

ORDINANCE NO. 89-73 AC CMS

AN ORDINANCE AUTHORIZING AN AMENDMENT TO THE ENGINEERING CONTRACT OF PEARCE, FELLER AND ASSOCIATES OF AKRON, OHIO, FOR ADDITIONAL ENGINEERING SERVICES RELATED TO THE DESIGN OF A 69 KV TRANSMISSION LINE AND MAIN POWER SUBSTATION FOR THE CITY OF OBERLIN MUNICIPAL LIGHT AND POWER SYSTEM

BE IT ORDAINED by the Council of the City of Oberlin, County of Lorain, State of Ohio, a majority of all members elected thereto concurring:


SECTION 1. That the contract of Pearce, Feller and Associates of Akron, Ohio, for engineering services for the design of a 69 KV transmission line and main power substation for the Oberlin Municipal Light and Power System is hereby amended to authorize additional engineering work in an amount not to exceed \$60,565.00, said amendment being attached hereto and incorporated herein by reference.

SECTION 2. It is hereby found and determined that all formal actions of this Council concerning or relating to the adoption of this ordinance were adopted in an open meeting of the Council and that all deliberations of this Council and of any of its committees that resulted in such formal action were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

SECTION 3. That this ordinance shall take effect at the earliest date allowed by law.

PASSED: 1st Reading- September 5, 1989  
2nd Reading- September 18, 1989 (Emergency)  
3rd Reading-

ATTEST:

  
Clerk of Council

  
Chairman of Council

POSTED: September 20, 1989

EFFECTIVE DATE: September 18, 1989



**PEARCE, FELLER & ASSOC. INC.**  
**CONSULTING ENGINEERS**

286 NORTH CLEVELAND-MASSILLON ROAD • AKRON, OHIO 44313  
(216) 666-6637 (800) 654-5874

June 30, 1989

Mr. Vic Oeftering  
Oberlin Municipal Light & Power  
289 S. Professor Street  
Oberlin, Ohio 44074-1598

RE: 69KV LOOP & SUBSTATION PROJECT - REVISED PROPOSAL

Dear Vic,

The intent of this letter is to describe our understanding of the requested changes in the scope of engineering service under the design work now in progress.

Task 1 Transmission Line

The original Scope of Service cost shown below was based on survey and then selection of two alternate routes, one approx. 3.6 miles and an alternate of approx. 4.1 miles in length.

Engineer.....	176 hrs.	
Designer.....	342 hrs.	
Draftsman.....	408 hrs.	
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Total.....	926 hrs.	= \$23,120.00
	Expense	= \$ 4,000.00
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	Total Cost	\$27,120.00

Field investigation and preliminary evaluation of the routes revealed that under either alternate the sections of line between the New Substation on Oberlin Rd. and the Power Plant Substation would be high in relative cost per mile. The reason for the abnormally high cost/mile is caused by the necessity to install so many angle and corner constructed poles with their attending guying and right-of-way or easement requirements.

Therefore a third alternate was explored. This alternate extends the line directly south on Oberlin Rd. to Hamilton Rd. then West to Rt. 58 then North and enters the Power Plant Substation via City owned property. Although this routing increases the length by approximately .8 miles and requires acquisition of private right of way between Parsons and Hamilton Rd. we believe final cost would be lower. The lower cost is attributable to the necessity of fewer easements and less guying complications. Another distinct advantage of this route is that it encompasses more of the electric service area and provides future ability to add another substation when the load increases in the southeast section of the service area.

### Task I Revised Design Costs

Engineer.....	208 hrs.	
Designer.....	392 hrs.	
Draftsman.....	480 hrs.	
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Total.....	1080	= \$27,000.00
	Expenses =	<u>\$ 4,800.00</u>
		<u>\$31,800.00</u>

### Task II New Substation

No changes in Scope of Service

### Task III Existing Substations

The original Scope of Service cost shown below was for renovation of two substations. (Butternut & Power Plant)

Engineer.....	64 hrs.	
Designer.....	224 hrs.	
Draftsman.....	212 hrs.	
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Total.....	500 hrs.	= \$12,060.00
	Expenses =	<u>\$ 1,500.00</u>
		Total Cost \$13,560.00

Preliminary design efforts revealed that in order to operate the 69kV transmission in a closed loop configuration the relaying and switching costs at the existing substations and the new substation would be extremely expensive.

The reasons for the high cost is that the originally proposed project created a closed loop configuration with a strong source at one point in the loop and a low strength source in the loop at a remote location. In effect this design had a probability of causing extended system wide outages if the strong source was interrupted.

To avoid the investment of money in a system with a questionable reliability an alternate was proposed. The alternate proposal is as follows.

- 1) Create a direct 69kV tie between the O.E. Co. incoming power and the Oberlin Generation Bus.
- 2) Configure the Oberlin 69kV transmission system as a single source closed loop feeding through each of the three substations. Future substations would be connected in the same way.

Under this alternate the Scope of Service would change as follows.

- 1) Renovation of the Incoming Switching Station in addition to the two existing substations.

Task III Revised Design Costs

Engineer.....	140 hrs.	
Designer.....	280 hrs.	
Draftsman.....	320 hrs.	
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Total.....	740 hrs.	= \$17,945.00
	Expenses =	\$ 1,800.00
		<u>\$19,745.00</u>

Task IV & V No Change

Task VI Project Management

The original estimated cost of Construction Management was \$34,000.00 and the revised estimate is \$50,000.00 due to the addition of new tasks.

Task VII Double Circuit Line

Double Circuit Design of existing 69kV line between the switching station and the power plant substation area.

Engineer.....	70 hrs.	
Designer.....	110 hrs.	
Draftsman.....	180 hrs.	
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Total.....	360 hrs.	= \$ 8,460.00
	Expenses =	\$ 740.00
		<u>\$ 9,200.00</u>

Task VIII Generation Substation

Design of interconnection substation on northside of power plant for direct connection to generation bus.

Engineer.....	120 hrs.	
Designer.....	80 hrs.	
Draftsman.....	120 hrs.	
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Total.....	320 hrs.	= \$9400.00
	Expenses =	\$ 500.00
		<u>\$9900.00</u>

Task IX Plant Switchgear

In addition to the above changes in Scope of Service another alternate that includes change out of power plant switchgear. The purpose of this work is to provide switchgear capable of interrupting the increase of short circuit capability versus installing reactors.

Design cost for the above described Task.

Engineer.....	120 hrs.	
Designer.....	120 hrs.	
Draftsman.....	160 hrs.	
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Total.....	400 hrs.	= \$14,000.00
	Expenses = \$	600.00
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		\$14,600.00

Total Cost of original Scope of Service = \$124,270.00

Total Cost of revised Scope of Service = \$184,835.00

We hope this letter correctly describes the request changes but if you require additional information please call me.

Very truly yours,

*P. Kanodia*  
Puru Kanodia, P.E.

PK/ss