



**City of Dallas**

# **DFR Response to NTSB Report on Atmos Incident**

**Public Safety Committee  
February 8, 2021**

Lauren Johnson, Deputy Chief

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# Presentation Overview



- To provide a response to the NTSB Report concerning the Atmos Incident of February 2018:
  - Background of Incidents
  - Investigation
  - NTSB Findings and Recommendations
  - DFR Changes and Enhancements



# Background of Incidents



- 2/21/18, 5:49 a.m., 3527 Durango Drive – 1st gas-related fire incident, resulted in significant structural damage and second-degree burns to an occupant
- 2/22/18, 10:18 a.m., 3515 Durango Drive – 2nd gas-related fire incident, resulted in significant structural damage and second-degree burns to an occupant
- 2/23/18, 6:38 a.m., 3534 Espanola Drive – a gas-fueled explosion resulted in major structural damage, injuries to four occupants, and the death of the fifth occupant



# Background of Incidents



- Incident Responses by DFR
  - The first two incidents were “1-Alarm” Fire Responses, consisting of:
    - Fire extinguishment
    - Medical treatment and transport
    - Fire Cause Investigation and Determination
    - Coordination with Atmos and Oncor for utility control
  - The third incident received the same response as the first two with the addition of the Urban Search & Rescue Team (USAR)
    - Evaluate structural integrity and ensure 1<sup>st</sup> responder safety



# Background of Incidents



- After the 3<sup>rd</sup> incident on 2/23/18, DFR established long-term Command Post at scene
- Maintained investigative collaboration with Atmos
- Established and maintained DFR Hazmat Team monitoring of scene conditions
- Centralized coordination of DFR response to affected area, including:
  - Evacuations
  - Medication and other item retrieval for residents
  - Return of residents to their homes





# Investigation



- DFR began participating as a party to the NTSB investigation on 2/25/18
  - Arranged interviews with DFR personnel
  - Provided DFR procedures and investigative documents
  - Reviewed and provided comments on NTSB findings
  - Delivered updates related to procedure and equipment enhancements
  - Collaborated with NTSB representatives to develop recommendations for improvements



# NTSB Findings



- NTSB determined the cause of incidents:
  - NTSB investigators located a crack in the natural gas main that served all three homes
  - The crack was likely caused by excavation equipment working nearby in 1995, when a sewer line was replaced
  - This crack allowed natural gas to leak into the surrounding area and homes, for an extended period of time
  - Soil surrounding the leak absorbed the natural gas odorant, making it undetectable by residents
  - Natural gas migrated from the leak area and collected in the involved structures



# NTSB Findings relating to DFR



NTSB synopsis of its report, dated January 12, 2021, included the following non-cause findings:

- “Dallas Fire-Rescue Department’s initial misclassification of the first incident delayed the sharing of information that could have helped Atmos Energy Corporation identify the origin of the leak.” (page 3 of report)
- “Had the Dallas Fire-Rescue Department’s arson investigators been adequately trained on natural gas systems; their investigation findings may have provided more timely and accurate assistance to Atmos Energy Corporation in locating the source of the gas leak.” (page 3 of report)
- “If Dallas Fire-Rescue Department reported the first two incidents in a timely manner, it could have prompted further investigation or regulatory oversight prior to the explosion.” (page 4 of report)





# DFR Responses to NTSB Findings



- National Fire Protection Association (NFPA) 921, Guide for Fire and Explosion Investigations is the standard for all fire and arson investigations nationwide.
- During an investigation, authorities are required to classify the cause of the fire by examining:
  - The source and form of ignition,
  - The first materials ignited and factors contributing to ignition.



# DFR Responses to NTSB Findings



- After such evidence and data are collected, the arson investigators must classify the cause into one of four categories:
  - Accidental
  - Natural
  - Incendiary
  - Undetermined



# DFR Responses to NTSB Findings



- The fire cause determination by DFR arson investigators for these incidents are accurate and accepted by NFPA 921, and do not trigger any notifications or the discovery of the leak. In other words, DFR's role in the investigation was to identify the cause of the fire, not the existence or source of a gas leak outside of the structure.
- The Texas Commission on Fire Protection (TCFP) requirements for DFR arson investigators are for 150 certified curriculum hours in multiple areas, 8 of which are in Building Fuel Gas Systems and Explosions. DFR arson investigators are also required to fulfill 20 continuing education hours in a certified field annually.



# NTSB Recommendations



- Revise the continuing education requirement for DFR arson investigators to include training on building fuel gas systems.
- Revise DFR procedures to require gas monitoring after the occurrence of a gas-related structure fire or explosion.
- Develop and implement a formal process to alert appropriate local, state, and federal agencies of potential systemic safety issues that should be investigated further.



# DFR Changes and Enhancements



- Increased communications and training opportunities with Atmos
- Addition of new atmospheric monitors
- Development of procedures for gas monitoring following a gas-related structure fire or explosion





# DFR Changes and Enhancements



- Exploring the development of a system of notification to Atmos to help detect systemic safety issues.
- Additional training in the areas of technical review and explosion dynamics.
- Ensure that DFR Arson Investigators receive the most up to date training on Fire Investigation and Cause Determination.





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Questions?