Investigation Reports
Introduction

- Investigation reports are an important form of writing produced by all levels of government and by private organizations.
- This type of document is probably familiar to most people:
  - Police Reports
  - Airplane Crash Investigation
  - Inspection Report
- Over the next two weeks, we will look at these documents and consider
  - Their purpose
  - Common elements
  - Different types of investigation reports
Purpose

- Let’s start with the basic question: **What is the purpose of an investigation report?**
- There are several types of investigation reports that differ in their purpose. We will consider two types in this class:
  - Investigations to establish the *cause* of an event.
  - Investigation to document *violations* of the law.
- The primary purpose of the first type is to help decision-makers make conclusions about an accident or unexpected event, remedy a problem, or preserve evidence of what happened.
- The primary purpose of the second type is preserve evidence that may be used in an administrative proceeding or criminal or civil trial.
Purpose

- Preserving evidence is a common element.
- These are often forensic documents: they help resolve disputes by preserving a record of what happened in the past.
- The details recorded in investigation reports could be used in the following scenarios:
  - A manufacturing company wants to know what caused a breakdown in its supply chain to prevent future breakdowns.
  - An insurance company wants to investigate a fire-damage claim for fraud.
  - A state health department wants to investigate a food service establishment for compliance with sanitation regulations.
Purpose

Why do we need this information in a written report?

Two reasons:

- the limitations on human memory
- and convenience.

Investigation reports are the product of observations and findings.

By creating a permanent record of an event we observe, we don’t have to remember the details ourselves.

A written report can keep far more detail than we can. And it can keep it more accurately.
Purpose

- In many cases, to expect an investigator to remember all the details of an investigation would be impossible because of the vast amount of information involved.
- Plus, our memory fades with time.
- In addition, other people might need the information gathered by an investigator.
- Creating a written record allows others to access the information without having to find the person who made the observations and obtain it first hand.
- The investigator might be busy doing something else or living in another state.
Parts of an Investigation Report

- The parts of an investigation report vary widely depending on the preferences and needs of individual organizations.
  - Some investigations emphasize **quantifiable details** such as size, position, or condition of objects.
  - Others record **statements** made by individuals.
  - Some emphasize what was **personally observed**.
  - Others are **compilations** of facts drawn from many sources.
- We are not going to learn how to write one particular organization’s investigation report.
- But we will look at the parts that are common to most reports. These are the following:
  - Identifying and locating information
  - Factual narrative
  - Conclusions
Identifying Information

- Remember, the primary purpose of an investigation report is gathering and preserving evidence. Sometimes that evidence is necessary to make conclusions about the cause of an event or to document a violation of the law.
- For evidence to be meaningful, it must be concrete and specific.
- We want to know what was observed at a particular time, date, and location.
- Recording vague descriptions like “a crash happened” is not helpful.
- Rather, we want to know who was involved in the crash, when it took place, and what the scene looked like.
- These facts help decision-makers establish conclusions like the cause of the event and, importantly, who should be held responsible.
- Consider the following police investigation of a speeding vehicle.
Identifying Information

I observed a car speeding on Interstate 35.

Do you think the driver of the car could be convicted for speeding based on this information alone?
Identifying Information

- Where is the proof it he was driving?
- Unless there is some other evidence to connect a particular individual to this event, there is not enough detail here to document that anyone in particular violated the law.
- Also, where on I-35? Aren’t speed limits location specific?
- Also, what does “speeding” mean? Does it mean the car was going in excess of the speed limit, or just faster than the officer believed it ought to.
- (Remember our discussion on making assumptions?)
Identifying Information

What about this statement?

I observed a car with Texas license plate RG4-3TT speeding on Interstate 35.

- It is better. We can specify what **particular car** was observed.
- But it is still lacking.
- Where is the proof our driver was the one behind the wheel?
- When did this observation take place? It may have been before our driver was born, making it impossible for him to be responsible.
- Same problem of where on IH-35.
- “Speeding”
Identifying Information

- You can see that recording identifying information is very important for creating a meaningful investigation report.
- This information usually appears at the beginning of an investigation report. Sometimes in a table.
- The specific identifying and locating information necessary will vary depending on the circumstances:
  - Time
  - Date
  - Location: address? GPS?
  - Weather
  - Identity of persons present
  - Identifying numbers: regulated industries.
Texas Commission on Environmental Quality
Investigation Report

LLOYD WALTERS

LLOYD WALTERS RESIDENCE
RN101976058

Investigation # 20735
Incident # 13235
13233

Investigator: ADAM KUEHN

Conducted: 12/01/2002 -- 12/01/2002

Program(s): AIR QUALITY NON PERMITTED
MUNICIPAL SOLID WASTE NON PERMITTED

Investigation Type: Compliance Investigation

Location: 3 MI N OF NOME ON NOME SPUR RD

Additional ID(s): JE0257B

Address: 3569 NOME SPUR RD; NOME, TX 77629

Activity Type: AIR COMPLAINT - Complaint Investigation
MSW TIRE STOR - Tire storage site investigation

Principal(s):
Role
Name
RESPONDENT
LLOYD WALTERS

Contact(s):
Role
Title
Name
Phone
Regulated Entity Mail Contact
OWNER AND RESIDENT
MR LLOYD WALTERS
Home (409) 253-2436
Regulated Entity Contact
OWNER AND
MR LLOYD WALTERS
Home (409) 253-2436
Factual Narrative

- The next part of an investigation report is typically the **factual narrative**.
- We use the term **narrative** because it should read like a story. Not just a series of unrelated observations.
- The details should unfold **chronologically** or through some other organization.
- A story is easier to mentally digest and remember than a bunch of seemingly unrelated facts.
- The narrative should also include identifying information.
  - “Arrived on scene at 9:30 a.m.”
  - “Proceeded *south* to the *rear of the property* where the investigator observe a pile of toxic waste measuring approximately 50 feet in diameter and 6 feet in height.”
Factual Narrative

- A convention commonly used in writing a report narrative is the **third person**. This gives the report an objective feel, emphasizing the observations rather than the observer.

- First person:
  - I observed rats in the cold storage area.

- Third person:
  - The **investigator observed** rats in the cold storage area.

- Let’s look at an example from the TCEQ investigation we saw earlier.
II. GENERAL FACILITY AND PROCESS INFORMATION

A. Investigation Summary

On December 1, 2002, at 1003 hours, Mr. Kuehn arrived at Nome Spur Road in Nome, Texas and proceeded to conduct an area survey. (A map of the area can be found in Attachment 1). The weather conditions at the time of the investigation were clear skies, northeast winds at 0 - 10 miles per hour, and a temperature of approximately 51 degrees Fahrenheit. During his survey, Mr. Kuehn observed a large, smoke plume rising in the distance along Nome Spur Road. At 1013 hours, the investigator arrived at the location of the burning activity. The smoke plume appeared to be rising from behind a tree line in a field located approximately 50 yards from a residence and 40 yards from the roadway. The Nome Volunteer Fire Department was onsite responding to the fire. Other individuals onsite observing the fire included:
Factual Narrative

- In some cases, it is important that the investigator **personally observed** the condition or event.
- This is particularly true in an **enforcement** investigation, in which the report may be used as evidence in a trial or hearing. Such investigations will use sentence like:
  - “The investigator observed ...”
  - “The investigator found ...”
- Personal observations are important in enforcement investigations because the information must be based on “personal knowledge” at a trial. (i.e. matters you observed.)
Factual Narrative

- In other cases, investigations may be used to document a problem or propose solutions or help establish the cause of an event.
- These investigations tend to rely on opinions more than enforcement investigations.
  - For example, an investigator may have the responsibility of forming conclusions (opinions) on the cause of some event.
- Personal knowledge of every fact is not as important and is sometimes impossible.
  - Example: Accident investigations
- In such cases, the investigator may simply summarizes their findings without specifying which details they observed first-hand and which they collected from other sources such as interviews and reviewing documents.
Factual Narrative

- Consider the following investigation report prepared by the National Transportation Safety Board (NTSB).
- This is a federal agency you have probably heard of in connection with airplane crashes. The NTSB investigates the cause of major transportation accidents.
- Which form of narrative does it employ?
  - The investigator’s personal knowledge or
  - Summary of facts gathered from a variety of sources.
- What statements show this?
1. Factual Information

1.1 History of the Flight

On December 20, 2008, about 1818 mountain standard time (MST),\(^1\) Continental Airlines flight 1404, a Boeing 737-500, N18611, departed the left side of runway 34R during takeoff from Denver International Airport (DEN), Denver, Colorado. A postcrash fire ensued. The captain and 5 of the 110 passengers were seriously injured; the first officer, 2 cabin crewmembers, and 38 passengers received minor injuries; and 1 cabin crewmember and 67 passengers (3 of whom were lap-held children) were uninjured. The airplane was substantially damaged. The scheduled, domestic passenger flight, operated under the provisions of 14 Code of Federal Regulations (CFR) Part 121, was departing DEN and was destined for George Bush Intercontinental Airport (IAH), Houston, Texas. At the time of the accident, visual meteorological conditions (VMC) prevailed, with strong and gusty winds out of the west. The flight operated on an instrument flight rules flight plan.

The pilots arrived at DEN about 1700 (1 hour before the accident flight’s scheduled departure). The captain stated that he picked up the flight’s dispatch paperwork from Continental’s operations coordinator and performed an external preflight inspection while the first officer performed cockpit preflight safety checks. The pilots stated that, after the captain joined the first officer in the cockpit, they performed routine departure preparations, including appropriate checklists and entering load information into the airplane’s flight management computer. After these tasks were completed (about 1804, according to the airplane’s cockpit voice recorder [CVR])\(^2\), the first officer\(^3\) contacted DEN ramp control\(^4\) for approval to push back from the gate, advising the ramp controller that they had automatic airport terminal information service (ATIS) departure information “Charlie.”\(^5\) The DEN ramp controller approved a push back for a west taxi.
Documentation: Photographs

- It is often helpful for investigators to include photographs taken of a particular event.
- A picture is often better at showing **details** and **context** that would be difficult to describe verbally.
  - For example: the relative position of different elements at the scene of the investigation.
- It also helps those not present gain a “big picture” understanding of the event.
- It may also have a **persuasive function**: showing in graphic detail the seriousness of the problem.
There was significant deformation of the vehicle and intrusion into the passenger space caused by the collision. The cab doors were removed with rescue tools when Taylor's body was removed from the vehicle. Other than fire damage, there was not significant damage to the ambulance box assembly.
Photos and Illustrations

- Photographs, diagrams, and illustrations can also apply the investigators findings by highlighting or explaining elements depicted in a photo.
- Maps and diagrams can also help show the spatial relationships necessary to understand an event.
Figure 6. Aerial photograph (facing north-northwest) showing the tire skid marks veering left from the runway centerline to the edge of the runway pavement and the ground scars continuing from the runway. The distance from the approach runway threshold is shown in feet, and taxiway WC is depicted.
Conclusions in Causation Investigation

• Conclusions naturally come at the end of an investigation report.
• The substance of the conclusions can vary depending on the nature of the investigation.
• Some investigations are performed to discover the underlying cause of an event.
  • NTSB investigation on airplane crash.
  • Fire Marshal investigation on fire truck crash.
• In such investigations, it is important that the facts recorded in the narrative support the conclusions.
Conclusions in Causation Investigation

- Ideally, each conclusion should refer back to the facts that support it.
- And the investigator should think about other possible conclusions that could be drawn from the facts and explain why those are not adequate or do not account for other facts observed.
- Some investigations conclude by providing a summary of findings.
- Let’s look at an example of conclusions from the NTSB report we saw earlier.
3. Conclusions

3.1 Findings

1. The captain and first officer were properly certificated and qualified under Federal regulations to act in their respective roles during the accident flight and were experienced in the accident airplane. There was no evidence that the pilots had any condition (medical, behavioral, toxicological, or fatigue-related) that might have adversely affected their performance during the accident flight.

2. The accident airplane was properly certificated, equipped, and maintained in accordance with Federal regulations, was dispatched in accordance with industry practices, and was within weight and center of gravity limits.

3. No evidence indicated any preaccident failure of the accident airplane’s powerplants, structures, or systems, including the nosewheel steering system.

4. The flight attendants acted appropriately when they initiated an emergency evacuation using only the exits on the left side of the airplane because of fire on the right side of the airplane. All passengers were successfully evacuated before fire entered the cabin.

5. Although there was some initial confusion about the location of the accident, the timeliness of the emergency response was not a significant issue in this accident. The firefighting activities conducted by Denver International Airport aircraft rescue and firefighting crews were effective in suppressing the exterior and interior fires.
3.2 Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the captain’s cessation of right rudder input, which was needed to maintain directional control of the airplane, about 4 seconds before the excursion, when the airplane encountered a strong and gusty crosswind that exceeded the captain’s training and experience.

Contributing to the accident were the following factors: 1) an air traffic control system that did not require or facilitate the dissemination of key, available wind information to the air traffic controllers and pilots; and 2) inadequate crosswind training in the airline industry due to deficient simulator wind gust modeling.
Fire Marshal Report

- End today by looking at a casual investigation report in more detail.
- What follows is a complete report prepared by the State Fire Marshal.
- The State Fire Marshal is required to investigate accidents that involve fire-fighter fatalities.
- What is the purpose of these investigations?
8.0 Post-Report Release Activities

Upon release of an investigation report, members of the Advisory Committee, investigation teams, and others involved in the investigation are encouraged to ensure that lessons learned from the Firefighter Fatality Investigation Program are integrated within the Texas Fire Service.

These efforts may include:

- Direct contact with the affected fire department as approved by the State Fire Marshal,
- Improvements to training plans,
- Firefighter certification requirements,
- Equipment design,
- Standards/policy development,
- Grant policy development, and
- Professional organization outreach.

Direct contact with the affected fire department may include discussion of findings, development of an implementation strategy for recommendations, and/or discussion of observations made during the investigation.
Fire Marshal Report

- Take some time to read the following investigation on your own.
- Then we will regroup to discuss.
STATE FIRE MARSHAL’S OFFICE
TEXAS DEPARTMENT OF INSURANCE
AUSTIN, TEXAS

Firefighter Fatality Investigation

Firefighter Clint Dewayne Rice
Carlton Volunteer Fire Department

Summary

Firefighter Clint Dewayne Rice, age 28, died in a motor vehicle incident while driving a tractor-trailer water tender to a wildfire in Hamilton County on November 22, 2005. Firefighter Rice was a member of the Carlton Volunteer Fire Department (CVFD).

CVFD was providing mutual aid to the Hamilton, Texas fire department in fighting a large grass fire. Firefighter Rice lost control of his vehicle while rounding a turn on Farm-to-Market Road 219, causing the truck to overturn. Rice was ejected from the truck cab and was pronounced dead at the scene. He was not wearing a seat belt.

Firefighter Rice served in the Carlton Volunteer Fire Department for three months. He is survived by his wife.

Introduction

The Texas State Fire Marshal’s Office was notified of the death of Carlton Firefighter Clint Rice on November 24, 2005. State Fire Marshal’s Office (SFMO) Director of Inspections Richard L. Bishop was assigned as the SFMO fatality investigation team leader. Bishop traveled to the scene of the incident in Hamilton County on November 29, 2005 to conduct an investigation of the incident.

The SFMO commenced a firefighter fatality investigation under the authority of Texas Government Code Section 417.0075. The statute requires SFMO to investigate the circumstances surrounding the death of the firefighter, including the cause and origin of the fire, the condition of the structure, and the suppression operation, to determine the factors that may have contributed to the death of the firefighter. The State Fire Marshal is required to coordinate the investigative efforts of local government officials and may enlist established fire service organizations and private entities to assist in the investigation.
The National Fallen Firefighter’s Foundation and the National Institute for Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program were notified.

**Origin and Cause Investigation**

The Hamilton County Sheriff’s Office determined that the cause of the wildfire was accidental.

**Building Structure and Systems**

No structures were reported involved in the wildfire.

**Investigation of the Death of the Firefighter**

On November 22, 2005 at approximately 2:10 PM, the Hamilton County Sheriff’s Office notified the Carlton Volunteer Fire Department (CVFD) that the Hamilton Fire Department had requested assistance with a large wildfire six miles west of Hamilton on Highway 36.

Unit 612, a modified military 6-wheel drive brush truck, driven by Firefighter James Rice, departed the CVFD station enroute to the fire. Firefighter Clint Rice departed shortly thereafter in Unit 610, a 1979 Freightliner cabover tractor-trailer water tender. CVFD purchased the Freightliner tractor of Unit 610 in 1996. The tank trailer of Unit 610 was a 1968 Heil 3000-gallon fuel tanker obtained from the Federal Excess Personal Property (FEPP) program administered by the Texas Forest Service. CVFD converted the former M131A5 military fuel tank trailer to a water tender, modified the tank compartment dividers into baffles, and installed additional equipment including a water pump, hose, and fittings.

Approximately 2.5 miles from the CVFD station on Farm-to-Market Road 219, Unit 610 passed a diamond left curve sign with a 40 mph speed limit.
advisory sign attached.

Warning chevrons delineated the curve. The asphalt roadway was dry, in good condition, and had a slight downhill grade continuing into a banked left curve. The incident occurred during daylight hours.

The right side tires of Unit 610 left the roadway at the transition of the straight road into the curve, .17 miles after passing the curve warning sign. Tire marks indicated that Firefighter Rice attempted to steer Unit 610 around the curve.

As Unit 610 approached the apex of the curve, the slope of the shoulder, combined with lateral movement of water in the cargo tank, began to lift the left side tires of the cargo tank off the pavement.

The weight transfer and body lean caused the cargo tank to roll onto its right side, pulling the truck tractor in turn onto its right side. The cargo tank slid down the shoulder and rolled onto its top. This continuing rollover pulled the truck tractor onto its top. The passenger side door of the truck tractor tore away from the truck cab during the rollover. The rollover continued with the cargo tank rolling onto its left side, pulling the truck tractor over onto its left side, tearing away the driver’s door.

During the rollover, the truck cab roof was sheared away just above the dashboard. Firefighter Rice, who was not wearing the driver’s seat safety belt, was ejected from the truck cab and landed on the right hand lane of the roadway, approximately 30 feet from the final resting point of the truck cab.

As the tractor-trailer combination came to rest in a field, the truck tractor rolled back upright onto its wheels. The cargo tank...
came to rest on its left side. The force of the rollover separated several tire/axle assemblies from the tractor-trailer water tender. The vehicle traveled approximately 330 feet from the point the first tire left the roadway.

Texas Department of Public Safety trooper Steven Schwartz investigated the motor vehicle incident and cited “unsafe speed (below legal limit), defective or slick tires, and defective or no trailer brakes” as contributing factors on his official report. Trooper Schwartz checked the air pressure in the undamaged tires of Unit 610 and his report states that air pressure in those tires ranged from 30 to 88 psi. This mix of tire pressures may have adversely affected the handling of the tractor-trailer water tender.

The military technical and maintenance manual for the M135A5 fuel tank trailer http://www.tpub.com/content/semis/TM-9-2330-272-14P/index.htm states hard surface road tire pressure should be 60 psi based on a 48,035 pound gross trailer weight. This gross trailer weight was based on a 5,000 gallon cargo of fuel weighing 35,250 pounds. Filling this trailer with 5,000 gallons of water weighing 41,700 pounds, (8.34 pounds/gallon) produces a gross trailer weight of 54,465 pounds.

This is 6,450 pounds over the maximum 48,035-pound gross weight listed on the information placard on the trailer frame. This does not take into account the weight of the water pump and any additional equipment installed by CVFD.

Exceeding the gross trailer weight may have an adverse effect on vehicle handling, braking, and performance and may violate state motor vehicle laws.

Exceeding the gross trailer weight may have an adverse effect on vehicle handling, braking, and performance and may violate state motor vehicle laws.

The tank trailer originally had two compartments divided by bulkheads. SFMO investigators found that CVFD modified these bulkheads by cutting large holes in them to facilitate the transfer and discharge of water. While these modified bulkheads may have served as baffles to control the movement of water from front to back in the cargo tank, there were no baffles to control the lateral movement of water, which would tend to affect the handling characteristics of the vehicle as the weight of the water shifted from side-to-side.

Training of Vehicle Operators

Firefighter Rice served on the CVFD approximately three months prior to this incident. CVFD Chief Bill Hollingsworth stated Firefighter Rice had been discharged from the US
Air Force where he operated flight line refueling tankers. Firefighter Rice was a heavy-duty truck mechanic by trade, and had a Class C Texas driver’s license. Prior to this incident, Firefighter Rice had not driven Unit 610 to a fire. Chief Hollingsworth stated that CVFD firefighters attend regional training courses, but there was no formal departmental driver training program. Firefighter Rice did not hold any certifications as a firefighter from the State Firemen’s and Fire Marshals’ Association of Texas or the Texas Commission on Fire Protection.

**Personal Protective Equipment and Injury Evaluation**

Firefighter Rice was not wearing any firefighter protective equipment at the time of the motor vehicle incident.

The driver’s seat of the 1979 Freightliner cabover truck-tractor-owned by Carlton VFD is equipped with a lap type safety belt, but Firefighter Rice was not wearing it at the time of the motor vehicle incident. Due to the forces involved in this crash, it is not possible to determine if safety belt use would have prevented fatal injuries to Firefighter Rice.

![Left side view of truck cab of Unit 610](image)

**Cause of Death**

Passersby found firefighter Rice lying in the roadway approximately 30 feet from where the truck-tractor came to rest after leaving the roadway and rolling over. There were no eyewitnesses to the motor vehicle incident.

Firefighter Rice had sustained catastrophic head injuries, was not breathing, and did not have a detectable pulse.

Hamilton County Precinct 1 Justice of the Peace James Lively pronounced Firefighter Rice dead at the scene of the incident at 3:35 PM. Judge Lively attributed the cause of death to an open skull fracture, but did not order an autopsy.
Findings & Recommendations

The following recommendations are based upon nationally recognized consensus standards for the fire service. All fire departments should be aware of the content of the standards and should develop programs based on them to increase the level of safety for fire department personnel.

Finding #1 – Carlton Volunteer Fire Department Unit 610, driven by Firefighter Clint Rice, entered a marked curve at an unsafe speed. Firefighter Rice was unable to maintain control of the vehicle, causing it to leave the roadway and overturn.

Contributing factors:

- The fully loaded cargo tank trailer exceeded the maximum gross weight listed on the data plate by at least 6,450 pounds.
- The existing baffles in the cargo tank were inadequate to control water movement and subsequent weight shifts.
- The tires on the tractor-trailer combination had inconsistent inflation pressures, some of which were dangerously low.
- The Texas Department of Public Safety report cited “defective or no trailer brakes.”

The overloaded vehicle, combined with unsafe and inconsistent tire pressures and inadequate water tank baffles presented an extreme challenge to the driver to maintain control, even at low speeds.

Recommendation: All fire departments should consider safety and health as primary concerns in the specification, design, construction, acquisition, operation, maintenance, inspection, and repair of all fire department apparatus. Fire departments should utilize the resources discussed in this report to evaluate their water tender (tanker) policies.


Finding #2 – The Carlton Volunteer Fire Department did not implement measures to prevent the Federal Excess Personal Property (FEPP) program tank vehicle from being loaded over the maximum permissible gross weight when it was converted to firefighting use.
**Recommendation:** Any fire department acquiring a vehicle, chassis, or trailer not originally designed as firefighting apparatus should proceed with caution when converting equipment for use in firefighting. Fire departments should take into account factors such as the weight of tank water and equipment, center of gravity, load distribution, capacity of the drivetrain, tires, steering, and braking systems during fire apparatus construction.

**Recommendation:** All fire departments acquiring vehicles, chassis, or trailers should refer to all available manuals or documentation prior to commencing conversion or modification operations. Water tanks should be clearly marked with the tank capacity and full gross weight. Fire departments should install positive physical safeguards, such as overflow vents, to prevent vehicles from exceeding maximum permissible gross weight when fully loaded.


**Finding #3 – The Carlton Volunteer Fire Department did not have an apparatus driver education and qualification program in its standard operating procedures manual at the time of the incident.**

This was the first time CVFD Firefighter Clint Rice had driven this tractor-trailer water tender to a fire. The departmental SOP manual contains minimal information regarding safe operation of fire department vehicles.

**Recommendation:** All fire departments and fire officers should review departmental driver policies and ensure all drivers receive periodic training and skills testing. Drivers of specialized vehicles should receive additional training in the unique handling, operations, and performance characteristics of these vehicles.

Fire apparatus should be operated only by members who have successfully completed an approved driver training program or by trainee drivers who are under the supervision of a qualified driver. Drivers of fire apparatus should have valid driver's licenses. Vehicles should be operated in compliance with all traffic laws, including sections pertaining to emergency vehicles. Drivers of fire apparatus should be directly responsible for the safe and prudent operation of the vehicles under all conditions. When the driver is under the direct supervision of an officer, that officer should also assume responsibility for the driver's actions. Drivers should not move fire
apparatus until all persons on the vehicle are seated and secured with seat belts in approved riding positions.


NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Chapters 6.2, 8.3, 8.4, Quincy, MA: National Fire Protection Association

Finding #4 – The Carlton Volunteer Fire Department did not maintain the tire pressures in water tender Unit 610 in a consistent, safe, and legal manner.

Multiple tires on both the truck-tractor and trailer varied significantly in inflation pressure, which could have affected the handling characteristics of the vehicle.

Recommendation: All fire departments should institute inspection and maintenance programs in which fire apparatus should be inspected at least weekly, within 24 hours after any use or repair, and prior to being placed in service or used for emergency purposes to identify and correct unsafe conditions. A preventive maintenance program should be established, and records should be maintained. NFPA 1915, Standard for Fire Apparatus Preventive Maintenance Program, provides information regarding inspection, maintenance, and repair of fire apparatus. The fire department should establish a list of major defects to be utilized to evaluate when a vehicle should be declared unsafe. Any fire department vehicle found to be unsafe should be placed out of service until repaired.

Texas Transportation Code § 547.004 (Operation of Unsafe Vehicle); NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, Chapter 6.4, Quincy, MA: National Fire Protection Association
Questions

• Does this investigation contain identifying information?
• What kind of factual narrative is employed?
  • Personal observations v. compilation of data
• Do the photos/diagrams contribute to the report?
• Were the conclusions clearly based on facts observed?
• Did the writer consider other possible causes?
We’re done.

- Questions?
- Comments?
- Investigation Report Part I due April 9 (This Saturday!)
- You are going to write an enforcement investigation based on some problem you have identified where you live or work.
- The investigation will be based upon your observations of this problem and a set of hypothetical regulations I will provide.
- Part I requires you to find a problem that you can investigate. You must send me a memo briefing me on the problem. I will send you some mock regulations for you to apply in an investigation report.
Investigation Reports Part II
Enforcement Investigations
Review

- Last week, we talked about the basic parts of investigation reports:
  - Identifying information
  - Factual Narrative
  - Conclusions
- We looked at an example of an investigation concerned primarily with establishing the **cause** of an event: fire truck crash investigated by the Fire Marshal.
- We also talked about the need for written investigation reports:
  - limitations on human memory
  - the need to preserve evidence
Review

- This week we are looking at a different type of investigation report.
- Reports created to document violations of the law.
- I call this an **enforcement** investigation.
- We will look at an example report written by the Texas Commission on Environmental Quality.
- This will help you with the writing project for this unit: writing your own enforcement-style report.
Enforcement Investigations

- An enforcement investigation is often used when state agencies are pursuing **legal action** against someone for violating their regulations or statutes they are authorized to enforce.
- Remember, one of the key ways state agencies do their job of **executing** the law is by enforcing the law.
- These investigations support an enforcement action by providing the evidence of wrong-doing.
- **Examples:**
  - Health Department inspection of a restaurant.
  - EPA investigation of a chemical plant.
  - DSHS inspection of a child care facility or nursing home.
Enforcement Investigations

- In enforcement investigations, both the narrative and conclusion are different than investigations performed to determine the cause of an event.
- The narrative should be based on personal observations.
- Investigators are often witnesses for a trial and their investigation reports are often admitted as evidence.
- To be admissible as evidence, investigation reports must be based on personal knowledge, not a collection of second-hand information. (Hearsay)
  - “I observed four large rats in the cold storage area of the kitchen.”
  - “A customer told me that they saw rats in the cold storage area.”
- Personal knowledge also means no assumptions about what is probably the case.
- Remember the FAA investigation example we talked about?
Enforcement Investigations

- Enforcement investigations must also be *concrete* and *specific* as to the persons and things observed.
- Think about the speeding example we talked about last week.
- If a police officer observes some unidentified car that was “speeding,” has he documented that any particular person violated the law?
  - What does “speeding” mean? Greater than 55 mph? Or did it just look fast?
  - Who was speeding?
- Consider the following example: which observation is based on personal knowledge and which more is specific and concrete?
On March 22, 2009, I arrived at the X Corp. Chemical Plant. I observed twelve drums of bright orange liquid dumped on the ground near the entry-way to the plant. The drums were marked with “hazardous waste” labels.

On March 22, 2009, I arrived at the X Corp. Chemical Plant. A neighbor told me that there were twelve drums of bright orange liquid dumped on the ground.

On March 22, 2009, I arrived at the X Corp. Chemical Plant. I observed some hazardous waste near the entry-way to the plant.
Conclusions in Enforcement Investigations

- In the investigation report we looked at last week, the conclusions were primarily about deciding the **cause** of the crash and recommending **corrective action**.

- But in enforcement investigations, the investigator’s goal is to **document a violation** of a regulation or statute. Therefore, the observations must be tied to a particular law.

- Usually, the investigator quotes the law and provides a citation.

- Ideally, these should be written in the three-step style of **analysis** we talked about when citing rules.
Conclusions in Enforcement Investigations

- Our rule application exercise with Cindy’s Hair Salon and AirCheck has already helped prepare you to perform this kind of report writing!
- Remember how we emphasized the importance of making the following matters clear and distinct:
  - Facts observed (without making any conclusions)
  - Rule that applies
  - The conclusion
- Review the example from Cindy’s:
On March 3, 2010, an investigator found an employee of Sweep-a-lot using a sweep that appeared to be no longer than one foot. 30 Tex. Admin. Code Section 999.22(a)(2) requires that all chimney sweepers use a chimney sweep that is at least six feet long. Because Sweeps-a-lot used a sweep that was less than six feet long, they violated Section 999.22(a)(2).
An Example of an Enforcement Investigation

- Let’s look at an example of a real-world enforcement investigation.
- This was a TCEQ investigation of an illegal tire disposal site.
- We will see that when the investigator arrived at the site, he not only documented an illegal dumping site, but also illegal burning.
- Notice the parts of investigations we have discussed:
  - the identifying information
  - personal observations in the factual narrative
  - Use of photographs
  - and conclusions.
See the PDF I emailed earlier.
Regroup after you have reviewed the document.
We’re done.

- Questions?
- Comments?
- Complete Part II of the Investigation Project.
- Format your investigation however you want.
- Make sure that you have
  - good identifying information
  - factual narrative that focuses on personal observations
  - and a conclusion section that links your observations to violations of the rules I provided you.