



September 1, 1982

To: F. L. Branca  
From: M. C. Mandacina *WCH*  
Subject: Maintenance and Operations Activities  
on Steam Distribution System

1. In addition to month-end steam meter readings, the meter readers will visually inspect the customers facilities for possible condensate losses and read the meters sometime in the middle of each month on a staggered basis. This will also provide some deterrent to condensate diversions.
2. Condensate Sampling--Steam Department personnel will sample the condensate of all steam customers who use steam to heat water. The sampling will be done for each customer once every six months, during the mid-month meter readings.
3. The facilities of the customers who use steam all year have been inspected. At least 15 locations have been identified to have condensate leaks, diversions or faulty meters. These problems will be fixed by the heating season, and could represent as much as 15,000 M lbs per year.
4. A turbine flow meter recently installed at a customer location has so far proven to be very reliable and accurate. This was the first flow meter of this type to be installed anywhere on our system. An addition to the new Vista Hotel, and possibly the County Jail, this type of meter will be used at various customer locations where there is some question of all the condensate being returned to the existing condensate meter. The present physical arrangement of the piping is the predominate limiting factor for installation in existing facilities.
5. There were more than 20 locations spotted as potential leaks using an infra-red scanning technique in March. Initial investigation of several locations did reveal actual leaks, and so far three have been repaired. Starting with the most serious--as depicted by the IR photography--all will eventually be fixed.
6. Details of the maintenance activities by month as furnished by the Steam Department are attached.

MCN:fm

Attachment

TOOEY



June 4, 1982

To: J. R. Miller

The following are the major steam line repair activities for the month of May.

1. Condensate meters - 14 were repaired in the Steam Shop. 2 were repaired on site and 5 were replaced at various customer locations.

30 condensate meters have been overhauled in the Steam Shop since April 20, leaving a balance of 30 to be repaired.

2. Flow meters - 2 flow meters were repaired on site.

A new flow metering system should be installed at Western Adhesive by June 11.

Commercial Operations is observing the new flow meter system installed at the Federal Office Building in January, 1982.

Flow meters at the Wall Street Station are still under study. Differential pressure cell meters rather than turbine flow meters are being considered.

3. Traps - 11 main line traps were repaired or replaced and a total of 14 valves were repaired.

Plans are to replace all traps before the heating season begins. This will be done by breaking the downtown area into three sections and working a section at a time. Traps will be brought in and repaired or replaced as necessary. At the same time flash tanks, blow down valves, and by-pass valves will be checked and repaired or replaced. All traps are numbered and as they are brought in, records will be maintained showing what has been done. Initially these records will be kept manually but eventually they may be put on MAPPER.

4. Repair of the pressure reducing valves and repair and maintenance of pilot valves and meters at 604 Wall has begun.
5. One high pressure leak was repaired at Micro Cleaners during the month.

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6. Checking of metering equipment and valves continues. Two pilot valves need to be replaced and it will be approximately four weeks before they are received and can be installed.
7. Steam construction crews: one crew at 9th and Grand to replace 40 feet of 12 inch pipe. Crews are at 8th Street between Main and Walnut and should be ready to replace expansion joint and approximately 30 feet of 16 inch line by June 11.

Work continues on soft water line at Grand Avenue Station and the tie over should be made by June 9.

**General Steam Activities:**

1. Steam service at the main lines at 1004 Walnut and 314 W. 10th Street were cut off and capped at customer's request.
2. Steam troublemen and steam inspector have been taking the final meter readings for the month and shutting off and sealing the main valves for customers who utilize steam service only during the winter months.
3. The decision has been made to read meters every 10 days. This will provide immediate indication of meter stoppage, malfunction, or tampering.

The high pressure route, consisting of 8 customers, is being read daily.

4. Testing of samples from the condensate meters which is presently being done by K.C. Testing Laboratory is scheduled to be done in house soon. Midland Laboratory will provide training for the steam maintenance man and steam troublemen. Training is due to begin by June 11. The purpose of this testing is primarily to determine if there is any city water in the condensate.

ORIGINAL SIGNED BY  
R. A. TIMM

R. A. Timm

RT:jj



July 2, 1982

To: J. R. Miller

The following are the major steam line repair activities for the month of June.

1. Condensate meters - 12 were repaired in the Steam Shop.  
13 were replaced at various customer locations.

Of the backlog of condensate meters, 3 remain in the Steam Shop to be repaired.

2. Flow meters - 1 was repaired in the Steam Shop.

The new flow metering system installed at the Federal Office Building is still under observation by Commercial Operations.

A new flow metering system has been installed at Western Adhesive and is being checked daily.

An engineer from B & D Processing Equipment is scheduled to come to the Wall Street Station the week of July 5 to discuss differential pressure cell meters. A decision will be made soon as to what type of meters to use at that location.

3. Traps - 6 high pressure traps were replaced on the main line.

The high pressure trap on the #1 heat line and 2 traps on the low pressure alley line at 1319 Wyandotte have been overhauled.

July 6 has been set as the date to begin replacing all low pressure traps.

4. Sump pump in high pressure manhole was replaced at 6th and Delaware. Repaired both 20" high pressure and 20" low pressure valves at Wall Street. Two of the 4 diaphragms have been replaced in the high pressure 20" reducing valves at Wall Street.

5. The main line valve at 7th and Baltimore has been repaired.

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6. Steam construction crews - 1 crew is working on the condensate line at 6th and Delaware. 1 crew is working at 12th Street between Baltimore and Wyandotte. They will be replacing 50' of main steam line and 1 expansion joint at that location.

Tie over has been made on the condensate line at Grand Avenue Station. Checks are now being made to determine the location of a leak in the vicinity of 6th and Delaware and Wall Street.

The expansion joint and approximately 30' of 16" line at 8th Street between Main and Walnut has been replaced, concreted, and backfilled, and is ready for the sidewalk to be finished.

General Steam Activities:

1. Steam troublemen and steam inspector have completed sealing off the main valves for customers who utilize steam service only during the winter.
2. Training in testing samples from the condensate meters in house is now scheduled to begin July 8. This had to be postponed as a result of work on replacement on the 8th Street line.

ORIGINAL SIGNED BY  
R. A. TIMM

R. A. Timm

RT:jj

TOOEY



July 23, 1982

To: R. A. Tism

The following are the major steam line repair activities for the month of July.

1. Condensate meters - 17 were repaired in the Steam Shop. 8 were repaired at various customer locations. 8 were replaced at customer locations.
2. Traps - 7 low pressure traps were replaced on the main line.
3. Valves - One new valve was installed in the condensate line at 6th and Delaware. This condensate line has been on line since July 1 and is operating properly.

One low pressure valve was repaired on the main line.

4. 75 feet of low pressure line and 75 feet of high pressure line was removed on 12th Street between Wyandotte and Central. The low pressure line was capped off and a trap line installed. This work was performed for the new hotel tunnel.
5. Steam construction crews - One crew is working at 12th and Baltimore. They have replaced 44 feet of 10" main line and 17 feet of 8" main line, and installed 2 expansion joints. Two anchors and a new trap and blow down valve have been installed in manhole #25. Work is expected to be complete during the week of July 26.

One crew is working on 9th Street between Grand and Walnut. One crew is working on 10th Street between Broadway and Washington.

General Steam Activities:

1. Training has been completed for testing of condensate in the shop. Mr. Booker of Midland Research Laboratories will furnish test kits for the water samples.
2. Steam troublemen have chained and locked off the main valves of 6 customers for nonpayment of bills. This was in compliance with new procedures set out by the Credit & Collection Department.

*K. E. Nash*  
K. E. Nash

KEN:alh



August 30, 1982

To: R. A. Timm

Following are the major steam repair activities for the month of August, 1982.

1. Condensate Meters - 5 were repaired in the Steam Shop; 11 were repaired on site; 3 were replaced at various customer locations.
2. Flow Meters - Differential pressure cells have been ordered for the two super deheating stations. They should be installed by mid-October.
3. Traps - 4 low pressure traps were replaced and 1 high pressure trap was replaced. Two traps were rebuilt in the Shop.
4. Repair and maintenance at the Wall Street super deheating station should be completed by October 15.
5. Steam Troublemens had 21 trouble calls for the month.
6. Steam construction crews - one crew is working at 12th & Central; one crew is working on 10th Street between Baltimore and Main.

Lexington Plumbing opened up the street on Baltimore between 6th and 7th Streets. A 20" expansion joint will be replaced the week of September 30.

#### General Steam Activities

1. Replaced 18" expansion joint, two 18" flanges, and 6 feet of 18" pipe at 8th & Baltimore. Also replaced manhole casing and lid at this location.
2. Replaced 62 feet of 10" high pressure pipe, 10" expansion joint and anchor. Also replaced 6 feet of 12" pipe and connected 12" pipe to main line at 12th Street between Wyandotte and Central. This job was for the new tunnel at Vistal Hotel.

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3. Replaced flash tank, trap, 2 drain valves, and 1 blow down valve in Manhole 125. This is on the high pressure line.
4. Replaced 20" low pressure valve, 20" spool, and 4 feet of 20" pipe in Manhole 94 at 13th & Baltimore. Also replaced manhole casing and lid at this location.
5. Capped service on main line at 10th & Walnut.
6. Replaced 6 feet of 12" main and installed new 12" flange in Manhole 51 on 10th Street between Baltimore and Wyandotte.
7. Mr. Joe Gawron of Engineering has been training the Steam Inspector on what to look for at the customer locations.
8. We have had no trouble on the new condensate line for the last 60 days.

*K. E. Nash*  
K. E. Nash

KEN:mlh