



National Transportation Safety Board
Washington, D.C. 20594

Airline Accident - Clarence, New York
Pipeline Group's Factual Report

Accident Identification

Location: 6038 Long Street, Clarence, New York 14031
Date: February 12, 2009.
Time: Approximately 10:15 p.m. Eastern Standard Time.
Product: Airline Crash ruptured a natural gas pipeline
Accident No.: DCA 09 MA027
Group Chair: K. M. Gunther

Group Members

Mr. Christopher Osmanski Superintendent Operations National Fuel Gas Corporation 9600 Wehrle Drive Clarence, New York 14031	Mr. Robert Plewa District Manager Clarence Service Center National Fuel Gas Corporation 9600 Wehrle Drive Clarence, New York 14031
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Mr. Ronald Passmore Utility Engineer 3 Office of Gas, Electric and Water State of New York Public Service Commission Ellicott Square Building 295 Main Street Buffalo, New York 14203	
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Brief Narrative of the Accident

On February 12, 2009, about 2217 eastern standard time (EST), a Colgan Air Inc., Bombardier Dash 8-Q400, N200WQ, d.b.a. Continental Connection flight 3407, crashed during an instrument approach to runway 23 at the Buffalo-Niagara International Airport (BUF), Buffalo, New York. The crash site was approximately 5 nautical miles northeast of the airport in Clarence Center, New York, and mostly confined to one residential house. The four flight crew and 45 passengers were fatally injured and the aircraft was destroyed by impact forces and post crash fire. There was one ground fatality. Night visual meteorological conditions prevailed at the time of the accident. The flight was a Code of Federal Regulations (CFR) Part 121 scheduled passenger flight from Liberty International Airport (EWR), Newark, New Jersey to BUF.



Figure 1: Fire from the broken gas service pipeline

Post Accident Events

On February 12, 2009 at 11:58 p.m., National Fuel Gas Distribution Corporation (National Fuel), the operator of the natural gas distribution pipeline system serving the accident area, was notified that there was blowing and burning gas at 6038 Long Street, the impact site. On February 13, 2009 at 12:09 a.m. a National Fuel crew truck was dispatched to the scene. The crew arrived at 12:33 a.m., reported to the command center, and verified that the flow of gas had been shut off to 6032 and 6044 Long Street, the houses on either side of 6038 Long Street. The crew was unable to shut off the gas to 6038 Long Street since the gas shut off valve was at the meter, which was directly in the fire area.

The National Fuel crew retreated from the accident site at the request of the Incident Commander at 1:30 a.m. after they had completed all of the work they could safely accomplish. After the crews pulled back, National Fuel developed a plan for a section shutdown that would have cut-off gas service to up to 50 homes, including the impacted residence. Since the outside temperature was approximately 32 degrees F, the shutdown would also have also required evacuation of 50 families from their homes in the early morning hours and the assumption of responsibility for the homes' welfare. The

plan was discussed with the Clarence Center Fire Chief who, after consultation with the Incident Commander, instructed National Fuel to hold off on the section shutdown.

National Fuel stood by until 8:55 a.m., at which point the Incident Commander allowed the crew to enter the front yard of 6038 Long Street to secure the flow of gas to the house and thus put out the natural gas fire. The flow of gas was stopped at 10:45 a.m. when the natural gas distribution pipeline was squeezed off at the south side of Long Street and Maple Street. National Fuel was subsequently able to disconnect the natural gas service pipeline from the main. (Appendix 2 and 3)

Follow-up Discovery

Once the fires were extinguished at 10:45 a.m. on February 13, 2009, National Fuel's initial investigation of the scene revealed that the fire was fed entirely by the service pipe; excavation revealed that the natural gas main was undamaged and could be returned to service. Examination of the accident site remnants revealed that the shut off valve at the meter had been broken in half and the natural gas had been free to flow in a full open position to feed the fire.

Pipeline Information

The natural gas distribution main was 1 ¼ inch iron pipe size (IPS) polyethylene plastic pipe that was installed as a renewal of the existing pipeline on September 1, 1984. The natural gas service pipeline was ½ inch copper tubing size (CTS) polyethylene pipe that was installed on the same date. The maximum allowable operating pressure of the pipeline was 60 psig and the actual operating pressure was approximately 55 psig. The service pipeline was not installed with an excess flow valve since there was no requirement to do so at that time. According to the PLEXACALC II computer program from Performance Pipe the natural gas flow rate would have been 1631 cubic feet per minute which is well in excess of the activation flow for any excess flow valve that would be installed on a ½ inch natural gas service pipeline. (Appendix 1)

Appendices

- 1) National Fuel Gas Engineering Service Investigation Report
- 2) National Fuel Pipeline map
- 3) National Fuel Timeline

Appendix 1

National Fuel Gas Company Engineering Service Investigation Report

Engineering Service Investigations Report

Bid Number	Bid Label	Job Number	Job Location
	CRE0		LONG

Address	Material	Prsr	SS/LS	Mtrs	In/Out	Install	Renewal	HL	Bid Item	Valve Location	Meter L
6020 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		1LLHL 45FFHL	LSF
6021 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		22FFHL 9RLHL	LSF
6025 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		14RLHL 32FFHL	FRS
6026 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		0RRHL 47FFHL	RSF
6032 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		2LLHL 41FFHL	LSF
6035 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		15RLHL 37FFHL	FRS
6038 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		1LLHL 45FFHL	RSF
6039 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		3LLHL 33FFHL	LSF
6044 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		3RLHL 40FFHL	FRS
6045 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		2RRHL 36FFHL	RSF
6050 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		2LLHL 36FFHL	LSF
6055 LONG ST	Plastic Insert	M	LS	1	Outside	1/1/1900	9/1/1984	0		2RLHL 34FFHL	LSF
6058 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		1LRHL 36FFHL	RSF
6065 LONG ST	Plastic Insert	M	LS	1	Outside	1/1/1900	9/1/1984	0		12ENECORNER18NFRONT	RSF
6066 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	1/1/1985	0		1LRHL 36FFHL	LSF
6074 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		6LLHL 46FFHL	LSF
6075 LONG ST	Plastic Insert	M	LS	1	Outside	1/1/1900	9/1/1984	0		9LLHL 50FFHL	LSF
6080 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		13LLHL 43FFHL	LSF
6088 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		1LLHL 47FFHL	LSF
6089 LONG ST	Plastic Insert	M	LS	1	Outside	1/1/1900	9/1/1984	0		38RLHL 53FFHL	FLS
6094 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		3RRHL 48FFHL	RSF
6095 LONG ST	Plastic Insert	M	LS	1	Outside	1/1/1900	9/1/1984	0		12RLHL 48FFHL	LSF
6100 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	9/1/1984	0		53FFHL 1LLHL	LSF
6105 LONG ST	Plastic Insert	M	LS	1	Outside	1/1/1900	8/1/1984	0		49FFHL 9RRHL	RSF
6115 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	8/1/1984	0		6RFHL 61RRHL	FLS
6120 LONG ST	Plastic	M	SS	1	Outside	10/31/1987		0		12LLHL 325FFHL	RSF
6124 LONG ST	Plastic	M	SS	1	Outside	9/1/1987		0		6LLHL 66FFHL	LSF
6129 LONG ST	Plastic Insert	M	SS	1	Outside	1/1/1900	1/1/1985	0		8RLHL 38FFHL	FRS
6130 LONG ST	Plastic	M	SS	1	Outside	1/1/1900	8/1/1984	0		70FFHL 2RLHL	LSR

Engineering Service Investigations Report

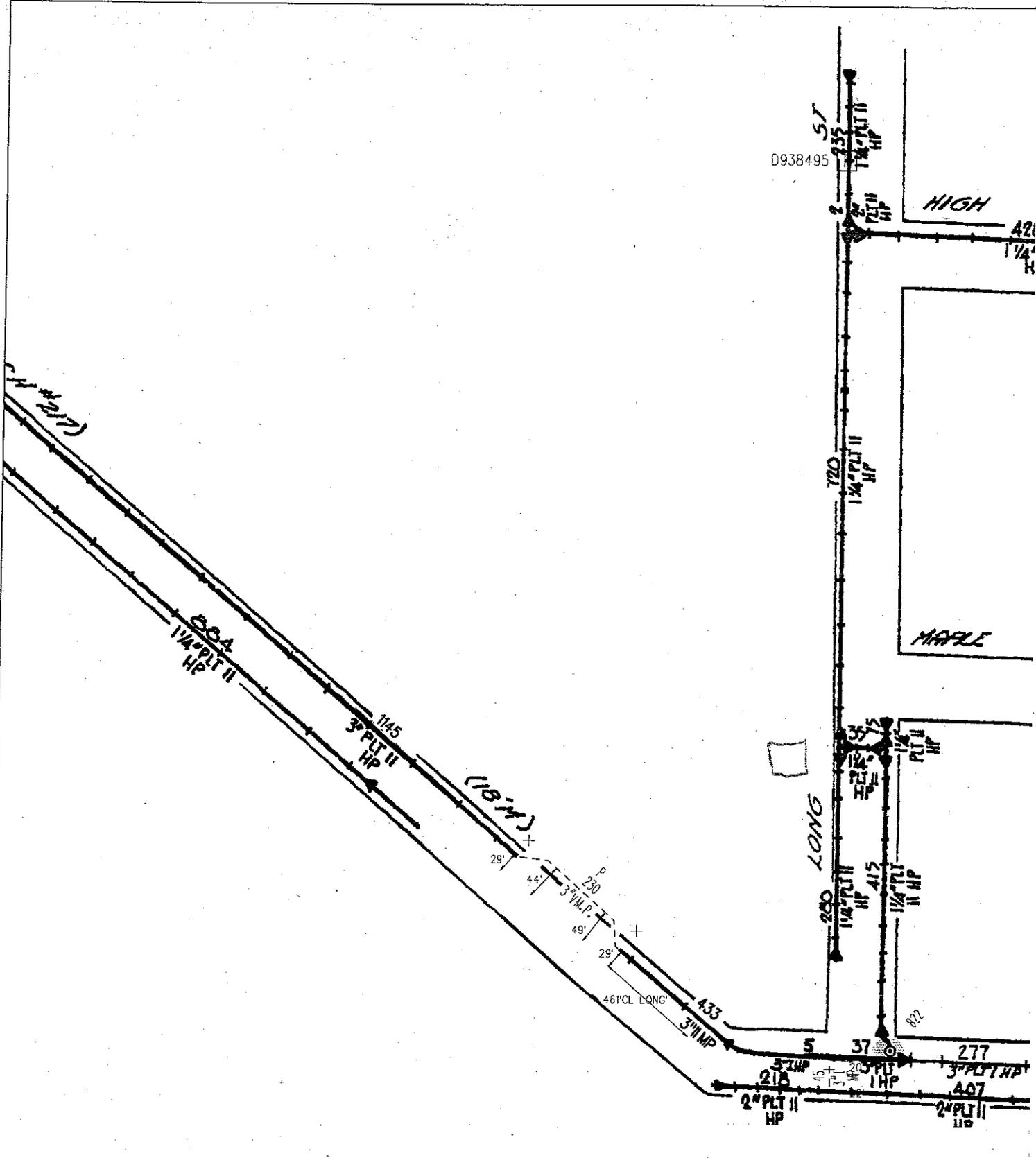
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6130 LONG ST	Plastic	M	SS	1	Outside	1/1/1900	8/1/1984	0		2RLHL	LSR

itions	Meter Capacity	Main Line Loc	Size	Main Type	Tap Loc	Comments
	250	17 WCL	1	Plastic		
	250	18 ECL	1	Plastic		
	250	18 ECL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	ECL	2	Plastic		
	250	17 WCL	1	Plastic		
	250	18 ECL	1	Plastic		
	250	19 WCL	1	Plastic		
	250	18 ECL	1	Plastic		
	250	WCL	1	Plastic		
	250	17 ECL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	17 ECL	1	Plastic		
	250	17 WCL	1	Plastic		
	250		1	Plastic		
	250	17 WCL	1	Plastic		
		WCL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	16 WCL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	WCL	1	Plastic		
	250	24 WCL	1	Plastic		
	250	16 NCL	1	Plastic		
	250	16 WCL	1	Plastic		
	250	18 WCL	1	Plastic		
	250	17 WCL	1	Plastic		
	250	16 WCL	3	Bare Steel		

Appendix 2

National Fuel Gas Company Pipeline Map



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 ERIE CO., N.Y.

Field View

Appendix 3

National Fuel Gas Company Timeline

Timeline

National Fuel Gas – Distribution Response to Clarence, NY Plane Crash

Following is a chronology regarding National Fuel Gas's (NFG) response to the 2/12/09 plane crash at 6038 Long Street, Clarence Center, NY. This information is current as of 9:00 am, 2/17/2009, as reported to Staff by Robert Plewa, General Foreman, Clarence Service Center, NFG.

Thursday 2/12/2009

2358 hrs: NFG receives a report of blowing gas, due to a plane crashed into a house, at 6050 Long St., Clarence Center, NY. Report received by employee # 60543 from Amherst Fire Dispatcher badge # 3.

Friday 2/13/2009

0009 hrs: NFG Dispatching assigns job to truck 1E293.

0033 hrs: Truck 1E293 arrives on scene and reports into fire department incident command.

0105 hrs: NFG crew confirms that the flow of gas has been secured to the two structures adjacent to 6038 Long St. (6032 and 6044 Long St.). The crew finds the service shut off valves have been secured by first responders and they lock same. At this time, NFG crew is unable to secure the flow of gas to 6038 Long St (fire bldg) due to debris and fire conditions blocking access to shut off valve.

0130 hrs: NFG crews are removed from the immediate vicinity of the incident and begin to formulate a sectionalizing valve plan for securing the flow of gas in and around the area of the plane crash. Valve off plan devised will interrupt natural gas service to upwards of 50 services, mainly all residential.

0130 – 0855 hrs: NFG serviceman stands by awaiting any possible request from incident commander.

0855 hrs: NFG receives a request by incident command to have their on-site crews secure the flow of gas to 6038 Long St. Permission to enter the incident site is granted for this purpose.

1045 hrs: Flow of gas into the incident site is secured by squeezing off the plastic main at the south side of the intersection of Long St. and Maple St. Service to four homes is interrupted, including the incident structure.

1320 hrs: NFG is allowed access again to the site and is able to physically disconnect the service

line from the main.

Monday 2/16/2009

0930 hrs: NFG restores service to 6026 Long St. Gas service to 6032, 6038 and 6044 Long St. remain off for safety. 6032 and 6038 Long St are damaged beyond the point of safe occupancy and 6044 Long St. has no electrical service.