



National
Operational
Guidance

Control measure

Controlled burning



NFCC
National Fire
Chiefs Council

Developed and maintained by the NFCC



Contents

Control measure - Controlled burning 3



Control measure - Controlled burning

Control measure knowledge

Controlled burning is a defensive operational tactic to prohibit or restrict the use of extinguishing media on fires to allow the combustion process to continue uninhibited. UK law does not require fire and rescue services to extinguish fires. A controlled burning strategy may warrant consideration in certain circumstances, including protecting the environment, where the benefit from offensive firefighting does not outweigh the risks, or where available resources and media are insufficient to successfully resolve the incident.

This operational strategy can be employed to limit damage to the environment when it is not possible to contain polluted fire water, as it can minimise the risk to public drinking water supplies from fire water runoff. It may also benefit air quality through improved combustion and dispersion of airborne pollutants. It can be employed in conjunction with firebreaks as a firefighting technique when responding to fires in areas such as moorlands or heathlands.

It is essential to understand that this strategy may have adverse effects, such as hazardous gaseous by-products to form or increase. The balance of potential water and airborne impacts is one of the factors that should be taken into account before implementing the strategy. See Section 3.7, [Environmental Protection Handbook](#).

Controlled burn considered

Life or health is not at risk or a controlled burn will reduce risk to people

There is little chance of extinguishing the fire

Fighting the fire with other techniques could cause a significant risk to firefighters

Property is beyond salvage

Controlled burn likely to be inappropriate

Life or health is at immediate risk or a controlled burn will increase risk to people

There is a high chance of extinguishing the fire with minimal health or environmental impacts

The fire is likely to spread widely or to high-hazard areas

Important or valuable buildings are involved

Fire conditions, weather conditions and/or the local landscape are appropriate for minimising air quality impacts

Fire water run-off could damage an area of high environmental sensitivity or value

Fire water run-off could affect drinking water sources or sewage treatment works

Fire conditions, weather conditions and/or the local landscape are inappropriate

Drainage from the site leads to an area of low environmental sensitivity or fire water is not polluting

Fire water can be contained on-site or off-site

Incident commanders will decide whether to allow a controlled burn. Wherever possible, they should take specialist advice from hazardous materials advisers (HMA), environment agency staff, owners/occupiers and public health bodies. The decision should be communicated as appropriate, including to the public via the media if necessary.

A controlled burn strategy may be considered at any time during an incident. At incidents where it is expected that the fire will burn for some time it may be appropriate to use both controlled burn and extinguishing tactics. For example, using a controlled burn in the initial stages of an intense fire may result in lower concentrations and better dispersion of pollutants because of the high combustion temperatures as well as reduced run-off.

The technique of introducing an accelerated control burn, which may include the use of fire service positive pressure ventilation fans (PPV), can help to increase temperature and therefore decrease the combustion time.

However, with both controlled burn and an accelerated controlled burn, as the fire dies back and begins to smoulder, the pollutant levels in the smoke plume may increase, resulting in reduced dispersion of pollutants and lowering of the smoke plume and contents in the atmosphere. At this point an extinguish strategy could be used. Such a strategy would also give more time for fire water containment measures to be put in place.

Controlled burn strategies may apply to industrial or commercial premises processing or storing polluting substances but can also be useful to limit the effects of fires involving:

- Agricultural premises, for example barns or [BASIS \(Registration\) Ltd](#) stores
- Transport by road, rail, air or sea or hazardous and/or environmentally damaging materials in significant quantities

For sites falling under the [Control of Major Accident Hazard Regulations 1999](#) (COMAH), [The Environmental Permitting \(England and Wales\) Regulations 2010](#) and other relevant environmental

legislation, fire and rescue services should liaise with site occupiers and environment agencies to establish situations where considering a controlled burn may be required as part of:

- An industry protection scheme such as the BASIS (Registration) Ltd scheme for agrochemical stores
- An incident response plan at a site regulated by environment agencies
- An environmental management system or as part of the risk management plan as an agreed environmentally best option

Certain buildings have a particularly high value, not just in rebuilding costs but also because of their architectural, cultural, historical or strategic significance. Although it is unlikely that a building of this type would be used to store significant quantities of hazardous or polluting substances, the health and environmental benefits of a controlled burn must be weighed against the value of the building when they do.

The decision to adopt a controlled burn strategy should be made following consultation with relevant agencies, for example:

- Environmental agencies
- Nature conservation bodies
- Public health organisations
- Local authority
- Highway agencies

See also: National Operational Guidance: [Environmental protection](#)

Strategic actions

Fire and rescue services should:

- Develop tactical guidance and support arrangements for the hazards that may be encountered and the actions to be taken for controlled burning
- Ensure that a controlled burn strategy takes into account both the event and post-event phase of an incident
- Make appropriate arrangements for mitigating pollution and informing the relevant environmental agency and, where necessary, the local population. Liaise with the appropriate agencies to establish air and water monitoring arrangements, both on and off site where necessary
- Identify pre-determined sites where a controlled burn strategy may be appropriate



Tactical actions

Incident commanders should:

- Consider a controlled burn strategy and communicate this to personnel and relevant authorities