

# The protection of organs against fire

by Eric Stokes

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## 1. Introduction

The following notes list some practical measures which can be taken to minimise the risk of fire in organs and the buildings in which they are housed.

Pipe organs are made of dry seasoned timber which is inflammable. The majority of pipe organs are located in churches and public buildings which usually contain a significant amount of inflammable material and which have characteristics which ensure that, once a fire gains hold, it will spread and burn rapidly. The use of water to extinguish a fire is equally damaging to a pipe organ. The nett result of a fire is likely to be at the best a requirement for a significant rebuild of the organ and at the worst complete destruction of the instrument. Thus the most effective strategy is prevention by minimising the risk of fire in both the organ and the building.

## 2. Insurance

It should be noted that the replacement costs of pipe organs are significant. Typical figures range from \$12,000 to \$15,000 per rank of pipes. Thus a modest two-manual pipe organ may well cost \$150,000 to replace and a large instrument upwards of \$500,000 at present day prices. Whilst secondhand instruments are available it is not always easy to find a suitable instrument for a particular building at short notice. Removal, reconditioning, modification and installation of a secondhand instrument may cost at least half the price of a new instrument.

In view of the figures quoted above the organ should be adequately insured. A valuation should be made by a competent organbuilder and updated regularly. Care should be taken that the insurance policy for the contents of the building adequately covers the cost of replacement of the organ and the repair of major damage.

Adequate records of the specification of the organ should be kept, including details of the ancillary equipment. Photographs of the casework, console and other critical areas should also be taken.

## 3. The causes of fire

Fires are largely caused by carelessness, breakdown of equipment, vandalism or arson. Few fires in organs are caused by a so called act of God or by external causes. The exception in Australia is bush fires in country areas. To the present time we have escaped the destruction resulting from war. It should also be noted that fires are more likely to start in the building

than in the organ itself. A fire prevention strategy must consider both the building and the organ.

#### 4. Maintenance and housekeeping

The following matters are critical in preventing fires:

Keep any thing which can cause a fire away from the organ. This includes unguarded candles or lamps, inadequately guarded radiators or other heating appliances. Safe heating appliances are not expensive; do not use equipment that should have been discarded years ago. A donation of an old radiator to keep the organist warm may not be a good idea if it causes a fire. Smoking is generally discouraged these days and should be banned in churches and public buildings at all times.

Do not accumulate inflammable material near the organ, in choir stalls, or worse still in organ cases or organ chambers. Clean up regularly. Get rid of out of date notices, keep sheet music in a library. Such material adds to a fire and is very tempting to vandals. The comment applies particularly to volatile liquids, cleaning fluids and similar substances. Make sure they are kept in a cleaner's store and don't stockpile excessive quantities. On no account store them near electric motors or other electrical equipment.

Keep organ consoles, organ cases and organ chambers locked. Make sure that the people who play or maintain the instrument follow proper procedures for switching off the organ, lights and heaters.

Make sure that electrical equipment and wiring is regularly inspected by a competent electrician and properly maintained. Make sure that fuses have the correct rating. Check electric motors and rectifiers to see that they are not overheating. Make sure that motors and rectifiers are properly ventilated. Modern motors generally have a thermal cut out which stops the motor if the temperature becomes excessive. Check reading lamps and heaters and have any frayed or damaged leads replaced. Avoid festoons of double adaptors, have another power point installed or use a plug board with overload protection for low powered items. Do not use plug boards for radiators and heaters.

If in doubt about any electrical equipment call an electrician. A visit from an electrician is cheaper than a fire.

Electro-pneumatic and direct electric actions use low voltage direct current. Whilst such systems will not cause electrocution, short circuits in them can cause fires. Older systems in particular should be checked to ensure that they are safe and adequately protected.

Maintain gas appliances in buildings. Make sure that disused gas lines have been properly isolated. Repair or replace faulty appliances.

#### 5. Warning devices and extinguishers

Electrical type fire extinguishers should be provided in suitable locations. The fire brigade will generally offer advice about the most suitable type and maintain the extinguishers. In most cases this is a requirement for public buildings and a regular review of fire protection should be undertaken.

The provision of warning devices should be examined in any historic building. Professional advice is needed to evaluate the most effective system for a given building. Sprinkler systems, whilst effective in preventing the spread of a fire, are likely to cause significant water damage to a pipe organ.

Automatic inert gas systems are available and are widely used for expensive computer and electrical installations. Professional advice on their suitability for a particular situation and the mode of installation needs to be sought. Currently a system available for a pipe organ is likely to cost at least \$8000 and have an annual maintenance cost of about \$1000 per annum. The effectiveness of these systems in any given situation would need to be evaluated and it is not possible to offer general advice in an article such as this. There are cases where they would not be effective.

## 6. Vandalism and arson

It is an unfortunate feature of our society that there are disturbed people who will light fires, particularly in schools and churches. There are also unscrupulous people who will light fires for commercial gain, making arson a major concern for the police and insurance companies.

Churches have always liked to be open to their own members and to the public and this makes security more difficult. Churches largely have to assess their own situation and act accordingly. They should nevertheless be aware of warning signs. If fires occur in other buildings in the area check with police to see if there is a risk of recurrent offences. Take care if the building becomes the centre of a commercial or development dispute.

The advice about good housekeeping should be followed to minimise the opportunities offered to vandals to start fires.

To summarise:

- Evaluate the risks associated with the particular building and seek to minimise them. Seek an expert valuation.
- Obtain professional advice on warning systems and extinguishing systems and ensure that they are properly maintained.
- Keep adequate records of organ specifications and other valuable items.
- Carry adequate and appropriate insurance.
- Engage in good housekeeping.
- Maintain electrical and gas equipment.
- Be sensible about security and watch for warning signs of undesirable activity.