

PUBLIC SERVICE COMPANY OF COLORADO
ARAPAHOE STEAM ELECTRIC STATION
1950-51 88 000 KW INSTALLATION
1951 44 000 KW EXTENSION

NEW YORK OFFICE CONTRACTS

General Electric Company

Turbine Generator # 1

NY 771
 \$ 949 453.89

Total Contract

1. Turbine
2. Generator
3. Exciters
4. Turning Gear
5. Field Rheostat
6. Hydrogen Seal Unit & Piping
7. Turbine Piping & Tank
8. Gland Seal Piping & Valve
9. Voltage Regulator
10. Neutral Grounding Transformer & Resistor
11. Hydrogen Coolers
12. Speed & Cam Shaft Recorder
13. Eccentricity Recorder
14. Vibration Recorder
15. Bushing Current Transformers

482 905.00
 292 546.00
 25 660.00
 2 510.49
 1 980.40
 35 630.00
 90 388.00
 1 915.00
 2 545.00
 638.89
 1 430.00
 1 510.00
 3 135.00
 3 300.00
 3 360.00

Westinghouse Electric Corporation

Turbine Generator # 2

NY 772

Total Contract

1. Turbine
2. Generator
3. Exciters
4. Turning Gear

\$ 950 652.00
 639 400.00
 240 000.00
 8 900.00
 3 400.00

PLAINTIFF'S EXHIBIT

GE-89

NEW YORK OFFICE CONTRACTS

5. Field Rheostat
6. Hydrogen Seal Unit & Piping
7. Turbine Piping & Tank
8. Voltage Regulator
9. Neutral Grounding Transformer & Resistor
10. Hydrogen Coolers
11. Speed & Cam Shaft Recorder
12. Eccentricity Recorder
13. Vibration Recorder
14. Bushing Current Transformers
15. Generator Neutral Enclosure
16. Gage Board Mounted on Turbine

Babcock & Wilcox Company

Boilers #1 & #2

NY

773

Total Contract	Manhours	Unit 1		Unit 2	
		Unit 1	Unit 2	Unit 1	Unit 2
		17 419	17 708	\$ 1 149 627.67	\$ 1 004 617.55
1. Drums				98 837.08	98 837.09
2. Tubes				37 459.00	37 459.00
3. Soot Blowers				28 173.75	28 173.74
4. Steam Scrubbers				10 225.00	10 225.00
5. Furnace				112 180.69	112 181.70
6. Buckstays & Tie Bars				19 268.00	19 268.00
7. Superheaters				117 868.83	117 867.00
8. Attenuators				19 668.00	19 667.00
9. Dust Collectors				33 791.00	33 790.00
10. Air Preheaters				71 221.00	71 222.00
11. Burners & Windbox				63 381.20	63 381.20
12. Casing & Doors				71 685.00	71 686.00
13. Setting & Insulation				132 421.82	132 421.82
14. Trim				15 975.00	15 976.00
15. Primary Air Ducts				8 536.00	0
16. Air Ducts				27 337.00	27 338.00
17. Gas Ducts				12 931.00	12 930.00

NEW YORK OFFICE CONTRACTS

18. F. D. Fans	10 884.00	10 884.00
19. I. D. Fans	34 739.00	34 739.00
20. Structural Steel	85 566.00	85 566.00
21. Pulverizers	110 376.81	0
22. Primary Air Fans	8 217.49	0
23. Piping - Pulverizers to Burners	14 220.00	0
24. Piping - Feeder to Pulverizer	60.00	0
25. Coal Feeders	3 600.00	0
26. Rigging	975.00	975.00

Allis-Chalmers Manufacturing Company Condenser #1 NY 774

Total Contract

\$ 190 017.00

1. Condenser (Including Supports)
2. Steam Jet Air Pump
3. Condensate Pumps
4. Circulating Water Pumps

113 168.00
6 470.00
13 823.00
56 556.00

General Electric Company

Transformers #2

NY 778

Total Contract

\$ 152 013.00

1. Main Transformers 3-16667 KVA
2. Auxiliary Transformers 1-6000 KVA

132 861.00
19 152.00

Worthington Pump & Machinery Corporation

Soot Blower Compressors

NY 7714

Total Contract

\$ 25 281.00

1. Compressor
2. M-G Sets
3. After Coolers
4. Safety Thermostats

21 885.00
1 314.00
1 940.00
142.00

NEW YORK OFFICE CONTRACTS

Byron-Jackson Company

Boiler Feed Pumps

NY 7716

Total Contract

Units #1 & #2

\$ 110 854.00

1. 6-Boiler Feed Pumps
2. 1-Spare Rotor

103 704.00
7 150.00

Westinghouse Electric Corporation

Transformers #1

NY 7717

Total Contract 2-6000 KVA Auxiliary Transformers

\$ 37 786.00

Westinghouse Electric Corporation

Transformers #1

NY 7719

Total Contract 3-16,667 KVA Main Transformers

\$ 135 454.00

Midwest Piping & Supply Company, Inc.

Power Plant Piping

NY 7721

Total Contract

Units #1 & #2

Manhours: 176,447 * \$ 940 077.49

Westinghouse Electric Corporation

Condenser

NY 7722

Total Contract

\$ 95 499.00

1. Condenser - including supports
2. Steam Jet Air Pump
3. Condensate Pumps

77 077.00
6 340.00
12 082.00

Combustion Engineering Incorporated

Pulverizers #2

NY 7727

Total Contract

\$ 178 499.52

1. Pulverizer Mills
2. Feeders, Couplings, Manifold
3. Ducts, Piping, and Insulation

130 059.12
14 444.33
33 996.07

WAD02188

NEW YORK OFFICE CONTRACTS

Kansas City Structural Steel Company	Building Frame	NY	7731
Total Contract	Units #1 & #2	*	\$ 378 691.45
	Manhours:		12,486
1. Material			288 057.41
2. Erection			90 634.04
The Marley Company Incorporated	Cooling Towers #1 & #2	NY	7738
Total Contract	8 Cell - Wood	*	\$ 190 027.00
1. Superstructure			121 070.00
2. Fans, Gears and Driveshafts			16 880.00
3. Distribution Piping			15 320.00
4. Erection			36 757.00
Manhours:	9,305		
Raymond Concrete Pile Company	Foundation Investigation	NY	7740
Total Contract	Borings & Drillings	\$	1 675.22
Manhours:	672		
Raymond Concrete Pile Company	Foundation Piles	NY	7741
Total Contract	Units #1 & #2	*	\$ 109 176.36
Manhours:	10,150		
Custodis Construction Company	Concrete Stack #1	NY	7746
Total Contract	250' High x 13' ID Min.	*	\$ 60 438.00
Manhours:	6,952		
Manning, Maxwell & Moore, Incorporated	Station Crane	NY	7748
Total Contract	4 motor-100 Ton Bridge Crane	\$	49 104.25
Manhours:	6,952		
United Conveyor Corporation	Ash Handling Equipment	NY	7766
Total Contract		\$	46 297.09
1. Ash Pit Hoppers & Internal Piping			21 195.00

NEW YORK OFFICE CONTRACTS

2. Sluice Piping
3. Fly Ash Piping
4. External Equipment

5 491.36
14 660.73
4 950.00

Webster Manufacturing Company

Coal Handling Equipment

NY. 7768

Total Contract

Units #1 & #2

\$ 211 622.92

1. Hoppers
2. Feeders
3. Conveyors & Housing
4. Crusher House & Equipment

15 151.78
15 048.00
127 025.91
54 397.23

Bailey Meter Company

Combustion Control & Main Gauge Boards 1 & 2

NY 7770

Total Contract

\$ 143 315.68

1. For Unit # 1
2. For Unit # 2

75 938.63
67 309.87

Grinnell Company Incorporated

Transformer Fire Protection

NY 77118

Total Contract

* \$ 19 890.00

1. Main Transformers #1
2. Main Transformers #2
3. Auxiliary Transformers #1
4. Auxiliary Transformers #2
5. Auxiliary Transformers Standby

Manhours: 536
Manhours: 536
Manhours: 124
Manhours: 124
Manhours: 124

6 774.00
6 774.00
2 114.00
2 114.00
2 114.00

Otis Elevator Company

Passenger Elevator #1

NY 77162

Total Contract

* \$ 14 611.00

Manhours: 940

NEW YORK OFFICE CONTRACTS

B & B Engineering & Supply Company Inc.

Heat Insulation

NY

77163

Total Contract

Manhours: 17,343 * \$ 84,764.60

1. For Unit #1
2. For Unit #2
3. For Work Orders

37 978.06
44 691.15
2 105.39

General Electric Company

Turbine Generator #3

NY

77401

Total Contract

\$ 1,138,210.67

1. Turbine
2. Generator
3. Exciters
4. Turning Gear
5. Field Rheostat & Field Resistor
6. Hydrogen Seal Unit & Piping
7. Turbine Piping & Tank
8. Voltage Regulator
9. Neutral Grounding Transformers & Resistor
10. Hydrogen Coolers
11. Speed & Cam Shaft Recorder
12. Eccentricity Recorder
13. Vibration Recorder
14. Bushing Current Transformers

607 919.35
366 071.32
30 000.00
6 000.00
2 460.00
43 920.00
50 700.00
3 060.00
780.00
13 680.00
1 800.00
3 780.00
3 960.00
4 080.00

Babcock & Wilcox Company

Boiler #3

NY

77402

Total Contract

Manhours: 17,789

\$ 1,104,303.82

1. Drums
2. Tubes
3. Soot Blowers
4. Steam Scrubbers
5. Furnace
6. Buckstays & Tiebars

87 650.89
33 639.00
28 492.00
8 660.00
108 446.00
18 715.00

NEW YORK OFFICE CONTRACTS

7. Superheaters	108 042.00
8. Attenuators	18 592.00
9. Dust Collectors	38 850.00
10. Air Preheaters	75 137.00
11. Burners & Windbox	49 985.00
12. Casing & Doors	69 284.00
13. Setting & Insulation	110 279.18
14. Trim	15 830.00
15. Primary Air Ducts	8 903.00
16. Air Ducts	21 149.00
17. Gas Ducts	15 419.00
18. F. D. Fans	15 276.00
19. I. D. Fans	48 536.00
20. Structural Steel	72 202.80
21. Pulverizers	111 440.00
22. Primary Air Fans	7 907.00
23. Piping - Pulverizers to Burners	15 335.00
24. Piping - Feeders to Pulverizers	141.00
25. Coal Feeders	4 733.00
26. Rigging	2 483.95
27. Gas Lighters & Controls	2 024.00
28. Power Control Valve	3 896.00
29. Equipment Mounted	3 256.00

Byron-Jackson Company	Boiler Feed Pumps	NY	77403
Total Contract	3 Pumps	\$	51 024.00
Allis-Chalmers Manufacturing Company	Condenser #3	NY	77404
Total Contract		\$	161 681.31
1. Condenser			127 731.31
2. Steam Jet Air Pump			7 490.00
3. Circulating Water Pump			15 425.00
4. Condensate Pumps			11 035.00

WAD02192

NEW YORK OFFICE CONTRACTS

General Electric Company	Transformers #3	NY	77405
Total Contract		\$	<u>152,013.00</u>
1. Main Transformers	3-16667 KVA		132,861.00
2. Auxiliary Transformers	1-6000 KVA		19,152.00
Midwest Piping & Supply Company	Station Piping	NY	77407
Total Contract	Unit #3	\$	<u>456,079.45</u>
Raymond Concrete Pile Company	Foundation - Piles	NY	77409
Total Contract	Unit #3	\$	<u>66,894.88</u>
United Conveyor Corporation	Ash Handling System #3	NY	77415
Total Contract		\$	<u>23,184.00</u>
1. Ash Pit Hopper & Internal Piping			9,640.00
2. Sluice Piping			3,404.00
3. Fly Ash Piping			6,960.00
4. External Equipment			3,180.00
Custodis Construction Company, Incorporated	Stack #2	NY	77420
Total Contract	250' High x 14" I. D. Min.	\$	<u>48,730.00</u>
Worthington Pump & Machinery Corporation	Soot Blower Compressor #3	NY	77423
Total Contract		\$	<u>13,012.00</u>
1. Compressor			11,264.00
2. M-G Set			745.00
3. After Cooler			932.00
4. Thermostats			71.00

NEW YORK OFFICE CONTRACTS

The Marley Company, Incorporated	Cooling Tower #3	NY	77425
Total Contract		* \$	<u>89 800.00</u>
1. Superstructure			54 985.00
2. Fans, Gears & Driveshafts			10 130.00
3. Distribution Piping			8 135.00
4. Erection	Manhours: 4650		16 550.00
Bailey Meter Company	Combustion Control & Main Gauge Boards	NY	77451
Total Contract	Unit #3	\$	<u>69 548.42</u>
Flexicore Company of Colorado	Precast Concrete Roof Slabs	NY	77463
Total Contract	Unit #3	\$	<u>15 626.56</u>
1. Concrete Slabs	Manhours: 460		11 562.42
2. Erection			4 064.14
Grinnell Company Incorporated	Transformer Fire Protection	NY	77465
Total Contract		* \$	<u>9 785.52</u>
1. For Main Transformers #3	Manhours: 572		7 192.00
2. For Auxiliary Transformers #3	Manhours: 240		2 593.52
Otis Elevator Company	Passenger Elevator #2	NY	77468
Total Contract	Manhours: 800	* \$	<u>14 511.00</u>
B & B Engineering & Supply Company, Inc.	Heat Insulation	NY	77504
Total Contract	Unit #3	\$	<u>35 862.09</u>
	Manhours: 8349		

PUBLIC SERVICE COMPANY OF COLORADO
ARAPAHOE STEAM ELECTRIC STATION
1950-51 88,000 KW INSTALLATION
1951 44,000 KW EXTENSION

FIELD OFFICE CONTRACTS

Colorado Fuel & Iron Corporation	Perimeter & Protective Fence	SD	15
Manhours 3012	Labor \$ 7 255.59 Material \$ 14 051.68	Total Cost \$ 21 307.27	
B & D Electric Company	Construction Building Wiring	SD	74
Manhours 1007	Labor \$ 6 471.12 Material \$ 8 881.42	Total Cost \$ 15 352.54	
W. G. Rhodus	Sanitary Sewer	SD	80
Manhours 1389	Labor \$ 5 114.44 Material \$ 3 264.94	Total Cost \$ 8 379.38	
Colorado Premix	Ready Mixed Concrete	SD	81
	Material \$211 497.76	Total Cost \$211 497.76	
Bell Plumbing & Heating Company	Caulking Pipe	SD	510
Manhours 11	Labor \$ 38.50 Material \$ 14.02	Total Cost \$ 52.52	
Collier Electric Company	Temporary Electric Work	SD	620
Manhours 2462	Labor \$ 6 222.83 Material \$ 731.33	Total Cost \$ 6 954.16	

NEW YORK OFFICE CONTRACTS

Webster Manufacturing Company, Inc.

Additions to Coal Handling Equipment

NY 77522

Total Contract

Unit #3

\$ 1 294.61

1. Conveyor Parts & Additions

1 294.61

* - Indicates these amounts include Colorado State Tax of 2% and
Denver City Tax of 1%

WAD02196

Bell Plumbing & Heating Company

Station Plumbing

Manhours 4814

Labor \$

8 610.21

Material \$ 19 582.01

Total Cost \$ 28 192.22

Collier Electric Company

Electrical Work

SD 875

Manhours 80787

Labor \$361

495.43

Material \$ 1 473.31

Total Cost \$362 968.74

McCarty Johnson, Inc.

Ventilating & Air Conditioning

SD 1039

Manhours 6094

Total Cost \$ 41 807.31

The Craftsman

Station Painting

SD 1040

Manhours 2575

Total Cost \$ 10 567.80

McMurtry Manufacturing Co.

Glass & Glazing

SD 1623

Manhours 275

Total Cost \$ 3 939.63

Western Elaterite Roofing Co.

Built Up Roof

SD 1659

Manhours 1184

Total Cost \$ 6 900.00

Walsh Bros.

Lathing and Plastering

SD 1704

Manhours 466

Total Cost \$ 2 485.00

Gunite Concrete & Construction Co.

Stack Sealer and Hopper Lining

SD 1788

Manhours 32

Labor \$

90.93

Material \$ 356.00

Total Cost \$ 446.93

T. C. Koogle and Son**Holes for Cathodic Anodes**

Manhours 66	Labor \$	528.00	Total Cost \$	528.00
Industrial Supply Company				
Manhours 47				
				SD 1908
			Total Cost \$	1 413.89
Fox Metal Products Corp.				
				SD 1931
Manhours 88	Labor \$	443.67	Material \$	80.12
			Total Cost \$	523.79
National Boiler Casing Co.				
				SD 1941
Manhours 3483	Labor \$	13 932.00	Material \$	2 315.76
			Total Cost \$	16 247.76
The Craftsman				
				SD 2020
Manhours 1464	Labor \$	5 275.00	Material \$	822.00
			Total Cost \$	6 097.00
The Craftsman				
				SD 2021
Manhours 31465	Labor \$	118 960.01	Material \$	13 216.19
			Total Cost \$	132 176.20
John C. Reeves & Company				
				SD 2043
Manhours 142				
			Total Cost \$	1 537.47
Bell Plumbing & Heating Company				
				SD 2109
Manhours 63			Total Cost \$	398.00

Construction Specialties Company

Accoustical Walls

Manhours 162

Total Cost \$ 1 063.82

Bell Plumbing & Heating Company

Station Plumbing

SD 2685

Manhours 2475

Labor \$ 6 638.89

Material \$ 14 081.19

Total Cost \$ 20 720.08

Western Elaterite Roofing Company

Built Up Roof

SD 2696

Manhours 648

Total Cost \$ 4 703.90

John C. Reeves & Company

Asphalt Tile

SD 2706

Manhours 3

Total Cost \$ 65.95

Collier Electric Company

Electrical Work

SD 2719

Manhours 33988

Labor \$165 054.25

Material \$ 63.21

Total Cost \$165 117.46

W. W. Wilmore Nurseries

Landscaping (Shrubs)

SD 2723

Manhours 28

Labor \$ 74.00

Material \$ 301.58

Total Cost \$ 375.58

John C. Reeves & Company

Masterplate Floor Topping

SD 2867

Manhours 568

Total Cost \$ 3 958.29

McMurtry Manufacturing Company

Glass and Glazing

SD 2957

Manhours 216

Total Cost \$ 1 894.38

McCarty Johnson, Inc.

Ventilating & Air Conditioning

Manhours 3770

Total Cost \$ 26 242.63

John C. Reeves & Company

Asphalt Tile

SD 3064

Manhours 24

Total Cost \$ 395.00

Construction Specialties Company

Accoustical Walls

SD 3471

Manhours 249

Total Cost \$ 643.00

Western Elaterite Roofing Company

Built-Up Roof

SD 3496

Manhours 171

Total Cost \$ 709.50

B & B Engineering & Supply Company

Heat Insulation (Extras)

SD 3792

Manhours 603

Labor \$ 2 009.85 Material \$ 166.36

Total Cost \$ 2 176.21

Colorado Fuel & Iron Corp.

Fence

SD 3939

Manhours 1697

Labor \$ 4 533.54 Material \$ 7 797.70

Total Cost \$ 12 331.24

W. W. Wilmore Nurseries

Landscaping (Trees)

SD 3979

Manhours 17

Labor \$ 45.00 Material \$ 172.80

Total Cost \$ 217.80

Karl F. Hehl Engineering Company, Inc.

Asphalt Paving

SD 4061

Manhours 2700

Total Cost \$ 18 217.74

W. W. Wilmore Nurseries

Landscaping (Shrubs & Flowers)

Manhours 174

Total Cost \$ 2 330.09

John C. Reeves & Company

Turbine Floor Tile

SD 4147

Manhours 604

Total Cost \$ 5 569.30

Colorado Fuel & Iron Company

Motor Operated Gate

SD 4165

Manhours 184

Total Cost \$ 2 594.80