CITY OF SAN ANTONIO

AVIATION DEPARTMENT

FUEL SPILL RESPONSE PLAN

SAN ANTONIO INTERNATIONAL AIRPORT

STINSON MUNICIPAL AIRPORT

2002

FUEL SPILL RESPONSE PLAN

City of San Antonio Aviation Department

Prepared For:

San Antonio International Airport

and

Stinson Field

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AIRPORT COMMUNICATION CENTER

The following number shall be used to report any incident regardless of severity or time of discovery:

210-207-3433

When the operator answers at this number, report the type of incident, the location, and the type of injuries, if any. The proper responders will be notified by the Airport Communication Center. Do not contact the Texas Commission on Environmental Quality (TCEQ) or any other agency unless directed to do so by the Aviation Department.

1.0 INTRODUCTION

This Fuel Spill Response Plan is designed to be a guidance document for individuals or teams responding to the release of fuel at the San Antonio International Airport (SAT) or Stinson Municipal Airport (SSF). This release may have spilled onto the surface, or from underground storage to the subsurface. This plan is intended to address the control, containment and collection of fuels on the surface or readily accessible in storm sewers and streams. It is not intended to address remediation of the subsurface soil or ground water.

It is imperative that persons using this plan understand that it is a guidance document only, and that site and/or incident specific circumstances may necessitate deviations from the procedures recommended in this document. Moreover, persons responding to fuel spills, especially Class I liquids, must be trained in the hazards and properties of the chemicals that can be expected on either airfield.

Some of the applicable training necessary to safely control, contain, and collect the various types of fuels at these two airfields includes, but is not limited to, the following.

- OSHA Hazwoper,
- OSHA Confined Space Entry,
- Red Cross First Aid including CPR,
- National Fire Protection Association (NFPA) codes, and
- Fire Training.

Persons responding to fuel spills at SAT or SSF must be current in the applicable training, having attended continuing education or refresher classes at the intervals prescribed by the governing entity. This training is vital for the safety of the responder as well as other persons and property in the vicinity of the release. This plan alone cannot ensure a positive outcome in an emergency situation. Measures to prevent spills such as proper training of individuals transferring fuels, and regular maintenance of fuel handling equipment must be implemented initially. However, it is the training and experience of those responding to the release in conjunction with this plan that may ensure the best possible outcome.

There are many reference manuals and documents available for use in emergency situations. Appendix A contains a list of some of these manuals and documents.

Appendix B contains some of the most important properties of the fuels that might be expected at SAT or SSF. This appendix is not intended to be all inclusive, and more information is available from product specific MSDS sheets. The entity storing, transferring, or selling the fuel which was released must have these documents available for use.

The format for this Fuel Spill Response Plan was modeled after the EPA Integrated Contingency Plan (ICP), which includes the Incident Command System (ICS) established

by the U.S. Coast Guard. As such, this document is designed to be complete, but easily referred to in an emergency situation. To this end, recommended response actions are separated into large and small surface spills, and releases from underground tanks. Bulleted, recommended procedures are then presented for each of these three possible scenarios. In addition, the point of contact with a 24 hour phone number is included in the preface of the plan for easy access.

Finally, it is intended that this plan work in concert with other plans such as Spill Prevention, Control, and Countermeasure (SPCC) plans, the airport Storm Water Pollution Prevention Plan (SWP3), and General Emergency Response Plans. If conflicts are found to exist between this document and others, the experience and professional judgment of those responding must be relied upon to resolve the conflict.

2.0 PLAN OBJECTIVES

The objective of this Fuel Spill Response Plan is to provide a guidance document for the safe, efficient, and proper control, containment, and collection of fuels accidentally released to the surface or subsurface. The bulleted recommended procedures suggest a thought out approach to a possible emergency, rather than a hurried reaction that might place persons or property in harm's way.

It is assumed that preventative measures will be prescribed under other plans such as site-specific SPCC plans and the airport SWP3 plan. Therefore, these topics are not included in this document, which will focus on the response to a release.

3.0 DEFINITIONS

With respect to this Fuel Spill Response Plan, the following terms are defined in the following way:

Large Spill[1]	A spill of fuel equal to or greater than 25 gallons; a spill greater than ten feet in any dimension or over 50 square feet in area; a spill that continues to flow, is suspected of entering a storm drain, sewer, or waterway; or a spill that is otherwise a hazard to persons or property. This spill is a reportable quantity, and may pose a significant fire hazard.
Small Spill	A spill of fuel less than 25 gallons. This quantity may still pose a significant fire hazard, and if spilled into a surface body of water may require response procedures such as those used for a large spill.
Large Fire	A fire that cannot be controlled with a single fire extinguisher. Fires that cover an area equal to or greater than 5 square feet are large fires.
Small Fire	A fire that can be safely controlled and extinguished with a single fire extinguisher. Great care must be exercised in fighting a fire with a fire extinguisher, and careful observations must be made after the use of a fire extinguisher to ensure it is truly out.
Ignition Source	Any source of heat or spark including, but not limited to, vehicle exhaust pipes, tools made of steel striking concrete, matches, electrically operated tools, cigarettes, etc.
Incident Commander	The person responsible for the coordination of all other persons and resources necessary to mitigate the release.
Outfall	The points at which water or other liquids are released from the storm sewer system to the receiving water body. Fuels that enter the storm sewer system will eventually exit this system at an outfall.
Storm Sewer System	The system of underground pipes and catch basins used to collect storm water and convey it to a receiving body of water. The receiving bodies of water at SAT are Salado Creek and Olmos Creek, and the receiving body of water at SSF is Sixmile Creek.

[1] Per San Antonio International Airport and Stinson Municipal Airport Rules and Regulations, City of San Antonio Aviation Department as amended 1997, and 30 TAC §302.4.

4.0 INITIAL RESPONSE – ALL SITUATIONS

Upon discovery of a release of fuel, the following actions should be taken immediately. Remember, **SAFETY IS PARAMOUNT. UNDER NO CIRCUMSTANCES SHOULD ANYONE ATTEMPT TO FIGHT A FIRE INSIDE A STRUCTURE, A LARGE FIRE, ENTER A BURNING STRUCTURE, OR ENTER AN AREA WHERE FUEL FUMES ARE STRONG AND/OR CONCENTRATED FOR ANY REASON.**

- **Upon discovery of the release, determine the source if possible, and stop the flow if this can be accomplished safely. If this cannot be performed safely, EVACUATE THE AREA AND ANY ADJACENT STRUCTURE(S), contact the Airport Communications Center (207-3433) immediately.** Be sure to help any injured persons out before operating valves or attempting to control the loss of fuel.

- **ELIMINATE ALL SOURCES OF IGNITION.** Extinguish any smoking materials or other sources of sparks or fire. Do not turn on light switches or operate any electrical equipment. Stop power to pumps and other electrical equipment if it is safe to do so.

- If safe to do so, try to determine the type and quantity of fuel that has been released, and the direction of flow.

- **IF FIRE IS IMMINENT, EVACUATE THE AREA AND ADJACENT STRUCTURES IMMEDIATELY. DO NOT ATTEMPT TO SHUT VALVES OR DETERMINE THE SOURCE. CALL THE AIRPORT COMMUNICATIONS CENTER FROM A SAFE DISTANCE (207-3433).**

- If the source has been identified, and the flow has been stopped, determine the affected area. Based on the size of the affected area and the quantity of fuel lost, proceed to the appropriate subsequent section.

5.0 RESPONSE TO SMALL RELEASE – NO FIRE

If the source of the release has been safely stopped, and the direction of flow has been determined, the following steps should be taken:

- **Contact the Airport Communications Center.** The phone number for the Airport Communication Center is 207-3433. Note that this number should be used for both San Antonio International and Stinson Municipal Airports. Ask them to contact the Airport Environmental Protection Officer.

- **Locate the nearest spill kit.**

- **Using the materials found in the spill kit, place absorbent materials (kitty litter) on the ground, or hydrophobic booms or pads on surface water to prevent the further spread of hydrocarbons. Block any downstream storm sewer inlets, or access points to the sanitary sewer.**

- Review the location of the outfall structure most likely to be affected if fuel enters the storm sewer system. **If fuel has entered a storm sewer, place hydrophobic booms or pads at the outfall to prevent the flow of hydrocarbons into the receiving body of water associated with that outfall.** Refer to Appendix C for outfall information regarding SAT, and Appendix D for information regarding SSF.

- **Contact an approved environmental contractor and begin removal of the released fuel, and if applicable, contaminated soil and/or water.** Moreover, the absorbent materials used to contain and control the spill must be removed. All materials impacted with hydrocarbons shall be disposed of properly in an approved facility. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely. Copies of these manifests shall be provided to the City of San Antonio Aviation Department. Coordinate these activities with the City of San Antonio Aviation Department.

- If the fuel released was contained on asphaltic concrete paving, an evaluation as to the strength of the paving must be completed. Coordinate this evaluation, and if applicable, the removal and replacement of the paving with the City of San Antonio Aviation Department.

6.0 RESPONSE TO A SMALL RELEASE – WITH A FIRE

- **CALL THE AIRPORT COMMUNICATION CENTER IMMEDIATELY (207-3433).** Request the Fire Department and the Airport Environmental Protection Officer. Note that this number should be used for both San Antonio International and Stinson Municipal Airports.

- **EVACUATE THE BUILDING IN WHICH THE FIRE IS LOCATED OR TO WHICH IT IS ADJACENT. PERSONS IN THE STRUCTURES THAT ARE EVACUATED SHOULD FOLLOW THE BUILDING EVACUATION ROUTES AND CONGREGATE AT THE ASSIGNED MEETING POINTS.**

- **IF THE FIRE IS OUTSIDE ANY STRUCTURE, LESS THAN 5 SQUARE FEET IN AREA AND NOT GROWING, AND THE FLOW OF FUEL HAS BEEN STOPPED, ATTEMPTS MAY BE MADE TO EXTINGUISH THE FIRE WITH A FIRE EXTINGUISHER.**

  - If the source has not been eliminated, retreat to a safe distance and allow the Fire Department to fight the fire. **DO NOT ENTER A SOURCE AREA.**

- Fueling aircraft or other vehicles is not allowed inside hangars or other structures. Therefore, any fires that may be fought with fire extinguishers are assumed to be outside any structures. <u>No attempt to fight a fuel fire inside a structure should be made by anyone other than the Fire Department.</u>

- **If the fire appears to have been extinguished, wait for the fire department from a safe distance, and have them verify that the fire is extinguished.**

  - If closing valves or other procedures has eliminated the source of fuel, ensure that all sources of ignition have been eliminated to prevent new fires.

- **If the fire continues to burn after the fire extinguisher is depleted, leave the area and allow the Fire Department to fight the fire.**

- **Review the drainage maps and determine which outfall(s) is most likely affected if fuel and water or foam used in fire fighting activities enters the storm sewer system.**

- **Place hydrophobic booms or pads at the outfall(s) and closest inlet(s) to prevent the flow of hydrocarbons and fire fighting foam from entering the receiving body of water associated with that outfall.** Refer to Appendix C for outfall information for SAT and Appendix D for information regarding SSF.

- **Contact an approved environmental contractor and begin removal of the released fuel, and if applicable, contaminated soil and/or water.** Moreover, the absorbent materials used to contain and control the spill must be removed. All materials impacted with hydrocarbons shall be disposed of properly in an approved facility. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely. Copies of these manifests shall be provided to the City of San Antonio Aviation Department. Coordinate these activities with the City of San Antonio Aviation Department.

- If the fuel released was contained on asphaltic concrete paving, or the fire burned on any type of paving, an evaluation as to the strength of the paving must be completed. Coordinate this evaluation, and if applicable, the removal and replacement of the paving with the City of San Antonio Aviation Department.

7.0 LARGE VOLUME RELEASE – NO FIRE

- **CONTACT THE AIRPORT COMMUNICATIONS CENTER IMMEDIATELY (207-3433).** Request the Fire Department and the Airport Environmental Protection Officer. Note that this number should be used for both San Antonio International and Stinson Municipal Airports. If the spill is large enough, the Fire Department may consider convening the Incident Command Team. An organizational chart of the Incident Command Team follows Section 8. Unless a fire is imminent, the fire department should resist the temptation to spray the area with water. This promotes the spread of the fuel, causing environmental problems as well as possibly spreading the area affected by flame. Under ideal conditions, the flame from Avgas can spread at the rate of 700 to 800 feet per minute, and Jet-A flames can spread at the rate of 100 feet per minute. Misted fuel can spread at significantly greater rates.

- **Eliminate all sources of ignition.** Stop power to pumps or other electrical devices at breakers if safe to do so. Eliminate any other sources of ignition that might be present.

- **Evacuate the area immediately.** Persons not trained or required for the control of the spill should leave the area immediately. No one should enter the area until the fire department directs him or her to do so.

- **Begin to control the flow of the fuel by using the materials available in spill kits.** Use other materials and equipment as necessary to block the flow of fuel into the storm or sanitary sewer systems. Refer to the Appendix C for information regarding outfall structures at SAT, and Appendix D for information regarding outfall structures at SSF.

- If necessary, place booms in the creek directly in front of an outfall to prevent fuel from reaching the creek.

- Once the Fire Department has approved re-entry into the area, **determine the extent of the fuel spill.** Ensure that anyone entering the area has donned the appropriate personal protective equipment (PPE).

- **Contact an approved vacuum truck service** to remove any pools of fuel that have accumulated in the storm sewer system or in the creeks that drain the area.

- **Contact an approved environmental contractor and begin removal of the released fuel, and if applicable, contaminated soil and/or water.** Moreover, the absorbent materials used to contain and control the spill must be removed. All materials impacted with hydrocarbons shall be disposed of properly in an approved facility. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely. Copies of these

manifests shall be provided to the City of San Antonio Aviation Department. Coordinate these activities with the City of San Antonio Aviation Department.

8.0 LARGE VOLUME RELEASE – WITH A FIRE

- **EVACUATE THE AREA IMMEDIATELY. Everyone should follow the building evacuation plan for that structure, and congregate at the assigned area.**

- **CALL THE AIRPORT COMMUNICATIONS CENTER IMMEDIATELY (207-3433). Do not attempt to fight this fire.** Request the Fire Department and the Airport Environmental Protection Officer. Note that this number should be used for both San Antonio International and Stinson Municipal Airports.

- **Maintain a safe distance from the area. Follow instructions from the Incident Command Team.**

- **Be prepared to block outfalls with oil absorbing materials. However, do not leave safe zones until directed to do so by the Incident Commander.**

- **Once the fire has been extinguished,** and the Fire Department has determined that entry is safe, decontamination of the affected area may begin. Extreme care must be exercised to prevent the reoccurrence of any fires.

- **Contact an approved environmental contractor and begin removal of the released fuel, and if applicable, contaminated soil and/or water.** Moreover, the absorbent materials used to contain and control the spill must be removed. All materials impacted with hydrocarbons shall be disposed of properly in an approved facility. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely. Copies of these manifests shall be provided to the City of San Antonio Aviation Department. Coordinate these activities with the City of San Antonio Aviation Department.

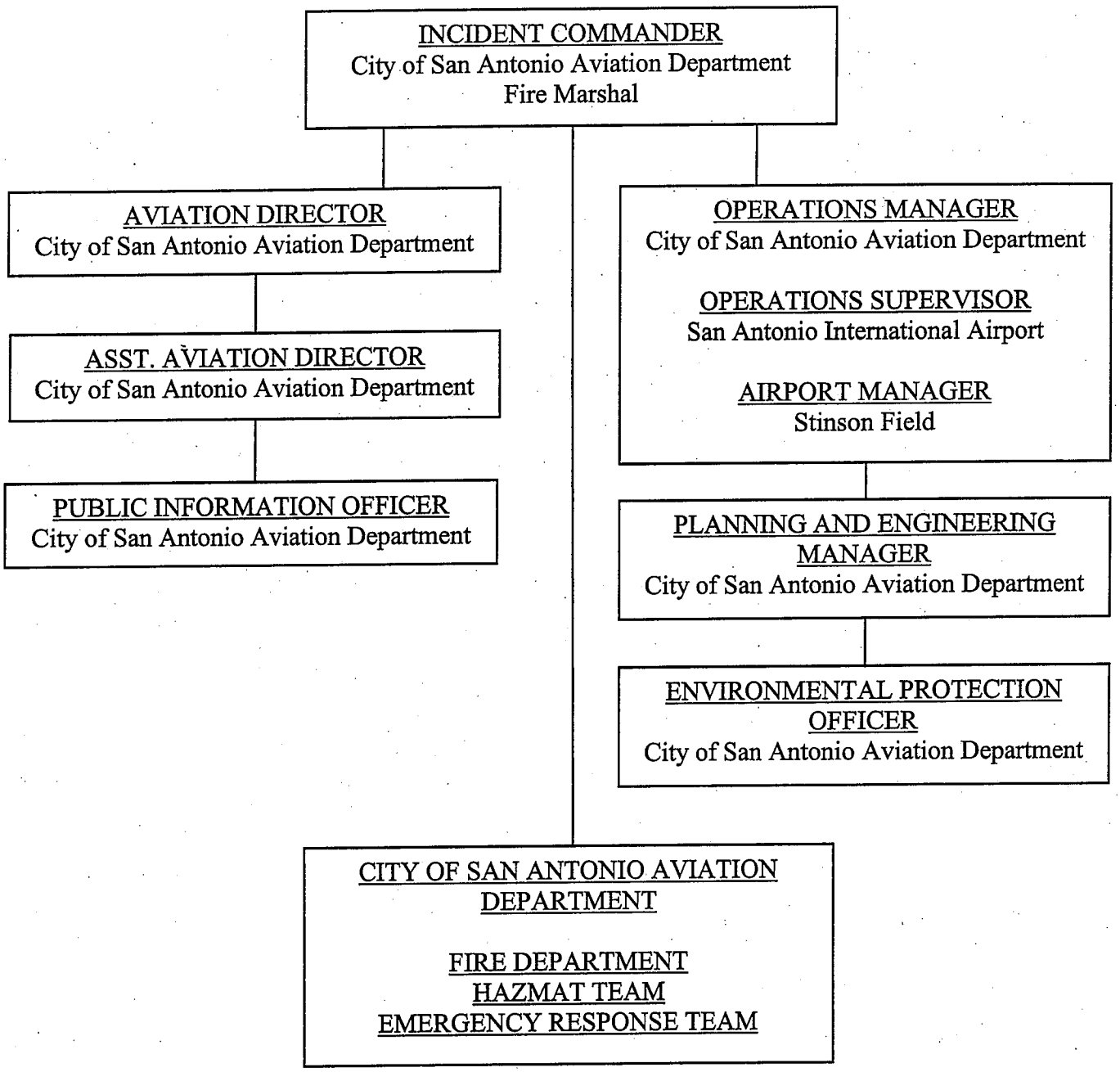
- If the fuel released was contained on asphaltic concrete paving, or the fire burned on any type of paving, an evaluation as to the strength of the paving must be completed. Coordinate this evaluation, and if applicable, the removal and replacement of the paving with the City of San Antonio Aviation Department.

INCIDENT COMMAND TEAM

CITY OF SAN ANTONIO AVIATION DEPARTMENT

SAN ANTONIO INTERNATIONAL AIRPORT

STINSON FIELD



9.0 UNDERGROUND RELEASE

- **Stop all power to pumps.** If the release is to the subsurface, follow the recommended procedures outlined below. If the release is to the surface, follow the recommended procedures outlined in the applicable previous section.

- **Contact a vacuum truck service to remove any remaining fuel in the tank(s).** Using the tank stick, measure and record the volume of fuel in the tank(s) at five minute intervals until the vacuum truck has removed all fuel.

- **Contact the Airport Communications Center Immediately (207-3433).** Request the Fire Department and the Airport Environmental Protection Officer. Note that this number should be used for both San Antonio International and Stinson Municipal Airports.

- Using the data obtained from periodic tank volume readings, to determine the volume of fuel in the tank(s) or that was lost in the incident.

- **Contact an approved environmental contractor and begin removal of the released fuel, and if applicable, contaminated soil and/or water.** Moreover, the absorbent materials used to contain and control the spill must be removed. All materials impacted with hydrocarbons shall be disposed of properly in an approved facility. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely. Copies of these manifests shall be provided to the City of San Antonio Aviation Department. Coordinate these activities with the City of San Antonio Aviation Department.

APPENDIX A

SELECTED REFERENCE MANUALS AND DOCUMENTS

1. MSDS for the various fuels. These are brand and grade specific, and contain the most reliable data for the product in question.

2. North American Emergency Response Guidebook, published by the U.S. Department of Transportation. This guidance document describes the hazards associated with gasoline and Jet fuel (listed as Kerosene), spill hazard management, and safe separation distances for the various situations.

3. NIOSH Pocket Guide to Chemical Hazards, published by the U.S. Department of Health and Human Services. This guidance document describes the chemical characteristics of the various hydrocarbons including physical descriptions, incompatibilities, exposure limits, and other important data.

Always use a current volume of the referenced guidance documents or manuals.

APPENDIX B

PROPERTIES OF COMMON USE AVIATION FUELS

The properties presented in these tables are general or average values, and may vary by brand or by load depending on additives contained in the batch of fuel.

Avgas 100LL – This fuel is used in piston engine aircraft. The "LL" stands for low lead, and represents a fuel with a lower lead content. The properties for this fuel are as follows:

- Flash Point -46° F
- Specific Gravity 0.72
- Flammable Limits Upper 7.6 Lower 1.4
- Auto Ignition Temperature 825 to 960° F
- Color Blue

Jet A – This is the industry standard turbine fuel, used in most commercial aircraft. One variation of this fuel is Jet A-1, which has a slightly lower freezing point. Other properties are similar as Jet A. The properties for this fuel are as follows:

- Flash point 100° F
- Specific Gravity 0.81
- Flammable Limits Upper 5.3 Lower 0.74
- Auto Ignition Temperature 470° F
- Color Clear to Straw color

JP-8 – This is a turbine fuel that is intended to be a single battlefield fuel. It is composed of Jet A-1 with additional additives. The properties for this fuel are as follows:

- Flash Point 100° F
- Specific Gravity 0.84
- Flammable Limits Upper 4.7 Lower 0.6
- Auto Ignition Temperature 410° F
- Color Clear to light amber