

Safe Use of Saunas

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Saunas are a common facility within many leisure and hospitality venues. This document is intended to provide practical guidance to identify and mitigate the risks associated with sauna use.



Introduction

Based on their construction and operating conditions, saunas are the scene of numerous personal injury incidents and are areas that increase the risk of fires to start and spread. Saunas are normally found in leisure and hospitality settings such as hotels, health clubs/gyms, spas, and leisure centres and as such, any incident also has the potential to impact other exposed assets; the wider property itself; any associated business activities and even the organisations reputation.



There are various types of saunas, but most commercial arrangements are typically constructed mainly of insulated timber; housing a heater, which is usually electrically operated and thermostatically controlled; with operating temperatures between 65C to 100C, at low humidity. As a result, there are numerous hazards, including potential hot surfaces and ignition sources with combustible loading in very close proximity.

There have been and continue to be:

- Personal injuries caused due to slips, trips and/or falls; exposure to heat; contact with wooden or hot surfaces; electrical hazards; hygiene issues and potential infection; individuals being alone and unsupervised etc.
- Saunas are high fire hazard areas and can be the cause of frequent and sizeable fires incidents. Many of these are attributed to poor ongoing care and maintenance by the operator or misuse by the user. As a result of their construction and in some cases the materials used to insulate the sauna, fires can spread and intensify rapidly, producing high temperatures and releasing large amounts of toxic smoke. Because of a lack of fire suppression or appropriate fire compartmentation surrounding saunas, these fires can spread to other areas of a building resulting in significant life safety concerns, property damage and business interruption impacts.

Finally, many jurisdictions or local authorities will require some form of permit or license to install and operate a sauna, and as such there may be requirements imposed for this licence to be issued. This guidance is supplementary to any licensing or regulatory requirements and considers the following Risk Management issues:

- ✓ Property/Asset Protection and Business Impact.
- ✓ Personal Injury and Liability.

The Hazards - Potential Causes of Injury, Infection & Fire

There are numerous potential causes of personal injury, infection, or fire (or fire spread) in saunas, including:

Examples of Installation & Maintenance Issues

- Installation not in accordance with the Original Equipment Manufacturers (OEM) instructions.
- Poor workmanship and quality of the installation/build and finish.
- Inappropriate surface and flooring finishes for the expected occupancy including the finish of the:
 - Flooring.
 - Wooden seats.
 - Walls.
- The location of the heating elements
 - Not arranged or guarded to prevent human contact.
 - Lack of fire-resistant boarding or separation distance between the heating/heated elements and timber construction.
 - Not arranged or guarded to prevent objects from falling in or being placed over them.

- Inappropriate electrical installations, including them not being appropriate for the expected and prolonged temperature and humidity of the environment.
- Lack of fire compartmentation between sauna and remainder of the building.
- Lack of appropriate sauna controls and associated alarms, connected to appropriate safety interlocks or response/escalation.
- Lack of or inappropriate automatic fire detection and/or fire suppression within the sauna or surrounding area.

Examples of Facility Management Failures

- Not understanding the risk and not including the sauna in appropriate risk, task and/or fire risk assessments.
- Not including the exposure of a sauna as an additional risk within a Management of Change process.
- Inadequate training for all those individuals within the organisation, tasked with looking after and inspecting the sauna.
- Insufficient control and monitoring of contractors working on the sauna.
- Hygiene and cleaning controls not to an appropriate rigorous standard or frequency.
- Using inappropriate cleaning materials within the sauna, on the flooring or on the sauna timbers.
- Slips, trips and falls caused by:
 - Inappropriately cared for or wet flooring.
 - Steps or stairs.
 - Obstacles or items on the ground.
- Inadequate or inappropriate frequency for visual self-inspections by employees.
 - Lack of appropriate diligence in self-inspections.
 - Housekeeping regimes not rigorous enough.
- Operating the sauna at too high a temperature or operating with the door left open.
- Overheating of the heating elements:
 - **Using incorrect stones or 'coals'.**
 - **Insufficient stones or 'coals'.**
 - **Packing the stones or 'coals' too tightly or incorrectly.**
- **Heaters being left 'on' and unattended for prolonged periods.**
- Providing chlorinated or other unsuitable water for use on the heating element stones, leading to thermal shock of or damage to the heating elements.
- Inadequate inspection, testing or maintenance regimes.
- Not prohibiting hot work of any kind within 10m of a sauna horizontally and vertically.
 - And where hot work cannot be avoided, not enforcing appropriate and rigorous management of this **high hazard task. See Aviva's Loss Prevention Standard – Hot Work Operations.**
- Insufficient electrical inspections, testing and maintenance.
 - Not completing appropriate fixed wiring tests at the correct frequency or following any change.
 - Defective electrical equipment or faults involving circuits and equipment such as light fittings, heating units, thermostats and timer switches.
 - Thermostatic controls or other safety devices and associated safety interlocks not being inspected, tested or maintained, in line with OEM guidelines or at least annually, and therefore not working as expected.
 - Not using techniques such as thermographic imaging as a preventative maintenance tool.
 - Not prohibiting portable electrical devices within a sauna.
- Prior to the end of a working shift:
 - **Failure to turn the power to the sauna 'off' in enough time to allow the unit to cool down.**
 - Inappropriate sauna closure and self-inspection procedures.
 - Failure to identify faults or hazardous conditions.
- Thermal degradation of the sauna timbers over time, leading to increased personal injuries or to pyrolysis and ignition.

LOSS PREVENTION STANDARDS

Examples of Inappropriate Use

- Individuals entering the sauna who should not be permitted per risk assessments or procedures.
- Inadequate or inappropriate **guidance for the ‘user’ prior to entering or when within the sauna.**
 - Including the posted operating instructions and procedures.
- Accidental or deliberate interference with the heater or other elements of the sauna.
- Running the sauna at too high a temperature.
- Running the sauna or individuals being present within the sauna for too long.
- Operating the sauna with the door open.
- Individuals wearing the wrong type of footwear for the floor finish (dry and wet).
- **Individuals using ‘dirty’ swimwear, clothing or towels – hygiene.**
- Individuals not wearing appropriate attire or using towels as instructed.
- Use of combustible materials in the sauna or placing combustible materials on or close to the heater. Examples include but not limited to towels or robes; plastic bottles or food; newspapers and magazines; items of clothing or swimwear.
- Individuals bringing glass into the sauna.
- Individuals urinating or defecating in the sauna.
- Use of flammable or combustible essences or oils on the heater stones/element.
- Using candles, oil burners or similar within the sauna.
- Smoking or vaping in the sauna.
- Malicious damage and arson.

Managing The Risk

Electrical Safety

All electrical, control and alarm wiring; any lighting circuits (including emergency lighting) and all other associated equipment (heaters, timers, control devices etc.) should only be installed by an experienced competent electrical engineer.

To minimise the impact to life safety and fire inception, all devices and associated cabling should be appropriately rated for the prolonged exposure to temperature and humidity.

- Normal commercial cabling and electrical devices are not appropriately rated and the insulation, seals etc. will decompose and fail rapidly in such environments.

As such, there should only be appropriately rated and protected wiring networks in place and these should be formally confirmed during the installation phase and prior to final commissioning. This should be documented.

The sauna lighting and power supply should include a suitable residual current device (RCD) of 30mA.

- Extra low voltage or low temperature lighting should ideally be installed.

In addition:

- If work is needed to be completed on or in the sauna, then a formal lock-out tag-out (LOTO) system should be used on the infrastructure, to prevent electrical circuits from being turned back on inadvertently.
- Aside from the equipment designed and installed to operate the sauna, all other electrical devices should be prohibited from within the sauna.
 - Plug sockets should be prohibited within the sauna.
 - One should also question the need to install plug sockets on the outside of any sauna wall. These should be relocated to wall away from the sauna and the direct/indirect exposure to heat.
- Lithium-ion battery powered portable appliances such as mobile phones, tablets, laptops, earphones, vapes etc. should be prohibited within the sauna.

- All electrical wiring, lighting and other associated equipment (heaters) should be inspected and tested in accordance with local territory electrical regulation requirements.
 - All electrical systems should be considered as part of the required fixed wiring tests.
 - In the UK the IEE Regs requires an annual inspection and test. This should be the minimum standard achieved.
- Aviva also recommends the use of thermographic cameras and annual thermographic surveys in the sauna and associated equipment rooms. This will help verify the:
 - **Normal operation of sauna electrics and control equipment when the heater is turned 'off'.**
 - AND
 - **Sauna electrics and lighting at maximum sauna operating temperature when the sauna is 'on'.**
- To assist with regular inspection and maintenance activities, it is good loss prevention practice for any site with a sauna to have their own thermographic camera. This will assist with understanding the temperature profile within the sauna, electrical hazards, hot spots in the construction, extract ducting pr the operating equipment. It can also be used as part of any routine inspection and the maintenance regimes. This is a valuable low-cost risk management tool and can be employed in many scenarios.
- Any results can be used to help trend the condition of the equipment when compared against previous thermographic reports.

Sauna Design & Construction

There are many aspects of a sauna design that can be incorporated to reduce the exposure to personal injury and infection, or fire inception and development. This includes:

- ✓ An appropriate internal finish to all walls and surfaces.
- ✓ Heated/hot surfaces and the protection of these for personal injury and fire inception.
- ✓ The temperature of the sauna restricted.
- ✓ Appropriate glazing in the door for safe access & egress.
- ✓ An internal and external door handle to be able to open the door from either side.
 - This door *should not* be fitted with a mechanism that could mean the door can be locked from the outside.
- ✓ An internal sauna thermometer. This should clearly display the internal temperature of the sauna, within the sauna itself so occupants can see it.
 - And ideally this should also provide a display outside of the sauna, so employees can see the internal temperature of the sauna without entering.
- ✓ An internal clock/timer. This should clearly display the time/timer to individuals within the sauna and ideally this should also provide a duplicate display to anyone outside of the sauna.
- ✓ The flooring material should be impervious and have a suitable coefficient of friction that reduces the risk of a slip and fall.
 - This needs to consider the user may be bare footed and the floor may be wet. AND
 - Employees need to have the correct type of footwear for the floor finish (dry and wet).
- ✓ The floor should drain freely (laid to fall) and be easily cleaned.
 - The correct cleaning materials should be clearly detailed and used.
- ✓ The heating mechanism should be designed and arranged:
 - Ideally concealed or be provided with a barrier or fence to protect individuals from being able to touch any heating elements and/or burning themselves.
 - Arranged in a way to reduce the potential for fire.
 - Arranged to consider the use of towels/robes (or similar combustible items) and the potential for these to come into contact with the heating elements or cause the heater to overheat.
- ✓ The occupancy in close proximity or adjacent to the sauna and the separation distance need to be considered.

- ✓ Have appropriate and adequate lighting.
 - Including emergency lighting.
- ✓ Have appropriate ventilation and air flow at high and low level.
- ✓ Have a non-verbal alarm system to enable the occupant(s) to be able to raise an alarm/call for help in an emergency. This should:
 - Alarm to a constantly attended area or to nominated person(s) on duty who will respond per a pre-described response plan.
 - Continue to sound until it is manually switched off, which should only be achieved from within the sauna.
 - Be obvious to sauna users how to operate the alarm.
 - Have appropriate signage, as needed.
 - Be inspected, tested and maintained with appropriate records kept.
- ✓ Have an associated cool shower or plunge pool provided in close proximity, to the sauna.
- ✓ Consider the means of escape and evacuation, considering the occupancy and the nature of the occupants.

Construction Materials

Saunas by their very nature are normally wood constructed, with an integral insulating material, and therefore considered inherently combustible. Add to this repeated cycling of high temperatures and low humidity, sauna timbers dry out and age and are primed to deteriorate and splinter or catch fire and spread fire quickly.

- **They should always be constructed and installed by a competent installer and in accordance with the OEM's instructions.**

There are various types of timber panelling that can be used in saunas:

- Spruce and pine are both common because of their relatively low cost and availability.
 - However, these are not ideal from a fire perspective - because both release combustible resins (sap) when exposed to elevated temperatures.
- Red cedar, alder and aspen are considered as higher performance timbers for sauna construction. This is because these woods help prevent movement, warping and cracking.
 - When these woods are thermally treated their stability and durability performance in the sauna atmosphere is also improved.

Panelling used in saunas can often vary in thickness. Timber with a thickness of 10mm to 14mm will tend to warp more with age, so the better performing saunas are generally fitted with panelling 15mm thick or greater.

Based on their performance in the sauna environment and in fire conditions, the use of ordinary wood surface coatings such as stains and varnishes should always be avoided. Similarly, and again based on the environmental conditions and physical arrangements of a sauna, the application of any fire resistant or intumescent coatings to help prevent fire growth or spread is not a value-added investment. In this occupancy, these materials afford little or no mitigation to fire at all and as such provision of these is not recommended.

The finish of the sauna timbers and its degradation should be such to minimise the likelihood of personal injury (cuts, splinters etc.) and this exposure needs continual attention and monitoring. Any instances of timber surface damage should be addressed immediately.

The doors to any sauna should be of the self-closing type as leaving the sauna door open:

- Impacts the performance and efficiency of the sauna.
- Is an increased fire hazard, as it causes the heater to work harder to maintain sauna temperature.
- In a fire will aid fire growth and could increase smoke contamination.

Fire Compartmentation

The sauna should be enclosed by fire-resistant construction or within a fire compartment providing at least 60-minutes fire resistance both horizontally and vertically (insulation and integrity). All and any openings and penetrations in the fire compartment should be protected with approved/listed:

- ✓ Fire stopping materials.
- ✓ Glazing.
- ✓ Automatically or self-closing and latching fire doors, dampers or shutters.

All the above should have a fire-resistant rating (insulation and integrity) consistent to the fire compartment construction.

Fire barriers spaced to meet any national building design standards or to meet insurers requirements, (whichever standard is the more stringent) should be installed within any ceiling voids and/or floor voids associated with the sauna.

Fire Compartmentation & Ventilation

Any ventilation ducts from the sauna, that pass through a fire compartment wall, floor or ceiling should be fitted internally with an automatically operated fire damper linked to the actuation of the fire detection and fire alarm installation. In lieu of this, the entire length of the ducting from the sauna to the open air should offer a minimum fire resistance of 60 minutes (insulation and integrity).

- ✓ The location of any ventilation duct exhaust point should be reviewed in relation to the construction, other exposures and any building ventilation air intakes.
- ✓ The location and access to any ventilation ducts should be considered for inspection, maintenance and cleaning.
- ✓ The use of a non-combustible insulating sleeve or similar to prevent conducted or radiated heat transfer to any exposures close to or surrounding the ventilation duct should also be considered (especially in relation to personal contact and injury).

Heat & Smoke Venting

As part of the fire compartmentation strategy, and with an understanding of the wider business impact, heat and smoke venting from the sauna fire compartment should also be considered. The basis of this should be the impact of a potential fire and associated smoke generation to:

- Life safety
- Firefighting efforts
- Smoke contamination to the remainder of the building and increased damage or prolonged recovery and business impact following a fire.

Please see Aviva's Loss Prevention Standard Heat and Smoke Venting Systems.

Sauna Operating Equipment

Equipment Location

Any equipment associated with the operation of the sauna should be in a separate dedicated plant room, with restricted access to authorised personnel only. The plant room should be located within a separate fire compartmented area, providing at least 60-minutes fire resistance (insulation and integrity).

Within this plant room, the sauna should have a readily accessible and clearly labelled 'on/off' isolation switch. This should be housed within a lockable safety cover protected enclosure or a security style unit. This is to ensure only authorised and trained personnel can turn the sauna on.

Heaters

For any sauna heater the aim should be to either segregate or separate the heater from the wooden structure. This should be discussed with the sauna OEM. To help segregate the heater and the wooden sauna structure, a heat/fire resistant board (with a 1 hour fire resistance insulation) should ideally be installed between them.

- The larger the board the better.
 - If possible, this board should be extended outside the profile of the heater and ideally at least 0.3m in all directions.

There are various types of heaters available that typically provides low humidity and a high temperature:

- Wood and stone heaters - generally found in older saunas.
- Stone or synthetic coal heaters - generally found in older saunas.
- Electrical heaters – generally found in more modern saunas.
- Infrared heaters – **these normally consist of special infrared lamps that use light waves to heat a person's body, not the entire sauna room.**
 - Temperatures are typically around 60C, which is lower than other traditional heated saunas, but the person in the sauna still feels the effects of the sauna in a similar way.

The direct burning of wood or any other combustibles should always be prohibited within any sauna.

Any heater external surface or adjacent surfaces should not become hot enough to cause burns from accidental skin contact. If there is any possibility of this, they should be shielded or fenced to prevent such burns.

Any exposed coals need a non-combustible guard or barrier extending at least 100mm above coals or again be fenced/shielded to prevent accidental contact.

- Fencing or shielding also has the benefit of reducing the likelihood of combustible items (towels, robes, ladles etc.) coming into direct contact with the heating elements.
- The fencing/shielding should be designed again not be cause a hot surface that could cause personal injury.

For personal injury protection and fire prevention, concealed heaters are preferred to be installed instead of exposed open type heaters.

- Persons and combustible items such as towels in the sauna, should not be able to come into direct contact with the heating element.
- To help prevent tampering, these should have a suitably controlled access area for inspection and maintenance purposes.
- Sloping guards should be fitted to the rear of any benches or seats within the sauna. This is to help prevent towels and any other materials from falling behind the seats and potentially onto the concealed heater.

Water & Dosing Systems

Saunas with exposed heaters sometimes have a wooden bucket full of water with a dispensing ladle provided. This is for users to put water onto the coals or stones to create steam, so increasing the heat and humidity. This should only be provided:

- If the sauna and heater is designed to accommodate this addition.
- **Using the correct type of fluid per the OEM's guidelines** – normal chlorinated cold tap water may not be appropriate and may cause damage.

In saunas where this is not part of the original design concept, buckets of water and ladles should be prohibited. This should be clearly detailed within the risk assessments, operating instructions and self-inspections.

Where appropriate and where ladles are provided, attention should be paid to any electric shock risk and the potential to create a situation with increased trip and fall hazards. As a result, ladles should be:

- ✓ Non-conductive. AND
- ✓ Be located on a hook or stand for when not in use.

In some instances, saunas are designed with automatic fluid or essence dosing systems. Again, if this is not part of a **sauna's original design concept these should not be permitted, or retro fitted.** If there are any concerns about the safe operation of an automatic self-dosing system, then the sauna should be disabled, until it is repaired, or the dosing system is safely isolated.

- In any instance, combustible or flammable liquids should never be dosed into a sauna or onto a sauna heating system. Ignitable liquids should not be permitted in a sauna.

Finally, if dosing systems or containers of fluid are provided attention needs to be paid to fluid interaction with surfaces and flooring to prevent hygiene issues or creating a slipping hazard.

Temperature Controls

The temperature management within a sauna is critical and is usually controlled by a temperature thermostat that is normally pre-set to cut out around 85C to 95C, on the sauna control panel. The control panel should be located within an anti-tamper unit. If required, the upper temperature of the sauna may be adjusted, by authorised engineers in accordance with the OEM instructions.

- If a temperature increase is required, then the reasons why need to be fully understood, risk assessed and formally documented.
- The maximum temperature of the unit should never:
 - Exceed the safe operating temperature as risk assessed.
 - Exceed the safe operating parameters of equipment, as described by the OEM.
 - Create an exposure to personal injury or fire.

In addition to the operating temperature thermostat:

- There should also be at least one high temperature safety cut off switch, normally set to around 120C.
 - This upper safety device should automatically and safely shut down the sauna.
- Ideally, there should also be a 2nd high temperature cut off device set a few degrees higher than 120C e.g. 125C.
 - This provides an automatic fail-safe device, if the primary high temperature cut off fails for any reason.

The operating status, any alarm and all fault conditions associated with the sauna should be monitored on a Building Management System or similar, with appropriate alarm notifications to key personnel. This should be accompanied by an associated response/escalation within prescribed response time.

If there is any doubt about the status of any of the high temperature controls and safety interlocks the sauna should not be operated.

Safety Interlocks, Emergency Stop & Alarms

Any sauna operating controls for 'high' or 'over' temperature, time etc. should be interlocked to safely shut down and turn off the heating elements of the sauna. These should also be designed to fail safe, so if there is a fault condition associated with any of the sauna controls, the sauna should not be able to be turned on.

- As detailed elsewhere, any fault or alarm conditions associated with the sauna should be connected to a reliable system to alert personnel with an appropriate level of response/escalation.

Associated with the above there should always be manually operated sauna isolation/shut down switches or buttons provided in the wider building. Ideally, at least two devices should be provided in two distinctly separate readily accessible 'safe' areas, so that at least one can be reached in any emergency while exiting the building.

The sauna should be fitted with an emergency stop/alarm:

- ✓ Inside the unit itself.
- ✓ Directly outside the unit.

That are located in a safe and easily accessible location for use by anyone who feels unwell, sees an unsafe condition etc. that will shut down the sauna and raise an alarm.

All alarm activation devices should have suitable signage. They should also signal locally (e.g., BMS or similar) and to a permanently occupied position, such as a reception or security.

Any alarm activation points may need to be shielded or protected against impact damage and or accidental activation.

Regardless of the nature of any fire detection or fire protection installed (see next section), actuation of ANY fire alarm or fire protection system within the sauna or the wider building, automatic interlocks should be provided to:

- ✓ Automatically and safely shut down the sauna.

In addition, there should be safety interlock in place to prevent the operation of the sauna should any fire detection or fire suppression associated with the sauna itself be isolated/impaired.

Any actuated safety interlocks, associated with the sauna should be arranged to require manual intervention and reset before the sauna can be restarted.

Fire Detection & Protection

Automatic Fire Detection & Alarm System

At a minimum, automatic fire detection and a manual fire alarm system should be installed to all areas, rooms, voids etc. of a building. This should be designed to meet an Internationally recognised standard and agreed with Insurers prior to any installation.

The **building's fire alarm system should include a fixed rate of rise automatic heat detector installed in any ceiling void, directly above the sauna.**

- Access to any ceiling voids will be required for routine servicing and testing.
- If any void is inaccessible or narrow, then a heat probe can be installed inside the sauna as an alternative.

In addition to local visual and audible alarms (including within the sauna), operation of the automatic fire alarm should result in an alarm signal through to a constantly attended (24 hours per day, 365 days per year):

✓ Approved alarm receiving and monitoring centre.

Or

✓ On-site constantly attended (24 hour) security control room.

Of particular importance is to ensure the fire alarm is:

- ✓ Able to be raised by a person located within the sauna itself and especially during sauna operation. AND
- ✓ Identifiable/addressable to show the location of alarm/fire.

Automatic Fire Suppression System(s)

Automatic Sprinkler Protection

Depending on the property and business impact values and the extent of the fire exposure, the installation of automatic fire suppression to protect within the sauna and any floor or ceiling voids is recommended. Based on the exposures this should also be considered for the wider building.

If the existing building is protected by an automatic sprinkler system, then the sprinkler protection should be extended to within the sauna, to any voids and ducting as appropriate. This should be completed using sprinkler heads with an appropriate temperature rating (normally 50 degrees higher than the expected maximum temperature) and response time index for the environment.

- An appropriate impact guard should be fitted to the sprinkler head within the sauna to protect it from damage.

The sprinkler design and installation should be in accordance with an internationally recognised sprinkler design standard; completed by an approved or registered sprinkler company using approved and listed equipment that is acceptable to the Insurers. Insurers will need to review and accept the proposed design, prior to ordering and any installation.

Autonomous Local Protection System

Alternatively, a standalone localised automatic fire suppression system might be considered. The fire suppression system should be designed in accordance with an internationally recognised design standard; completed by an approved and registered fire system company; using approved and listed equipment. Insurers will need to review and accept the proposed extinguishing agent and the system design etc., prior to it being ordered and installed.

The localised automatic fire suppression system *will only be acceptable to Insurers* if it is based on:

- ✓ Testing criteria that are published and accepted by Insurers.
- ✓ Utilising the same equipment/nozzle manufacturer; nozzle k-factor; nozzle discharge pattern; flow rates; density discharge rates; operating pressure and discharge duration time as the reported test data and acceptance criteria.

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- ✓ Must be used to protect a sauna of the same size and volume; fitted with the same bench and heater arrangement.
- ✓ Has an accepted and reliable means of actuation both automatically and manually.
- ✓ Has an accepted and reliable means of relaying alarm and fault conditions.

Note: Based on the lack of test data and widely accepted approvals, Aviva is not currently able to recommend any such autonomous local protection system, as a reliable means of suppressing a fire in a sauna.

Protection System Alarms

In addition to local visual and audible ‘fire’ alarms, operation of any sprinkler or fire suppression system should result in an alarm signal through to a constantly attended alarm receiving and monitoring centre or an on-site security control room as above.

For any local protection system, alarms should also be provided for:

- System ‘out of automatic’; ‘isolated’; ‘in manual’.
- System trouble.
- System actuated.

Manual Fire Extinguishers

Portable manually operated fire extinguishers suitable for the area should be provided in accordance with local regulations and located within easy reach of the sauna. These should be:

- ✓ Clearly identified.
- ✓ Correctly installed with appropriate signage.
- ✓ Included in regular self-inspection routines.
- ✓ Routinely serviced and maintained by an approved company.

Identified individuals within the organisation (on all shifts) should ideally be formally trained to use such devices.

Risk Assessments

Based on the exposures, formal and documented risk assessments, task-based assessments, and fire risk assessments should always be completed. These assessments should include the specific risks associated with the sauna and its use in normal conditions, during start-up/shut-down and in an emergency; cleaning regimes, maintenance tasks etc. They should also detail the appropriate control and mitigation measures that need to be taken. This may be included in associated task procedures or method statements.

These risk assessments should be:

- ✓ Reviewed regularly - particularly if changes are proposed or have been made.
- ✓ Kept up to date.
- ✓ Ready for review by all interested parties such as local authorities and insurers.
- ✓ A process that reviews any risk assessments and operating procedures etc. based on:
 - Any near misses or actual incidents being reported or occurring.
 - If anything changes, including personnel.
- ✓ Used for the basis of task method statements.

Note: All changes should be managed within a formal Management of Change process.

Managing Change

As with any business, there should always be a formal documented procedure for managing any change to a building or fire compartmentation; the plant or equipment (including the sauna); the fire detection or protection systems; any associated safety interlocks etc. At a minimum, all interested parties such as local authorities, insurance advisers/brokers and your Insurers should be advised of any proposed changes prior to the changes starting so they can provide support and guidance.

Please see Aviva's Loss Prevention Standards and other resources on Managing Change: [Managing Change](#)

Training

Any person working within, on or associated with any sauna, should be appropriately trained on the expected hazards. This should include personal safety including infection control, fire exposures and emergency procedures etc. This training should be formally documented and where appropriate, refresher training should also be provided and recorded. The training records should be kept for future confirmation and auditing.

Operating Procedures & Controls

Start Up Procedure

A sauna should only ever be started manually on each shift or at the start of the day. The sauna should *never* be fitted with an automatic timer to start it up.

Start-up of the sauna should only be permitted after a visual inspection of the 'cold' sauna, to ensure it is appropriately clean and tidy, with no obvious signs of damage.

Start-up should be formally recorded in a log, with confirmation of the pre-inspection check and the time of start-up noted.

If there any safety concerns, doubts or issues at all with the sauna, then the basis of safety should be to *NOT* start the sauna at all and record this in the log.

Shut Down Procedure

Aside from the sauna occupant clock/timer, the sauna heating system and all associated plant/equipment should be manually shut down at least 60 minutes before the end of shift or the building housing the sauna closes.

In addition, to help ensure a sauna cannot operate outside of hours, when not supervised or if left operable by mistake, a timer and switch should be installed to automatically shut down the sauna and all associated equipment at least 60-minutes before the facility closes.

- This should be considered a failsafe to and not as a replacement of the manual shut down procedure.
- The time of the automatic shut-down facility should be checked regularly and recorded in the log. This is particularly important:
 - After the sauna has been worked on, maintained, changed etc.
 - Around the times of the year if the clocks go forward or back.

Prior to the facility/building closing, a final visual check of the sauna should be completed. This process should:

- ✓ Be formally recorded and logged with the time and name of person who completed the shut-down.
- ✓ Include a thorough inspection of the sauna itself:
 - To ensure it is left clean and tidy.
 - It has shut down.
 - It has cooled down.
 - There are no adverse conditions or faults.

Emergency Shut-Down Procedure

There should be formal procedure on how to shut down the sauna in an emergency.

- ✓ What steps and checks needed to be taken, in what order, need to be documented.
- ✓ Specific employees should be named on each shift with this responsibility.
 - These individuals should be formally trained to complete this role.

Signage

There should be appropriate signage displayed and depending on the geographic territory this may be required to be in multiple languages:

- ✓ Who should not use the sauna e.g., pregnant women, children, people with underlying health conditions, people under the influence of alcohol etc.
- ✓ Clear and concise operating instructions.
- ✓ The rules for its safe use.
- ✓ The maximum amount of time to use the sauna.
- ✓ How to raise an emergency or any alarms etc.

Operating Controls

Saunas in operation should not be left unsupervised and someone within an organisation should be responsible for its safe operation on a shift-to-shift or day-to-day basis. Safety and operating information should be formally documented, reviewed regularly, and kept up to date. As part of these:

- ✓ There should be clear guidance on who can enter the sauna. Any restrictions for who can enter or use a sauna, should be clearly understood:
 - By all employees.
 - By all persons entering the facility.
 - And especially by those planning to use the sauna.
- ✓ Individuals should not be permitted to use a sauna:
 - Below an appropriate age threshold.
 - If they are suspected to be or known to be pregnant.
 - With known underlying health conditions, that could be affected by the sauna environment.
 - Under the influence of alcohol, prescription medicines or recreational drugs.
- ✓ Safety and operating instructions should be clearly displayed on securely fixed water (and heat) resistant plaques, to the external areas of the sauna.
 - In some cases, there may also be a case for instructions to be located within the sauna.
- ✓ To help improve infection control, users should be made to wear appropriate clean swimming apparel.
- ✓ To reduce risk of personal injury, infections and burns, users should be advised to sit on a clean towel. With this requirement, the establishment must make the decision whether:
 - Users must bring their own towels. OR
 - The establishment itself provides towels for their customers.

Note: Towels issued to the user to sit on can reduce hygiene risks and reduce risks from burns, but this approach needs careful consideration and tight management control. This approach is advocated in many Local Authority licensing documents.

Note: If customers bring their own towels, the cleanliness of these in some instances may need to be considered as part of the self-inspection process. Only clean towels should be permitted.

- As discussed, towels can increase the fire risk if they are left in the sauna by users or placed close to heaters.
- Their use would be more compatible where there is no direct access to the sauna heater, but as indicated this would still need regular visual checks and controls to ensure any towels are not accumulating inside the sauna.

- ✓ Must have a supply of fresh drinking water nearby to aid rehydration of users.
- ✓ There should be a formal procedure for users and employees to report issues or defects and a formal procedure for taking the sauna out of service if repairs etc. are required.

Housekeeping, Cleaning & Self Inspections

One of the main causes of incidents or accidents in any sauna, is the way it is treated by users and those individuals responsible for inspecting and cleaning it. This area of risk management is critical. As a result, a sauna should always be kept clean, tidy and without any ordinary combustible materials/waste present.

The duty manager, or a named alternate, should complete rigorous and recorded self-inspections every day prior to opening and prior to closing.

- ✓ These should include the external and internal areas of the sauna.

In addition to these inspections, trained employees should also complete regular ongoing recorded inspections:

- ✓ At least every hour or less, based on risk assessment.
- ✓ Or as the licence requires, whichever is the more frequent.

All completed inspections should be recorded in an up-to-date recording system or logbook that records:

- ✓ Date.
- ✓ Time.
- ✓ Name of the person completing the self-inspection.
- ✓ Any comments, observations or remedial measures needed to be taken during the inspection or that need to be addressed because of the inspection.

These records should be retained and audited.

Focus areas should always be:

- Under any benches and seats.
- Around or below any heating elements.
- **The heating and electrical systems including any 'coals' or 'stones'.**
- Condition of the wooden panels, seats etc.
- Nature of the floor surface.
- The behaviours of the users and/or any contractors.

Any materials removed from the sauna should be placed in appropriate bins away from the sauna and all combustible waste should be removed from the building at least daily. This should be removed to a designated safe secure area well away from the building (10m or more).

For further support, please review Aviva's Loss Prevention Standard Control and Management of Combustible Waste Materials.

As part of any self-inspection, any damage or faults should be reported for immediate action and repair. These should be recorded in a system that tracks them through to completion. If there is any doubt about the condition of any areas of the sauna:

- The use of the sauna should cease immediately.
- The sauna should be turned off and isolated immediately.
- The sauna should not be returned to operation until verified by an appropriately trained maintenance engineer.

The sauna's internal and external wood panelling and surfaces should be cleaned:

- In line with the OEM's guidelines.
- Based on risk assessments - hourly, daily, weekly for hygiene purposes.
- Only using cleaning materials recommended by the OEM's guidelines. This will prolong the life of the sauna and reduce deterioration of the wood construction.

The sauna and surrounding area floors should also be cleaned:

- Based on risk assessments - hourly, daily, weekly for hygiene purposes.
- Based on the nature of the floor and any exposure to slipping when wet or heated.
- Only using materials that will not react with the environment to create a more adverse condition.

Note: Cleaning and disinfection regimes would normally be expected in accordance with the OEM recommendations. When disinfecting, a suitable disinfectant should be used that can reduce risks from bacteria and blood borne viruses and applied in accordance with OEM instructions.

Near Miss, Incident & Accident Reporting

A formal near miss, incident and accident reporting system needs to be in place with the process understood by all employees and available for sauna users if required.

For further support, please review Aviva's Loss Prevention Standard Accident Recording and RIDDOR Reporting.

Emergency Procedures & Response

The building and sauna operator should have a formal and documented emergency procedures and response escalations for personal injury, fire and other incidents. This should include:

- What procedures to follow in an emergency - based on any given scenario, time of day etc.
 - This should cover all shifts, users and contractors.
- Persons identified with specific roles including those who should contact the emergency services.
- What evacuation procedures to follow - including ensuring everyone associated with sauna is accounted for and safe.
- Named individuals trained to use portable fire extinguishers to tackle a fire – if safe to do so.
- All employees being trained on these procedures, their roles and how to raise the alarm.
 - Regular refresher training should also be provided.
- Liaison with the emergency services so they are aware of the hazards to expect on site.
 - An understanding of local firefighting water supplies and Fire & Rescue Service response.
 - Inviting the Fire & Rescue Service to site for familiarisation visits etc.
- Regular practices of the plan.

For further support, please review Aviva's Loss Prevention Standard Emergency Response Teams.

Hot Work

Based on the wooden construction of the sauna, any and all hot work should be prohibited within 10m of any sauna. This includes both horizontally and vertically. Any hot work must always be considered the last resort and is recommended to follow Aviva's Loss Prevention Standard for Hot Work. [Hot Work Risk Management Guide](#)

Inspection, Testing & Maintenance Regimes

Saunas and all associated equipment, including heaters and all safety devices/interlocks etc. should be inspected, serviced and maintained on a regular basis and as part of a planned programme of maintenance. This should be in accordance with the manufacturer's recommendations.

The recommended servicing intervals are likely to vary depending on how often the facility is used. However, the minimum service interval is recommended to be in line with the Original Equipment Manufacturer or every 6 months, whichever is the more frequent.

Inspection, testing and maintenance should only ever be undertaken by a trained and 'competent' individual or organisation contractor. This should cover:

- ✓ All elements of the heating system, including thermostats, high temperature limit switches, timers and RCDs.
- ✓ A check on the general wear and tear of all the equipment, with parts being replaced as necessary.
- ✓ Any stones or heated minerals inspected with any broken or damaged items replaced.
 - **Dependent on its usage, any 'coals' or similar need to be inspected and/or replaced in line with OEM guidance.**
- ✓ All inspections, testing and maintenance should be formally recorded.
 - This should provide an appropriate level of detail.
 - Be kept up to date.

Suitable access should be provided under the benches and around the heater unit to facilitate appropriate cleaning, inspection and maintenance.

Sauna Safety Devices

The safety devices and control systems of the sauna should be inspected, tested and maintained in accordance with the Original Equipment Manufacturers (OEM) guidelines.

- ✓ These should be formally recorded.
- ✓ These should include all high temperature devices; any timers; all interlocks; alarms and isolators etc.
- ✓ If in house expertise is not available, then this should be completed by an appropriately trained and experienced 3rd party.
 - **For further support, please review Aviva's Loss Prevention Standard - Managing Contractors LPS**
- ✓ This should include alarm verification to any monitoring arrangement or the Building Management System.

Wooden Panelling

As stated, the sauna wooden panelling will dry out with age, and it becomes increasingly prone to damage with cracks often appearing. Older, dried out and damaged timber linings increases the exposure to personal injury and to fire. Replacement of the sauna panels will depend on the type of panelling used, operating conditions and after care, but typically is likely to need refurbishing or replacing around every 6 to 8 years.

Detection & Protection

Automatic fire detection, manual fire alarms and any fire suppression systems should be regularly inspected, tested, serviced, and maintained, using recognised listed and approved companies, that are acceptable to Insurers. This should include all fault and alarm conditions; any alarm transmission systems; and all related safety and shut down interlocks. The frequency of these activities should be consistent with the appropriate International Standard, or the Insurers own recommended guidance, whichever is the prescribed by the Insurer. The minimum frequency of this should be annually.

Any faults or isolations should be considered as impairments and formally managed with your Insurers or Brokers **Impairment Management programme**. If further guidance is needed, please review Aviva's Impairment Management Loss Prevention Standard for support in this area.

Monitoring & Audit

Sauna management should establish a regular audit of the key management programmes and records associated with the sauna:

- ✓ Self-inspections.
- ✓ Incident/accident notices.
- ✓ Inspection, testing and maintenance activities.
- ✓ Hot work and other permit systems.

These self-audits should be completed at varying frequencies, some at least monthly or more often, if the process is not driving the correct behaviours or standards.

The manager should ensure and rectify any abnormalities and arrange for refresher training to employees or contractors, as necessary.

Business Impact

Whilst on the face of it a business impact assessment for a sauna may seem excessive, time and time again incidents with saunas shows us how this relatively small area of a larger building creates issues for businesses that are not limited to the sauna itself. **Aviva repeatedly see's:**

- Injuries to people that means a sauna must close for a period of time.
- Fires that either create smoke contamination to or spread to the wider building, causing much greater property damage and related business interruption.
- **Whatever the incident, an impact to the organisation's wider revenue stream or its reputation.**

Therefore, as part of a concerned risk management approach, a Business Continuity Plan should be in place.

Please see Aviva's Risk Management Guidance for Loss Prevention Standards:

Business Impact Analysis
Business Continuity

Checklist

A generic Fire Safety for Commercial Saunas Checklist is presented in Appendix 1 which can be tailored to your own organisation.

Additional Information

Further risk management information can be obtained from [Aviva Risk Management Solutions](#)

Loss Prevention Standards

- Accident Recording and RIDDOR Reporting
- Business Impact Analysis
- Business Continuity Management
- Business Continuity - Testing and Maintenance
- Contamination Following a Fire
- Control and Management of Combustible Waste Materials
- Electrical Installations - Inspection and Testing
- Emergency Response Teams
- Fire Compartmentation
- Fire Safety Inspections
- Fire Safety Legislation
- Heat and Smoke Venting Systems
- Hot Work Risk Management Guide
- Housekeeping
- Impairment Management
- Managing Change - Property
- Managing Contractors
- Thermographic Surveys

To find out more, please visit [Aviva Risk Management Solutions](#) or speak to one of our advisors.

Email us at riskadvice@aviva.com or call 0345 366 6666.*

*The cost of calls to 03 prefixed numbers are charged at national call rates (charges may vary dependent on your network provider) and are usually included in inclusive minute plans from landlines and mobiles. For our joint protection telephone calls may be recorded and/or monitored.

Appendix 1 – Commercial Saunas Checklist



Location	
Date	
Completed by (name and signature)	

	Risk Assessments	Y/N	Comments
1.	<p>Are the following formal and documented:</p> <ul style="list-style-type: none"> ✓ Risk assessments? ✓ Task-based assessments? ✓ Fire risk assessments? 		
2.	<p>Do these assessments include the specific risks associated with the sauna and its use:</p> <ul style="list-style-type: none"> ✓ During start-up and shutdown? ✓ In normal conditions? ✓ In an emergency? ✓ Cleaning regimes ✓ Maintenance tasks etc. 		
3.	<p>Do they detail the appropriate control and mitigation measures that need to be taken including any associated task procedures or method statements?</p>		
4.	<p>Are these risk assessments:</p> <ul style="list-style-type: none"> ✓ Reviewed regularly? And, <ul style="list-style-type: none"> ○ If changes are proposed or have been made? ○ Any near misses or actual incidents being reported or occurring. ✓ Kept up to date? ✓ Ready for review by all interested parties such as local authorities and insurers? ✓ Used for the basis of task method statements? 		

	Electrical Safety	Y/N	Comments
5.	Is all electrical, control and alarm wiring only installed by an experienced competent electrical engineer?		
6.	Are all devices and associated cabling appropriately rated for the prolonged exposure to temperature and humidity?		
7.	Was this formally confirmed during the installation phase and prior to final commissioning? <ul style="list-style-type: none"> • Is this documented? 		
8.	Is the sauna lighting and power supply protected by a suitable residual current device (RCD) of 30mA?		
9.	Is extra low voltage or low temperature lighting installed?		
10.	Are plug sockets prohibited within the sauna? <ul style="list-style-type: none"> • Or on the external wall of the sauna? 		
11.	Are all non-sauna related electrical devices prohibited from within the sauna?		
12.	Are battery powered portable appliances such as mobile phones, tablets, laptops, earphones, vapes etc. prohibited within the sauna?		
13.	Are all electrical wiring, lighting, and other associated equipment (heaters) inspected and tested in accordance with local territory electrical regulation requirements?		
14.	Are all electrical systems considered as part of the required fixed wiring tests?		
15.	Is a thermographic camera available on site and used on the sauna and its electrical equipment?		
16.	Is an annual thermographic survey completed for the building and does this include the sauna and associated equipment rooms?		
17.	Is a formal lock-out tag-out (LOTO) system used when working on the sauna?		

LOSS PREVENTION STANDARDS

	Sauna Design & Construction	Y/N	Comments
18.	Is the sauna constructed and installed by a competent installer and in accordance with the OEM's instructions?		
19.	Is the nature of the timber panelling identified? Spruce? Pine? Cedar? Alder? Aspen? Is the thickness of panelling recorded?		
20.	Have surface coatings such as stains, varnishes, fire retardant coatings etc. been prohibited?		
21.	Is the finish of the sauna timbers regularly monitored? <ul style="list-style-type: none"> Are any instances of surface damage addressed immediately? 		
22.	Are the doors self-closing type?		

	Fire Compartmentation	Y/N	Comments
23.	Is the sauna enclosed by fire-resistant construction or within a fire compartment providing at least 60-minutes fire resistance both horizontally and vertically (insulation and integrity)? Are fire barriers spaced to meet any national building design standards or to meet insurers requirements, installed within any ceiling voids and/or floor voids associated with the sauna? Are all openings and penetrations in the fire compartment protected with approved/listed: <ul style="list-style-type: none"> ✓ Fire stopping materials? ✓ Glazing? ✓ Automatically or self-closing and latching fire doors, dampers or shutters? With a fire-resistant rating (insulation and integrity) consistent to the fire compartment construction?		

	Fire Compartmentation & Ventilation	Y/N	Comments
24.	<p>Are any ventilation ducts from the sauna, that pass through a fire compartment wall, floor or ceiling be fitted internally with an automatically operated fire damper linked to the actuation of the fire detection and fire alarm installation?</p> <p>If no, is the entire length of the ducting from the sauna to the open air a minimum fire resistance of 60 minutes (insulation and integrity)?</p>		
25.	Is a non-combustible insulating sleeve used to prevent conducted or radiated heat transfer to any exposures close to or surrounding the ventilation duct?		

	Heat & Smoke Venting	Y/N	Comments
26.	Has dedicated heat and smoke venting from the sauna fire compartment been provided?		

	Equipment Location	Y/N	Comments
27.	<p>Is the equipment associated with the operation of the sauna located in a separate dedicated plant room?</p> <ul style="list-style-type: none"> With restricted access to authorised personnel? <p>Is this plant room located within a separate fire compartmented area, providing at least 60-minutes fire resistance (insulation and integrity)?</p>		
28.	<p>Within this plant room, does the sauna have a readily accessible and clearly labelled 'on/off' isolation switch?</p> <ul style="list-style-type: none"> Is this housed within a lockable safety cover protected enclosure or a security style unit? 		

	Heaters	Y/N	Comments
29.	<p>Is a heat/fire resistant board (with a 1 hour fire resistance insulation) installed between the sauna heater and the wooden sauna structure></p> <ul style="list-style-type: none"> Does this board extend outside the profile of the heater at least 0.3m in all directions? 		
30.	<p>Is the direct burning of wood or any other combustibles prohibited within the sauna?</p>		
31.	<p>Is the sauna heater external surface or any adjacent surfaces protected so they do not become hot enough to cause burns from accidental skin contact?</p> <ul style="list-style-type: none"> Are they shielded or fenced? 		
32.	<p>If exposed coals are used is a non-combustible guard or barrier provided that extends at least 100mm above coals or fenced/shielded to prevent accidental contact?</p>		
33.	<p>Is the sauna arranged to prevent any persons or combustible items such as towels from coming into direct contact with the heating element?</p> <ul style="list-style-type: none"> Is there a suitably controlled access area for inspection and maintenance purposes? 		
34.	<p>Are sloping guards fitted to the rear of any benches or seats within the sauna?</p>		

	Water & Dosing Systems	Y/N	Comments
35.	<p>Is a bucket of water with a dispensing ladle provided for users to put water onto the coals or stones to create steam?</p> <ul style="list-style-type: none"> Is the sauna and heater designed to accommodate this addition? If not then this should be prohibited. Is the water/fluid being used appropriate per the OEM's guidelines? <p>Is this clearly detailed within the risk assessments, operating instructions and self-inspections?</p>		

	<p>If a ladle is provided has attention been paid to:</p> <ul style="list-style-type: none"> Is it non-conductive - electric shock risk? ✓ Located on a hook or stand when not in use - to increase trip and fall hazards? 		
36.	<p>Is the sauna designed with an automatic fluid or essence dosing system?</p> <ul style="list-style-type: none"> If this is not part of the original design concept these should be prohibited. <p>Are any ignitable liquids prohibited from use in or on the dosing or heating system.</p> <p>Do any dosing systems or other fluids pose additional risks to surfaces and flooring:</p> <ul style="list-style-type: none"> Hygiene issues? Creating a slipping hazard? 		

	Temperature Controls	Y/N	Comments
37.	<p>Is the sauna control panel located within an anti-tamper unit?</p> <p>Is the sauna arranged so the maximum temperature never:</p> <ul style="list-style-type: none"> Exceed the safe operating temperature, as risk assessed? Exceed the safe operating parameters of equipment, as described by the OEM? Creates an exposure to personal injury or fire? 		
38.	<p>In addition to the operating temperature thermostat, is there at least one high temperature safety cut off switch, normally set to around 120C?</p> <ul style="list-style-type: none"> Does this upper safety device automatically and safely shut down the sauna? <p>Is there a 2nd high temperature cut off device set a few degrees higher than 120C?</p>		

LOSS PREVENTION STANDARDS

39.	<p>Is the operating status, any alarm and all fault conditions associated with the sauna monitored on a Building Management System or similar?</p> <ul style="list-style-type: none"> • Are there appropriate alarm notifications to key personnel? • Is this accompanied by an associated response/escalation plan within prescribed response time? 		
40.	<p>If there is any doubt about the status of any of the high temperature controls and safety interlocks is the sauna always shut down and not operated?</p>		
41.	<p>If the temperature of the sauna is required to be adjusted, is this only completed by authorised engineers in accordance with the OEM instructions?</p> <p>If a temperature increase is required has this been fully risk assessed and formally documented?</p>		

	Safety Interlocks, Emergency Stop & Alarm	Y/N	Comments
42.	<p>Are the operating controls for 'high' or 'over' temperature, time etc. interlocked to safely shut down and turn off the heating elements of the sauna?</p> <p>Are these designed to fail safe?</p>		
43.	<p>Are at least two manually operated sauna isolation/shut down switches or buttons provided in two distinctly separate readily accessible 'safe' areas?</p>		
44.	<p>Is the sauna fitted with an emergency stop/alarm:</p> <ul style="list-style-type: none"> ✓ Inside the unit itself? Directly outside the unit? 		
45.	<p>Do all alarms signal:</p> <ul style="list-style-type: none"> • Locally to a Building Management System or similar? • To a permanently occupied position, such as a reception or security? <p>Raise an appropriate level of response and escalation in a prescribed timeframe?</p>		

46.	Do all alarm activation devices have suitable signage?		
47.	Are alarm activation points shielded or protected against impact damage and or accidental activation?		
48.	Are any alarms associated with fire detection or fire protection systems interlocked to shut down the sauna automatically and safely?		
49.	Is there a safety interlock in place to prevent the operation of the sauna if any fire detection or fire suppression provided is isolated or impaired?		
50.	Are all actuated safety interlocks, associated with the sauna arranged to require manual intervention and reset, before the sauna can be restarted?		

	Automatic Fire Detection & Alarm System	Y/N	Comments
51.	Is automatic fire detection and a manual fire alarm system installed to all areas, rooms, voids etc. of the building? Can this be raised by a person located within the sauna itself?		
52.	Is a fixed rate of rise automatic heat detector installed in any ceiling void, directly above the sauna? If any void is inaccessible or narrow, then is a heat probe installed inside the sauna?		
53.	Are local visual and audible alarms provided including within the sauna?		
54.	Does the operation of the automatic fire alarm result in an alarm signal through to a constantly attended (24 hours per day, 365 days per year) location?		
55.	Is the fire alarm system addressable to show the exact location of an alarm/fire?		

LOSS PREVENTION STANDARDS

	Automatic Sprinkler Protection	Y/N	Comments
56.	<p>Is the existing building protected by an automatic sprinkler system?</p> <p>If Yes, is this extended to sauna and associated equipment areas?</p> <p>Are the sprinkler heads at least 50C higher than the expected maximum temperature of the sauna?</p> <p>Is an appropriate impact guard should be fitted to the sprinkler head?</p>		

	Autonomous Local Protection System	Y/N	Comments
57.	<p>Is a standalone localised automatic fire suppression system in place?</p> <p>Note: Based on the lack of test data and widely accepted approvals, Aviva is not currently able to recommend any such autonomous local protection system, as a reliable means of suppressing a fire in a sauna.</p>		

	Protection System Alarms	Y/N	Comments
58.	<p>Are all alarms connected to a constantly attended alarm receiving and monitoring centre or an on-site constantly attended reception or security control room?</p>		

	Manual Fire Extinguishers	Y/N	Comments
59.	<p>Are portable manually operated fire extinguishers suitable for the area provided in accordance with local regulations?</p> <p>Are they located within easy reach of the sauna? And: These should be:</p>		

LOSS PREVENTION STANDARDS

	<ul style="list-style-type: none"> ✓ Clearly identified? ✓ Correctly installed with appropriate signage? ✓ Included in regular self-inspection routines? ✓ Routinely serviced and maintained by an approved company? 		
60.	Are individuals within the organisation (on all shifts) identified and trained to use fire extinguishers?		

	Managing Change	Y/N	Comments
61.	<p>Are all proposed changes to the building or fire compartmentation; the plant or equipment (including the sauna); the fire detection or protection systems; any associated safety interlocks, key personnel etc. managed by a formally documented management of change procedure?</p> <p>Are all interested parties such as local authorities, insurance advisers/brokers and your Insurers advised of any proposed changes prior to the changes starting?</p>		

	Training	Y/N	Comments
62.	<p>Are all employees working within, on or associated with the sauna, appropriately trained on the expected hazards?</p> <p>Does this include:</p> <ul style="list-style-type: none"> • Personal safety including infection control? • Fire exposures <p>Emergency procedures?</p>		
63.	Is all training formally documented?		
64.	Is refresher training provided?		
65.	Are training records kept for future confirmation and auditing?		

	Start Up Procedure	Y/N	Comments
66.	Is the sauna only ever started manually on each shift or at the start of the day?		

LOSS PREVENTION STANDARDS

	Note: The sauna should <i>never</i> be fitted with an automatic timer to start it up.		
67.	<p>Prior to starting the sauna each day/shift, is a visual inspection of the 'cold' sauna completed?</p> <p>Does this to ensure it is clean and tidy, with no obvious signs of damage?</p> <p>Is start-up formally recorded in a log?</p> <p>Does this include the following:</p> <ul style="list-style-type: none"> • Confirmation of the pre-inspection check? • The time of start-up? 		
68.	If there any safety concerns, doubts or issues at all with the sauna, is the procedure <i>NOT</i> to start the sauna at all and record this formally in the log?		

	Shut Down Procedure	Y/N	Comments
69.	Is the sauna heating system and all associated plant/equipment manually shut down at least 60 minutes before either the end of shift or when the building closes?		
70.	Is an automatic timer and switch installed to automatically shut down the sauna, and all associated equipment, at least 60-minutes before the facility closes?		
71.	<p>Is the time of the automatic shut-down facility checked regularly and recorded in the log?</p> <p>Does this include when the clocks move forward or back at certain times of the year?</p>		
72.	<p>Prior to the facility/building closing, is a final visual check of the sauna completed?</p> <ul style="list-style-type: none"> ✓ Is this formally recorded and logged with the time and name of person who completed the shut-down? ✓ Does this include a thorough inspection of the sauna itself? ✓ Is the sauna left clean and tidy? 		

<ul style="list-style-type: none"> ✓ Has it actually shut down and cooled down? ✓ Does it confirm there are no adverse conditions or faults? 		
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	Emergency Shut Down Procedure	Y/N	Comments
73.	<p>Is there a formal procedure on how to shut down the sauna in an emergency?</p> <p>Does this include what steps and checks need to be taken, in what order, need to be documented?</p>		
74.	<p>Are specific employees named on each shift with this responsibility?</p> <p>Are these individuals formally trained to complete this role?</p>		

	Signage	Y/N	Comments
75.	<p>Is there appropriate signage displayed?</p> <p>Does this include:</p> <ul style="list-style-type: none"> ✓ Who should not use the sauna? e.g., pregnant women, children, people with underlying health conditions, people under the influence of alcohol etc. ✓ Clear and concise operating instructions? ✓ The rules for its safe use? ✓ The maximum amount of time to use the sauna? ✓ How to raise an emergency or any alarms? 		

	Operating Controls	Y/N	Comments
76.	<p>Is someone within the organisation responsible for the safe operation of the sauna on a shift-to-shift or day-to-day basis?</p> <p>Is all safety and operating information formally documented?</p> <p>Is it reviewed regularly and kept up to date?</p>		
77.	<p>Is there clear guidance on who can enter the sauna?</p>		

LOSS PREVENTION STANDARDS

	<p>Are individuals identified who should not use the sauna:</p> <ul style="list-style-type: none"> ✓ Below an appropriate age threshold? ✓ If they are suspected to be or known to be pregnant? ✓ With known underlying health conditions, that could be affected by the sauna environment? ✓ Under the influence of alcohol, prescription medicines or recreational drugs? 		
78.	<p>Are any restrictions for who can enter or use a sauna, clearly understood:</p> <ul style="list-style-type: none"> • By all employees? • By all persons entering the facility? • And especially by those planning to use the sauna? 		
79.	<p>Are safety and operating instructions clearly displayed on securely fixed water (and heat) resistant plaques, to the external areas of the sauna?</p> <p>Are these also located within the sauna itself?</p> <p>Are these required to be in multiple languages?</p>		
80.	Are users made to wear appropriate clean swimming apparel?		
81.	Are users advised to sit on a clean towel within the sauna?		
82.	<p>Does the company:</p> <ul style="list-style-type: none"> ✓ Let users bring their own towels? ✓ Provide towels for customers? 		
83.	Are there management controls in place for towel management?		
84.	Is there a supply of fresh drinking water nearby to aid rehydration of users?		
85.	Is there a formal procedure for users and employees to report issues or defects?		
86.	Is there a formal procedure for taking the sauna out of service if repairs etc. are required?		

	Housekeeping, Cleaning & Self Inspection	Y/N	Comments
87.	Is the sauna always kept clean, tidy and without any ordinary combustible materials/waste present?		
88.	<p>Does the duty manager, or a named alternate, complete rigorous recorded self-inspections every day prior to opening the sauna?</p> <p>Is this repeated prior to closing the sauna?</p> <p>Do these include both the external and internal areas of the sauna?</p>		
89.	<p>Do trained employees complete regular ongoing recorded inspections at least every hour or less during the period the sauna is operating?</p> <p>✓ Does this meeting the operating licence requirements?</p> <p>Are all completed inspections recorded in an up-to-date recording system or logbook?</p> <p>Does this include:</p> <ul style="list-style-type: none"> ✓ Date? ✓ Time? ✓ Name of the person completing the self-inspection? ✓ Any comments, observations or remedial measures needed to be taken during the inspection or that need to be addressed because of the inspection? <p>Are these records retained and audited?</p> <p>Do these inspections focus on:</p> <ul style="list-style-type: none"> • Under any benches and seats? • Around or below any heating elements? • The heating and electrical systems including any 'coals' or 'stones'? • Condition of the wooden panels, seats etc.? • Nature of the floor surface – wet and dry? • The behaviours of the users and/or any contractors? 		
90.	Are materials removed from the sauna placed in appropriate bins/areas away from the sauna?		

LOSS PREVENTION STANDARDS

91.	<p>Is any damage or a fault reported for immediate action and repair?</p> <p>Is this recorded in a system that tracks the issue through to completion?</p>		
92.	<p>If there is any doubt about the condition of any area of the sauna, is it:</p> <ul style="list-style-type: none"> • Immediately stopped being used? • Turned off and isolated? <p>Only returned to operation when an appropriately trained maintenance engineer has verified it is safe to do so?</p>		
93	<p>Are the internal and external wood panelling and surfaces cleaned:</p> <ul style="list-style-type: none"> • In line with the OEM's guidelines? • Based on risk assessments - hourly, daily, weekly for hygiene purposes? <p>Only using cleaning materials recommended by the OEM's guidelines?</p>		
94.	<p>Are the sauna and surrounding floor areas cleaned:</p> <ul style="list-style-type: none"> • Based on risk assessments - hourly, daily, weekly for hygiene purposes? • Based on the nature of the floor and its potential to increase the exposure to slipping when wet or heated? • Only using materials in line with OEM recommendations, that will not react with the environment to create a more adverse condition? • Using a suitable disinfectant that can reduce risks from bacteria and blood borne viruses and applied in accordance with OEM instructions? 		

	Near Miss, Incident & Accident Reporting	Y/N	Comments
95.	<p>Is a formal near miss, incident and accident reporting system in place?</p> <p>Is this process understood by all employees?</p> <p>Is this process available for sauna users?</p>		

	Emergency Procedures & Response	Y/N	Comments
96.	<p>Is there a formal and documented emergency procedure and response escalation plan for personal injury, fire and other incidents?</p> <p>Does this include:</p> <ul style="list-style-type: none"> • What procedures to follow in an emergency - based on any given scenario, time of day etc.? • Does this cover all shifts, users and contractors? • Are persons identified with specific roles including those who should contact the emergency services? • Does this include what evacuation procedures to follow? • Does it include ensuring everyone associated with sauna is accounted for and safe? 		
97.	Are named individuals trained to use portable fire extinguishers?		
98.	<p>All employees trained on these procedures, their roles and how to raise the alarm?</p> <p>Does this include regular refresher training?</p>		
99.	Is there liaison with the emergency services so they are aware of the hazards to expect on site?		
100.	Are there regular practices of the plan?		

	Hot Work	Y/N	Comments
101.	Is hot work prohibited within 10m of the sauna?		
102.	<p>Is all hot work within the building managed with:</p> <ul style="list-style-type: none"> • Formal management procedures? • Appropriate Risk Assessments and Method Statements (RAMS)? • A formal hot work permit system? 		

	Inspection, Testing & Maintenance Regimes	Y/N	Comments
103.	<p>Is the sauna and all associated equipment, including heaters and all safety devices/interlocks etc. inspected, serviced and maintained on a regular basis and as part of a planned programme of maintenance?</p> <p>Is this in accordance with the Original Equipment Manufacturer's recommendations or every 6 months, whichever is the more frequent?</p> <p>Does this include:</p> <ul style="list-style-type: none"> ✓ All elements of the heating system, including thermostats, high temperature limit switches, timers and RCDs? ✓ A check on the general wear and tear of all the equipment, with parts being replaced as necessary? ✓ Any stones or heated minerals inspected with any broken or damaged items replaced? <ul style="list-style-type: none"> ○ Are any 'coals' or similar inspected and/or replaced in line with OEM guidance? 		
104.	Is appropriate access provided under any benches and around the heater unit to facilitate appropriate cleaning, inspection and maintenance?		
105.	<p>Are all inspections, testing and maintenance formally recorded?</p> <p>Does this provide an appropriate level of detail?</p> <p>Are these records kept up to date?</p>		

	Sauna Safety Devices	Y/N	Comments
106.	<p>Are the safety devices and control systems of the sauna inspected, tested and maintained in accordance with the Original Equipment Manufacturers (OEM) guidelines?</p> <ul style="list-style-type: none"> • Are these should formally recorded? 		

	<ul style="list-style-type: none"> • Does this include all high temperature devices; any timers; all interlocks; alarms and isolators etc.? • Does this include any alarm verification to any monitoring arrangement or the Building Management System? 		
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	Wood Panelling	Y/N	Comments
107.	<p>Is the sauna wooden panelling inspected and maintained?</p> <p>Are these refurbished or replaced as needed and around every 6 to 8 years?</p>		

	Detection & Protection	Y/N	Comments
108.	<p>Is all automatic fire detection, manual fire alarms and any fire suppression systems regularly inspected, tested, serviced, and maintained, using recognised listed and approved companies, that are acceptable to Insurers?</p> <p>Does this include all fault and alarm conditions; any alarm transmission systems; and all related safety and shut down interlocks?</p>		
109.	<p>Are any faults or isolations considered as impairments and formally managed with your Insurers or Brokers Impairment Management programme?</p>		

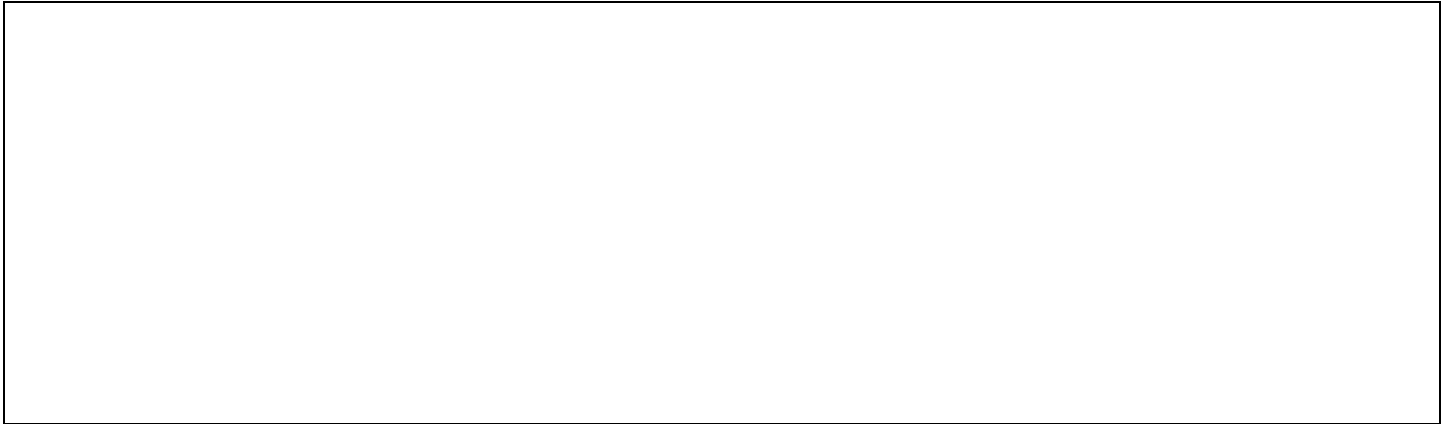
	Monitoring & Auditing	Y/N	Comments
110.	<p>Is there a regular audit of the key management programmes and records associated with the sauna:</p> <ul style="list-style-type: none"> ✓ Self-inspections? ✓ Incident/accident notices.? ✓ Inspection, testing and maintenance activities? ✓ Hot work and other permit systems? 		
111.	<p>Are any abnormalities recorded and tracked through to resolution?</p>		

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112.	Is refresher training provided to employees or contractors, as necessary?		
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	Business Impact	Y/N	Comments
113.	Is a Business Continuity Plan in place for the sauna operations and the wider business?		

Additional comments:



Please Note

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