



# Safety and Environmental Newsletter

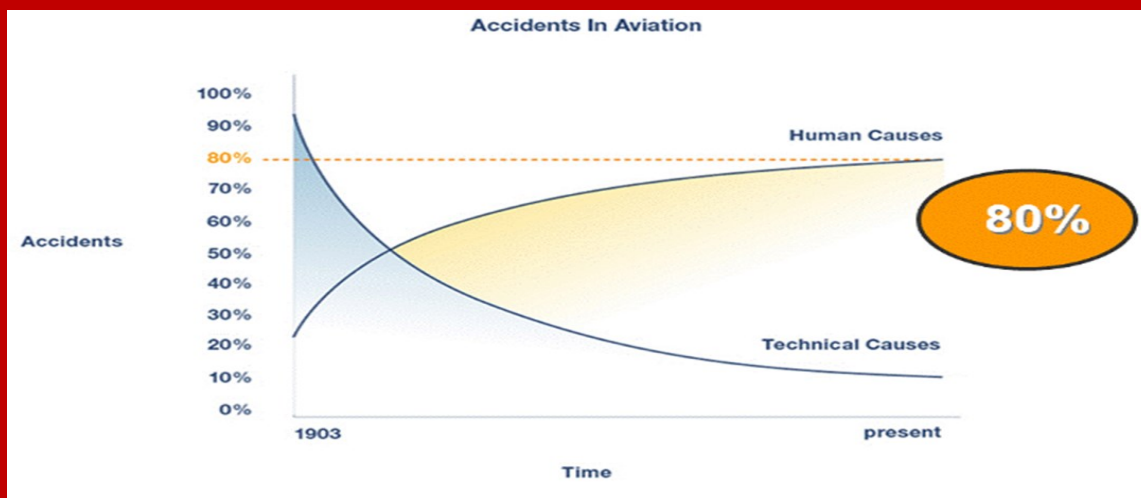
December 2022 — 128<sup>th</sup> Edition



## NASA HUMAN FACTORS HISTORY

### Why Do We Do This?

1. To identify what happened at multiple levels
  2. To understand more about why it happened
  3. To include other existing risks
  4. To identify trends over time
  5. To develop recommendations
  6. To include systemic perspective
- Most Mishaps - including those at NASA - can be connected to human error.
  - From 2010-2015 human events and conditions totaled 79% of casual factors identified in NASA mishaps and close calls.
  - NASA requires the participation of a Human Factors investigator in all investigations of Type A, B and High Visibility Close Calls.
  - We do annual coding of operational events in NASAHFACS with a month-to-month presentation on the Dirty Dozen.





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## NASA HUMAN FACTORS

*Human error does not mean “stupid.”*

*Human error does not mean people don’t/didn’t care.*

*Human error is not synonymous with “screwed up.”*

### Acts

- ◆ Starting point for analysis or investigation
- ◆ Behaviors most obviously associated with the mishap
- ◆ Errors of commission or omission committed by an individual
- ◆ Errors and Violations:
  - ◆ Errors: Also known as “honest mistakes,” are individual mental or physical actions that fail to achieve their intended outcome. Common in databases
  - ◆ Violations: Routine are CONDONED and thus perpetuated and will link to Supervision or Organizational

### Preconditions

- ◆ When environmental factors or conditions of individuals affect performance, and this condition contributes to an error.
- ◆ There are three types:
  - ◆ Environmental Factors: Physical or Technological factors that affect the practices, conditions and actions or inactions of an individual or team.
  - ◆ Individual Factors: Is a factor in a mishap if cognitive, psycho-behavioral, adverse physical state, or physical/mental limitations affect practices, conditions or actions of individuals and result in human error or an unsafe situation.
  - ◆ Personnel Factors: When task leadership, an individual’s performance, teamwork, or self-imposed stress affects practices, conditions, or actions of an individual’s performance.

### Supervision

- ◆ Supervision is a factor in a mishap if the methods, decisions, or policies of the supervisory chain of command directly affect practices, conditions, or individual actions and result in human error or an unsafe situation.
- ◆ There are four types:
  - ◆ Failure to Correct a Known Problem: Supervision fails to correct known deficiencies in documents, processes, or procedures or fails to correct inappropriate or unsafe actions of individuals.
  - ◆ Inadequate Supervision: Supervision proves improper and fails to identify hazard; recognize and control risk; or provide guidance or training and/or oversight.
  - ◆ Planned Inappropriate Operations: Supervision fails to adequately assess the hazards associated with an operation and allows unnecessary risk.
  - ◆ Supervisory Violations: Supervision while managing organizational assets willfully disregards instructions, guidance, rules or operating instructions.

### Organizational

- ◆ The methods, decisions, or policies of an organization and how they affect both supervisory and individual task and mission accomplishment.
- ◆ There are three types:
  - ◆ Organizational Culture/Climate: when the attitude, values, beliefs, or morale negatively impact operations and/or increase operational risk.
  - ◆ Organizational Operations: When organizational processes, procedures, risk management, and oversight negatively impact operations.
  - ◆ Organizational Resources: When the people or products an organization needs to accomplish a mission are inadequate or improper, and this condition reduces system safety or increases operational risk.



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## Winter Holiday Safety

Winter holidays are a time for families and friends to get together. But that also means a greater risk for fire. Following a few simple tips will ensure a happy and fire-safe holiday season.



### HOLIDAY DECORATING

- Be careful with holiday decorations. Choose decorations that are flame resistant or flame retardant.
- Keep lit candles away from decorations and other things that can burn.
- Some lights are only for indoor or outdoor use, but not both.
- Replace any string of lights with worn or broken cords or loose bulb connections. Read manufacturer's instructions for number of light strands to connect.
- Use clips, not nails, to hang lights so the cords do not get damaged.
- Keep decorations away from windows and doors.



### HOLIDAY ENTERTAINING

- Test your smoke alarms and tell guests about your home fire escape plan.
- Keep children and pets away from lit candles.
- Keep matches and lighters up high in a locked cabinet.
- Stay in the kitchen when cooking on the stovetop.
- Ask smokers to smoke outside. Remind smokers to keep their smoking materials with them so young children do not touch them.
- Provide large, deep ashtrays for smokers. Wet cigarette butts with water before discarding.



### Before Heading Out or to Bed

**Blow out** lit candles when you leave the room or go to bed. **Turn off** all light strings and decorations before leaving home or going to bed.

### FACTS

- ! More than **one-third** of home decoration fires are started by candles.
- ! More than **two of every five** decoration fires happen because decorations are placed too close to a heat source.







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## Christmas Tree Safety



As you deck the halls this holiday season, be fire smart. A small fire that spreads to a Christmas tree can grow large very quickly.



### PICKING THE TREE

- Choose a tree with fresh, green needles that do not fall off when touched.



### PLACING THE TREE

- Before placing the tree in the stand, cut 2" from the base of the trunk.
- Make sure the tree is at least three feet away from any heat source, like fireplaces, radiators, candles, heat vents or lights.
- Make sure the tree is not blocking an exit.
- Add water to the tree stand. Be sure to add water daily.



### LIGHTING THE TREE

- Use lights that are listed by a qualified testing laboratory. Some lights are only for indoor or outdoor use.
- Replace any string of lights with worn or broken cords or loose bulb connections. Read manufacturer's instructions for number of light strands to connect.
- Never use lit candles to decorate the tree.
- Always turn off Christmas tree lights before leaving home or going to bed.



## After Christmas

Get rid of the tree after Christmas or when it is dry. Dried-out trees are a fire danger and should not be left in the home or garage, or placed outside against the home.

Check with your local community to find a recycling program.

Bring outdoor electrical lights inside after the holidays to prevent hazards and make them last longer.

## FACTS

- ! **Almost one third** of home Christmas tree fires are caused by electrical problems.
- ! Although Christmas tree fires are not common, when they do occur, they are more likely to be serious.
- ! A heat source too close to the tree causes more than **one in every five** of the fires.



Your Source for **SAFETY** Information

NFPA Public Education Division • 1 Batterymarch Park, Quincy, MA 02169

Your Logo



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## Electric Portable Space Heater Safety

When the weather turns cold, it can bring a chill into our homes. Portable space heaters have become a popular way to supplement central heating or heat one room. If you plan to use portable electric space heaters, make sure to follow these tips and recommendations:

### HEATER CHECKLIST

- Purchase a heater with the seal of a qualified testing laboratory.
- Keep the heater at least 3 feet (1 metre) away from anything that can burn, including people.
- Choose a heater with a thermostat and overheat protection.
- Place the heater on a solid, flat surface.
- Make sure your heater has an auto shut-off to turn the heater off if it tips over.
- Keep space heaters out of the way of foot traffic. Never block an exit.
- Keep children away from the space heater.
- Plug the heater directly into the wall outlet. Never use an extension cord.
- Space heaters should be turned off and unplugged when you leave the room or go to bed.

### Types of electric space heaters

#### Oil or water-filled radiator

Heated oil or water travels through the heater.

#### Fan-forced heater

A fan blows warm air over metal coils.

#### Ceramic heater

Air is warmed over a ceramic heating element.

#### Infrared heaters

Heat is created by infrared bulbs.

### Fact

Two in five deaths in space heater fires involve portable electric space heaters.



**NATIONAL FIRE PROTECTION ASSOCIATION**  
The leading information and knowledge resource on fire, electrical and related hazards





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## green holidays

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Ways to Enjoy a Sustainable AND Festive Holiday Season



Get toys that are non-plastic or made of recycled material

1



Buy an experience as a gift

2



Treat yourself (and the planet) with high-end thrifting

3



Use LED lights

4



Set a timer for your lights

5



Swap out paraffin candles for soy or beeswax candles

6



Buy a live tree instead of a cut tree

7



If getting a fake tree, keep in mind its lifespan

8



Recycle your Christmas tree

9



Make a DIY alternative Christmas tree

10



During this Holiday Season, get creative and make your own eco-friendly decorations. Try making:

- Confetti from leaves, old mail, magazines, or construction paper
- Christmas trees out of old books or pallets
- Decorations from pine, cedar, holly bushes, fruits, and veggies
- Candles from olive oil, beeswax, soy wax, or coconut wax
- Wrapping paper out of old cloth material

Repurposing on hand items can be a new eco-friendly fun family tradition.

### Celebrate New Year's Eve with Eco-Friendly Decorations



Use products that are considered recyclable or biodegradable. Here's to the new year! 2023