



# NATA Safety 1st eToolkit

Welcome to the 26th issue of the NATA Safety 1st eToolkit, our monthly online safety newsletter, supporting the NATA Safety 1st Management System (SMS) for Ground.

The NATA Safety 1st Management System (SMS) for Ground is underway and many of the tools discussed in this and other eToolkits will be provided to SMS and PLST participants.



This monthly newsletter highlights known and emerging trends, environmental and geographical matters, as well as advances in operational efficiency and safety. Flight and ground safety have been enhanced and many accidents prevented because of shared experiences.

## THE CONTROL OF VEHICLE & AIRCRAFT MOVEMENT ON THE RAMP

*Lou Sorrentino, SH&E*

We ran our inaugural eToolkit back in August of 2004 and lead off with an article on the control of vehicle movement on the ramp. At the time, there was a rash of ramp accidents involving motorized vehicles and parked aircraft – never a good mix. Since that issue, we have heard from many of our SMS and PLST members suggesting that the article should be published again as ramp accidents are on the rise.

With this in mind, and based on a recent visit with one of our SMS members, I call your attention to a portion of the complete article, addressing the need for a Ramp Plan and with an enhancement to include aircraft taxiways and aircraft parking spots in the plan.

### Vehicle & Aircraft Flow Control Plan

The Vehicle & Aircraft Flow Control plan establishes vehicle/aircraft flow, designated areas where vehicles are permitted or not, and specifies pavement markings and control devices for both vehicles and aircraft

1. Vehicle Flow – The majority of all vehicles should be kept to the perimeter of the aircraft parking area. A system of clear pavement markings should be provided for all vehicle operators to follow.
2. Aircraft Flow – depending on the size of your ramp, there may be large open areas of unmarked ramp space for general parking or designated traffic lanes for aircraft and vehicles. If you have fixed aircraft parking spots along the

taxiway, this now becomes a bit more complex. Many FBOs fail to measure their useable taxiway width from the centerline and learn of this rather late in the game. There have been several accidents where a lead guideman happily directed a G-V (wing span 93 feet, 4 inches) down a ramp taxiway that was designed around the G-IV (wing span 77 feet, 10 inches) only to sadly learn of the miscalculation.



3. Be proactive. Get out there and measure. Make sure the aircraft taxi lines are appropriate for the largest aircraft the ramp can handle, or allowed in a particular area. Taxi lines originally designed for Cessna 172/182 traffic (wing span 36 feet) will not accommodate the Cessna 208 Caravan with a 52 foot span. The point is – make sure your taxi lines and aircraft parking spaces, if abeam the taxiway, are separated enough to handle the largest aircraft (wing span) intended for the area.

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4. Also, if the ramp markings are wrong, change them. All too often, FBOs leave old taxiway lines on the apron and can result in liability.
  5. Any vehicles allowed inside the aircraft parking area should be kept to a minimum.
  6. Emergency vehicles should be equipped with distinctive flashing lights to use during an emergency.
  7. All vehicles should be equipped with two-way radio equipment, have distinctive flashing lights and have a specific reason to be in the aircraft parking area.
  8. Markings – Pavement markings should be standardized and similar in fashion to markings vehicle operators are familiar with. This includes lane edges, lane dividers, turn arrows, stop lines, etc. Pavement markings will deteriorate over time and as such should be included in the tenants' regular facility inspection program to be maintained properly.
  9. Control Devices – Any lights and/or signs that are used in the vehicle control plan must be far enough from the aircraft movement area or close enough to the ground so that they are not obstructions to taxiing aircraft.
2. **Proximity to Aircraft** – Special purpose vehicles are specifically designed to operate close to, against or under aircraft. All other vehicles should adhere to the following safety standard operating procedures:
    - Do not operate the vehicle closer than 25 feet to any part of the aircraft.
    - Do not approach the aircraft from such an angle so that if the brakes failed or the accelerator stuck, the vehicle would hit the aircraft.
    - Do not permit vehicles to park in such a manner that the emergency movement of the aircraft would be impeded.
    - Do not operate vehicles closer than 200 feet behind a turbine-powered aircraft with the engines running.

## Standard Operating Procedures

The following standard operating procedures have been established for all vehicles within the Vehicle/Aircraft Flow Control Plan:

1. **Speed Limits** – On designated vehicle roadways, the speed limit should be appropriate for the conditions. The posted speed limits could vary depending on proximity to the aircraft movement area.
    - Aircraft Parking Area – Normally 15 MPH and 5 MPH within 25 feet of an aircraft.
    - Vehicle Parking Area – 5 MPH.
    - Taxiways and Runways – Appropriate for the conditions.
    - Congested Areas – 15 MPH.
    - Towing Speeds:
      - Aircraft – 5 MPH
      - GSE – 15 MPH
3. **Vehicle Parking** – Vehicles should be parked only in designated areas with the engine off, the brakes set, and a wheel chocked. Vehicles parked temporarily in close proximity to an aircraft should have the brakes set, with the engine off, the key in the ignition and a wheel chocked. Leaving the key in the ignition would permit rapid movement of the vehicle in an emergency. Every effort should be made to park vehicles facing away from any part of an aircraft. In addition, the following shall be considered for safety in the arrangement of parking and service locations:
    - Location of fuel overflow vents on aircraft in relation to the service vehicle position
    - No parking of GSE under aircraft wings
    - Possibility of exhaust vapors from GSE entering aircraft cabins
    - Avoid water spillage (such as from lavatory and potable water service units) in employee or passenger walkways
    - Preclude aircraft settling onto adjacent GSE as fuel, cargo and passengers board
    - Keep exit ways clear for moving fueling vehicles in the event of fire
    - Keep a clear pathway from aircraft and passenger stands in case of emergencies
    - Position stands, food carts, ladders, or cabin service vehicles and conveyors so they remain stable in high winds

*NOTE: For reference, 5 MPH is equivalent to a brisk walk.*



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- Clear access for cargo tractor trains and other vehicles
  - Clear access to fire extinguishing equipment
  - Working room for aircraft service personnel
  - Free and clear access to the aircraft for emergency vehicles
4. **Vehicle Passengers** – Passengers should only be permitted to ride on vehicles equipped with seats specifically designed for passengers. Passengers should not ride on any part of the vehicle not intended for passengers.
  5. **Personal Vehicles** – These vehicles should follow the same standard operating procedures as other vehicles.
  6. **Right of Way** – Regardless of the Vehicle Control Plan, an aircraft taxiing, or under tow always has the right of way over any vehicle.
  7. **Drawing Attention via Cones** – If you have a policy at your base to place a traffic cone on each wingtip and tail position, make sure you do it consistently. On a recent discussion with one of our members, they told me that on the accident aircraft, they didn't have to place cones around it as they only do this for certain customers. WRONG – for example: A Hawker is a Hawker is a Hawker. Coning one and not the others only gives you a better chance of hitting the un-coned one. Make the minor investment in cones and policy/procedure/training and be CONSISTENT. If you hit anyone of them, you still hit one.

Admitting we might not always put safety first doesn't mean we deliberately intend to be *unsafe*. But if we don't have a logical, orderly process written down for everyone to follow, coupled with a firm management commitment, safety can easily take a backseat to the bottom-line or the latest crisis *du jour*.

“Of course safety is first in our company,” you might be thinking. “We've never had an accident.” This is the traditional response to the “are we safe” question. While it's definitely a point of pride, the lack of accidents isn't the only metric by which to measure your company's safety barometer.

Aviation has learned through the years that it's cold comfort to go about fixing problems after a tragedy has occurred. And we have instead started to embrace a systematic approach to safety, or systems safety. The late Jerome F. Lederer (who championed system safety in aviation and space flight) described system safety as, “Organizing to put your hindsight where your foresight should be in the identification and management of risks.”

With Lederer's sage words in mind, listed below are 10 points to evaluate whether your company truly puts safety first.

Our company has a documented, comprehensive company-wide safety plan for identifying and managing risk that is distributed to all employees and is regularly updated.

Our CEO or other Accountable Executive takes responsibility for implementing the safety plan and ensuring its success.

Safety starts at the top in our company and is routinely emphasized as a core value.

Our company safety policy clearly states that any employee can report a safety issue without fear of retribution.

Our company safety policy is articulated in all company documents, such as, operations and maintenance manuals, employee handbook, standard operating procedures, etc.

Our employees are rewarded for “doing the right thing” where safety is concerned.

Our company has a Safety Manager who reports directly to the CEO or Accountable Executive.

Our Safety Manager is considered both as a resource and facilitator, not someone to blame when things go wrong.

## DISPELLING A SAFETY MYTH

“Safety is *always* top priority.” You hear this slogan bandied about all the time and see it on those slick workplace posters, but could this expression really be the biggest myth in aviation? Let's think about it for a moment. The very definition of the word priority requires that we evaluate competing alternatives. So, to say that safety is a priority means it will change based on the needs or urgencies of the moment, such as trying to please a demanding customer or the boss in order to meet a schedule.



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Our company has a Safety Committee comprised of representatives from each department that meets on a regular basis to get out in front of safety issues and when special needs arise.

We routinely communicate safety issues and provide feedback on safety concerns to our employees.

So how did you fair? Were you able to confidently and positively confirm that all 10 areas are completely covered in your company? If not, conduct an honest assessment of your operation to determine where the gaps are. Develop an action plan and start the process to ensure you have a systematic approach to managing risk. It won't happen over night. But with company commitment, it will be an evolutionary process. At some point you'll be able to say, "Safety is *always* first in our company."

*The best assistance available to help you with a systematic approach to managing risk is NATA's Safety 1st Management System for [Ground](#) or [Air Operators](#). For companies with existing safety programs, NATA's SMS can serve either as a confirming benchmark or bolster safety management at your operation. Don't put it off another day!*

## Ramp Safety

### **The following observation/concern was submitted by a flight crew-member...**

"I just wanted to pass along some safety concerns that we have observed. We were parked with many other airplanes on an FBO ramp on a previous trip and observed many passenger safety issues.

The safety issue I refer to is the likelihood of one of these passengers, unfamiliar with the aviation environment, walking into a propeller or a taxiing airplane. It is essential that we address this issue before a tragedy occurs. The majority of passengers were able to walk freely at night on the ramp without FBO assistance. The ramp was not well lighted and some of the passengers were wearing dark clothing. The other safety concern observed was a landing helicopter, just outside the FBO, that taxied up the ramp towards the FBO with passengers crossing in front and behind. We would like to get a better-organized system where people/passengers are not walking freely on the ramp without supervision. It would not take but a small distraction to cause a fatality."

*Please share your thoughts on how we can all make sure passengers on our ramps are safe. [Safety1st@nata.aero](mailto:Safety1st@nata.aero) with your policies and procedures to share with others. We will include information shared in upcoming editions of the NATA Safety 1st eToolkit. As we often share with our SMS participants; it is a smart man who learns from his own mistakes, but it is a wise man that learns from others.*



# NATA Safety 1st eToolkit

## Aircraft De/Anti-Icing Training

**WHAT:** Aircraft De/Anti-Icing Seminar

**WHEN / WHERE:** October 25, 2006 8 AM – 4 PM at the Crowne Plaza on the Detroit Metro Airport (DTW) in Detroit, MI

**WHO SHOULD ATTEND:**

Line Service Technicians

Ground Personnel

Flight Crews

Dispatch Personnel

NATA Safety 1st & Leading Edge proudly bring you the most up-to-date De/Anti-Ice training to be held October 25, 2006 in Detroit, Michigan. Whether you are new or need a refresher, you will come away with the latest and safest De/Anti-Icing procedures available to prepare for the upcoming winter season. In-depth training includes the clean aircraft concept, critical aircraft surfaces, de/anti-icing fluids, holdover guidelines / tables and recognizing fluid failures. Attendees receive a certificate of completion from NATA Safety 1st & Leading Edge.

Yes, sign me up for October 25<sup>th</sup> at the Crown Plaza Detroit Metro Airport (DTW), in Romulus, Michigan

**Register Online:** [http://www.nata.aero/events/event\\_detail.jsp?EVENT\\_ID=841](http://www.nata.aero/events/event_detail.jsp?EVENT_ID=841)

**PAYMENT MUST ACCOMPANY FORM**

NATA Member Price: \$450/Person  
Non-NATA Member Price: \$550/Person

**COMPLETED FORM TO:**

**Fax:** (703) 845-0396  
**Mail:** NATA  
4226 King Street  
Alexandria, VA 22302

Payment Type: \_\_\_ Check Enclosed \_\_\_ MasterCard \_\_\_ Visa \_\_\_ American Express

Credit Card #: \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Name on Card: \_\_\_\_\_ Signature: \_\_\_\_\_



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## NATA Safety 1st Management System (SMS) Workshop

**WHAT:** SMS Workshops are one-day workshops to assist SMS participants in the development and implementation of their company's SMS.

**WHEN:** Please check the SMS Workshop You Will Attend

- November 7, 2006 at the Teterboro Airport Manager's Office in Teterboro, NJ
  - November 10, 2006 at the Clarion Hotel & Conference Center in Indianapolis, IN
  - December 7, 2006 at the Sheraton Suites Cypress Creek Hotel (Ft. Lauderdale Executive Airport, FXE) in Ft. Lauderdale, FL
  - December 14, 2006 at the Airtel Plaza Hotel & Conference Center in Van Nuys, CA
- [Click here for additional details on our Web site](#)

**WHO SHOULD ATTEND:**

- Safety Coordinators
- Flight Safety Officers
- Safety Managers
- Maintenance Professionals

NATA will hold a series of hands-on workshops to assist participants in the development and implementation of their company's SMS. We will conduct in-depth discussions on SMS concepts and provide helpful templates to assist with manual development. The workshops supplement the ongoing monthly Webcasts and provide interactive question and answer sessions.

**Yes, sign me up!** I am a current participant in NATA's SMS for Ground/Air Operator

- \$150 / NATA Safety 1st SMS Members or
- \$250 / Non- NATA member

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

<input type="checkbox"/> VISA - MasterCard - AMEX	<input type="checkbox"/> My check is enclosed _____
Card Number: _____	Exp. Date: _____
Name On card _____	
Signature _____	

**Fax to:** (703) 845-0396  
**Email:** [Safety1st@nata.aero](mailto:Safety1st@nata.aero)  
**Mail:** NATA  
 4226 King Street  
 Alexandria, VA 22302



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## CONTINUING EDUCATION

### Calling all SMS participants

#### NATA Safety 1st Management System (SMS) Workshops

NATA will hold a series of hands-on workshops to assist participants in the development and implementation of their company's SMS. We will conduct in-depth discussions on SMS concepts and provide helpful templates to assist with manual development. The workshops supplement the ongoing monthly Webcasts and provide interactive question and answer sessions.

**One-Day Workshop Schedule: 9 AM – 4 PM**

**November 7, 2006 in Teterboro, New Jersey**

**November 10, 2006 in Indianapolis, Indiana**

**December 7, 2006 in Ft. Lauderdale, Florida**

**December 14, 2006 in Van Nuys, California**

### General Education Offerings

#### Aircraft De/Anti-Icing Training

October 25, 2006

Crowne Plaza Hotel in Detroit, Michigan

Website: [http://www.nata.aero/events/event\\_detail.jsp?EVENT\\_ID=841](http://www.nata.aero/events/event_detail.jsp?EVENT_ID=841)

#### **LAST** Line Service Supervisor Training Seminar (LSST) in 2006

November 29 & 30, 2006

Hotel & Seminar: AmeriSuites, San Antonio, TX

Additional Details & Registration Online:

[http://www.nata.aero/events/event\\_detail.jsp?EVENT\\_ID=366](http://www.nata.aero/events/event_detail.jsp?EVENT_ID=366)

### 2006 Schedules: Aviation Safety and Security Offerings

Embry-Riddle Aeronautical University's Center for Aerospace Safety/Security Education (CASE)

Website: [http://www.avsaf.org/case/programs\\_events.html](http://www.avsaf.org/case/programs_events.html)

Southern California Safety Institute

Website: <http://www.scsi-inc.com/>

The GW Aviation Institute  
Aviation Safety and Security Certificate Program

Website: [http://www2.gwu.edu/~aviation/safetyandsecurity/ss\\_courses.html](http://www2.gwu.edu/~aviation/safetyandsecurity/ss_courses.html)

Transportation Safety Institute

Website:

<http://www.tsi.dot.gov/divisions/Aviation/aviation.htm>

University of Southern California  
Aviation Safety and Security Program

Website: <http://viterbi.usc.edu/aviation/>

## SH&E

The NATA Safety 1st eToolkit is brought to you by NATA Safety 1st SMS and SH&E. SH&E is the leading expert in safety and operational integrity evaluations and safety management consulting. SH&E has developed a proprietary evaluation methodology, called Safety Architecture, which is unique within the industry as it focuses on systemic surveillance and process evaluation. This is a systems and controls look at how an operator manages those technical functions that support aviation operations.

**Subscribe To NATA Safety 1st eToolkit.** If you are not currently a subscriber to NATA Safety 1st eToolkit and would like to receive it on a regular basis, please send an email to [Safety1st@nata.aero](mailto:Safety1st@nata.aero) with the word "Subscribe" in the header. Please include your name, title, company and e-mail address. Safety 1st eToolkit is distributed free of charge to NATA member companies and NATA Safety 1st participants.

## Order Form

# NATA Safety 1st<sup>®</sup> Management System (SMS) for Ground



4226 King Street  
Alexandria, VA 22302  
(703) 845-9000  
Fax: (703) 845-0396

Yes, we want to sign up for the NATA SMS for Ground! We understand the following will be included in the price of our participation in the SMS:

- ▶ SMS Guide
- ▶ SMS Webcast Tutorials
- ▶ SMS Consultation by Telephone or email
- ▶ SMS Secure, Online Event Reporting Form
- ▶ SMS Monthly Online Newsletter
- ▶ SMS Root Cause Analysis

### Contact Information (please print legibly)

CEO/Owner \_\_\_\_\_ Email \_\_\_\_\_

Safety Coordinator \_\_\_\_\_ Email \_\_\_\_\_

Company \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_ Email \_\_\_\_\_

### Pricing

The prices below reflect the total number of employees at your facility. This number should include all you FBO locations. Please note that we will correspond with one Safety Coordinator per company and will require additional company information once established in the program. Please check appropriate box below.

- \$600 for NATA Safety 1st participants / NATA Members with 0-50 employees
- \$1,200 for NATA Safety 1st participants / NATA Members with 51-150 employees
- \$1,800 for NATA Safety 1st participants / NATA Members with more than 150 employees

### Payment

Check enclosed (Please make payable to Aviation Training Institute, LLC.)

Please charge my  MasterCard  Visa  American Express

Credit card number \_\_\_\_\_ Expiration \_\_\_\_\_

Signature \_\_\_\_\_ Name on card \_\_\_\_\_

Fax to (703) 845-8176 or mail to NATA Safety 1st<sup>®</sup> SMS, 4226 King Street, Alexandria, VA 22302

### Agreement

I understand as CEO/Manager of this facility, Safety is our #1 priority. As such, the authority and responsibility to implement this program is placed with me. I will provide the resources necessary to ensure the safety of our customers, their equipment, our employees and the environment in our daily operations

Signed this date \_\_\_\_\_ CEO/Owner Signature \_\_\_\_\_