

## **SECTION 6 ENVIRONMENTAL POLLUTION SOLUTION FOR A KITCHEN EXTRACT**

We have set out below a recommendation for the control of grease, smoke and odour from a pub restaurant similar in design to that of a Berni Inn or a Beefeater Steakhouse.

The Cooking takes place under one central canopy which is fitted with conventional grease filters, the cooking type is across the range covering; baking, char grilling and frying. The ductwork runs out of the back wall of the kitchen and turns through 180 degrees onto a flat first floor roof, the ducting runs along the roof for approximately five metres and is broken by the main extract fan, after the fan the ducting continues for one metre then turns through 90 degrees and discharges to atmosphere. Details taken from the existing fan show that when calculated there is an over design factor of 20mm water gauge therefore the existing equipment does not need to be up graded.

### **Particulate Phase Control**

An ESP 3000 Electrostatic Precipitator will be installed within the ducting. The unit should be located as close to the canopy as possible in order to reduce grease build up within the ducting, this reduces the need for regular duct cleaning maintenance. These units should always be installed prior to the fan and on a straight length of ducting to ensure uniform airflow. There is not room to install the unit in the kitchen due to a height restriction therefore it will be located on the first floor flat roof three metres before the extract fan.

### **Gaseous Phase Control**

An O.N.100 odour neutraliser will be installed directly after the ESP 3000. The positioning for this unit is ideal, as it too should be before the fan to ensure uniform air velocity past the Venturi spigot, there are also four metres of ducting after the unit which will allow adequate dwell time for the neutralising vapour to mix with the odours.

### **Installation**

The entire system can be installed in one day all that is required is single phase electrical supply, it is envisaged that no more than a three hour down time for cooking will be required. The units themselves would normally be connected through the same electrical circuit as the fan to ensure that all systems operate simultaneously.

## **Maintenance**

A six weekly maintenance will be required which will involve an engineer attending the restaurant to exchange the ionisers, filters and collector cells in the Electrostatic Precipitator. The exchange components are cleaned at our works using an industrial centrifugal washing process, all components are rotated and the client does not need to purchase spares. The O.N.100 will require topping up with neutralising fluid. Both systems will be checked for all operations, generally cleaned and left in full working order.