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9 HAZARDOUS WASTE SPILLS

1. PURPOSE

This Fuel Spill Response Plan is designed to be a guidance document for individuals or teams responding to the release of fuel at Dreamline's hangar facility. This plan is intended to address the control, containment and collection of fuels on the surface or readily accessible in storm sewers.

The objective of this Hazardous Waste Spills 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

2. DEFINITIONS

1. Uncontrolled Release

A spill of fuel 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.

2. Incidental Release

A spill of fuel equal to or less than 25 gallons.

3. Large Incidental Spill

A spill of fuel equal to 6 to 25 gallons; a spill greater than ten feet in any dimension or over 50 square feet in area.

4. Small Incidental 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

5. 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.

6. 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.

7. 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.

8. Incident Commander

The senior Fire Department or Environmental Protection Agency official at the spill site.

9. First Responders

Those employees properly trained to control an incidental spill, contain it, and dispose of the hazardous waste.

10. Spill Equipment

Uline Sorbents Universal Spill Kit (S-17301 or equivalent) 55-gallon plastic drum containing:

- Absorbent materials (kitty litter),
- Hydrophobic booms and/or pads
- Personal Protective Equipment

These large yellow barrels are located along the northwest interior wall of Hangar 4.

11. Personal Protective Equipment

- Goggles (found in Uline Spill Kit)
- Gloves (found in Uline Spill Kit)
- Respirators (located

3. RESPONSIBILITY

The Director of Maintenance will be responsible for managing hazardous waste spills for Dreamline Aviation, training First Responders, and coordinating efforts with Incident Commanders from the Fire Department and/or Van Nuys Airport. The Director of Maintenance will also be responsible to train all Company First Responders.

4. PROCEDURE FOR MANAGING A SPILL

4.1 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.**

1. **Stop the Flow** if this can be accomplished safely. **If this cannot be performed safely, evacuate the area and any adjacent structure(s), contact 911 immediately.** Be sure to help any injured persons before operating valves or attempting to control the loss of fuel.
2. **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 any other electrical equipment if it is safe to do so.
3. If safe to do so, try to determine the type and quantity of fuel that has been released, and the direction of the flow.
4. **If fire is imminent, evacuate the area and adjacent structures immediately. Do NOT attempt to shut valves or determine the source. Call 911 from a safe distance.**
5. 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 subsection below.

4.2 Response to Incidental Release of Fuel – 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:

1. **Locate the nearest yellow Uline Sorbents Universal Spill Kit.** These are located against the interior north wall of the Dreamline hangar.
2. 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.
3. **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 the yellow Uline Sorbents Universal Spill Kit drum(s) located against the north interior wall of the hangar.
4. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely.

4.3 Response to Incidental Release of Fuel – With a Fire

1. **Call 911 immediately**
2. **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.
3. 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.
 - a. 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.**
4. 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. **No attempt to fight a fuel fire inside a structure should be made by anyone other than the Fire Department.**
 - a. 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.
 - b. 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.
 - c. If the fire continues to burn after the fire extinguisher is depleted, leave the area and allow the Fire Department to fight the fire.
5. Review the drainage maps and determine which outfall(s) is most likely affected if fuel and water or foam used in firefighting activities enters the storm sewer system.
6. Place hydrophobic booms or pads at the outfall(s) and closest inlet(s) to prevent the flow of hydrocarbons and firefighting foam from entering the receiving body of water associated with that outfall.
7. 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 the Uline yellow spill kit barrel(s).
8. Manifests indicating the final disposition of the contaminated materials shall be obtained and kept on file indefinitely.
9. 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 Signature (East) and LAWA.

4.4 Response to Uncontrolled Release of Fuel – No Fire

1. **Call 911 and request the Fire Department.** If the spill is large enough, the Fire Department may consider convening the Incident Command Team. 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, Jet-A flames can spread at the rate of 100 feet per minute. Misted fuel can spread at significantly greater rates.
2. **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.
3. **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.
4. **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.
5. 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).
6. Contact an approved vacuum truck service to remove any pools of fuel that have accumulated in the storm sewer system.
7. 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 LAWA.

4.5 Response to Uncontrolled Release of Fuel – With a Fire

1. EVACUATE THE AREA IMMEDIATELY. Everyone should follow the building evacuation plan for that structure and congregate at the assigned area.
2. CALL 911. Do not attempt to fight this fire. Request the Fire Department and the Airport Environmental Protection Officer.
3. Maintain a safe distance from the area. Follow instructions from the Incident Command Team.
4. Be prepared to block outfalls with oil absorbing materials. However, do not leave safe zones until directed to do so by the Incident Commander.
5. 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.
6. 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 LAWA.
7. 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 LAWA.

4.6 Reporting

Any spill of hazardous waste, including the release of Jet A fuel, must be documented on Form 601 and submitted to the Director of Safety.

Manifests of the disposal of hazardous waste from a spill larger than five (5) gallons will be maintained in the Director of Maintenance's office for an indefinite time period.

5. SELECTED REFERENCE MANUALS AND DOCUMENTS

- MSDS for various hazardous materials, including Jet A fuel. These are located in Dreamline's SMS Binder located on the southeast wall of the Hangar.
- Emergency Response Guidebook – This small orange book is located in each Uline Spill Kit.

6. 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.

AVGAL 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 ¹	-46°F
Specific Gravity ²	0.72
Flammable Limits ³	Upper 7.6 / Lower 1.4
Auto Ignition Temperature	825°F 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

¹ **Flash Point** – The temperature at which a particular organic compound gives off sufficient vapor to ignite in air.

² **Specific Gravity** - the ratio of the density of a substance to the density of a standard, usually water for a liquid or solid, and air for a gas

³ **Flammable Limits** - Before a fire or explosion can occur, three conditions must be met simultaneously. A fuel (ie. combustible gas) and oxygen (air) must exist in certain proportions, along with an ignition source, such as a spark or flame. The ratio of fuel and oxygen that is required varies with each combustible gas or vapor.

The minimum concentration of a particular combustible gas or vapor necessary to support its combustion in air is defined as the Lower Explosive Limit (LEL) for that gas. Below this level, the mixture is too "lean" to burn. The maximum concentration of a gas or vapor that will burn in air is defined as the Upper Explosive Limit (UEL). Above this level, the mixture is too "rich" to burn. The range between the LEL and UEL is known as the flammable range for that gas or vapor.

7. TRAINING

7.1 First Responders

This program should be used to train only first responders at the awareness level. These workers have a very limited role in emergency response operations.

The regulatory requirements for training for hazardous waste operations and emergency response (HAZWOPER) are discussed in 8 CCR§ 5192.

Under the rules, the required response varies depending on the worker's level of responsibility as follows:

- **First Responder Awareness Level:** likely to see or encounter a hazardous substance release and trained to recognize such a release and to notify authorities. All Maintenance and Line Service personnel NOT CLASSIFIED AS A FIRST RESPONDER OPERATIONS LEVEL will receive at least .5 hours of training in their Basic Indoctrination.
- **First Responder Operations Level:** acts to protect persons or property, to contain hazardous waste releases from a safe distance, and to prevent exposures. These Maintenance and/or Line Service employees will be selected by the DOM and will receive at least two (2) hours training or a demonstration of equivalent knowledge through experience and a written certification of competency.

Note: Dreamline will work with authorized and qualified Hazardous Materials (HAZMAT) Technicians and Specialists, who have been certified to perform their duties.

7.2 Vendors and Contract Workers

All Vendors and Contract Workers who are working with Hazardous liquids must have received training equivalent or greater that that required by Dreamline Aviation for its Maintenance personnel.

All Vendors and Contract workers who will be working with or in the proximity of Hazardous materials must be briefed by the DOM or his/her designee on the location of and use of the Uline Spill Kit, Dreamline's SMS binder, location of Personal Emergency Equipment, the eye-wash station, and the emergency shower location.