# McClaren Construction

## Radon Risk Assessment and Report

*Move Forward with Confidence*

BUREAU VERITAS

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# 1 Introduction

## 1.1 Background

Public Health England (PHE) and the HSE recommend that all workplaces in radon affected areas should be tested (unless a detailed assessment shows good reason to expect the radon level to be low) by the following prescribed Assess, Measure and Act format

### Assess

*Health and Safety at Work Act 1974*
*Management of Health and Safety at Work Regulations 1999*

If the buildings have basements that are occupied for more than 50Hrs per year it is a requirement to complete a risk assessment and this should include radon measurements.

### Measure

Where radon is an identified hazard the workplace should be tested, recommendation would be to include selected ground floor areas and all occupied basement and below ground areas such as for example mezzanine floors.

In view of the site location and potential building architecture, Bureau Veritas recommends that a radon survey be completed across the identified at risk building portfolio to determine the extent of radon risk and complete a risk assessment report on the findings using passive radon monitors.

### Act

*The Ionising Radiations Regulations 2017 (IRR17)*

Legislation required employers to act if radon levels exceed the workplace threshold (300Bq/m3 as an annual average in any occupied area), the combination of radon level, occupancy time and workplace type will determine the action required.

Bureau Veritas have in house Radiation Protection Advisors (RPA) as required by the HSE to advise on recommendations and compliance actions to take in the event that the workplace is above the action level. This is inclusive in the radon report and risk assessment completed following a survey

## 1.2 Ionising Radiations Regulations 2017 (IRR17)

Under the regulation, if a radon level in any part of a workplace exceeds 300 Becquerels per cubic metre (Bq/m3) as an annual average, the regulations covering ionising radiations apply. The employer is then obliged to take action.

In addition a further change introduced by the revised Regulations is the introduction of a risk-based approach by informing the HSE of your work with ionising radiation. This is known as the 'graded approach' and depends on the size and likelihood of exposure.

For radon and depending on the level of risk of there may be a requirement to notify the HSE. The process of notifying the HSE of your work with ionising radiation requires completion of an on line questionnaire.

## 1.3 Workplace Radon Risk Assessments

Radon levels can vary over time. This is usually because of changes to the construction of the building or alterations to heating and ventilation which can be caused by a change in use. For this reason, radon should remain in your routine reviews of risk assessments. Consider any changes and assess whether or not the test needs to be repeated.

If a radon reduction system has been installed to reduce high levels, those systems may also fail over time and radon levels should be checked annually.

# 2 Reports

| Property Details | |
|---|---|
| Address | 150 Holborn London |
| Postcode | EC1N 2NS |

| Location Ground or Basement | Work Area (Sample Point) | Detector Serial Number | Deployed | Collected | Measured Radon Bq/m3 annual average* (IRR17) | Radon Limit Bq/m3 annual average* (IRR17) | Maximum Allowable Working Time/8Hr working day* | Risk Rating |
|---|---|---|---|---|---|---|---|---|
| Ground floor | Loading Bay Sprinkler Chamber Room | 3434388 | 08/12/2021 | 07/03/2022 | 4 | 300 | N/A | Low |
| Ground floor | Atrium | 3434685 | 08/12/2021 | 07/03/2022 | 4 | 300 | N/A | Low |
| Ground floor | Resi Reception (Lobby) | 3434743 | 08/12/2021 | 07/03/2022 | 4 | 300 | N/A | Low |
| Basement | East Corridor | 3434758 | 08/12/2021 | 07/03/2022 | 11 | 300 | N/A | Low |

* Above 300Bq/M3 annual average (winter) work in the property falls within the scope of the Ionising Radiations Regulations 2017 (IRR17) and is defined as 'Work with Ionising Radiation'.

* As radon measurements can be taken at any time of the year, a correction factor is applied to the results to give a mid-winter estimate (when potential for radon accumulation is greatest). These are based on expected seasonal variations in normal above ground workplace buildings and are shown as 'winter corrected' on the attached report.

# 3 Recommendations

As the recorded radon levels are significantly less than the control limit of 300Bq/m3 annual average, the recommendation from the HSE is to retest the areas at 10year intervals.

Detailed recommendations are as follows

| Radon Retest Recommendations |
| --- |
| If a radon remediation system has been installed radon levels should be re-monitored after installation and annually (about once per year) |
| Where radon levels are found to be significantly less than 300bq/m3 at the initial measurement, the period of re-measurement might be in the order of once every 10 years |
| Where radon levels are just below 300Bq/m3 at the initial measurement, the suggested period for re-measurement will be less than 10 years |
| Radon re-monitoring is required following significant changes to the building or processes |