

EIA Emergency Services		No. SOP/SOG	Y1-2
	Title:	Yellow 1	Date Created: Feb 2009
	Subject:	Hot Work Operations for Edmonton Airport Facilities At Edmonton International Airport	Revision Date:
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Developed by:		Approved By: Manager, Emergency Services	
Reference:			

1.0. AIM : To prescribe minimum safeguards that will provide reasonable safety to life and property, from fire, during construction, alteration and demolition operations that involve hot work in and Edmonton airports facilities located at Edmonton International Airport. To establish a standard for the identification and control of hazards associated with hot work operations at all Edmonton Airports facilities at Edmonton International Airport in the following areas: **General, Groundside, Airside/Apron**
To establish the requirements of the hot work permit and /or the safe work plan that will be completed prior to commencement of hot work.

2.0. SCOPE: This SOP applies to all EA personnel and EIA employees, and contractors.

3.0. RESOURCES: ERS Officer or other designated member.

4.0. PROCEDURE:

4.1. Definitions:

Hot Work: Any work involving welding, open flames, fuelled heaters or other spark producing work: including grinding, cutting, soldering, welding.

Groundside: That area of an airport not intended to be used for activities related to aircraft operations and to which the public normally has unrestricted access.

Airside: That area of an airport intended to be used for activities related to aircraft operations and to which public access is normally restricted.

Apron: That part of an Aerodrome, other than the manoeuvring area, intended to accommodate the loading and unloading of passengers and cargo. The refuelling, servicing, maintenance and parking of aircraft and any movement of aircraft, vehicles and pedestrians to allow execution of those functions.

Blanket Permit: Permit issued, with the approval of ERS, for job continuation at the same location, within the same job scope, over a period of time or carried out as part of routine maintenance. This permit must be approved by the Manager, Emergency Services or designate.

ERS – Hot Work Permit: Permit issued, with the approval of ERS for work that may involve sparks or have any source of ignition such as welding, cutting, grinding, hot riveting or use of open flame.

Spark Watch: A worker who is assigned to a hot work project for the purpose of ensuring that a fire does not start as a result of the hot work task. The worker must be competent in the use of the portable fire extinguisher(s) provided for the task and be aware of the alerting procedures for Emergency Response Services.

Project Sponsor: The person responsible for the overall project or area in which the hot work is being performed. In the case of a Blanket Permit, this person may or may not also be the Permit Holder.

Permit Holder: The person performing the Hot Work. The permit is issued to this person and, whenever possible, should be signed off by the same person.

5.0. QUALIFICATIONS:

5.1 Project Sponsor: The Project Sponsor is responsible for ensuring contractor compliance with this SOG and for informing ERS and Airport Duty Manager of all activities associated with the Hot Work. The Project Sponsor will ensure that when feasible, Edmonton airports Electrical Group is informed, 48 hours prior to commencement of Hot Work, with respect to de-activation of Fire alarm and detection devices. At a minimum the Electrical group must be given 24- hour notice. The Project Sponsor will ensure that contingency plans are in place in the event that fire alarm and detection devices are not decommissioned after workers have left the area involved.

5.2 Emergency Response Services: ERS is responsible for issuing permits and surveying sites prior to and after the completion of Hot Work. Where the Hot Work will impact the fire alarm and detection system, ERS will contact the Electrical group to verify that the system is de-activated and re-commissioned as required.

ERS will respond to the requests for the issue or the retrieval of Hot Work permits in a timely fashion. Delays in timely response to the requests should not occur unless there are emergencies or training in progress.

All permits completed by the on-duty crew will be filed prior to the completion of the shift or the appropriate information passed on to the on-coming shift explaining the situation associated with the permits(s).

The Captain is responsible for ensuring that the ERS representative issuing the permit is complying with this Standard and that the permits are collected and signed off and filed when completed.

Due to operational concerns, when arrangements are made with the contractor such that the permit is not signed off by the ERS representative the reason and information will be recorded on the permit by the ERS representative and signed by same.

In the event that the contractor does not comply with the permit process, eg: does not call for retrieval and sign off of the permit, a e-mail must be sent to the Manager, Emergency Response Services, indicating the contractor's company, name and project.

6.0. GUIDELINES:

6.1 Where applicable, groundside hot work operations shall also comply with "Fire Alarm and Detection System (and Associated Voice Communication System)" Standard No. PS-Electrical-200-01; specifically Section 2.2(System Installation and Maintenance) and Section 2.4 (Maintenance of the Fire Alarm and Detection System and Associated Voice Communication System).

6.2 All hot work operations, such as those examples listed, required a permit issued by Edmonton airports Emergency Response Services (ERS). A record of permits issued will be maintained by ERS for a minimum of 2 years.

6.3 Hot work operations will not begin until approval has been issued by ERS.

6.4 Prior to work commencing, the hot work operations must be reviewed, in the field, by ERS and the permit holder. ERS and the permit holder will assess the area for the presence of flammable and combustible materials with respect to fire and fire spread.

6.5 Any hot work to be completed on a vessel, piping or container that may contain flammable vapours will require purging and/or gas testing by the permit holder prior to work commencement.

6.6 When required as a condition of the hot work permit, a spark watch will be required and an appropriately classified and rated portable fire extinguisher(s) will be available for use. The spark watch must be competent in the operation of the extinguisher. A minimum 20 lb. BC extinguisher must be provided and where required, a pressurised water extinguisher or water pump tank will be provided.

6.7 Hot work commenced without a permit, or being conducted without meeting the requirements of the permit, will be stopped by and ERS representative. The Edmonton Airports Project Manager will request an incident report form the contractor. All requirements of the permit must be met before the hot work is permitted to re-commence. ERS will notify the Airport Duty Manager whenever they cease hot work.

6.8 The "Hot Work Permit" placard (yellow with black lettering) must be posted in a highly visible location in the area of the hot work operation.

6.9 Any variance to this standard must be approved by the Manager, Emergency Services or designate.

Blanket Permit

A blanket hot work permit may be issued with the approval of ERS, only if:
It is part of a major construction project where operations will continue at the same location over a period of time. Eg: Use of portable heating units, tar tanker operations or
When welding and cutting operations are carried out as part of routine maintenance operations and in a specific area (ie: welding shop or similar location)

When none of the above apply, a separate permit will be required for each welding and cutting operation.

The Manager, Emergency Services or designate must approve a general permit.

When required the Safety Coordinator will be consulted or informed of a blanket permit being issued to one of the construction projects.

A safe work plan is required prior to issuing the blanket hot work permit. The safe work plan is to be attached to the blanket hot work permit.

The ERS representative issuing the blanket permit will record the hot work permit number on the safe work plan form.

Groundside Hot Work Operations

All hot work operations require a permit issued by ERS (780-890-8342). The permit shall be available in the work area at all times. Exceptions to the need for a hot work permit on groundside will be treated on an individual basis and only after an assessment of the risks have been analysed by the parties involved.

Upon completion of work, the permit holder and ERS must sign off all hot work permits. If hot work is not completed within the designated time period, a new permit must be issued or the Fire Captain or his designate may extend the existing permit, to a maximum 24 hour period.

Hot work operations will not begin until approval has been issued by ERS.

No hot work permit will be issued for a period longer than 24 hours unless designated as a blanket permit.

ERS and the permit holder will assess the area for the presence of hazards such as flammable and combustible materials. When determined by ERS, additional safety precautions such as temporary hoarding, additional spark watch, removal of combustibles or placement of fire blankets, may be required.

Tenants of EIA outside of the Terminal building, who request assistance from ERS for hot work tasks in projects, will be provided a copy of this Standard. ERS will provide recommendations to ensure safe work practises are followed.

The yellow and black colored "Hot Work Permit" placard must be posted in the work area during hot work operations.

Airside Hot Work Operations (on apron areas)

Hot work operations will **not** be conducted when:

- An aircraft is refuelling at an adjacent bridge;
- An aircraft is refuelling within a 100 ft. Radius;
- An aircraft is within a 50 ft radius.

When determined by ERS that risk on the apron warrants additional protection, an ARFF response unit complete with an operator will be on standby during hot work operations. Inclement weather that may impact the response unit, may result in protection being provided through the use of wheeled extinguisher units, hose lines from standpipe system and staff. In the event that a vehicle and ERS staff must respond to an emergency, the hot work operations must cease. Other than these cases, as standard hot work permit will be issued.

When required as a condition of the hot work permit, a spark watch will be required and a suitable portable fire extinguisher (minimum 2A 20BC) must be available for use. The spark watch must be knowledgeable in the operation of the extinguisher.

The yellow and black colored "Hot Work Permit" placard must be posted in the work area during hot work operations.

Any variance to this Standard on Airside must be approved by the Manager, Emergency Services or designate.

Safety guidelines for Hot Work Operations

All welding cables not in use must be rolled up and properly stored.

Welding or cutting torches and hoses must be disconnected from any cylinders and the cylinder caps reinstalled when not in use. If this equipment is to be unattended, all cylinder valves must be closed and hoses depressurised.

All compressed gas cylinders shall be transported and stored in such a manner as to prevent personal injury, property loss and uncontrolled movement.

All portable cylinders shall be stored in an upright position, be secured and protected against external damage and have the protective cap placed over the cylinder valve.

Special care must be taken during overhead welding operations, to safeguard personnel and to prevent falling sparks from starting a fire.

No gas cylinder shall be transported inside a vehicle except for breathing air. These cylinders shall be secured to the inside of the vehicle.

Any hot work to be completed on a vessel, piping or container that may contain flammable vapours will require purging and/or gas testing by the contractor/employee prior to work commencement. A safe work plan may be requested by ERS for projects considered having high risks and requiring special procedures.

The contractor must take all necessary protection and prevention steps when performing hot work that could result in sparks or heat sources travelling into wall spaces or ceiling spaces.