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Target Audience
AFQ Inspectors
Specialist Group Inspectors (Mech)

FOOD MACHINERY - DEPOSITORS

This SIM alerts inspectors to a significant increase in the number of injuries involving depositors in recent years and introduces a research proposal to establish reasonably practicable standards of safeguarding. No special visits are required.

DEPOSITORS

1 Depositors are in widespread use across the food industry and are used to deposit a range of products, eg cake mixture, jam fillings, cream toppings, biscuit dough, ready meals. There are many variations in design but essentially depositors consist of a hopper for feeding product and a mechanism for cutting off and/or depositing a discreet quantity of product.

INJURIES

2 Recent statistics show a 140% increase in injuries in recent years. In the 4 years 1992-1995 there were 18 investigated injuries on depositors, rising to 43 investigated injuries between 1997-2000. The total number of reported injuries is likely to be even higher. Accidents frequently resulted in serious finger injury and some have resulted in amputations.

3 The most frequent cause of injury is trapping at the depositor outlet mechanism during cleaning, or when trying to remove blockages during production. A number of injuries resulted from employees gaining access via the hopper infeed. There are a variety of traps which can occur depending on the method of depositing product. The main trapping points are:

- 1) rotary valves;
- 2) inrunning fluted rollers;
- 3) pistons/valves; and
- 4) between descending head and table.

4 The unexpected operation of cut-off devices due to pneumatic energy being retained for cleaning purposes (for example by operators accidentally triggering a process light beam) was a significant factor in many of the injuries.

5 It seems likely that the reason for the increase in the number of injuries is the increased use of depositors throughout the food industry, but in particular for ready meals which is an expanding sector. Even so, this is an increasing cause of injuries which needs to be tackled by the industry.

CURRENT AND PROPOSED GUIDANCE

6 Specific guidance on safeguarding depositors is limited. NIGM 21/1985/14 (not current) gave advice on safeguarding access via depositor hoppers. Guidance on safeguarding depositor outlets is also limited. HSG 31 *Pie and Tart Machines* (now out of print), states that "cut-off" devices should be guarded by fixed or interlocking guarding. Draft harmonised CEN 'C' standard prEN 13390 on Pie and Tart Machines recognises the hazard at the discharge outlet and requires the depositor outlet to meet the dimensions of EN 294:1992. Where it is not possible to meet these dimensions the force of the cut-off device should be limited to 50N. There is no published guidance available on safeguarding rise and fall (cake) depositors.

7 In response to the increase in the number of accidents Food Section has drafted a research proposal with the aim of establishing a reasonably practicable standard of guarding across the range of depositors used in the food industry. Further guidance will be issued once that research is complete.

ACTION BY INSPECTORS

8 No special visits are required, however inspectors should be aware of the potential for injury on depositors, particularly during cleaning and unblocking activities. Where possible, depositor outlets should be extended to meet the distances in EN 294 or the force of the cut off mechanism/rise and fall head reduced so that serious injury is prevented. Inspectors should also look at cleaning and unblocking procedures to ensure that these activities are only carried out when the machine is in a safe condition, ie power sources to the cut-off device are isolated and residual energy dumped.

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