

STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

At a Session of the Public Service
Commission held at its office
in Jefferson City on the 6th
day of May, 1993.

In the matter of the review and approval of)
the cast iron main and unprotected steel) CASE NO. GO-91-274
main programs for Union Electric Company.)

ORDER APPROVING MAIN REPLACEMENT PROGRAM

On February 11, 1991, the Commission established Case No. GO-91-274 to receive the cast iron main and unprotected steel main program of Union Electric Company (UE) and to receive subsequent filings concerning said program. On August 17, 1992, the Staff of the Commission (Staff) filed a memorandum consisting of its recommendations concerning UE's main replacement program. On September 18, 1992, UE filed its response to Staff's recommendations. On February 8, 1993, UE filed a revised main evaluation and renewal program. On March 23, 1993, Staff filed a memorandum consisting of its recommendations regarding UE's revised main replacement program.

UE's main replacement program was developed in 1988 to "regionalize" its main and service line renewal program. Prior to that time, evaluation and renewal plans were developed on a community-by-community or division-by-division basis. UE's main replacement program consists of:

1. Plotting leaks that have occurred on both mains and service lines on a map.
2. From the leak maps, sections of main that display a greater than average number of leaks are selected for inclusion in the rating program. The sections of main selected are then expanded to include other lengths of main in order to develop logical replacement plans and to avoid leaving short, isolated pieces of cast iron or unprotected steel main in an otherwise fully renewed area. A set of maps showing all cast iron and unprotected steel pipes will be maintained and reviewed as the projects are formed in order to assure logical and complete selection.
3. The rating parameters of the sections of main selected are then determined. The parameters are:

- a. Age;
- b. Working pressure;
- c. Total number of leaks in the section;
- d. Leak history in the most recent two years;
- e. Type of material; and
- f. Diameter.

In the rating system, leak history is considered in two ways: (1) the overall number of leaks (over approximately 20 years) on each section being considered; and (2) the number of leaks occurring the last two years. The two-year consideration is done to recognize and address the potential causes of the leaks, such as general weakening of the pipe and increased vibration due to traffic changes.

4. An interview with supervisors from the various districts and divisions. The interview is used to identify and prioritize the need to renew a section which may not be evident from other parameters.

5. The descriptions of the sections of main and the rating parameters are entered into the computer program and a numerical rating of the sections is established.

6. Sections selected for renewal are then placed in the five-year construction budget and renewal commences when the budget is approved.

UE indicated that the content of the supervisor interview is being redeveloped to be more definite and structured and that an outline/checklist is being developed to insure that all of the items required in the interview are adequately considered. UE stated that the restructured supervisor interview will include:

a. a review of the maps showing the proximity of places of public assembly, such as business districts, schools, hospitals and churches, to cast iron and unprotected steel mains;

b. a review of the maps showing the areas of high pressure unprotected steel pipelines, as well as the second tier of high pressure cast iron mains, under pavement and continuous to building walls;

c. a review of area development plans where extensive blasting, excavation or construction activity has occurred or will occur in the near future in close proximity to cast iron or unprotected steel pipelines;

d. a review of area development or renewal plans involving streets, highways or other utilities;

e. a review of records showing areas where cast iron mains have been replaced or are subject to replacement due to requirements in 4 CSR 240-40.030(13)(2);

f. a review of areas where cast iron mains are more susceptible to earthquake damage, particularly in the Southeast District. Also cast iron mains

serving vital services such as hospitals and emergency services and operating at high pressure (50 psi) in earthquake prone areas will be reviewed;

g. a review of main condition and maintenance history on steel pipe in areas where stray electrical currents may be present; and

h. a review of any other matters concerning cast iron or unprotected steel pipe that may affect public safety or system integrity.

UE also indicated that a set of system maps is being developed to display the location of cast iron and unprotected steel mains in the vicinity of public locations such as schools, hospitals, churches, auditoriums and nursing homes. In addition, UE indicated that it is willing to identify and map cast iron pipes under pavement and continuous to building walls which normally operate at greater than 2 psi pressure.

UE further indicated that although the entry of a section of main into its program is made primarily on the basis of leak history, it also renews mains that are not evaluated. UE stated that it is necessary to replace mains for some street or road renewal projects and that it replaces mains with low leak history when street, water main or sewer work is performed so as to avoid incurring repaving expenses.

Staff recommends that the Commission approve UE's revised main replacement program subject to several conditions. The conditions recommended by Staff are as follows:

1. That UE submit a copy of the directives, guidance material and check lists used as the structure for the supervisor interview to Staff within 30 days of the effective date of this Order;

2. That the maps to be developed and maintained pursuant to the revised main replacement program be completed within 90 days of the effective date of this Order and that such maps be updated as necessary.

Upon review of UE's revised main replacement program and Staff's recommendation, the Commission finds that the revised program adequately addresses the requirements contained in 4 CSR 240-40.030(15)(D) and (E). The Commission also finds that the conditions recommended by Staff are equitable and

beneficial for purposes of protecting the public interest in the future. Thus, the Commission determines that UE's revised main replacement program, subject to the conditions outlined by Staff, is reasonable and should be approved.

IT IS THEREFORE ORDERED:

1. That Union Electric Company's revised main replacement program as contemplated by this Order is hereby approved.

2. That the approval of the revised main replacement program granted in Ordered Paragraph 1 is subject to the conditions outlined in this Order.

3. That this Order shall become effective on May 18, 1993.

BY THE COMMISSION

Brent Stewart

Brent Stewart
Executive Secretary

(S E A L)

Mueller, Chm., Rauch, and
McClure, CC., Concur.
Perkins and Kincheloe, CC., Absent.