Environmental risks and liabilities facing airport fixed base operators

An environmental white paper
Introduction

A Fixed Base Operator (FBO) is an individual or firm operating at an airport that provides general aircraft services such as maintenance or other flight-related support. FBOs are defined by the US Department of Transportation Federal Aviation Administration (FAA) as “…a commercial business granted the right by an airport sponsor to operate on an airport and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, flight instruction, etc.”

Some FBO services have environmental exposures that can result in costly pollution liability claims for bodily injury, property damage, remediation expense, and associated legal defense expense. It is imperative that airport sponsors and FBOs establish sound risk management programs that proactively address environmental and safety risks. This paper provides an overview of the FBO industry and focuses on related environmental exposures and best management practices.
Airports and FBOs provide general aviation services to aircraft maintenance, parts & repair, and operations businesses, charter-management companies, and corporate flight departments. Generally, FBOs support the aircraft owners, operators, and customers and have buildings and other assets on a larger airport property. FBO’s typically operate on property leased from the airport sponsor/owner or may sublease space from another commercial operator. FBOs may also operate from a leased or owned parcel adjacent to the airport property; however, this “through-the-fence” access is generally restricted to avoid competition with similar on-airport FBO services.

In the United States, the National Air Transportation Association (NATA) represents the FBO industry and has approximately 2,300 member companies, which range in size from large international firms to smaller, single-location independent operators. Most FBOs doing business at airports of high-to-moderate traffic volume are non-governmental organizations (i.e., either privately- or publicly-held companies). Worldwide, larger chain FBOs may operate at more than 60 airport locations, while smaller independent companies may operate at 10 or less. The most recent NATAs data estimates that in the United States alone, there are approximately 5,800 public use airports and 3,800 FBOs. These airports have unique operating characteristics that result in diverse FBO service needs. Fuel management and refueling services, however, generally tend to dictate the number of FBOs needed at a site. Fuel sales also tend to be the biggest factor in FBO profitability in the United States, whereas, internationally revenues are derived primarily from a variety of “handling charges.” Approximately 80% of the larger airports (>3,000 feet paved runway) in the United States have just one or two FBOs. The number of FBOs at a site is typically limited by the airport sponsor in an effort to drive more competitive service pricing. Conversely, smaller airports may not have enough traffic to support more than one FBO.

Many factors weigh into airport sponsor’s decisions on how to use FBOs at their location. To assist airport sponsors in selecting an appropriate FBO operating model, the National Academies of Sciences, Engineering, and Medicine’s Transportation Research Board recently issued guidance via the Airport Cooperative Research Program. ACRP provides industry-driven research and is sponsored by the FAA. Their 2018 publication explores the tools airports use to decide how FBOs will be used to provide fueling, flight continuation services, maintenance, and concierge services. They note that decisions about which options work best for an airport depend on the unique local economic conditions, details of the area’s general aviation market, and the level of interest private FBOs have about operating at a particular location.

Regulatory compliance

While the FAA does not specifically regulate FBOs, certain activities directly supporting aircraft operations need to comply with FAA standards. This includes aircraft maintenance, fueling, de-icing, storage/parking, flight training, and other commercial carrier services. Airport sponsors are obligated to ensure FBOs, as contracted tenants and service providers, comply with FAA regulations. Airlines and FBOs are also subject to a variety of federal, state/provincial, and local environmental regulations. FBOs and the larger airport operator must also comply with air emission, wastewater, stormwater, tank management, and waste management regulations and permit requirements. Premises exposures and regulatory compliance, particularly at older airport facilities, may also include asbestos containing materials, lead base paint, and indoor air quality or mold.

FBOs providing or supporting specialty service areas may have additional and unique compliance requirements. For example, FBOs providing services to aerial application contractors (crop dusters) must comply with permitting and certifications needed for handling of pesticides/herbicides.
Pre-existing pollution conditions

Airports are strategically located near population centers and appropriate locations for new facilities can be difficult to site. Thus, most airport locations are well-established with long operating histories subject to numerous expansions or reconfigurations. Sites may have a history involving military, commercial, or private aircraft use and maintenance. These activities have typically involved hazardous material use (solvents/oils), on-site waste management/disposal, tank/piping releases, refueling spills or other hazardous material spills. Airport property expansion may have also resulted in areas with historic/urban fill of questionable content. Some airports with historic military or private security training operations may also have areas with shooting/target ranges that could result in lead-contaminated soils or concerns regarding unexploded ordinance.

Contractor pollution liability

Many airport authorities have master FBO facility and/or ground lease agreements, which require FBOs to invest in specific ground support equipment and commit to providing a minimum level of required services. Depending on the services an FBO is providing, airport operating agreements may also impose a variety of general liability and pollution liability risks on their operations. Insurance requirements may be mandated in these lease or operating agreements along with claim resolution protocols.

FBOs must remain aware of the liabilities imposed by operating contracts and lease agreements, particularly for those services that insurance carriers may not intend to cover. For example, an FBO may be responsible for aircraft fueling or defueling, but the airport sponsor may also make them contractually responsible for underground tank and fuel hydrant system integrity and management. These are higher risk exposures that are not typically covered by insurance programs without extensive engineering and underwriting review.

Similarly, FBOs may be expected to contractually assume generator liability for airport sponsor or airport customer hazardous waste management and disposal. Typically, insurance carriers will need to understand the controls implemented by the FBO for hazardous waste storage and off-site disposal facility selection/auditing prior to granting blanket Non-owned Disposal Sites (NODS) coverage.

FBOs must have appropriate risk management programs to address a variety of operational and environmental risks. While some of these exposures can be covered under contractor pollution liability policies, some are more appropriate to be covered under premises pollution liability policies. AXA XL has the ability to provide coverage for both, subject to appropriate underwriting and contract review. Specialized coverage for issues such as FBO contracts with airport authorities or environmental fines and penalties can be provided on a case-by-case basis with submission and review of required documentation.

FBO operational risks

Maintenance

Aircraft maintenance, machine shops, repair and cleaning, building/hangar maintenance and general airport ground maintenance operations may utilize cleaners, solvents, oils, greases, adhesives, sealers, treatment additives, paints, and coatings that contain a variety of hazardous and nonhazardous materials. Storage may include small aboveground tanks, totes, 55-gallon drums, five gallon containers, and smaller consumer size containers. Proper storage and use protocols are essential in preventing environmental impacts or security concerns from maintenance materials. Historically, chlorinated solvent use (e.g., trichloroethylene - TCE, etc.) for parts degreasing has resulted in the most widespread impacts to soil and groundwater at airport properties.

Re-fueling

FBOs involved in fuel management and re-fueling operations may have numerous environmental exposures. Depending on the size of the airport and variety of aircraft serviced, different types of gasoline aviation fuel (avgas) and jet fuel may be managed. Generally, an airport sponsor will have one or more FBOs focused on re-fueling operations; however, airports may also allow commercial self-service fueling by pilots/crew at pumps installed by an FBO (or the airport sponsor). These self-service fueling facilities may or may not be attended. Fuel management operations can result in environmental impacts from gradual leaks from underground tanks and piping, catastrophic spills from overfilling of tanks or aircraft, vehicle accidents, or damage/ failure of tanks, piping, or hoses. Proper bonding and grounding protocols must also be employed when dispensing fuel to prevent fires/ explosions. Appropriate fire prevention, electrical/hot work/ignition source, spill response, emergency planning and training programs are imperative when managing fuels. Strong and reliable communication systems to support these operations are also essential, particularly at busy airports.

Storage tanks

Smaller airport operations may rely on underground storage tanks, while larger airports may need to maintain numerous large aboveground tanks in a tank farm with secondary spill containment. Both underground and aboveground fuel tank systems must be equipped with appropriate leak detection systems, overfill prevention alarms, cathodic protection and/or be subject to periodic integrity testing. Refueling may be conducted via on-airport tanker trucks, or as airports increase in size, fuel may be dispensed via underground pipelines known as a hydrant system. Periodic integrity testing of tanks, hydrant systems, and other underground fuel piping is an essential risk management practice.

Wastewater

FBOs generate sanitary wastewaters from aircraft maintenance/cleaning, hangar floor cleaning, crew/passenger restrooms, and food preparation areas. FBOs may also collect aircraft lavatory wastes via pumping into waste carts/trucks. This is typically replaced with a “Blue Juice” mixture of water and disinfecting/deodorizing concentrate powder. There is a risk of accidents and spills from self-service fueling, commercial self-service refueling, or emergency response services including firefighting.

De-icing

The use of glycol compounds for deicing aircraft is also a stormwater contamination concern, as well as salt compounds used for roadway/runway de-icing. Most large airports have designated deicing areas and systems for collection and recycling of glycol compound runoff. This can be a primary service for certain FBOs in northern climates, which requires compliance with stormwater discharge permits.

Solid/hazardous waste management

FBOs generate waste ranging from municipal trash, to waste oils and hydraulic fluids, to hazardous spent solvents. Waste disposal vendor selection and due diligence on ultimate disposal locations is essential for minimizing long term generator liability. Sound waste management practices (including appropriate disposal of hazardous waste, hazardous waste management training, stormwater management plans, etc.) and good housekeeping are necessary to avoid regulatory issues and potential litigation.

Fire suppression/fire fighting

FBOs may be engaged in maintaining fire suppression systems or providing emergency response services including firefighting. Contaminated firefighting water has the potential to impact soils and nearby water bodies if not properly managed. FBOs may generate such materials from system maintenance (venting, atmospheric sampling, etc.) or providing emergency response services. FBOs may employ the use of aqueous film forming foams (AFFF) to prevent or respond to flammable liquid fires. Most of these foams have historically contained perfluorinated compounds (PFCs), which have contaminated groundwater supplies at numerous commercial airports and military bases. Even if there are limited emergency applications, impacts can still result from use of these materials during on-going training exercises. PFCs continue to be found at airport properties and threaten drinking water/groundwater resources. PFCs are an emerging class of contaminants that are coming under increased regulatory scrutiny.

Waste management
Claim scenarios

The following scenarios are taken from actual claims submitted to, and actively managed by AXA XL’s claims team.

Airport fuel hydrant leaks
An airport and their FBO used a hydrant system (underground fuel delivery pipeline) for many years. During maintenance of the system, it was discovered that a valve leaked in the fuel hydrant system. Over a long period of time, jet fuel leaked from this valve at a rate that went undetected by the leak detection system. Over time, significant contamination of the aquifer underlying the airport occurred, resulting in a remediation order from the local/county environmental authority.

Although, the airport had initially installed and operated the hydrant system, the current FBO’s contract made it responsible for preventing and responding to spills/releases and overall environmental compliance. AXA XL’s claims counsel and consultants worked with the FBO and airport to reach a settlement and develop a remediation work plan. A risk assessment was performed to ensure that there was no harm to airport users or employees from volatile organic compounds (VOCs) in groundwater. A long-term remediation project involving monitored natural attenuation for 20 years was implemented. Costs are expected to exceed $400,000, but are still significantly less expensive than an active groundwater treatment system.

Use of de-icing fluids impacts wetland
An airport in the northern United States routinely used propylene glycol for de-icing activities, which were performed by several FBOs at multiple locations. Long-term use of the de-icing agent resulted in offsite discharges including impacts to an adjacent wetland. Further, the local regulatory authority reduced the stormwater discharge limits for parameters such as the biological oxygen demand (BOD), which resulted in routine exceedances.

The airport considered a centralized de-icing area, but due to the physical constraints of the airport, this was deemed impractical and expensive. Faced with significant fines and a potential consent order, the airport was forced to take action so flight operations were not impacted.

AXA XL’s environmental claims counsel and a technical consultant worked with the FBOs and airport to prepare a plan for smaller de-icing areas with an improved collection system. Discharges were routed to a central engineered wetland to provide passive treatment of the propylene glycol and meet storm water permit requirements. Construction of the engineered wetland and storm water conveyance systems cost under $2 million and saved the airport from over $13 million in non-compliance costs and fines. This was accomplished with limited disruption to airport operations and no impact to flight schedules. The FBOs incurred some legal defense expense and a portion of the construction expense.

Storage and repair of older, radium-containing aircraft instruments
Based on recent US EPA guidance, an airport determined that one of its FBO tenants, an avionics repair firm, had a large amount of potentially radioactive aircraft instruments stored in their warehouse for many years. The luminescent paint used in these aircraft instruments (new and used) contained radium, which continued to emit measurable radiation and pose potential health hazards. These instruments were mixed together with thousands of other aircraft parts in the warehouse. The state regulatory agency inspected the site, and a primary concern cited was the potential for a catastrophic fire to result in ingestion/inhalation of radium smoke/soot and generation of contaminated fire-fighting water.

The tenant could not afford to sort and dispose of the radium-contaminated instruments and filed for bankruptcy. The state regulatory agency notified the airport of impending enforcement action and the airport decided it was necessary to dispose of the instruments as low-level radioactive waste. An AXA XL technical consultant worked with the airport to determine the level of risk and appropriate disposal requirements. A third-party consultant was hired to assist with proper hazard identification and disposal of the radium instruments. All costs and expenses associated with the consulting services and instrument disposal fell within the airport’s self-insured policy retention of $500,000.

Long-term use of airport tank farm leads to soil and groundwater contamination
A small airport serving as a regional transportation/shipping hub was owned by a single FBO and operated by a single FBO. They used a tank farm from the 1940s through 2013, which led to discovery of significant soil and groundwater contamination during replacement of aboveground fuel tanks and underground piping. The release was reported to the state regulatory agency and soil remediation was deemed necessary prior to installation of new fuel tanks. The extent of groundwater contamination was unknown.

AXA XL’s claims team retained a consultant to respond to the regulatory agency and prepare a remediation work plan, which allowed the new tank erection to proceed without further delay. Soil excavation and confirmation sampling was completed around old tank and piping areas. The regulatory agency also required additional groundwater monitoring wells to assess the extent of contamination. Because the airport was in a more remote region, this resulted in higher remediation costs due to increased professional time and materials fees. The extent of VOC groundwater contamination was defined and found to be localized. Cost of the remediation was capped to just slightly under $1 million, but just as importantly, responsive claim handling allowed the airport to continue operations and avoid any business interruption expenses.

Risk management

FBOs must clearly understand the extent of assumed contractual environmental liabilities they are responsible for at each of their airport operating locations. This may include historical, pre-existing pollution liabilities or exposures presented by day to day management of hazardous chemicals and wastes, wastewater, storm water and de-icing fluids. Strong working relationships and communication practices with airport sponsor management and other airport staff is critical.

Risk management controls should include pre-lease agreement due diligence to establish the environmental condition baseline of premises and other assets. Operational risks should be addressed by routine inspections/compliance audits, fire safety protocols, security measures, and emergency response plans that include appropriate spill response equipment. Training of key FBO staff on environmental responsibilities, best management practices, and emergency response is also essential.

As a component of a sound risk management program, AXA XL can provide pollution insurance policies to assist FBOs and airport authorities. AXA XL offers a Pollution and Remediation Legal Liability policy that can provide coverage for fixed real estate assets, airport locations with historical environmental risks, and operational activities that have potential third-party bodily injury and property damage risk.

FBOs can also obtain Contractor’s Pollution Liability coverage (or a stand-alone policy) to cover specific airport contracting activities. Pollution policies can be structured to provide first and third-party remediation coverage for unknown pollutants, exacerbation of existing pollution liabilities or exposures presented by day to day operational activities that have potential third-party bodily injury and property damage risk.

AXA XL can provide pollution insurance policies to address exposures associated with specialty FBO services.

Risk management controls should include pre-lease agreement due diligence to establish the environmental condition baseline of premises and other assets. Operational risks should be addressed by routine inspections/compliance audits, fire safety protocols, security measures, and emergency response plans that include appropriate spill response equipment. Training of key FBO staff on environmental responsibilities, best management practices, and emergency response is also essential.

As a component of a sound risk management program, AXA XL can provide pollution insurance policies to assist FBOs and airport authorities. AXA XL offers a Pollution and Remediation Legal Liability policy that can provide coverage for fixed real estate assets, airport locations with historical environmental risks, and operational activities that have potential third-party bodily injury and property damage risk.

FBOs can also obtain Contractor’s Pollution Liability coverage (or a stand-alone policy) to cover specific airport contracting activities. Pollution policies can be structured to provide first and third-party remediation coverage for unknown pollutants, exacerbation of existing pollution liabilities or exposures presented by day to day operational activities that have potential third-party bodily injury and property damage risk.

Risk management controls should include pre-lease agreement due diligence to establish the environmental condition baseline of premises and other assets. Operational risks should be addressed by routine inspections/compliance audits, fire safety protocols, security measures, and emergency response plans that include appropriate spill response equipment. Training of key FBO staff on environmental responsibilities, best management practices, and emergency response is also essential.

As a component of a sound risk management program, AXA XL can provide pollution insurance policies to assist FBOs and airport authorities. AXA XL offers a Pollution and Remediation Legal Liability policy that can provide coverage for fixed real estate assets, airport locations with historical environmental risks, and operational activities that have potential third-party bodily injury and property damage risk.

FBOs can also obtain Contractor’s Pollution Liability coverage (or a stand-alone policy) to cover specific airport contracting activities. Pollution policies can be structured to provide first and third-party remediation coverage for unknown pollutants, exacerbation of existing pollution liabilities or exposures presented by day to day operational activities that have potential third-party bodily injury and property damage risk.

FBOs must use an effective combination of contract management, environmental and safety compliance, risk management practices, and insurance programs to avoid impacts to their profitability and ensure long-term success.
References


Aviation Resource Group International; Publications – 2015 Airport & FBO Census; April 2018 http://www.arci.com/


Government of Canada, Transport Canada Civil Aviation website; October 2018; https://www.tc.gc.ca/eng/civilaviation/menu.htm

JETNET; Subscriber Newsletter; January 2016 http://jetnetglobal.com


National Air Transportation Association; State of the FBO Industry; 3-31-17 http://nata.aero/data/files/gia/nata%20formal%20response%20on%20state%20of%20the%20industry.pdf


United States Department of Transportation, Federal Aviation Administration; Environmental Policy and Guidance Resources; April 2018 https://www.faa.gov/airports/environmental/policy_guidance/

United States Environmental Protection Agency; Airport Deicing Effluent Guidelines; April 2018 https://www.epa.gov/2017-05-02/airport-deicing-effluent-guidelines

United States Environmental Protection Agency; Risk Management for Per- and Polyfluoroalkyl Substances (PFASs) under TSCA; April 2018 https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfas

Contact:
Environmental Risk Consulting team
505 Eagleview Boulevard, Suite 100, Exton, PA 19341 USA
Phone 800 327 1414

First Canadian Place, 100 King Street West, Suite 3020
Toronto, ON M5X 1C9 Canada
Phone 416 928 5586

AXA XL provides loss prevention and risk assessment reports and other loss prevention services, as requested. Documents created by AXA XL including reports, letters e-mails, publications, etc. are based upon conditions and practices observed and the data made available at the time of its collection. AXA XL’s personnel, publications, services, and surveys do not address life safety or third party liability issues. Any services addressing life safety or third party liability are provided by others. This document shall not be construed as indicating the existence or availability under any policy of coverage for any particular property or type of loss or damage. The provision of any service does not imply that every possible hazard has been identified at a facility or that no other hazards exist. AXA XL does not assume, and shall have no liability for the control, correction, continuation or modification of any existing conditions or operations. We specifically disclaim any warranty or representation that compliance with any advice or recommendation in any document or other communication will make a facility or operation safe or healthful, or put it in compliance with any standard, code, law, rule or regulation. If there are any questions concerning any recommendations, or if you have alternative solutions, please contact us. Save where expressly agreed in writing, AXA XL and its related and affiliated companies disclaim all liability for loss or damage suffered by any party arising out of or in connection with this document, including indirect or consequential loss or damage, however arising. Any party who chooses to rely in any way on the contents of this document does so at their own risk. AXA, the AXA and XL logos are trademarks of AXA SA or its affiliates. AXA XL is a division of AXA Group providing products and services through four business groups: AXA XL Insurance, AXA XL Reinsurance, AXA XL Art & Lifestyle and AXA XL Risk Consulting. In the US, the AXA XL insurance companies are: AXA Insurance Company, Catlin Insurance Company, Inc., Greenwich Insurance Company, Indian Harbor Insurance Company, XL Insurance America, Inc., XL Specialty Insurance Company and T.H.E. Insurance Company. In Canada, insurance coverages are underwritten by XL Specialty Insurance Company - Canadian Branch and AXA Insurance Company - Canadian Branch. Coverages may also be underwritten by Lloyd’s Syndicate #2003. Coverages underwritten by Lloyd’s Syndicate #2003 are placed on behalf of the member of Syndicate #2003 by Catlin Canada Inc. Lloyd’s ratings are independent of AXA Group. Not all of the insurers do business in all jurisdictions nor is coverage available in all jurisdictions. Information accurate as of November 2018.

AXA, the AXA and XL logos are trademarks of AXA SA or its affiliates. © 2018 AXA SA or its affiliates.