

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE
FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U.
PIPELINE ENGINEERING AND SAFETY DIVISION

D.P.U. 19-PL-07 – Merrimack Valley Incident (9/13/18)

Date: September 25, 2019

Responsible: Robert V. Mooney, VP Engineering and Construction

IR-PL-1-6: Please provide the following records relating to the entire South Union Street Project:

- a) Project overview;
- b) Timeline for each phase of the project, from inception until the time of the incident, including dates and times for all tie-ins and abandonment of pipelines;
- c) All GIS maps, drawings, and data;
- d) Project work / job orders;
- e) Uprate certificates (if applicable);
- f) Corrosion control requirements;
- g) Dig Safe tickets;
- h) Proposed tie-in plans;
- i) Valve location records;
- j) Pressure test charts and related records;
- k) Calibration dates for all equipment used;
- l) As built drawings; and
- m) Proposed abandonment plans.

SUPPLEMENTAL

Response: The following are the responses to the remaining subparts (a), (b) and (k):

a) Project overview

In 2015, as part of its Gas System Enhancement Plan (“GSEP”), CMA initiated a project to replace cast-iron, low-pressure main on South Union Street between Winthrop Avenue and Market Street in Lawrence with a new plastic, low-pressure main (the “South Union Street Project” or the “Project”). The Project was initiated at that time due to the anticipated encroachment on CMA’s existing cast-iron mains by water improvement projects that the City of Lawrence had planned. CMA identified the South Union Street Project in its GSEP for 2016, which was submitted to the DPU in October 2015. The South Union Street Project was scheduled to be completed in 2016. Consistent with federal and state pipeline safety policy, the South Union Street Project was part of the Company’s long-term, ongoing efforts to modernize its natural gas infrastructure.

The South Union Street Project included:

- Installation of 3,700 feet of 8”, plastic, low-pressure main;
- Tie-in of the new plastic main to the South Union at Winthrop regulator station (the “South Union @ Winthrop regulator station”);

- Tie-in of side streets along South Union Street, and service line replacements and tie-overs; and
- Abandonment of 7,400 feet of cast-iron, low-pressure main.¹

b) Timeline for each phase of the project, from inception until the time of the incident, including dates and times for all tie-ins and abandonment of pipelines;

A timeline for the South Union Street Project replacement of the cast-iron, low-pressure main is as follows:

- The South Union Street Project was initiated in 2015 as part of CMA's GSEP. The initial project design was completed in 2016. Among other things, the design phase included the preparation of project designs and consultations between Engineering, Gas Systems Planning, Construction and M&R.
- In March 2016, before the Project entered the construction phase, Engineering and Construction personnel conducted a Constructability Review.
- After the Constructability Review and prior to submitting the project design for approval, the Field Engineer who prepared the project designs spoke with the Lawrence System Operations Supervisor overseeing M&R in Lawrence about the project design and specifically about whether the project design would affect the sensing lines at the South Union @ Winthrop regulator station.
- In April 2016, the City of Lawrence granted CMA a permit for the South Union Street Project. Construction began in June 2016, and the Project was scheduled for completion that same year.
- Between August and October 2016, construction work took place to install the new plastic main along South Union Street.
- During construction on the Project in 2016, the Inspector on the Project used readily available company documentation to determine the location of the sensing lines, and discussed the need to relocate the sensing lines with the Construction Leader. In October 2016, the Construction Leader notified M&R that work in the area of the South Union @ Winthrop regulator station had started. At the same time, he also notified M&R that the sensing lines eventually would need to be relocated.
- The tie-in of the new plastic main to the South Union @ Winthrop regulator station was executed on or about October 17, 2016.
- In late October 2016, the City of Lawrence imposed a 30-day stop-work order. CMA raised concerns with the City about this cessation of work, and the City ultimately allowed the Company to conduct limited work on the South Union Street Project in November 2016. These work restrictions, together with the City's impending winter moratorium, impeded CMA from completing the Project in 2016.²

¹ The South Union Street Project also involved work on the high-pressure distribution system; information relating to that work is available in Attachment PL-IR-1-6(a).

² In particular, CMA was unable to transfer to the new plastic main the distribution lines on South Union Street's side streets that were tied-in to the cast-iron main on South Union Street. Consequently, the Project had not yet progressed to the point at which CMA ordinarily would transfer sensing lines on a project such as this.

- Prioritizing safety, and consistent with industry practice, CMA gassed the new plastic main in late November 2016, before the City's winter moratorium took effect, so that if the plastic main incurred any damage before CMA was permitted to resume work on the Project, that damage would be detected more readily.
- CMA expected to resume work on the South Union Street Project in April 2017, after the City's winter moratorium was lifted.
- In anticipation of resuming work on the Project in April 2017, Engineering and Construction personnel conducted a second Constructability Review on the Project in January 2017.
- In March 2017, the City denied CMA a permit to resume work on the South Union Street Project. The City's work moratorium for the Project lasted throughout 2017.
- In anticipation of project work resuming for the 2018 construction season, CMA resumed construction preparations in late 2017 and early 2018, including consultations among various departments. Engineering and Construction personnel conducted an additional Constructability Review in December 2017.
- In January 2018, the City granted CMA a permit to resume work on the Project.
- Main/tie-in excavation on the Project resumed in May 2018. As the Project progressed, CMA disconnected the cast-iron main from the South Union @ Winthrop regulator station and tied-in the distribution lines along the South Union Street side streets to the new plastic main, on or about the following dates:
 - Cambridge Street east of South Union Street: May 22, 2018
 - Cambridge Street west of South Union Street: June 2, 2018
 - South Union Street at the South Union @ Winthrop regulator station: June 12, 2018
 - Boxford Street east of South Union Street: June 18, 2018
 - Andover Street west of South Union Street: June 25, 2018
 - Andover Street east of South Union Street: July 2, 2018
 - Farnham Street west and east of South Union Street: July 9, 2018
 - Abbott Street west of South Union Street: July 12, 2018
 - Abbott Street east of South Union Street: July 17, 2018
 - Bailey Street east of South Union Street: July 20, 2018
 - Springfield Street west of South Union Street: July 28, 2018
 - Salem Street west of South Union Street: August 15, 2018
 - Salem Street east of South Union Street: September 13, 2018

Additional information about the timeline of the South Union Street Project is available at Attachment IR-PL-1-21 Pages 4-6, 26-27.

k) Calibration dates for all equipment used;

The calibration history for gas detector equipment used on the South Union Street Project in 2018 is attached at Attachment IR-PL-1-6(f). CMA expects that calibration records for other equipment used on the South Union Street Project may be in the possession of its construction contractor, Feeney Brothers

Response: (filed September 10, 2019)

The following responses respond to subparts (c), (d), (e), (f), (g), (h), (i), (j), (l), and (m) of IR-PL-1-6. The responses for subparts (a), (b), and (k) will be provided as soon as they are available.

(c) All GIS maps, drawings, and data

A project overview map, dated February 5, 2016, for the cast iron main replacement work on the South Union Street Project, is attached at Attachment IR-PL-1-6(a) Pages 347-355. Additional versions of the February 5, 2016 project overview map are attached at Attachment IR-PL-1-6(a) Pages 358-366, 369-377, 380-388, 390-398, 399-407, 595-603, 604-611, 612-620, 621-629, 630-638, 1023-1031, 1034-1041, 1043-1050, 1052-1059, 1061-1068, 1082-1089, 1090-1097, 1139-1146, 1149-1156, 1159-1166, and 1167-1174.

Additional maps and drawings associated with the South Union Street Project are included throughout the work order packet attached at Attachment IR-PL-1-6(a) and in the additional records attached at Attachment IR-PL-1-6(b), Attachment IR-PL-1-6(c), and Attachment IR-PL-1-6(d).

(d) Project work / job orders;

Records associated with the South Union Street Project (Project ID 15-29388) are attached at Attachment IR-PL-1-6(a) Pages 1-2485.

The records for the South Union Street Project (Project ID 15-29388) are associated with job order numbers as follows:

- 15-0845564-00 and 15-0845564-01

The work order packet for Job Order #15-0845564-00 is attached at Attachment IR-PL-1-6(a) Pages 37-652. The work order packet for Job Order #15-0845564-01 is attached at Attachment IR-PL-1-6(a) Pages 653-710.

- 15-0845565-00

The work order packet for Job Order #15-0845565-00 is attached at Attachment IR-PL-1-6(a) Pages 711-774.

- 16-0848713-00

The work order packet for Job Order #16-0848713-00 is attached at Attachment IR-PL-1-6(a) Pages 775-1020.

- 16-0849062-00

The work order packet for Job Order #16-0849062-00 is attached at Attachment IR-PL-1-6(a) Pages 1021-1492.

- 16-0849063-00

The work order packet for Job Order #16-0849063-00 is attached at Attachment IR-PL-1-6(a) Pages 1493-1525.

- 18-0842596-00

The work order packet for Job Order #16-0842596-00 is attached at Attachment IR-PL-1-6(a) Pages 1526-1752.

- 18-0842608-00

The work order packet for Job Order #16-0842608-00 is attached at Attachment IR-PL-1-6(a) Pages 1753-2035.

- 18-0842609-00

The work order packet for Job Order #16-0842609-00 is attached at Attachment IR-PL-1-6(a) Pages 2036-2061.

- 18-0842679-00

The work order packet for Job Order #16-0842678-00 is attached at Attachment IR-PL-1-6(a) Pages 2062-2294.

Additional records associated with the South Union Street Project, including records responsive to subparts (c), (d), (f), (h), (j), and (l) are attached at Attachment IR-PL-1-6(b), Attachment IR-PL-1-6(c), and Attachment IR-PL-1-6(d).

(e) Uprate certificates (if applicable);

There are no uprate certificates associated with the South Union Street Project replacement of the cast-iron, low-pressure main on South Union Street between Winthrop Avenue and Market Street in Lawrence with a new plastic, low-pressure main.

(f) Corrosion control requirements

An executed Transmittal of Corrosion Control Requirements form for the 2016 construction work is attached at Attachment IR-PL-1-6(a) Pages 152-154 and also at Pages 164-166.

Additional copies of the Transmittal of Corrosion Control Requirements form associated with the 2016 construction work on the South Union Street Project are attached at Attachment IR-PL-1-6(a) Pages 155-157, 158-160, 161-163, 1448-1450, 1451-1453, and 1454-1456.

(g) Dig Safe tickets

Dig Safe tickets for the South Union Street Project are attached at Attachment IR-PL-1-6(g).

(h) Proposed tie-in plans

Executed tie-in plans associated with Job Order #15-0845564-00 are attached at Attachment IR-PL-1-6(a) Pages 248-255 and also at Pages 258-265. Proposed tie-in plans associated with Job Order #15-0845564-00 are attached at Attachment IR-PL-1-6(a) Pages 586-588.

Executed tie-in plans associated with Job Order #16-0849062-00 are attached at Attachment IR-PL-1-6(c) Pages 46-70.

Additional proposed tie-in plans associated with Job Order #15-0845564-00 and Job Order #16-0849062-00 are attached at Attachment IR-PL-1-6(a) Pages 1412-1446 and also at Pages 1377-1411.

Proposed tie-in plans associated with Job Order #16-0848713-00 are attached at Attachment IR-PL-1-6(a) Pages 881-882.

Executed tie-in plans associated with Job Order #18-0842596-00 are attached at Attachment IR-PL-1-6(a) Pages 1577-1578 and also at Pages 1579-1580.

Executed tie-in plans associated with Job Order #18-0842608-00 are attached at Attachment IR-PL-1-6(a) Pages 1890-1891 and also at Pages 1892-1893.

Executed tie-in plans associated with Job Order #18-0842679-00 are attached at Attachment IR-PL-1-6(a) Pages 2110-2111 and also at Pages 2112-2113.

(i) Valve location records;

The Valve Location and Inspection Records associated with Job Order #15-0845564-0 and Job Order #15-0845564-01 are attached at Attachment IR-PL-1-6(a) Pages 267-284 and also at Pages 305-322. Other versions of these records are attached at Attachment IR-PL-1-6(a) Pages 285 and 286-304.

The Valve Location and Inspection Record associated with Job Order #16-848713-00 is attached at Attachment IR-PL-1-6(a) Page 796. Other versions of this record are attached at Attachment IR-PL-1-6(a) Pages 794-795.

(j) Pressure test charts and related records

A pressure test form associated with Job Order #15-0845564-00 is attached at Attachment IR-PL-1-6(a) Pages 205-207 and also at Pages 208-210.

Completed pressure test charts associated with Job Order #15-0845564-00 are attached at Attachment IR-PL-1-6(a) Pages 225-232 and also at Pages 233-240.

A completed pressure test chart associated with Job Order #16-0848713-00 is attached at Attachment IR-PL-1-6(a) Pages 862-863 and also at Pages 864-865.

A completed pressure test chart associated with Job Order #16-0842596-00 is attached at Attachment IR-PL-1-6(a) Pages 1556-1557 and also at Pages 1558-1559.

A completed pressure test chart associated with Job Order #18-0842608-00 is attached at Attachment IR-PL-1-6(a) Pages 1865-1866 and also at Pages 1867-1868.

A completed pressure test chart associated with Job Order #18-0842679-00 is attached at Attachment IR-PL-1-6(a) Pages 2088-2089 and also at Pages 2090-2091.

Completed pressure test charts associated with Job Order #16-0849062-00 are attached at Attachment IR-PL-1-6(c) Pages 114-167.

(l) As built drawings

As-built drawings for the 2016 installation of the new main on South Union Street, located in the work order packet for Job Order #15-0845564-00, are attached at Attachment IR-PL-1-6(a) Pages 168-176.

Additional as-built drawings associated with the South Union Street Project are included throughout the work order packets attached at Attachment IR-PL-1-6(a).

(m) Proposed abandonment plans

A document reflecting a proposed abandonment plan associated with the South Union Street Project is attached at Attachment IR-PL-1-6(a) Pages 1445-1446 and also at Pages 1410-1411.