

Standard rules 2022_no9: generic risk assessment

SR2022 No 9: New and existing, low risk, stationary medium combustion plant (MCP) which is a natural gas boiler

The Environment Agency produces the generic risk assessments for all standard rules permits. These list the potential risks and specify the measures (but they are not limited to) required, to manage them.

Check the risk assessments to understand:

- the potential risks of medium combustion plant under this standard rule set
- if your proposed activity has the same risks and can you apply for the standard rules permit
- how to manage the risk effectively

Each risk comprises:

- information about the source, pathway and receptor - and the potential harm to that receptor
- a judgement of the level of risk and justification of that judgement
- actions for managing the risk (through permitting) and a residual risk rating after managing it

Risk management involves breaking or limiting the source-pathway-receptor linkage to reduce the risk. If we set minimum distances we explain the basis of the distances, for example by modelling.

We control the residual risk (after risk management) when we assess compliance.

If you need to check the meaning of any terms we have used (in the context of this risk assessment), see the explanation of terms

This generic risk assessment is based on the following parameters which define the scope of the permit and associated rules:

Parameter 1

Permitted activities are:

- operating one or more new or existing medium combustion plant (MCP) which is a natural gas boiler

Parameter 2

- the total capacity of any combustion plant of any size at the permitted location must be less than 50 MWth input capacity

Parameter 3

- air quality is protected by Emission Limit Values (ELV's) for plant that operate more than 500 hrs per annum. For those that operate less than 500 hrs pa there are no ELVs because their emission potential is significantly lower.

Parameter 5

- the site must be a minimum distance from a protected habitat depending on whether they are new MCP, new existing MCP or existing MCP and the type and size of plant, these are set out in the permit.

Parameter 6

- Dual fuel is only permitted on boilers as a back-up fuel for no more than 500 hours per year

1. Risk to local human population

1.1 Releases of NO_x

NO_x gases travel through the air and can be inhaled.

We have assessed the potential harm to human health as follows:

- respiratory irritation
- illness

Judgement of risk

We have judged the:

- likelihood of the hazard affecting the receptor low
- the overall severity of potential consequence as medium
- overall risk rating as medium

The reasons for giving the activity this rating is because there is a potential for exposure to:

- anyone living close to the site
- members of the public at locations to which they could be regularly exposed.

Managing the risk

The following manages the risk:

- activities shall be managed and operated in accordance with a management system (will include inspection and maintenance of equipment, including engine management systems)
- point source emissions to air have an emission limit requirement

- monitoring of emission levels from the plant is required by the permit in accordance with guidance 'Monitoring Stack emissions: low risk MCP's and specified generators'
- other monitoring shall be reported as permit requirements

Taking these actions will control the risk and rate it as 'low'

1.2 Risk to protected sites

Protected habitat sites include:

- Special Areas of Conservation
- Special Protection Areas
- Ramsar wetland areas
- Sites of Special Scientific Interest

Protected sites can be at risk from any source and by any pathway. However the main risk is from NO_x.

The risk of harm to protected sites include (but are not limited to the following:

- toxic contamination
- nutrient enrichment
- disturbance

Judgement of risk

We have judged the:

- likelihood of the hazard affecting the receptor low
- the overall severity of potential consequence as medium
- overall risk rating as low

The reasons for giving the activity this rating is because:

- emissions to air may cause harm to and deterioration of nature conservation sites.

Managing the risk

The following manages the risk:

- activities shall be managed and operated in accordance with a management system (will include inspection and maintenance of equipment, including engine management systems)
- point source emissions to air have emission limits for NO_x set out in the permit.
- minimum distance parameters set out in the permit do not allow operations in close proximity of protected sites.

Taking these actions will control the risk and rate it as 'low'

Likelihood of exposure

This is the likelihood of the receptors being exposed to the hazard. The meaning of the definitions are:

- high - exposure is probable - direct exposure is likely with no or few barriers between the hazard source and the receptor
- medium - exposure is fairly probable - feasible exposure is possible as the barriers to exposure are less controllable
- low - exposure is unlikely - several barriers exist between the hazard source and receptor to reduce exposure
- very low - exposure is very unlikely - effective, multiple barriers are in place to reduce exposure

Overall magnitude of potential consequence

This is the severity of the consequence if the hazard is realised and may cause actual or potential harm.

This will have a high, medium, low or very low rating using attributes and scaling to consider 'harm'.

Risk rating

We work out the risk rating by combining the likelihood of exposure with the magnitude of the potential consequences.

We assign these ratings:

- high risk - requires additional assessment and active management
- medium risk - requires additional assessment and may need active management and, or monitoring (or both)
- low and very low risks will require a periodic review

Abbreviations

- SR - Standard Rule
- NOx - Oxides of nitrogen