



Commentary

Title: Unattended Self-Serve Fuel Dispensing Stations

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New technologies that allow for dispensing motor fuel at unattended fuel dispensing stations have been developed and several suppliers now offer equipment that allows consumers to purchase motor fuel at unattended facilities using a credit or debit card. These systems are based on the same technology used at card and key lock fueling stations.

Local Assistants may be asked to approve the installation and operation of unattended fuel dispensing facilities in their jurisdiction. This document is intended to give Local Assistants background information to help with those decisions.

Legislative and Regulatory Environment

The province of Saskatchewan has adopted as its fire safety regulations the *National Fire Code (NFC)*. The *NFC* does not address unattended fuel dispensing stations, except as card or key lock facilities. The *NFC* is clear that these stations are not to be used by the general public.

Provincial regulations do not specifically address unattended fuel dispensing facilities. However, the Local Authority having Jurisdiction (normally the fire chief) is permitted to review and approve these facilities if they feel the installation meets an acceptable level of life and fire safety.

Keep in mind, although the Local Authority has the freedom to accept alternatives to the measures listed in the *NFC*, those alternate measures must provide an equal or better level of fire safety than required by the *Code*. In most cases the alternate measures at unattended fuel dispensing stations will depend heavily on technological solutions.

Concerns

Dispensing motor fuel at unattended facilities raises a number of concerns, including:

- Lack of supervision to prevent unsafe fueling practices or filling of non-approved containers.
- Lack of protection against interference or tampering with dispensing equipment and facilities.
- Dependence on untrained persons for extinguishing small Class I & Class II combustible liquid fires.
- Increased reliance by the public on fire departments and other emergency services for response to any type of malfunction or problem at the unattended site.

It is clear the intent of the *NFC* is to restrict the use of motor fuel dispensing devices to those people who have had training in the safe and responsible use of the devices and who are familiar with the safety equipment and procedures in place at the facility. The term *general public* is used to describe those people who have not had such training and familiarization.

Most of the fire safety concerns presented by unattended fuel dispensing facilities seem to have reasonable, reliable and workable solutions. For example, manufacturers of equipment for use at unattended fueling stations have provided a *training session* to be given to each patron before fuel is dispensed. A series of instructions for the use of the pump, emergency shut off procedures and how to contact the fire department are displayed on a small LCD screen. The user has to answer “yes” to a series

of questions by pressing a button to indicate they have seen and understood the safety instructions. Only then will the device dispense fuel.

Considerations

Unattended fuel dispensing stations have been permitted in Saskatchewan and in Alberta. In each case, a careful review has identified that an acceptable level of life and fire safety can be achieved.

Unattended installations must first meet the *NFC* requirements covering attended self-serve fuel dispensing stations. Then, some of the provisions for card and key lock facilities are also usually required, including instructional signage (even though the dispenser may provide instruction), a telephone on site and instructional signage listing emergency procedures. Additional requirements may include video surveillance systems, tamper alarms and other devices. Alberta has developed a policy that covers the installation of unattended fuel dispensing stations. These measures are considered to provide an acceptable level of safety.

Unattended Self-Service Outlets (Based on the *Alberta Fire Code*)

Self-service outlets are permitted to operate as unattended self-service outlets provided the following safety features are provided;

- a) a video recording surveillance system connected to a monitoring facility (see Appendix A).
- b) a manually activated emergency shut-off switch that;
- c) shall deactivate power to the individual dispensing unit, and
- d) can be activated from both sides of the dispensing unit.
- e) a readily accessible manually activated master emergency shut-off switch that;
- f) is located more than 6 m but less than 10 m from the dispensing island, and
- g) shall deactivate power to all dispensing units at the station.
- h) dispensing devices that have been deactivated by the emergency shut-off can only be reactivated by trained personnel.
- ⇒ a public pay telephone or other means of direct communication with the fire department shall be provided on site in a location that is visible and readily accessible for users of the fueling station.
- j) an audible alarm activated by the emergency shut-off switches which can be heard throughout the site.
- k) a strobe light activated by an emergency shut-off switch in Clause (b) or (c) in a visible location.
- l) dispensing pump cabinets and panels monitored with intrusion alarm devices connected to a monitoring facility.
- m) pump control and accessory *buildings* that are protected with intrusion alarm devices and smoke and heat detection devices connected to the monitoring facility in Clause (a), and
- n) electronic *storage tank* monitoring for inventory control.

Dispensing units at an unattended *self-service outlet* shall be such that the maximum quantity of *flammable liquids* and *combustible liquids* dispensed at one time is 100 L, after which

- a) the dispensing unit will automatically shut down, and
- b) further dispensing will not occur until the dispensing unit has been reset and the customer has initiated the starting sequence.

An unattended *self-service outlet* shall have weather-resistant signs acceptable to the *authority having jurisdiction* conspicuously posted in the dispensing area indicating;

- a) the location and use of the dispenser emergency shut-off switch,
- b) the location and use of the master emergency shut-off switch,
- c) the location of the telephone or communications system to the fire department and the telephone number or procedure to use the communications system,
- d) the user must stay outside of their vehicle in view of the fuelling nozzle during dispensing, and emergency instructions for actions to be taken in the event of an accident or spill.

Appendix A, Explanation for Video Surveillance.

Video surveillance equipment at an unattended self-service outlet provides the owner and the authority having jurisdiction with the ability to monitor accidents, spills or vandalism that may occur at the site. The authority having jurisdiction may accept a variety of surveillance monitoring methods using technologies other than those described in proprietary or central station monitoring systems. Although live continuous surveillance is an ideal method, the intent of this Clause is to allow flexibility in the type of system used. A video surveillance tape of an accident, spill or vandalism will assist the owner and the authority having jurisdiction in identifying the cause of an incident.

A monitoring facility may include a ULC listed monitoring service company, a security monitoring service company or monitoring equipment connected to the owner's security monitoring service which may be located at a corporate office or refinery. The authority having jurisdiction should be consulted regarding the acceptability of the monitoring facility.

Conclusion

The introduction of unattended fuel dispensing facilities for use by persons with credit or debit cards is an adaptation of existing technologies. The use of proven fuel dispensing systems and the availability of reliable monitoring and safety systems - when properly designed, installed and operated - will provide a substantial level of fire safety.

Local Authorities considering approval of unattended stations should make sure they have detailed and accurate information about the proposed installation. Then a careful analysis can be made of each proposal based not only on the technologies involved, but also on the risks at the intended site and on the benefits, such an installation will offer the community.