DSA

DIVISION OF THE
STATE ARCHITECT
GUIDELINES

FIRE & LIFE SAFETY

SCHOOL VIOLENCE INVOLVING FIRE

DGS
Department of General Services

DSA Guidelines for School Violence Involving Fire

There have been a soaring number of fires in the last three years in schools which are significantly higher than the 6 previous years. According to the State Fire Marshal's latest compilation of statistics, there were 171 reported California K–12 public school fires in 2007. Thankfully we are not seeing loss of life, but are finding that the majority of these fires are intentionally set by children under the age of 18. The National Fire Protection Association (NFPA) reports for the nation that about half of the structure fires in educational properties are intentionally set.

School arson attacks, or intentionally set fires, have become an unwelcome feature of summer vacation, with empty school buildings proving vulnerable to bored, disaffected youngsters.

Arson attacks on schools cause not only widespread damage to property, they can also severely disrupt pupils' education, having an impact in some cases for many months.

Gangs pose a significant threat to campus safety. An upswing in school and community gang activity began appearing in many school communities around the 2003-2004 school years, and today we currently see a clear upward trend in gang activity in many communities across the nation. Gang violence is greater than individual violence and can incorporate the use of fire bombs or similar destructive devices.

Making a Risk Assessment

In order to prevent arson, school management must assess the vulnerability of their premises to attack. Use of a Risk Assessment will ensure that resources are used most effectively. The assessment may be more effective if it is carried out with the assistance of the local fire and police authorities or insurance group; this joint approach will ensure that the measures adopted are commensurate with the risk

The prevention of arson attacks falls into a logical process:

1. ***Deter unauthorized entry onto the site.***
2. ***Prevent unauthorized entry into the building.***
3. ***Reduce the opportunity for an offender to start a fire.***
4. ***Reduce the scope for potential fire damage.***

Deter Unauthorized Entry onto the Site

- Discourage unauthorized entry onto the site by the use of signs and by delineating the boundary of the school campus by use of a fence. This action makes it clear to potential intruders that they are on school property and for neighbors to see clearly that people are within the site boundaries. Consideration should be given to the type of fence used that it does not obscure the vision of passers-by or neighbors. It may also be necessary to consider security fencing for part of, or the whole site, if unauthorized intrusion is a major problem.

When the perimeter fence to school campus or stadium is locked, safe dispersal areas for the occupants is required (according to the California Building Code §442.3 & 1008.2.1), in the event of fire.

- Most trespass and associated vandalism occurs out of school hours and often under cover of darkness. Consequently, good lighting is recommended. The two most popular lighting types are Sodium lighting which is inexpensive to run and the more expensive Tungsten halogen lighting which operates via infra-red motion detector. The color rendering of light sources needs to be considered where Closed Circuit Television (CCTV) surveillance is in use. The image details need to be clearly visible and not obscured by color interference from lighting. Advice on security lighting can be obtained from the local crime prevention officers.

- There is new technology which employs both surveillance cameras and fire detection. These devices will report a fire to a supervised location and transmit images to a security control area. Check with your fire alarm installation company for more information regarding these innovative appliances.

- Certain provisions of the 2007 California Building Code §1006.3 requires new construction to have emergency lighting on the exterior egress components. This requirement would also assist in providing lighting should the primary power supply fail for any reason.

- The presence of school staff living on the site is obviously a strong deterrent to potential intruders. Where this is not feasible, then roving patrols by either commercial or local authority security teams can be effective. Such patrols should be random in order to avoid a recognized pattern. If such a service is used, close liaison with the police is recommended.

Prevent Unauthorized Entry into the Building

If access to the site is controlled then the next barrier to the potential offender is the building itself.

- Deep recesses and alcoves are particularly vulnerable. Ideally, building alterations should be undertaken to eliminate these features. Failing that, point lighting should be used.

- Consider door hardware that can be locked from either side of the door against entry, but remain openable from the egress side. See FLS_Security_vs_Exiting_Guidelines.pdf.

- Door frame construction should be of good quality, with solid core doors without lower panels which may be easily forced. The hinges and frames should be reinforced to deter removal.

- Break-ins via roof lights should be prevented by fitting grills or bars within the inside of the frame.

- Schools should foster relationships with neighbors who are able to observe out-of-hours activity on the premises. In addition, the school should become involved in local 'Neighborhood Watch' schemes, or develop their own 'School Watch' in conjunction with the local police.

- The installation of Closed Circuit TV (CCTV) has a high deterrent effect. CCTV systems which are not monitored have limited value, as the wide-angle lenses used to get the required coverage do not provide recordings of evidential quality. The subsequent reduction in vandalism has proved such schemes to be cost effective, despite the initial high capital outlay. Specialist advice should always be sought before installation of CCTV is considered.

- With the use of school buildings outside normal school hours and the opening the premises to a wider public, it is imperative that access to other parts of the school is limited. It is important that the means of escape are not compromised during the limitations of areas. All required exits must continue to a public way or access to a public way.

- A routine should be adopted by nominated person to check that all external doors and windows have been locked once the school is vacated at the end of the day. Many of these measures will not only prevent arson but keep the school more secure generally.

Reduce the Opportunity for an Offender to Start a Fire

If an arsonist intent on causing damage is unable to enter the premises then the opportunity to light a fire on the outside of the building is often explored. For this reason, it is important that the opportunity to ignite combustible material on the exterior of a building be eliminated. The local fire authority would encourage the following practices:

- Refuse containers should be ideally placed in a secure compound or alternatively secured by a padlock and chain to a location no less than 5 feet from the building to prevent them being moved against the building. (Title 19 California Code of Regulations, Chapter 1, Sub-Chapter 1, Section 3.19)

- Many schools are involved in re-cycling or fund-raising initiatives where newspapers, clothing and other materials are collected. Recycling bins should be located at least 5 feet from the building in secure compounds, and collections made regularly to avoid a build-up. (Title 19 California Code of Regulations, Chapter 1, Sub-Chapter 1, Section 3.19)

- 'Skirts' should be fitted at the base of mobile classrooms to prevent combustible materials being placed underneath buildings and ignited.

- Waste bins should not be fixed to walls or under roofs constructed of combustible materials, but secured to the ground and away from the school building.

- Vegetation such as weeds, grass, vines or other growth that is capable of beginning ignition should be cut down and removed when near combustible buildings or fences.

Reduce the Scope of Potential Fire Damage

Should a fire be started, either deliberately or accidentally, it is important that its effect is minimized by containing the fire to a limited area, or ensuring high value contents are protected.

- Equipment of high material value, such as audio visual aids, computers and similar laboratory-type equipment, should ideally be located in a secure, separate room where it will be out of sight and better protected in a fire.

- Rated opening protection such as doors and windows should be maintained closed to assist in preventing the spread of fire.

- Fire alarm early warning of the outbreak of fire can significantly reduce the losses if fire-fighting can be initiated as soon as possible.

- An automatic fire sprinkler system, can mean the difference between containing the fire to the compartment of origin and the loss of the whole building and contents.

If you know or have a student that has started a fire or has a fire setting problem, it is suggested by fire and police personnel to notify the parents or guardians of that child or call your local fire department for possible intervention programs such as Juvenile Fire Setter.

Fire Prevention Information:

US Department of Justice

http://www.ncjrs.org/pdffiles1/ojjdp/207606.pdf

Federal Emergency Management Association

http://www.usfa.dhs.gov/citizens/all_citizens/home_fire_prev/arson_awareness.shtm

Fire Chief

http://firechief.com/leadership/public-education/fire_not_childs_play_0301/index.html.

National Fire Protection Association (NFPA)

http://www.nfpa.org/assets/files/PDF/ArsonSummary.pdf

DSA Contact Information

DSA Headquarters Office

1102 Q Street, Suite 5100
Sacramento, California 95811
916 445-8100

DSA Sacramento Regional Office

1102 Q Street, Suite 5200,
Sacramento, California 95811
916 445-8730

DSA Oakland Regional Office

1515 Clay Street, Suite 1201
Oakland, California 94612
510 622-3101

DSA Los Angeles Basin Regional Office

700 N. Alameda Street, Suite 5-500
Los Angeles, California 90012
213 897-3995

DSA San Diego Regional Office

10920 Via Frontera, Suite 300
San Diego, California 92127
858 674-5400