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| NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty as provided in 49 USC 60122. | | OMB NO: 2137-0635 EXPIRATION DATE: 6/30/2026 |
|  U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration | Original Report Date: | 05/10/2019 |
| | No. | 20190049-32113 ----- (DOT Use Only) |

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0635. Public reporting for this collection of information is estimated to be approximately 12 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding the burden or any other aspect of this collection of information, including suggestions for reducing the burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

INSTRUCTIONS

Important: Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at <https://www.phmsa.dot.gov/pipeline/library/forms>

PART A - KEY REPORT INFORMATION

| Report Type: (select all that apply) | Original: | Supplemental: | Final: |
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| | Yes | | |
| Last Revision Date | | | |
| 1. Operator's OPS-issued Operator Identification Number (OPID): | 15938 | | |
| 2. Name of Operator | ENBRIDGE GAS NORTH CAROLINA | | |
| 3. Address of Operator: | | | |
| 3a. Street Address | 800 GASTON ROAD | | |
| 3b. City | Gastonia | | |
| 3c. State | North Carolina | | |
| 3d. Zip Code | 28056 | | |
| 4. Local time (24-hr clock) and date of incident: | 04/10/2019 10:06 | | |
| 4a. Time Zone for local time (select only one) | | | |
| 4b. Daylight Saving in effect? | | | |
| 5. Location of Incident: | | | |
| 5a. Street Address or location description | 115 N Duke Street | | |
| 5b. City | Durham | | |
| 5c. County or Parish | Durham | | |
| 5d. State: | North Carolina | | |
| 5e. Zip Code: | 27701 | | |
| 5f. Latitude / Longitude | 35.59599, -78.54286 | | |
| 6. Gas released: | Natural Gas | | |
| - Other Gas Released Name: | | | |
| 7. Estimated volume of gas released unintentionally: - thousand standard cubic feet (mcf) | 46.00 | | |
| 8. Estimated volume of intentional and controlled release/blowdown:thousand standard cubic feet (mcf) | 0 | | |
| 9. Were there fatalities? | Yes | | |
| - If Yes, specify the number in each category: | | | |
| 9a. Operator employees | 1 | | |
| 9b. Contractor employees working for the Operator | 0 | | |
| 9c. Non-Operator emergency responders | 0 | | |
| 9d. Workers working on the right-of-way, but NOT associated with this Operator | 0 | | |
| 9e. General public | 1 | | |
| 9f. Total fatalities (sum of above) | 2 | | |
| 10. Were there injuries requiring inpatient hospitalization? | Yes | | |
| - If Yes, specify the number in each category: | | | |
| 10a. Operator employees | 0 | | |

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| 10b. Contractor employees working for the Operator | 0 |
| 10c. Non-Operator emergency responders | 1 |
| 10d. Workers working on the right-of-way, but NOT associated with this Operator | 2 |
| 10e. General public | 2 |
| 10f. Total injuries (sum of above) | 5 |
| 11. What was the Operator's initial indication of the Failure? (<i>select only one</i>) | Other |
| - If Other, Specify: | notification from excavator via their NC-811 notification |
| 11a. If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 11, specify. | |
| 12. Local time operator identified failure | 04/10/2019 09:35 |
| If 11 = Notification from Emergency Responder, skip questions 13 through 15. | |
| 13. Did the operator communicate with Local, State, or Federal Emergency Responders about the incident? | |
| - If No, skip A14 and A15 | |
| 14. Which party initiated communication about the incident? | |
| 15. Local time of initial Operator and Local/State/Federal Emergency Responder communication | |
| 16. Local time operator resources arrived on site: | 04/10/2019 10:03 |
| 17. Local time of confirmed discovery: | |
| 18. Local time (24-hr clock) and date of initial operator report to the National Response Center: | 04/10/2019 11:17 |
| 19. Initial Operator National Response Center Report Number: | 1242352 |
| 19a. Additional NRC Report numbers submitted by the operator: | |
| 20. Method of Flow Control (<i>select all that apply</i>) | |
| "Key/Critical" Valve – inspected in accordance with Part 192.747 | |
| Main Valve other than "Key/Critical" | |
| Service (curb) Valve | |
| Meter/Regulator shut-off Valve | |
| Excess flow valve | |
| Squeeze-Off | |
| Stoppie fitting | |
| Other | |
| - If Other, Specify: | |
| 21. Did the gas ignite? | No |
| If A21 = Yes, answer A21a through A21d. | |
| 21a. Local time of ignition | |
| 21b. How was the fire extinguished? | |
| - If Other, Specify: | |
| 21c. Estimated volume of gas consumed by fire (MCF): (must be less than or equal to A7.) | |
| 21d. Did the gas explode? | Yes |
| 22. Number of general public evacuated: | 10 |
| PART B - ADDITIONAL LOCATION INFORMATION | |
| 1. Was the Incident on Federal land? | No |
| 2. Location of Incident | Public property |
| 3. Area of Incident: | Underground |
| Specify: | Under pavement |
| If Other, Describe: | |
| 3a. Depth of Cover: | 30 |
| 3b. Were other underground facilities found within 12 inches of the failure location? | |
| 4. Did Incident occur in a crossing? | No |
| - If Yes, specify type below: | |
| - If Bridge crossing – | |
| Cased/ Uncased: | |
| - If Railroad crossing – | |

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| Cased | |
| Uncased | |
| Bored/drilled | |
| - If Road crossing – | |
| Cased | |
| Uncased | |
| Bored/drilled | |
| - If Water crossing – | |
| Cased | |
| Uncased | |
| Bored/drilled | |
| Name of body of water (If commonly known): | |
| Approx. water depth at time and location of Incident (ft): | |
| (select only one): | |
| PART C - ADDITIONAL FACILITY INFORMATION | |
| 1. Indicate the type of pipeline system: | Investor Owned |
| - If Other, specify: | |
| 2. Part of system involved in Incident: | Service |
| - If Other, specify: | |
| 2a. Year item involved in the incident was installed: | 2008 |
| 2b. Year item involved in the incident was manufactured: | |
| When 2. is any value other than "Main", "Main Valve", "District Regulator/Metering Station", or "Other": | |
| 2c. Indicate the customer type: (select only one) | |
| 2d. Was an EFV installed on the service line before the time of the incident? | |
| If 2d = Yes, then 2e. Did the EFV activate? | |
| 2f. Was a curb valve installed on the service line before the time of the incident? | |
| 3. When 2. is "Main" or "Service" answer 3a through c and 4: | |
| 3a. Nominal Pipe Size: | 0.75 |
| 3b. Pipe specification (e.g., API 5L, ASTM D2513): | ASTM D2513 |
| 3c. Pipe manufacturer: | Performance |
| 4. Material involved in Incident: | Plastic |
| - If Other, specify: | |
| 4a. If Steel, Specify seam type: | |
| - If Other, specify: | |
| 4b. If Steel, Specify wall thickness (inches): | |
| 4c. If Plastic, Specify type: | Polyethylene (PE) |
| - If Other, describe: | |
| 4d. If Plastic, Specify Standard Dimension Ratio (SDR): | 11 |
| Or wall thickness: | |
| Unknown | |
| 4e. If Polyethylene (PE) is selected as the type of plastic in Part C, Question 4.c: | |
| - Specify PE Pipe Material Designation Code (i.e. 2406, 3408, etc.) | 2406 |
| Unknown? | |
| 5. Type of release involved : | Mechanical Puncture |
| - If Mechanical Puncture - Specify Approx. size: | |
| Approx. size: in. (axial): | 2.00 |
| in. (circumferential): | .80 |
| - If Leak - Select Type: | |
| - If Other, Describe: | |
| - If Rupture - Select Orientation: | |
| - If Other, Describe: | |
| Approx. size: (widest opening): | |
| (length circumferentially or axially): | |
| - If Other - Describe: | |

| PART D - ADDITIONAL CONSEQUENCE INFORMATION | |
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| 1. Class Location of Incident: | Class 3 Location |
| 2. Estimated Property Damage: | |
| 2a. Estimated cost of public and non-Operator private property damage paid/reimbursed by the Operator | \$20,000,000 |
| 2b. Estimated cost of Operator's property damage & repairs | \$7,638 |
| 2c. Estimated cost of emergency response | \$15,467 |
| 2d. Estimated other costs | \$0 |
| - Describe: | Unknown. Investigation is ongoing. |
| 2e. Property damage subtotal (sum of above) | \$20,023,105 |
| Cost of Gas Released | |
| Cost of Gas in \$ per thousand standard cubic feet (mcf): | \$ |
| 2f. Estimated cost of gas released unintentionally | \$196 |
| 2g. Estimated cost of gas released intentionally during controlled release/blowdown | \$ |
| 2h. Total estimated cost of gas released (sum of 2f and g) | \$196 |
| 2i. Estimated Total Cost (sum of 2e and 2h) | \$20,023,301 |
| 3. Estimated number of customers out of service: | |
| 3a. Commercial entities | 20 |
| 3b. Industrial entities | 0 |
| 3c. Residences | 0 |
| Injured Persons not included in A10 The number of persons injured, admitted to a hospital, and remaining in the hospital for at least one overnight are reported in A10. If a person is included in A10, do not include them in D4. | |
| 4. Estimated number of persons with injuries requiring treatment in a medical facility but not requiring overnight in-patient hospitalization: | |
| If a person is included in 4, do not include them in 5. | |
| 5. Estimated number of persons with injuries requiring treatment by EMTs at the site of incident: | |
| Buildings Affected | |
| 6. Number of residential buildings affected (evacuated or required repair or had gas service interrupted): | |
| 7. Number of business buildings affected (evacuated or required repair or had gas service interrupted): | |
| PART E - ADDITIONAL OPERATING INFORMATION | |
| 1. Estimated pressure at the point and time of the Incident (psig): | 58.00 |
| 2. Normal operating pressure at the point and time of the Incident (psig): | 58.00 |
| 3. Maximum Allowable Operating Pressure (MAOP) at the point and time of the Incident (psig): | 60.00 |
| 3a. MAOP established by 49 CFR section: | |
| 3b. Date MAOP established: | |
| 4. Describe the pressure on the system relating to the Incident: | Pressure did not exceed MAOP |
| 5. Type of odorization system for gas at the point of failure: | |
| - If Other, Specify: | |
| 6. Odorant level near the point of failure measured after the failure: | |
| Not Measured | |
| 7. Was a Supervisory Control and Data Acquisition (SCADA) based system in place on the pipeline or facility involved in the Incident? | Yes |
| - If Yes: | |
| 7a. Was it operating at the time of the Incident? | Yes |
| 7b. Was it fully functional at the time of the Incident? | Yes |
| 7c. Did SCADA-based information (such as alarm(s), alert(s), event (s), and/or volume or pack calculations) assist with the initial indication of the Incident? | No |

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| 7d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmed discovery of the Incident? | No |
| 8. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Incident? (select all that apply): | No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate) |
| - If "No, the operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to:" (provide an explanation for why the operator did not investigate) | While there are two SCADA monitoring points on the distribution system, both are located on larger diameter feeder mains approximately 2 miles upstream; the volume of gas lost was inconsequential vs. the line-pack and delivery capacities in these feeder mains such that there was not a significant or correlating resultant pressure drop at these points. |
| - If Yes, Specify investigation result(s) (select all that apply): | |
| - Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue | |
| - Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue | |
| - Provide an explanation for why not: | |
| - Investigation identified no control room issues | |
| - Investigation identified no controller issues | |
| - Investigation identified incorrect controller action or controller error | |
| - Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response | |
| - Investigation identified incorrect procedures | |
| - Investigation identified incorrect control room equipment operation | |
| - Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response | |
| - Investigation identified areas other than those above | |
| Describe: | |
| PART F - DRUG & ALCOHOL TESTING INFORMATION | |
| 1. As a result of this Incident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations? | No |
| - If Yes: | |
| 1a. How many were tested: | |
| 1b. How many failed: | |
| 2. As a result of this Incident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations? | No |
| - If Yes: | |
| 2a. How many were tested: | |
| 2b. How many failed: | |
| PART G - CAUSE INFORMATION | |
| Select only one box from PART G in shaded column on left representing the Apparent Cause of the Incident, and answer the questions on the right. Enter secondary, contributing, or root causes of the Incident in Part J – Contributing Factors. | |
| Apparent Cause: | G3 - Excavation Damage |
| G1 - Corrosion Failure – only one sub-cause can be picked from shaded left-hand column | |
| Corrosion Failure Sub-Cause: | |
| - If External Corrosion: | |
| 1. Results of visual examination: | |
| - If Other, Specify: | |
| 2. Type of corrosion: | |

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| - Galvanic | |
| - Atmospheric | |
| - Stray Current | |
| - Microbiological | |
| - Selective Seam | |
| - Other | |
| - If Other, Describe: | |
| 2a. If 2. is Stray Current, specify | |
| 2b. Describe the stray current source: | |
| 3. The type(s) of corrosion selected in Question 2 is based on the following: | |
| - Field examination | |
| - Determined by metallurgical analysis | |
| - Other | |
| - If Other, Describe: | |
| 4. Was the failed item buried or submerged? | |
| - If Yes: | |
| 4a. Was failed item considered to be under cathodic protection at the time of the incident? | |
| - If Yes, Year protection started: | |
| 4b. Was shielding, tenting, or disbonding of coating evident at the point of the incident? | |
| 4c. Has one or more Cathodic Protection Survey been conducted at the point of the incident? (select all that apply) | |
| If "Yes, CP Annual Survey" – Most recent year conducted: | |
| If "Yes, Close Interval Survey" – Most recent year conducted: | |
| If "Yes, Other CP Survey" – Most recent year conducted: | |
| Describe Other CP Survey: | |
| - If No: | |
| 4d. Was the failed item externally coated or painted? | |
| 5. Was there observable damage to the coating or paint in the vicinity of the corrosion? | |
| 6. Pipeline coating type, if steel pipe is involved: | |
| - If Other, Describe: | |
| 6a. Field Applied? | |
| - If Internal Corrosion: | |
| 7. Results of visual examination: | |
| - If Other, Describe: | |
| 8. Cause of corrosion (select all that apply): | |
| - Corrosive Commodity | |
| - Water drop-out/Acid | |
| - Microbiological | |
| - Erosion | |
| - Other | |
| - If Other, Specify: | |
| 9. The cause(s) of corrosion selected in Question 8 is based on the following: (select all that apply): | |
| - Field examination | |
| - Determined by metallurgical analysis | |
| - Other | |
| - If Other, Describe: | |
| 10. Location of corrosion (select all that apply): | |
| - Low point in pipe | |
| - Elbow | |
| - Drop-out | |
| - Other | |
| - If Other, Describe: | |
| 11. Was the gas/fluid treated with corrosion inhibitor or biocides? | |

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| 12. Were any liquids found in the distribution system where the Incident occurred? | |
| Complete the following if any Corrosion Failure sub-cause is selected AND the "Part of system involved in incident" (from PART C, Question 2) is Main, Service, or Service Riser. | |
| 13. Date of the most recent Leak Survey conducted | |
| 14. Has one or more pressure test been conducted since original construction at the point of the Incident? | |
| - If Yes: | |
| Most recent year tested: | |
| Test pressure: | |
| G2 – Natural Force Damage – only one sub-cause can be picked from shaded left-handed column | |
| Natural Force Damage – Sub-Cause: | |
| - If Earth Movement, NOT due to Heavy Rains/Floods: | |
| 1. Specify: | |
| - If Other, Specify: | |
| - If Heavy Rains/Floods: | |
| 2. Specify: | |
| - If Other, Specify: | |
| - If Lightning: | |
| 3. Specify: | |
| - If Temperature: | |
| 4. Specify: | |
| - If Other, Specify: | |
| - If Other Natural Force Damage: | |
| 5. Describe: | |
| Complete the following if any Natural Force Damage sub-cause is selected. | |
| 6. Were the natural forces causing the Incident generated in conjunction with an extreme weather event? | |
| 6a. If Yes, specify (<i>select all that apply</i>): | |
| - Hurricane | |
| - Tropical Storm | |
| - Tornado | |
| - Other | |
| - If Other, Specify: | |
| G3 – Excavation Damage – only one sub-cause can be picked from shaded left-hand column | |
| Excavation Damage – Sub-Cause: | Excavation Damage by Third Party |
| - If Previous Damage due to Excavation Activity: Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser. | |
| 1. Date of the most recent Leak Survey conducted | |
| 2. Has one or more pressure test been conducted since original construction at the point of the Incident? | |
| - If Yes: | |
| Most recent year tested: | |
| Test pressure: | |
| Complete the following if any Excavation Damage sub-cause is selected. | |
| 3. Did the operator get prior notification of the excavation activity? | Yes |
| 3a. If Yes, Notification received from: (<i>select all that apply</i>): | |
| - One-Call System | Yes |
| - Excavator | |
| - Contractor | |
| - Landowner | |
| 3b. Per the primary Incident Investigator report, did State law exempt the excavator from notifying the one-call center? | |
| If yes, answer 3c through 3e. | |

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| 3c. (select only one) | |
| - If Other, Specify: | |
| 3d. Exempting Authority: | |
| 3e. Exempting Criteria: | |
| 4. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)? | No |
| 5. Right-of-Way where event occurred (<i>select all that apply</i>): | |
| - Public | Yes |
| - If Public, Specify: | City Street |
| - Private | |
| - If Private, Specify: | |
| - Pipeline Property/Easement | |
| - Power/Transmission Line | |
| - Railroad | |
| - Dedicated Public Utility Easement | |
| - Federal Land | |
| - Unknown/Other | |
| 6. Was the facility part of a Joint Trench: | |
| 7. Did this event involve a Cross Bore: | |
| 8. Measured Depth from Grade: | |
| Measured depth From Grade in inches | |
| 9. Type of excavator: | Contractor |
| 10. Type of excavation equipment: | Directional Drilling |
| 11. Type of work performed: | Telecommunications |
| 12. Was the One-Call Center notified? | Yes |
| If No, skip to question 13 | |
| 12a. If Yes, specify ticket number: | 190931483 |
| 12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified: | |
| 12c. Was work area white lined: | |
| 13. Type of Locator: | Contract Locator |
| 14. Were facility locate marks visible in the area of excavation? | Yes |
| 15. Did the damage cause an interruption in service? | Yes |
| 15a. If Yes, specify duration of the interruption: | |
| 16. Description of the CGA-DIRT Root Cause (<i>select the predominant CGA-DIRT Root Cause</i>): | |
| - Root Cause Category: | Miscellaneous Root Causes |
| - Root Cause Type: | Root Cause not listed (comment required) |
| (Comment required) | Investigation is ongoing. |
| G4 - Other Outside Force Damage - only one sub-cause can be selected from the shaded left-hand column | |
| Other Outside Force Damage – Sub-Cause: | |
| - If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation: | |
| 1. Vehicle/Equipment operated by: | |
| If this sub-cause is picked, complete questions 7-13 below. | |
| - If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring: | |
| 2. Select one or more of the following IF an extreme weather event was a factor: | |
| - Hurricane | |
| - Tropical Storm | |
| - Tornado | |
| - Heavy Rains/Flood | |
| - Other | |
| - If Other, Specify: | |
| - If Previous Mechanical Damage NOT Related to Excavation: Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser. | |

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| 3. Date of the most recent Leak Survey conducted: | |
| 4. Has one or more pressure test been conducted since original construction at the point of the Incident? | |
| - If Yes: | |
| Most recent year tested: | |
| Test pressure (psig): | |
| - If Intentional Damage: | |
| 5. Specify: | |
| - If Other, Specify: | |
| - If Other Outside Force Damage: | |
| 6. Describe: | |
| Complete the following if Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation sub-cause is selected. | |
| 7. Was the driver of the vehicle or equipment issued one or more citations related to the incident? | |
| If 7. is Yes, what was the nature of the citations (select all that apply) | |
| 7a. Excessive Speed | |
| 7b. Reckless Driving | |
| 7c. Driving Under the Influence | |
| 7d. Other: | |
| - If Other, Specify: | |
| 8. Was the driver under control of the vehicle at the time of the collision? | |
| 9. Estimated speed of the vehicle at the time of impact (miles per hour)? | 0 |
| Unknown | |
| 10. Type of vehicle? | |
| 11. Where did the vehicle travel from to hit the pipeline facility? | |
| 12. Shortest distance from answer in 11. to the damaged pipeline facility (<i>in feet</i>): | |
| 13. At the time of the incident, were protections installed to protect the damaged pipeline facility from vehicular damage? | |
| If 13. is Yes, specify type of protection (<i>select all that apply</i>): | |
| 13a. Bollards/Guard Posts | |
| 13b. Barricades, including "jersey" barriers and fences | |
| 13c. Guard Rails | |
| 13d. Meter Box | |
| 13e. Ingress or Regress at a Residence | |
| 13f. Other | |
| - If Other, Specify: | |
| G5 - Pipe, Weld, or Joint Failure - only one sub-cause can be selected from the shaded left-hand column | |
| Pipe, Weld or Joint Failure – Sub-Cause: | |
| - If Body of Pipe: | |
| 1. Specify: | |
| - If Other, Describe: | |
| - If Butt Weld: | |
| 2. Specify: | |
| - If Other, Describe: | |
| - If Fillet Weld: | |
| 3. Specify: | |
| - If Other, Describe: | |
| - If Pipe Seam: | |
| 4. Specify: | |
| - If Other, Describe: | |
| - If Mechanical Joint Failure | |
| 5a. Specify the Mechanical Fitting Involved (<i>select only one</i>) | |
| Other Compression Type Fitting (specify): | |
| 5b. Specify the Type of Mechanical Fitting (<i>select only one</i>) | |

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| | Other (specify): | |
| 5c. Fitting Manufacturer: | | |
| | Unknown | |
| 5d. Part or Model Number: | | |
| | Unknown | |
| 5e. Fitting Material (select only one) | | |
| | Other (specify): | |
| 5f. How did the joint failure occur? (select only one) | | |
| | Other (specify): | |
| - If Fusion Joint: | | |
| 6. Specify: | | |
| | - If Other, Specify: | |
| 7. Year installed: | | |
| 8. Other attributes: | | |
| 9. Specify the two materials being joined: | | |
| 9a. First material being joined: | | |
| | - If Other, Specify: | |
| 9b. Second material being joined: | | |
| | - If Other, Specify: | |
| - If Other Pipe, Weld, or Joint Failure: | | |
| 10. Describe: | | |
| Complete the following if any Pipe, Weld, or Joint Failure sub-cause is selected. | | |
| 11. Additional Factors (select all that apply): | | |
| - Dent | | |
| - Gouge | | |
| - Pipe Bend | | |
| - Arc Burn | | |
| - Crack | | |
| - Lack of Fusion | | |
| - Lamination | | |
| - Buckle | | |
| - Wrinkle | | |
| - Misalignment | | |
| - Burnt Steel | | |
| - Other | | |
| | - If Other, Specify: | |
| 12. Was the Incident a result of: | | |
| - Construction defect | | |
| | Specify: | |
| - Material defect | | |
| | Specify: | |
| | - If Other, Specify: | |
| - Design defect | | |
| - Previous damage | | |
| 13. Has one or more pressure test been conducted since original construction at the point of the Incident? | | |
| - If Yes: | | |
| | Most recent year tested: | |
| | Test pressure: | |
| G6 - Equipment Failure - only one sub-cause can be selected from the shaded left-hand column | | |
| Equipment Failure – Sub-Cause: | | |
| - If Malfunction of Control/Relief Equipment: | | |
| 1. Specify: | | |
| - Control Valve | | |
| - Instrumentation | | |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| - SCADA | |
| - Communications | |
| - Block Valve | |
| - Check Valve | |
| - Relief Valve | |
| - Power Failure | |
| - Stopple/Control Fitting | |
| - Pressure Regulator | |
| - Other | |
| - If Other, Specify: | |
| - If Threaded Connection Failure: | |
| 2. Specify: | |
| - If Other, Specify: | |
| - If Non-threaded Connection Failure: | |
| 3. Specify: | |
| - If Other, Specify: | |
| - If Valve: | |
| 4. Specify: | |
| - If Other, Specify: | |
| 4a. Valve type: | |
| 4b. Manufactured by: | |
| 4c. Year manufactured: | |
| 4d. Valve Material: | |
| - If Other, Specify: | |
| - If Other Equipment Failure: | |
| 5. Describe: | |
| G7 - Incorrect Operation - only one sub-cause can be selected from the shaded left-hand column | |
| Incorrect Operation Sub-Cause: | |
| - If Other Incorrect Operation: | |
| 1. Describe: | |
| Complete the following if any Incorrect Operation sub-cause is selected. | |
| 2. Was this Incident related to: <i>(select all that apply)</i> | |
| - Inadequate procedure | |
| - No procedure established | |
| - Failure to follow procedure | |
| - Other | |
| - If Other, Describe: | |
| 3. What category type was the activity that caused the Incident: | |
| 4. Was the task(s) that led to the Incident identified as a covered task in your Operator Qualification Program? | |
| 4a. If Yes, were the individuals performing the task(s) qualified for the task(s)? | |
| G8 - Other Incident Cause - only one sub-cause can be selected from the shaded left-hand column | |
| Other Incident Cause – Sub-Cause: | |
| - If Miscellaneous: | |
| 1. Describe: | |
| - If Unknown: | |
| 2. Specify: | |
| Mandatory comment field: | |
| PART J - CONTRIBUTING FACTORS | |
| The Apparent Cause of the accident is contained in Part G. Do not report the Apparent Cause again in this Part J. If Contributing Factors were identified, select all that apply below and explain each in the Narrative: | |

| | |
|---------------------------------------------------------------------------------------------|--|
| External Corrosion | |
| External Corrosion, Galvanic | |
| External Corrosion, Atmospheric | |
| External Corrosion, Stray Current Induced | |
| External Corrosion, Microbiologically Induced | |
| External Corrosion, Selective Seam | |
| Internal Corrosion | |
| Internal Corrosion, Corrosive Commodity | |
| Internal Corrosion, Water drop-out/Acid | |
| Internal Corrosion, Microbiological | |
| Internal Corrosion, Erosion | |
| Natural Forces | |
| Earth Movement, NOT due to Heavy Rains/Floods | |
| Heavy Rains/Floods | |
| Lightning | |
| Temperature | |
| High Winds | |
| Snow/Ice | |
| Tree/Vegetation Root | |
| Excavation Damage | |
| Excavation Damage by Operator (First Party) | |
| Excavation Damage by Operator's Contractor (Second Party) | |
| Excavation Damage by Third Party | |
| Previous Damage due to Excavation Activity | |
| Other Outside Force | |
| Nearby Industrial, Man-made, or Other Fire/Explosion | |
| Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation | |
| Damage by Boats, Barges, Drilling Rigs, or Other Adrift Maritime Equipment | |
| Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation | |
| Electrical Arcing from Other Equipment or Facility | |
| Previous Mechanical Damage NOT Related to Excavation | |
| Intentional Damage | |
| Other underground facilities buried within 12 inches of the failure location | |
| Pipe/Weld Failure | |
| Design-related | |
| Construction-related | |
| Installation-related | |
| Fabrication-related | |
| Original Manufacturing-related | |
| Equipment Failure | |
| Malfunction of Control/Relief Equipment | |
| Threaded Connection/Coupling Failure | |
| Non-threaded Connection Failure | |
| Valve Failure | |
| Incorrect Operation | |
| Damage by Operator or Operator's Contractor NOT Excavation and NOT Vehicle/Equipment Damage | |
| Valve Left or Placed in Wrong Position, but NOT Resulting in Overpressure | |
| Pipeline or Equipment Overpressured | |
| Equipment Not Installed Properly | |
| Wrong Equipment Specified or Installed | |
| Inadequate Procedure | |
| No procedure established | |
| Failure to follow procedures | |

PART H - NARRATIVE DESCRIPTION OF THE INCIDENT

On the morning of April 10, 2019, a third-party telecommunications contractor, while in the process of boring in new facilities via horizontal directional drilling along N Duke Street in Durham NC, damaged below-ground piping in PSNC's natural gas system. The contractor notified NC-811, the state's one-call office, of the damage at approximately 9:31 am. NC 811 in turn automatically generated a damage ticket which was delivered to PSNC at approximately 9:35 am. An order was then automatically dispatched to PSNC's first responder at approximately 9:36 am. The first responder reviewed the ticket at approximately 9:43 am and began heading to the site. PSNC received a call from 911 at approximately 9:48 am noting that the fire department was already on the scene. PSNC's Dispatch contacted the first responder in route to advise him of a gas odor and a damaged line at 115 N Duke Street. The fire department issued a combination of evacuation and shelter in place orders at approximately 9:58 am. PSNC's first responder arrived at approx. 10:03 am. Between his arrival and approximately 10:06 am, the PSNC first responder as well as PSNC's Dispatch contacted additional resources to assist with securing and making the scene safe. At approximately 10:06 am, the structure at 115 N Duke Street exploded. Between 10:26am and 10:50 am, additional PSNC employees including a construction crew arrived at the site. Crews convened at the incident command center to evaluate options to shut off the gas flow. At 11:05 am the crews identified the proper valve, secured the necessary tools, and at approximately 11:10 am shut off gas flow to the impacted area by closing a valve located approximately three blocks from the scene. PSNC has since performed a leakage survey over the remaining piping in the vicinity with no leaks or issues found. The section of main approximately 1 block paralleling the bore on Duke Street remains out of service pending the investigation.

The explosion killed the owner/occupant in the structure that was evacuated. The explosion also severely injured a member of the contractor crew, the PSNC first responder, and a fire fighter. 17 to 25 individuals were reportedly taken to local area hospitals. Six are believed to have been admitted, including PSNC's first responder who died in the hospital, as a result of his injuries, on April 25th.

The explosion destroyed the structure at 115 N Duke Street and reportedly damaged two others to a point of being condemned until repairs could be completed. Approximately 15 buildings in total were reportedly damaged by the force of the explosion.

As to PSNC's investigation, it is still ongoing. To date, the investigation has revealed that the service line feeding the structure that exploded was punctured during the directional drilling operation. However, while PSNC has determined that its gas facilities were located by its contract service provider, the investigation has not yet confirmed that the lines either were or were not marked accurately.

PSNC has had no known issues with the distribution system in this area in the recent past. 15 of 20 impacted customers have been restored.

As of this report, and until the scene is fully investigated, there remains a number of additional unknowns:

- * PSNC has not yet been able to determine the precise time that its gas system was damaged.
- * PSNC has not been able to determine the ignition source inside of the structure that exploded.
- * PSNC has not been able to determine the precise number of injuries, again reported in the media to be between 17 and 25 persons.
- * PSNC still has not developed precise assessments of costs of property damage (operator and public), restoration/repairs that will be required to re-commission the gas system, emergency response costs, the amount of lost gas, etc. Therefore, all figures in this report should be read as estimates until finalized and provided by supplemental reports.

PART I - PREPARER AND AUTHORIZED PERSON

| | |
|-----------------------------------|--------------------------------------------|
| Preparer's Name | Michael B. Greene |
| Preparer's Title | General Manager-Engineering Services |
| Preparer's Telephone Number | 704-217-9191 |
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| Preparer's Facsimile Number | |
| Local Contact Name: | |
| Local Contact Email: | |
| Local Contact Phone: | |
| Authorized Signer's Name | Scott Swindler |
| Authorized Signer's Title | General Manager-Operations and Maintenance |
| Authorized Signer's Email Address | mswindler@scana.com |