

**Business Facilitation Advisory Committee  
Food Business and Related Services Task Force**

***Air Change Requirement of  
Kitchens/Food Preparation Rooms in Food Business Premises***

**Purpose**

Nowadays some food manufacturing processes are highly automated and there may be limited number of food handlers in food factories, some of which are also air-conditioned. To facilitate the design and planning of food factories, members of the Food Business and Related Services Task Force (FRSTF) are interested to understand details of their air change requirements.

2. This paper briefs FRSTF on the air change requirement of kitchens or food preparation rooms imposed to food business licences issued by the Food and Environmental Hygiene Department (FEHD) under the Food Business Regulation (FBR), Cap.132X.

**Background**

3. For the sake of food safety and personal hygiene, adequate ventilation should be provided to a food preparation area where there is handling of food. This is to ensure that heat and/or humidity do not build up to levels that could compromise food safety. In case ventilation in kitchens or food preparation rooms is inadequate, the favourable temperature and humidity environment may promote the growth of microorganisms and therefore affect the food quality/safety during the preparation process therein. Given that the humidity of the storage environment is an important factor for the growth of microorganisms such as mould at the food surfaces, the provision of adequate ventilation will effectively remove excessive moisture formed in kitchens or food preparation rooms and help prevent mould growth in food products.

4. For food handlers' health consideration, it is necessary to introduce sufficient clean and cool air and remove excessive hot air to meet the respiratory needs of the occupants and to provide them with a healthy and comfortable working environment. In addition, sufficient air should be provided in kitchens or food preparation rooms for complete combustion in appliances to prevent a rise in carbon monoxide level. Adequate ventilation can also dilute and remove odours, vapours and steam from the food preparation process.

## **Licensing Control Regime**

5. Section 33 of FBR stipulates that no licence shall be granted under section 31 unless FEHD is satisfied that, in relation to the premises, the means of ventilation provided, whether natural or mechanical, are sufficient in every part of the premises other than that used exclusively for storage purposes.

6. According to the requirement laid down at Annex 1 to Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) ADM-2 issued by the Buildings Department, the mechanical ventilation of fresh air supply to kitchens or food preparation rooms in licensed premises is 20 air changes per hour (ACH). A copy of Annex 1 to PNAP ADM-2 is attached.

7. With reference to the ventilation rate at Annex I to PNAP ADM-2 and for the sake of protecting public health, FEHD requires all food business premises under application for licences to comply with the licensing requirement on provision of extraction and propulsion fans for the kitchens or food preparation rooms to attain at least 20 ACH should the natural ventilation be considered inadequate.

8. In case there are cooking stoves in kitchens or food preparation rooms, metal hoods properly connected to air-ducts fitted with extraction fans should be installed over the stoves.

## **Way Forward**

9. Members are invited to note the content of this paper.

**Food and Environmental Hygiene Department**  
**October 2014**

**Fresh Air Supply Requirement for Non-Domestic Buildings and Hotel Bathrooms**

**A) Mechanical Ventilation**

<b>Building/Premises</b>	<b>Fresh Air Supply Requirement</b>
<b>Ancillary Offices</b> <i>(not exceeding 30% of the GFA of the premises within which it is located)</i>	<i>5 Air Changes Per Hour (ACH)</i>
<b>Kitchens in licensed premises</b>	<i>20 ACH</i>
<b>Toilets in non-domestic Buildings</b>	<i>10 ACH</i>

**B) Mechanical Ventilation in the form of Central Air-conditioning**

<b>Building/Premises</b>	<b>Fresh Air Supply Requirement</b>
<b>Purpose designed office buildings</b>	<b>1.1 L/s/m<sup>2</sup> or 10 L/s/person</b>
<b>Toilets in non-domestic Buildings</b>	<b>10 ACH *</b>
<b>Bathrooms in hotels</b>	<b>18 L/s/room *</b>

- \* The air exhausted from toilets in non-domestic buildings and bathrooms in hotels may be compensated by air supplied through adjacent areas. However, the mechanical exhaust should not be re-circulated.