actions could be taken to minimise the risk of workers suffering from thermal stress?



***Photograph 1***