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TEXACO Inc.
MISCELLANEOUS WORK AGREEMENT
(Agreement With Independent Contractor)

8353

Agreement No. PAP-MW-8353

June 1, 19 79

AGREEMENT between COASTAL INDUSTRIAL CONSTRUCTORS, INC.

(a Corporation, ~~XXXXXXXXXXXXXXXXXX~~), of P. O. Box 1568, Port Arthur, Texas 77640 (hereinafter called "Contractor"), and TEXACO Inc. (hereinafter called "Company").

Description of Work Contractor shall perform the following work (hereinafter called "said work") for Company at Port Arthur, Texas, Plant.

Install fuel oil conversion facilities for Boilers #1 through #9 at No. 2 Power Station, as outlined and in accordance with Exhibit "B" - Work Specifications, attached hereto.

EXTRA #1	9-21-79	\$170,546.40
EXTRA #2	11-1-79	96,779.00
EXTRA #3	11-8-79	52,410.80
EXTRA #4		
EXTRA #5		
EXTRA #6		
EXTRA #7		
EXTRA #8		
EXTRA #9		

Agreement Price Company shall pay Contractor for said work as follows:

A total price of TWO MILLION SEVEN HUNDRED EIGHTEEN THOUSAND SIX HUNDRED AND NO/100 (\$2,718,600.00) DOLLARS with 90% monthly progress payments.

Ex. No.1

Period of Performance Contractor shall begin said work on the 4th day of June, 1979, and fully complete the same on or before July 31, 1980, unless otherwise agreed to in writing by the parties hereto,

Other Terms and Provisions This agreement and the attached exhibits contain all the terms and conditions agreed upon by the parties hereto with respect to the work to be performed hereunder and on all matters which in any way may affect said work, and no other agreements, oral or otherwise, regarding the subject matter of this contract shall be deemed to exist or to bind either of the parties.

Exhibit "A" Additional Provisions of Agreement, Pages 1-6
Exhibit "B" Work Specifications — Pages 1-11
Exhibit "C" List of Drawings and Sketches — Pages 1-6
Exhibit "D" Nondiscrimination Clauses - Pages 1-2

Executed in Port Arthur, Texas, on the date first hereinabove written.

CONTRACTOR

COASTAL INDUSTRIAL CONSTRUCTORS, INC. TEXACO Inc.

By A. E. REAUD

PRESIDENT

(Title)

Richard Anderson, Jr.

witness or Seal

By J. M. SEAMANS

VICE PRESIDENT

(Title)

Blanche G. Fraser

witness or Seal

TEXACO INC.
APPROVALS

Terms and
Desc't'n:

Form:

(Execute in duplicate originals)

Charge Estimate 6875-B

(Estimate or Job Order)

Render invoice in triplicate (showing Agreement number) to:

Mr. G. E. Babbitt, c/o TEXACO Inc.

P. O. Box 712, Port Arthur, Texas 77640

No. copies distributed

By

Date

WLS-glt

CTS

RJS-WMH-CB

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6. Slab on fill along with
 - a. 4 supports for strainers S1, S1A, S2 and S2A,
 - b. 2 leveling plates,
 - c. 2 slide plates,
 - d. 1 stair pad, all poured integrally with or grouted to slab, as shown and detailed on Drawings Y-92477 and Y-92480 through Y-92483.
7. 5 web wall pipe supports: 2 @ 17' and 3 @ 12' long, as shown on Drawings Y-92477 and Y-92480.
8. Miscellaneous platform, ladder, and stair pads as shown and detailed on Drawings Y-92478 and Y-90670.
9. Pipe supports SPS-1 through SPS-11 as shown and detailed on Drawings Y-90670 and Y-92480.
10. Remove existing paving and foundations down to elevation 2.5' at Boilers #6 and #7 as shown on Drawings Y-92456 and Y-92457. Tie new rebar to existing dowels, form, clean surfaces, apply Ceilcote #348 bonding agent and pour new induced fan and forced draft fan foundations.
11. Roughen concrete surface, provide cinch anchors, reinforcing steel as required, form, clean, bond and pour foundations for cooling air blowers and column footings as shown on Drawing Y-92807.

II. UNDERGROUND DRAIN PIPING

Furnish and install 4" and 6" extra heavy cast iron soil pipe, fittings and drains in, under and adjacent to proposed slab in accordance with requirements of GEMS J-52A, and as shown and noted on Drawing Y-92817. Tie system into existing 65" X 40", 10 gage Armco pipe arch as shown. Pour 6" X 4" thick concrete apron around single drain adjacent to slab as shown.

III. STRUCTURAL STEEL

- A. Remove and junk three existing hairpin pipe supports south of Tank #8874 as shown and noted on Drawing Y-92471. Support piping temporarily before removal, then permanently after erection of new steel supports (see below). Remove and junk condemned steel ladder inside stacks #1 thru 4 and #6 thru 8.
- B. Furnish, fabricate, galvanize, cut and fit if required and/or erect structural steel in accordance with governing GEMS, and per notes, locations, elevations and details shown on the following drawings:

Y-92468 & Y-92469	Key Plans
Y-92470 thru Y-92476	Pipe Racks, Stiles, Platforms, etc.
Y-92811 thru Y-92814	MPS #1-27
Y-90671 & Y-92804	MPS #28-36 and #37-41
Y-92815	Exchanger & Pump Area Handrail
Y-92805 & Y-92806	No. 6 & 7 Boilers: Fan Duct Supports
Y-92458 thru Y-92467	No. 6 & 7 Boilers: Fan Duct Details
Y-92808 & Y-92809	Extend Boiler Front Platforms
Y-92810	No. 9 Boiler: Stack Platform Extension
Y-93211 thru Y-93237 }	No. 1-8 Boilers: Revise Platforms
Y-93439 thru Y-93441 }	
Y-93238 thru Y-93240	Stack Monitoring Platforms & Davit
Y-93437 & Y-93438	Fan Damper Controls
Y-93442 thru Y-93445	600# Steam Header Supports: MPS #46-65

1. Erect and grout where required galvanized structural steel pipe racks, platforms, ladders, stiles, miscellaneous pipe supports and handrails as shown and noted on Drawings Y-92470 through Y-92476, Y-92811 through Y-92815, Y-90671 and Y-92804.
2.
 - a. Furnish, fabricate, erect, relocate and paint (new) structural steel supports for induced draft and forced draft fan ducts at Boilers #6 and #7 per Drawings Y-92805 and Y-92806.
 - b. Sandblast to commercial blast cleaning (SSPC-SP-No. 6)
 - c. Same as Section IV. C. 6. (b).
 - d. Same as Section IV. C. 6. d.
 See Section IX. H. for paint materials.
3. Erect, grout as required and modify structural steel to extend boiler front platforms at all boilers per Drawings Y-92808 through Y-92810. Such work includes cutting C12 X 20.7 beam $\frac{1}{4}$ " below top of existing grating, and erecting new supports, grating and pipe handrail as shown and noted.

4. Furnish, fabricate, galvanize, erect, relocate, modify or alter as required structural steel for platforms, stairways, supports, ladders, grating and handrail per Drawings Y-93211 through Y-93237 and Y-93439 through Y-93441. Such work includes removing portions of platforms, relocating stairways and ladders to provide space for sootblowers as seen generally on Drawing Y-93237 and particularly on above construction drawings.
Stock lengths of galvanized material may be cut and fabricated to fit in field.
5. Erect stack monitoring platforms, ladders, safety gates, davit and supports per Drawings Y-93238 through Y-93240.
6. Furnish, fabricate, assemble, install and paint the induced fan damper controls for Boilers #1 through #8 per Drawings Y-93437 and Y-93438. Damper assemblies shall be sandblasted, primed and painted per Section III. B. 2. above.
7. Furnish, fabricate, galvanize and erect miscellaneous pipe supports for 600# steam header at Boilers #1-8 marked MPS #46 through #65 per Drawings Y-93442 through Y-93445.
8. Welds and damaged areas on galvanized steel shall be thoroughly cleaned and coated with two coats of an approved zinc rich paint.

IV. BOILER STACKS, FANS, BREECHING & AIR PREHEATERS

Perform the work tabulated in the scheduled time frame and described more particularly following this tabulation:

BOILERS

Out of Service Dates:		J,A,S '79		O,N,D '79		J,F,M '80		A,M,J '80	
		<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>1</u>	<u>2</u>	<u>7</u>	<u>8</u>
R	A <u>STACKS</u>								
	1 Scaffold interior	X	X		X	X	X	X	X
	2 Flush patch bad sections	*	X		X	X	*	X	*
	3 Renew stiffener L 2½ X 2½	X	X		X	X		X	X
	4 Renew retainer L 1½ X 1½				X				
	5 Sandblast interior & paint	X	X		X	X	X	X	X
	6 Renew liner	X	X		X	X	X	X	X
	7 Prime patches & paint exterior	X	X	X	X	X	X	X	X
	B <u>I.D. & F.D. FANS</u>								
	1 Remove & junk	X	X	X	X	X	X	X	X
	2 Reword foundations	X	X		X			X	
	3 Install new fans & paint	X	X	X	X	X	X	X	X
	4 Reconnect cooling water	X	X	X	X	X	X	X	X
	5 Install new electric motor		X						
	C <u>BREECHING</u>								
	1 Remove & haul or junk	Junk	Junk	X	Junk	X	X	Junk	X
	2 Sandblast int. & ext.	-	-	X	-	X	X	-	X
	3 Apply liner to interior	X	X	X	X	X	X	X	X
	4 Revise str. steel supports				X			X	
	5 Prime reusable exterior #			*		*	*		*
	6 Paint exterior	X	X	X	X	X	X	X	X
	7 Install old or new breeching	X	X	New	New	X	X	New	New
	8 Install O ₂ analyzer	X	X	X	X	X	X	X	X
	D <u>AIR PREHEATER*</u>								
	1 Renew elements	X	X	X	X	X	X	X	X
	2 Renew stay plates	X	X	X	X	X	X	X	X
	3 Renew rotor shell	X	X	X	X	X	X	X	X
	4 Renew 12 diaphragms	X	X	X	X	X	X	X	X
	5 Renew seals	X	X	X	X	X	X	X	X
	6 Renew sector plates	*	*	*	*	*	*	*	*

* As determined by Inspection Department for additional agreed upon price, or if reparable.

New breeching will come shop primed.

R Contractor will be responsible to schedule work on Boilers #9, #3 and #4 as soon and expeditiously as possible and subsequent work similarly as it is imperative that completion dates be met. To this end Contractor should coordinate his activities closely with Company's scheduling. Texaco strongly desires to have Contractor man the job in such manner and diversity to complete #6 fuel oil system sufficiently to have it available for Boilers #1 thru 6 by the time work is started on Boilers #7 and 8.

A. STACKS (80' high X 9'-6" I.D. X 3/8" wall)

1. Scaffold interior of all boiler stacks, except Boiler #5 full height, for Company's Inspection Department to examine and mark existing liner and wall for repairs.
2. Remove liner and flush patch holes in locations and approximate areas as shown below and in additional condemned locations all at an additional agreed upon price when exact areas are determined.

Boiler: #7 - top 25'
#6 - top 25' and bottom 20'
#1 - top 25'
#4 - 20' to 40' from top

Removed liner material shall be disposed of off Company premises.

3. Renew top stiffener L 2½ X 2½ X 3/8 ring rolled to 4'-9" radius at top of stacks as tabulated.
4. Renew top liner retainer L 1½ X 1½ X ¼ ring on boiler #6 only, rolled to 4'-9" radius.
5. Furnish materials and paint stack interior surface where liner renewal is required at an additional unit price as follows:
 - a. Sandblast to Commercial Blast (SSPC-SP-No. 6).
 - b. Apply two coats of coal tar epoxy @ 8 mils dft each coat.
See Section IX. H. for paint materials.
6. Furnish materials and renew condemned liner as outlined with high purity alumina refractory over crimp rods, and 2 X 2-14/14 type 304 stainless steel welded wire fabric. Renew additional liner as marked by Inspection Department according to the following tabulated locations, all above at an additional unit price.

R

<u>Boiler</u>	<u>Location</u>	<u>Approx. Areas (Sq. Ft.)</u>
#7	top 25'	750
	breeching inlet area	160
#8	top 20'	600
	breeching inlet area	160
#6	top 25' and bottom 20'	1350
#1	top 25'	750
	breeching inlet area	160
#2	top 4'	120
	at location 20' from top	600
	at location 40' from top	1200
#3	breeching inlet area	160
#4	from 20' to 40' from top	600
	breeching inlet area	160

7. Furnish materials and paint stack exterior as follows:
 - a. Hand clean areas where flush patches are made to SSPC-SP-No. 2.
 - b. Spot prime one coat of inorganic zinc primer to patched areas.
 - c. Roughen surface of existing paint on remainder of stack with carborundum paper for bond.
 - d. Apply one coat of Byco Heat-Gard Silicone 750 Black @ 1.5 mils dft.
See Section IX. H. for paint materials.
Note that interior and exterior of stacks may be spray painted only on weekends.

B. INDUCED DRAFT AND FORCED DRAFT FANS

1. Remove all fans as boilers are taken out of service and junk.
2. Rework foundations as follows:
 - a. Boilers #6 & #7 - See Section I.D. 10.
 - b. Boiler #3 - At west end of North "B" fan, break damaged concrete pedestal for induced draft fan bearing housing down approximately 1'-6", exposing rebar, anchor bolts and sleeves as shown and detailed on Jackson & Moreland Drawing #06-B-26. Form, clean surfaces and apply Ceilcote #348 bonding agent and pour new top for pedestal.

- c. Boiler #4 - Remove sole plate 2'-10" X $\frac{1}{2}$ " X 3'-4" (Pc Mk B 82 per J & M Drawing above), extend 4- $\frac{1}{4}$ " $\emptyset$ anchor bolts approximately 4" with galvanized threaded stock, and replace sole plate for new electric motor per tabulation. Replace grout, patch damaged concrete, and relevel plate to original elevation.
3. Install new fans, motors, dampers, etc., as follows:
 - a. Draft fan electric motors will be disconnected, removed, overhauled, reinstalled, reconnected and lubricated by others except as noted below.
 - b. Install new Westinghouse fans, reusing existing electric motor or steam turbine drivers. Weights of fans, rotors and bearing housings are shown on Westinghouse Drawing #1512F20.
 - c. Set, level and align electric motors, fans, rotors and bearing housings for cold setting per Section V. D. below. Balance fans up to and including operating speed.
 - d. Reconnect damper linkage and controls. All new induced draft fans will come with new dampers. Forced draft fan dampers for Boilers #5 through #8 will come with new breeching, while it will be necessary to recover breeching and dampers for Boilers #1 through #4 and reuse and reconnect linkages and controls. See Drawings Y-93437 and Y-93438.
4. Reconnect cooling water to bearing housings.
5. Install new electric motor for North fan at Boiler #4 on replaced sole plate per Section IV. B. 2.c., above. Motor is 400 H.P., and approximate weight is 5,200 lbs.
6. Paint new fans and appurtenances as follows:
 1. Hand clean to SSPC-SP-No. 2.
 2. Spot prime with Byco red lead primer @ 2 mils dft.
 3. Apply two coats of Byco Heat-Gard Silicone 750 Black @ 1.5 mils dft each coat.
See Section IX.H. for paint materials.
Note that draft fans shall be either painted offsite prior to installation with brush painting touch up done in place, or spray painted at jobsite on weekends only.

C. BREECHING

1. Remove and junk existing breeching from air preheater to stack on flue gas side at Boilers #7, #6, #3 and #4.
2. a. At Boilers #8, #5, #1 and #2, remove breeching, haul to designated area, sandblast to brush off blast cleaning (SSPC-SP-No. 7) exterior and interior for Company's Inspection Department to examine and determine extent of repairs needed.
b. If breeching can be repaired and reused, Contractor will make necessary repairs at an additional agreed upon price, so that Boilers #8 and #5 can be reused on Boilers #1 or #2, and Boilers #1 and #2 can be reused on Boilers #3 or #4. If breeching is unsuitable for repairs, it shall be junked and Company will purchase new breeching.
3. Revise supporting steel for fan ducts at Boilers #6 and #7 per Y-92805 and Y-92806. (See Section III. B. 2.).
4. Install new breeching on Boilers #7, #8, #5 and #6. Haul reusable and repaired breeching from designated work area and install as required. Install new breeching purchased by Company, or reusable breeching as above per Drawings Y-92458 through Y-92467.
5. Sandblast interior to white metal blast cleaning (SSPC-SP-No. 5). Trowel on $\frac{1}{8}$ " thick coating of Pecora Acitite 20 QD plastic acid resistant liner as manufactured by Pecora Corporation, Garland, Texas, to interior of breeching.
6. Paint exterior as follows:
 - a. Sandblast exterior to white metal blast cleaning (SSPC-SP-No. 5).
 - b. Apply one coat of inorganic zinc primer @ 3 mils dft to breeching exterior of those boilers which may be reusable for #1, #2, #3 or #4 Boilers.
 - c. New breeching will come shop primed. In the event new breeching is used for Boilers #1-4, a unit price credit shall be offered for each breeching not primed.
 - d. Apply two coats of Byco Heat-Gard Silicone 750 Black to exterior of all breeching, new or reusable, @ 1.5 mils dft each coat.
Note that spray painting may be done only on weekends at jobsite.

7. Cut 3 1/8" diameter hole and install 4" flange and probe for flue gas - oxygen analyzer in flue gas outlet for Boilers #1 through #8 per Drawing Y-93436.

D. AIR PREHEATER

Company will inspect elements on cold side of rotating drum to determine if replacements are required. Contractor will then make the following repairs at an additional agreed upon price.

1. Remove cold end heating elements and install new bundled elements.
2. Renew approximately 50 square feet of 2" X 5/16" thick stay plates, on cold air inlet side. (See attached diagrams.)
3. Renew approximately 11" wide X 5/16" thick X 11'-1" O.D. rotor shell.
4. Renew approximately 9" X 5/16" thick section of each of 12 diaphragms.
5. Renew all air preheater seals. New seals are to be adjusted to Ljungstrom Type 17½ H air preheater recommended clearances, per attached diagram B-31155-A.
6. Renew cold side sector plates at an additional but separate agreed upon price.

NOTE: When any welding is done on rotating drum, it is necessary that rotor be grounded to avoid damage to rotor bearings.

V. VESSELS, PUMPS, EXCHANGERS AND MIXERS

Set and level to required elevation the following equipment on new foundations or as shown on Drawings Y-92477, Y-92481, Y-92482, and Y-92774 through Y-92776:

- A. Fuel Oil Exchanger Condensate Pots F-1 and F-2, detailed on Drawing Y-90651. Approximate weight: 750 lbs. each.
- B. Flash Drum F-4, detailed on Y-90652. Approximate weight: 725 lbs.
- C. Duplex Strainers S1, S1A, S2 and S2A. Approximate weight S1 and S1A: 1250 lbs. each, S2 and S2A: 557 lbs. each.
- D. Set, level, grout and align as required pumps and drivers listed below for cold setting. Alignment and grouting shall be performed with suction and discharge piping disconnected and then checked after pipe is connected. Alignment check to be witnessed and approved by Company and a record of alignment with approval signature of Company's inspector to be furnished to Project Engineer. Face and edge of coupling should not be held more than 0.003 inches from desired setting.
 1. P-3 and P-3A Fuel Oil Pumps
Screw pumps with reduction gears and steam turbine drivers integrally mounted to baseplate. Approximate weight: 3150 lbs. each.
 2. P-4 Fuel Oil Pump
Screw pump with 100 H.P. electric motor driver integrally mounted to baseplate. Approximate weight: 2410 lbs.
 3. P-5 Condensate Pump
Centrifugal pump with 7.5 H.P. electric motor driver integrally mounted to baseplate. Approximate weight: 500 lbs.
- E. Heavy Fuel Oil Heaters E-1 and E-2: 3'-0" diameter X 23'-6½" overall length horizontal shell and tube exchangers. Total approximate dry weight: 21,600 lbs. each.
- F. Mixers for Tanks #1718 and #1719 (two each tank) with 10 H.P. electric motors. Approximate weight: 640 lbs. each. See Drawing Y-92770 for locations on tanks.

VI. HEATER COILS

- A. Fabricate 2" diameter schedule 80 steam coil piping in Tanks #1718 and #1719 in accordance with notes, plan and details on Drawing Y-90649. Installation shall include all piping, fittings, supports, U-bolts and other piping related facilities called for on the above drawing. Contractor to furnish black iron angle and U-bolts with nuts.
- B. New heater coils shall be hydrostatically tested to 1000 psig and in accordance with requirements of GEMS J-1P. Upon completion of test, all blinds are to be removed and coils are to be flushed clear of all debris.

VII. PIPING

- A. Fabricate and install complete piping systems in accordance with referenced GEMS, and per notes, locations, and details shown on the following drawings:

Y-92796 & Y-92797	Key Plans
Y-92798 thru Y-92800	Line Schedules
Y-90438 & Y-90595	Flow Diagrams
Y-91396	Fire Water Line
Y-92770 thru Y-92780	Piping - Area A thru F
*Y-92782 thru Y-92785	Piping - Area G
*Y-92787 thru Y-92791	Piping - Area H
Y-92792 thru Y-92794	Piping - Areas J & K
Y-92795	Utility Piping
Y-90669, Y-91401, }	Details
Y-92786 & Y-92801 }	
Y-92802 & Y-92803	600# Steam Piping at Boilers

*Of these groups, Drawing Y-92783 is the only one included in bid package, but is typical for all eight boilers. When remaining drawings are completed, they will be issued to successful low bidder.

- B. Installation shall include all valves, fittings, flanges, blinds, steam tracing, steam traps, pressure indicators, level columns and gages, thermowells and other piping related facilities as shown and noted on above construction drawings. Installation shall also include all pipe shoes, anchors, guides, hangers, jackscrews and other support devices as shown or noted on above drawings. Miscellaneous piping supports, bands for grating (angle, channel, flat bar, etc.), may be cut and fabricated in field from stock lengths of galvanized material, and such materials are to be furnished by Contractor.

R Teflon tape shall be furnished by Contractor and used on all threaded pipe connections.

A thread lubricant shall be used on all bolted connections.

All tie-ins to new or existing facilities, unless otherwise provided, will be made by Contractor. Tie-ins to existing facilities must be coordinated with power station operations so as to minimize interruption or downtime to facilities in operation.

All new piping is to be tested in accordance with requirements of the line schedule Drawings Y-92798 through Y-92800 and GEMS J-1P. All air is to be removed through vents during filling of lines. Welds are to be left exposed until after satisfactory completion of tests. Upon completion of tests all vents and drains are to be plugged or capped in accordance with requirements on Vent and Drain Schedule, Drawing Y-91401.

- C. Where radiographic examination of welds is required by drawing note or specification, Contractor will furnish results of radiographic tests (X-rays) for joint interpretation by Company and Contractor. For other welds, Company will make radiographic tests as it deems necessary to insure quality control of welding. In either case, welds found to be unsatisfactory to Company will be repaired by Contractor at Contractor's expense.

R 100% radiographic examination will be required on piping welds in sleeves under Chemical Plant Road, and Contractor will furnish results of such tests as provided in Section VII. C. All such work shall be done only on weekends or during off-shift with special permission of the Company's Project Engineer.

- D. Install 6" cement lined fire line from L.O.T.A. across Chemical Plant Road to fire monitor on north side of road per Drawing Y-91396. Note: fire line and the ten pipe sleeves under Chemical Plant Road shall be installed and backfilled on a weekend so as not to disrupt the normal flow of traffic.

R Furnish and place for backfill over these lines cement stabilized sand fill (1 bag of cement per cubic yard of sand), moistened and compacted in 6" maximum uncompacted lifts with a vibratory compactor to 90% Modified Proctor Density. Crushed limestone shall then be placed 12" thick compacted in place, also to 90% Modified Proctor Density. After final settlement, crossing shall be primed at 0.3 gallon per square yard, and paved with 1½" hot mix or pre-mix asphaltic concrete as specified. Same procedure shall also be used for the firewater line crossing driveway in L.O.T.A. as seen on Drawing Y-91396. Contractor will furnish all materials. All such work shall be done only on weekends, or during offshift with special permission of the Project Engineer.

- E. Furnish and install ten T. D. Williamson neoprene pipe seals on ends of pipe sleeves under Chemical Plant Road, as shown on Drawings Y-90670, Y-91396 and detailed on Y-92816.

- F. Dope and wrap joints of grade level and below ground steel pipe with Protecto-Wrap primer and tape. All coated pipe shall be handled at all times with non-abrasive canvas or leather belts or other suitable equipment, in such a manner as to prevent damage to the coating. Care shall be taken when lowering pipe into trench and during backfilling operations to prevent damage to coating.

- R G. Steam tracing discharge piping shall be routed to nearest drain hub or catch basin as noted on Drawing Y-90669, but into a discharge header pipe to drain wherever practicable instead of traps all discharging individually to drains. Thermostatic trap drain lines to headers shall be detailed generally per Type I, above drawing.

VIII. INSULATION

Furnish materials and insulate new piping and equipment except as noted as follows:

- A. Piping shall be insulated in accordance with the requirements of line schedule drawings Y-92798 through Y-92800, the detailed construction drawings listed under item VII. PIPING, above, GEMS I-2M and Standard Drawing 13S-378. Where the thickness of insulation called for on piping drawings may vary from requirements of tables in GEMS I-2M, the drawings will govern.
- B. Insulate Fuel Oil Exchanger Condensate Pots F-1 and F-2 (2'-6" diameter X 4'-0" long + end caps) with 1½" thick calcium silicate preformed pipe insulation where practicable and in accordance with GEMS I-2M and Standard Drawings 13S-366 and 13S-368.
- C. Insulate Flash Drum F-4 (2'-0" diameter X 4'-8" + end caps) with 1½" thick calcium silicate preformed pipe insulation per paragraph VIII. B. above.
- D. Insulate Duplex Strainers S1, S1A, S2 and S2A with 1½" thick calcium silicate preformed pipe insulation per paragraph VIII. B. above.
- E. Insulate steam turbines for Pumps P-3, P-3A and P-4 with 3" thick insulation.
- F. Insulate Pump P-5 with 1½" thick insulation.
- G. Insulate Heavy Fuel Oil Heaters E-1 and E-2 body and floating head, but not flanges or channel head.
- H. Insulate valves on non-hydrocarbon service per line schedule.

I. Insulation materials and applications shall be as follows:

1. Preformed pipe insulation of pipe size and thickness specified on the drawings shall be calcium silicate or approved equal.
2. Preformed insulating ells, both long radius and short radius shall be of pipe size and thickness specified on the drawings with 0.016" thick aluminum ell cover with factory bonded internal vapor barrier, 3 mil polyethylene film attached by heat sealing (Premetco Poly-Cerlyn or equal) calcium silicate or approved equal.
3. Covering shall be 36" wide X 0.016" thick aluminum jacketing, 3S aluminum alloy, H-14 or half hard temper #5005, with 3 mil polyethylene film internal vapor barrier. Film to be attached to aluminum by heat sealing (Premetco Poly-Cerlyn or equal).
4. Bands shall be ½" wide X 0.015" thick type 304 stainless steel, with 304 SS fastening seals.
5. Screws shall be #8 X ½" long self tapping type "A" aluminum.
6. Foster Wheeler #8193 fibrous adhesive for attaching block insulation to exchanger floating head, pumps, turbines or vessels. Use crimp rods for tie wire as necessary.
7. Ryder MW insulating cement as required.
8. Insulate valves on non-hydrocarbon service with valve kits complete with aluminum jacketing (Premetco or equal). Use oversize valve kits on steam traced lines.
- R 9. All new insulation shall be color coded to indicate material does not contain asbestos.

IX. PAINTING AND PROTECTIVE COATINGS

Furnish materials and paint new above ground piping as follows:

- A. All above ground uninsulated piping and valves subject to temperatures of 250° F or above shall be painted as follows:
 1. Sandblast Commercial Blast (SSPC-SP-No. 6).
 2. Apply one coat Inorganic Zinc Primer @ 3 mils minimum dry film thickness.
 3. Apply final coat of silicone aluminum @ 1½ mils minimum dft.
- B. All other above ground uninsulated piping and valves shall be painted as follows:
 1. Same as A. 1.
 2. Same as A. 2.
 3. Apply one coat of Coal Tar Epoxy @ 8 mils minimum dft.
 4. Apply final coat of Poly-clad Aluminum @ 3 mils minimum dft.
- C. All uninsulated vessels shall be painted as follows:
 1. Hand clean existing shop prime (SSPC-SP-No. 2).
 2. Spot prime with epoxy red lead.
 3. Apply one coat epoxy red lead @ 3 mils minimum dft.
 4. Apply final coat Poly-clad Aluminum @ 3 mils minimum dft.
- D. Pumps and baseplates shall be painted as follows:
 1. Hand clean.
 2. Apply one coat epoxy red lead primer @ 3 mils minimum dft.
 3. Apply two coats epoxy black @ 3 mils minimum dft each coat.
 4. Coupling guards to receive one coat yellow.
- E. Pump foundations shall be hand cleaned and given one coat of Brick Red paint.
- F. Hard troweled insulation on trubines shall be given one coat of silicone aluminum.
- G. Furnish materials and paint structural steel as required in Section III. B. 2. and 6., and stacks, fans, breeching, etc., as outlined in Section IV.

H. Paint Materials:

1. Carboline Inorganic Zinc CZ-11.
2. Byco Coal Tar Epoxy C-200.
3. Byco Epoxy Red Lead Primer #300-1.
4. Byco Heat-Gard Silicone 750 Black.
5. Carboline 193 Epoxy Black No. 900.
6. Carboline Poly-clad 936 Aluminum No. 0901.
7. Carboline Silicone Aluminum No. 4674.
8. Carboline Epoxy Red Lead No. 193.
9. Carboline AD-1025-516 Brick Red No. 15W.
10. Carboline Safety Yellow (Texaco #5E).
11. ZRC, Zinc Rich Coating.

R.

All sandblasting shall be done offsite except inside stacks. All traces of grease, oil and other deleterious materials are to be removed prior to painting. All surfaces to be primed the same day they are blasted or cleaned. No painting will be done in foggy and damp weather, nor spray painting in windy weather, without special permission of Company. Contractor will allow sufficient drying time for each coat. Painting operations are to be conducted in such manner as to prevent disfiguration or damage to adjoining equipment and property. Spray painting is to be done at an offsite location prior to installation with brush painting and necessary touch up done in place. All spray painting shall be done offsite, on weekends, or after regular shift with special permission of the Project Engineer.

R

X. GENERAL

All pipe welders and tank welders are to be certified as qualified under code for Petroleum Refinery Piping ANSI B31.3 and in accordance with API Standard 650, Welded Steel Tanks for Oil Storage, respectively.

Provide adequate OSHA approved lighting and ventilation in tanks.

Concrete to have a minimum compressive strength of 3000 psi in 28 days and a maximum slump of 5".

Contractor will notify the Company a minimum of two (2) hours prior to placing any concrete.

Company will take such samples and test specimens of concrete as it deems necessary. Installed concrete, which Company's tested specimens indicate is below specified strength, will be rejected by the Company; however, Contractor will be permitted at his expense to obtain required core specimens from said concrete, in accordance with ASTM C-42, for testing by a laboratory agreeable to both parties, which fees Contractor shall pay, and the findings by the laboratory shall be binding on both parties. Concrete if found by the laboratory to be under strength will be removed and replaced at Contractor's expense.

Concrete is to be cured by application of a standard curing compound acceptable to Company and applied in accordance with the manufacturer's instructions, or in accordance with GEMS A-1P.

Work area, material storage and employee parking is quite limited. Contractor employees shall park in Contractor Parking Lot and only Contractor-owned vehicles will be permitted to enter. Contractor employees are to be transported by Contractor to and from the job site.

Contractor will provide suitable transportation and personnel for handling all materials furnished by Company from Company's storage locations. Upon completion of all work, Contractor will return all surplus materials to Company's storage locations.

Contractor will be working adjacent to pipe lines, power lines and equipment in service. It will be his responsibility to conduct his work so that no damage nor operating delay will occur to equipment and facilities due to his operations.

Trucks, cranes or similar equipment that leave the road at job site are to be on mats or steel plates in a manner satisfactory to the Company.

Work areas are to be cleaned up at the end of each day and adequate safety barriers and/or lights provided at open excavations and blocked roads and walks. Surfaces are to be restored to reasonable grade upon completion of work.

All waste and debris, except junk pipe and metal, is to be removed from job site and disposed of off Company premises. Contractor represents and warrants that all waste materials will be disposed of in compliance with all applicable laws and regulations and agrees to hold Company harmless from any and all claims or demands arising out of such disposal.

Junk pipe and metal is to be cut into lengths of 30 feet or less and neatly stacked in designated area near road for disposal by others.

R Junked breeching shall be cut in pieces or sections no larger than 24' long X 6' X 6', and neatly stacked near road for hauling and disposal by others.

R Contractor shall be responsible for unloading structural steel, pipe, fittings, valves, equipment or materials furnished at jobsite or offsite.

R The access aisle immediately east of Boilers #5 thru 8 must remain free and clear of materials storage, equipment or other obstructions for prolonged periods of time.

R Two 220 volt drops in Boiler area will be made available if possible for welding machines, but not guaranteed on a continuing basis.

In areas where burning and welding is not permitted, Contractor will fabricate pipe spools or details in nearby approved hot work area for bolted assembly in place.

Carbon steel pipe 2" diameter and larger will be furnished in double random lengths with beveled ends and doped and wrapped as required.

Work called for on drawings but not mentioned herein, or conversely, will be performed as though called for and specified by both. Where there is a conflict between them, the drawings will govern.

Smoking by Contractor's employees will be permitted at locations designated by Company and only at times Company personnel are allowed to smoke, such times being prior to beginning and after completion of work day and during lunch period. For smoking at other times, it will be necessary for Contractor's employees to leave Company premises. No smoking will be permitted in vehicles traveling on Company premises.

Contractor shall perform the work under this agreement between the hours of 7:30 a.m. and 4:00 p.m., Monday through Friday, and any alteration in such schedule shall require the approval of Company.

In the event of an approaching hurricane, all materials and equipment over which Contractor has control are to be picked up, removed or otherwise made secure from possible movement by winds or high water, without regard to date or time.

Contractor shall be responsible for payment of all state, county, and municipal sales and use taxes on the materials furnished by Contractor for this work, and cost of all such taxes is included in the Agreement Price.

All information, data, reports, drawings, documents and knowledge of plant operations or processes acquired or handled in relation to this contract, and the information therein contained, are the property of Texaco Inc. which has furnished them in confidence upon the understanding and condition that all persons, firms or corporations receiving such information shall by the act of receiving them be deemed to have agreed: To make no copy, duplication, disclosure or use whatsoever of all or any part thereof except as expressly authorized in writing by Texaco Inc.; not to give, use, lend or otherwise dispose of such information, drawings or documents, and to return all written or printed matter promptly upon request.

Contractor will furnish his own fuel requirements and field engineering.

XI. COMPANY WILL:

1. Furnish all materials which become an integral permanent part of these facilities except concrete, forming materials, reinforcing steel, anchor bolts, consumables, paint, insulation, refractory and accessory materials, sand fill, crushed limestone, asphaltic concrete, and electrical materials other than that shown as being furnished by Company.
2. Provide base lines and bench marks.
3. Furnish water, blinds, small hose, piping and fittings for hydrostatic testing.
4. Furnish structural steel fabricated and galvanized, for Section III. B. 1, 3 and 5.
5. Furnish vessels fabricated and shop primed.
6. Furnish pumps assembled and mounted to baseplates.
7. Furnish all pipe, valves, fitting, steam traps, PI's, PRV's, level columns, gages, thermowells and other piping related materials.
8. Furnish stack angles and plate rolled to required radius.
9. Furnish new induced draft and forced draft fans, and new electric motor for Boiler #4, all shop primed.
10. Furnish new breeching for four boilers or more if required.
11. Furnish air preheater elements, stay plates, rotor shell, diaphragms, seals and sector plates.
12. Inspect stacks, breeching and air preheaters to determine feasibility or extent of repairs.
13. Make all pressure taps.
14. Furnish materials for necessary manual pipe doping and wrapping.
15. Furnish pipe thread lubricant.

LIST OF DRAWINGS AND SKETCHES

Attached hereto and made a part of Agreement No. PAP-MW-8353 dated June 1, 1979 are the following drawings and/or sketches:

Drawing or Sketch No.	Title	Date of Original Drawing or Sketch	Date of Latest Revision (If Any)
Y-92781	No. 2 Power Station - Boiler #1 thru 9 Facilities to Convert to #6 Fuel Oil Drawing Index	3-02-79	
Y-92453	Concrete Key Plan, Sht. 1 of 2	11-03-78	
Y-92454	Concrete Key Plan, Sht. 2 of 2	11-03-78	
Y-90670	Tanks #1718 & #1719, Pipe Supports, Levee, Retaining Wall and Location Plan	3-28-78	
Y-92456	No. 6 Boiler, I.D. & F.D. Fan, Area K: Concrete Plan & Sections	11-16-78	
Y-92457	No. 7 Boiler, I.D. & F.D. Fan, Area J: Concrete Plan & Sections	11-16-78	
Y-92477	Exchanger and Pump Area Paving Plan Area B & C	1- 79	
Y-92478	Pipe Rack Footing Foundation Plan Area F - Sht. 1	1- 79	
Y-92479	Pipe Rack Footing Foundation Plan Area F - Sht. 2	1- 79	
Y-92480	Exchanger and Pump Area Paving Sections - Area B & C	1- 79	
Y-92481	Exchanger, Cond. Pots and Pump Fndn. Enlarged Plan - Area C	1- 79	
Y-92482	Exchanger, Cond. Pots and Pump Fndn. Sections & Details - Area C	1- 79	
Y-92483	Pipe Rack Footing Fndn. Enlarged Plan & Sections - Areas A, C & F	1- 79	
Y-92807	Concrete Footing Location Plan & Details	2-09-79	
Y-92816	Offsite Facilities, Levee & Retaining Wall Sections - Area A	1- 79	
Y-92817	Drainage Plan & Sections	1-15-79	
Y-92818	Exchanger & Pump Area Grading Plan	1-15-79	
Y-92468	Structural Steel Key Plan, Sht. 1 of 2	12-13-78	
Y-92469	Structural Steel Key Plan, Sht. 2 of 2	11-03-78	
Y-90671	Miscellaneous Pipe Supports #28 thru 36, Structural Steel Plan - Area A	1- 79	
Y-92458	No. 6 Boiler: Ducts for F.D. & I.D. Fans, Plan & Section - Sht. 1	10-23-78	
Y-92459	No. 6 Boiler: Ducts for F.D. & I.D. Fans, Section - Sht. 2	10-23-78	
Y-92460	No. 6 Boiler: Ducts from Air Preheater to I.D. Fan, Plan & Sections Sht. 3	10-23-78	
Y-92461	No. 6 Boiler: Duct for F.D. Fan to Preheater, Plan, Details & Views - Sht. 4	10-24-78	
Y-92462	No. 6 Boiler: Ducts from I.D. Fan to Stack, Elevations, Sections & Views - Sht. 5	10-24-78	
Y-92463	No. 7 Boiler: Ducts for F.D. & I.D. Fans, Plan & Section - Sht. 1	10-23-78	
Y-92464	No. 7 Boiler: Ducts for F.D. & I.D. Fans, Section - Sht. 2	10-24-78	
Y-92465	No. 7 Boiler: Duct from Air Preheater to I.D. Fan, Plan, Views & Sections - Sht. 3	10-26-78	

LIST OF DRAWINGS AND SKETCHES

Attached hereto and made a part of Agreement No. _____ dated _____, 19____ are the following drawings and/or sketches:

Drawing or Sketch No.	Title	Date of Original Drawing or Sketch	Date of Latest Revision (If Any)
Y-92466	No. 7 Boiler: Duct for F.D. Fan to Preheater, Plan, Views & Details - Sht. 4	10-27-78	
Y-92467	No. 7 Boiler: Duct from I.D. Fan to Stack, Elevations, Sections & Views Sht. 5	10-30-78	
Y-92470	Exchanger Area Pipe Rack, Structural Steel Plan & Elevations - Area C	1- 79	
Y-92471	Pipe Rack, Structural Steel Plan - Area B	1- 79	
Y-92472	Pipe Rack, Structural Steel Plan, Sections & Details, (+MPS-42), Area F	1- 79	
Y-92473	Pipe Rack, Structural Steel, Elevation & Detail - Area B	1- 79	
Y-92474	Pipe Rack, Structural Steel, Elevation Area F	12-13-78	
Y-92475	Pipe Rack, Structural Steel, Elevation Areas A, B & F	1- 79	
Y-92476	Pipe Rack, Structural Steel, Enlarged Platform Plans - Area B	1- 79	
Y-92804	Misc. Pipe Supports #37 thru #41, Plan & Sections - Area F	2-20-79	
Y-92805	No. 6 Boiler: Supports for Fan Ducts Plan, Location & Elevations - Area K	2-14-79	
Y-92806	No. 7 Boiler: Supports for Fan Ducts Plan, Location & Elevations - Area K	2-14-79	
Y-92808	Extend Boiler Front Platforms, Plan & Details - Sht. 1 of 2	-	
Y-92809	Extend Boiler Front Platforms, Plan & Details - Sht. 2 of 2	-	
Y-92810	No. 9 Boiler Stack Platform Extension for NO _x Sampling, Plan & Details	-	
Y-92811	Misc. Pipe Supports #1 & 1A thru 27, Location Plan - Area D & E	1- 79	
Y-92812	Misc. Pipe Supports #1, & 1A thru 14, Plans, Elevations & Details - Area D & E	12-14-78	
Y-92813	Misc. Pipe Supports #15 thru 23, Plans, Elevations & Details - Area D & E	12-14-78	
Y-92814	Misc. Pipe Supports #24 thru 27, Plans & Elevations - Area D & E	12-14-78	
Y-92815	Exchanger & Pump Area Handrail, Plan & Section - Area C	1- 79	
Y-93211	Area H Plan, Revise Boilers #7 & 8 Platforms @ Elevations 27'-10" & 13'-4"	2-20-79	
Y-93212	Area H Plan, Revise Boilers #6 & 7 Platform @ Elevation 27'-10"	2-20-79	
Y-93213	Area H Plan, Revise Boilers #5 & 6 Platforms @ Elev. 27'-10" & 13'-4"	2-20-79	
Y-93214	Area G Plan, Revise Boilers #1 & 2 Platforms @ Elev. 27'-10" & 13'-4"	2-20-79	
Y-93215	Area G Plan, Revise Boilers #2 & 3 Platform @ Elev. 27'-10"	2-20-79	
Y-93216	Area G Plan, Revise Boilers #3 & 4 Platforms @ Elev. 27'-10" & 13'-4"	2-20-79	
Y-93217	Area H Plan, Revise Boilers #7 & 8 Platform @ Elev. 35'-1"	2-20-79	
Y-93218	Area H Plan, Revise Boilers #6 & 7 Platform @ Elev. 35'-1"	2-20-79	

LIST OF DRAWINGS AND SKETCHES

Attached hereto and made a part of Agreement No. _____ dated _____, 19____ are the following drawings and/or sketches:

Drawing or Sketch No.	Title	Date of Original Drawing or Sketch	Date of Latest Revision (If Any)
Y-93219	Area H Plan, Revise Boilers #5 & 6 Platform @ Elev. 35'-1"	2-20-79	
Y-93220	Area G Plan, Revise Boilers #1 & 2 Platform @ Elev. 35'-1"	2-20-79	
Y-93221	Area G Plan, Revise Boilers #2 & 3 Platform @ Elev. 35'-1"	2-20-79	
Y-93222	Area G Plan, Revise Boilers #3 & 4 Platform @ Elev. 35'-1"	2-20-79	
Y-93223	Area H Plan, Revise Boilers #7 & 8 Platforms @ Elev. 42'-4"	2-28-79	
Y-93224	Area H Plan, Revise Boilers #6 & 7 Platforms @ Elev. 42'-4"	2-28-79	
Y-93225	Area H Plan, Revise Boilers #5 & 6 Platforms @ Elev. 42'-4"	2-28-79	
Y-93226	Area G Plan, Revise Boilers #1 & 2 Platforms @ Elev. 42'-4"	2-28-79	
Y-93227	Area G Plan, Revise Boilers #2 & 3 Platforms @ Elev. 42'-4"	2-28-79	
Y-93228	Area G Plan, Revise Boilers #3 & 4 Platforms @ Elev. 42'-4"	2-28-79	
Y-93229	Area H Plan, Revise Boilers #7 & 8 Platforms @ Elev. 49'-9"	2-28-79	
Y-93230	Area H Plan, Revise Boilers #6 & 7 Platforms @ Elev. 49'-9"	2-28-79	
Y-93231	Area H Plan, Revise Boilers #5 & 6 Platforms @ Elev. 49'-9"	2-28-79	
Y-93232	Area G Plan, Revise Boilers #1 & 2 Platforms @ Elev. 49'-9"	2-28-79	
Y-93233	Area G Plan, Revise Boilers #2 & 3 Platforms @ Elev. 49'-9"	2-28-79	
Y-93234	Area G Plan, Revise Boilers #3 & 4 Platforms @ Elev. 49'-9"	2-28-79	
Y-93235	Boilers #1-8 Platform Revisions, Sections & Details - Sht. 1 of 2	2-28-79	
Y-93236	Boilers #1-8 Platform Revisions, Sections & Details - Sht. 2 of 2	2-28-79	
Y-93237	Boilers #1-8 Platform Revisions, Elevation	2-28-79	
Y-93238	Boiler #8 Stack Monitoring Platforms - Plan & Elevations	2-28-79	
Y-93239	Boiler #8 Stack Monitoring Platforms - Sections & Details	2-28-79	
Y-93240	Boiler #8 Stack Monitoring Davit Support, Plan & Sections	2-28-79	
Y-93436	Boilers #1 thru 8, Flue Gas-Oxygen Analyzers	3-30-79	
Y-93437	Boilers #5 thru 8, I.D. Fan Damper Controls	3-30-79	
Y-93438	Boilers #1 thru 4, I.D. Fan Damper Controls	3-30-79	
Y-93439	Boilers #1 thru 5, Platform Revisions, Sections & Details	3-30-79	
Y-93440	Boilers #1 & 4, Platform Revisions, Sections & Details	3-30-79	
Y-93441	Boilers #1 thru 8, Platform Revisions, Elevation & Partial Plan	3-30-79	
Y-93442	Boilers #5 thru 8, 600# Steam Header Pipe Supports, Plan, Sht. 1 of 4	3-02-79	
Y-93443	Boilers #1 thru 4, 600# Steam Header Pipe Supports, Plan, Sht. 2 of 4	3-02-79	

LIST OF DRAWINGS AND SKETCHES

Attached hereto and made a part of Agreement No. _____ dated _____, 19____ are the following drawings and/or sketches:

Drawing or Sketch No.	Title	Date of Original Drawing or Sketch	Date of Latest Revision (If Any)
Y-93444	600# Steam Header, Pipe Supports, Sections & Elevations, Sht. 3 of 4	3-02-79	
Y-93445	600# Steam Header, Pipe Supports, Sections & Elevations, Sht. 4 of 4	3-02-79	
Y-90438	Process and Instrumentation Flow Diagram in Boiler Area	11-16-77	4- 79
Y-90595	Process and Instrumentation Flow Diagram - Offsite	11-09-77	4- 79
Y-90649	Fuel Oil Storage Tanks #1718 & 1719: 2" Steam Coils & Supports	1-16-78	
Y-90651	F.O. Exchanger Cond. Pots F-1 & F-2 Vessel Layout	2-10-78	
Y-90652	Flash Drum F-4 - Vessel Layout	2-14-78	
Y-91396	Near Tanks #24336 & #24340 - Firewater and Pipe Sleeves	5-02-78	
Y-92796	Piping Key Plan, Sht. 1 of 2	3-02-79	
Y-92797	Piping Key Plan, Sht. 2 of 2	3-02-79	
Y-92798	Line List, Sht. 1 of 3	12-06-77	
Y-92799	Line List, Sht. 2 of 3	12-08-77	
Y-92800	Line List, Sht. 3 of 3	12-08-77	
Y-92770	Area A - Piping Plan	12-21-77	
Y-92771	Area A - Piping Sections	3-02-79	
Y-92772	Area B - Piping Plan	3-02-79	
Y-92773	Area B - Piping Sections	3-02-79	
Y-92774	Area C - Piping Plan	3-02-79	
Y-92775	Area C - Piping Sections & Details Sht. 1 of 2	3-02-79	
Y-92776	Area C - Piping Sections & Details Sht. 2 of 2	3-02-79	
Y-92777	Area D - Piping Plan, Sections & Details	3-02-79	
Y-92778	Area D & E - Piping Sections	3-02-79	
Y-92779	Area E - Piping Plan, Sections & Details	3-02-79	
Y-92780	Area F - Piping Plan	3-02-79	
Y-92782	Area G - Piping Isometric - Boiler #1	-	
Y-92783	Area G - Piping Isometric - Boiler #2	3-02-79	
Y-92784	Area G - Piping Isometric - Boiler #3	-	
Y-92785	Area G - Piping Isometric - Boiler #4	-	
Y-92786	Area C - Steam Tracing for Pumps P-3, P-3A & P-4	3-02-79	
Y-92787	Area H - Piping Isometric - Boiler #5	-	
Y-92788	Area H - Piping Isometric - Boiler #6	-	
Y-92789	Area H - Piping Isometric - Boiler #7	-	
Y-92790	Area H - Piping Isometric - Boiler #8	-	
Y-92791	Area H - Piping Isometric Preheater, Sootblowers - Boilers #5 thru #8	-	
Y-92792	Area J - Piping Plan	1-04-79	
Y-92793	Area K - Piping Plan	1-04-79	
Y-92794	Area J & K - Piping Sections & Details	1-04-79	
Y-92795	Utility Piping, Plan & Elevations	1-11-79	
Y-90669	Drip Legs, Steam Traps and Steam Tracing Details	4-10-79	
Y-91401	Vents, Drains, LC, LG & PI Details	3-02-79	
Y-92801	PRV for #2 Fuel Oil Pumps #7047 & 7048 - Piping Isometric	3-02-79	
Y-92802	Area G Piping Plan 600# Steam, Boilers #1 thru 4	3-02-79	
Y-92803	Area H Piping Plan 600# Steam, Boilers #5 thru 8	3-02-79	

LIST OF DRAWINGS AND SKETCHES

Attached hereto and made a part of Agreement No. _____ dated _____, 19____ are the following drawings and/or sketches:

Drawing or Sketch No.	Title	Date of Original Drawing or Sketch	Date of Latest Revision (If Any)
1512F20	Westinghouse Elec. Corp.: Duplex Fan Arrangement, Dimensions & Details	8-11-78	1-29-79
06-B-26	Jackson & Moreland: F.D. & I.D. Fan Foundations	9-05-38	3-05-42
C-32547	The Air Preheater Corp.: Rotor Compartment Arrangement	-	-
B-31155A	The Air Preheater Corp.: Clearances for Radial & Circumferential Seals	-	-

STANDARD DRAWINGS

4S-5846	Standard Anchor Bolt Details	1-12-61	4-24-73
6S-6885	Standard Checkered Plate Platforms & Angle Handrailing	7-28-60	9-21-72
6S-6886	Standard Stair Tread Details	7-26-60	10-31-77
6S-7258	Ladder Standard Details, Sht. No. 1	6-07-72	9-21-72
6S-7259	Ladder Standard Details, Sht. No. 2	6-07-72	5-02-78
9S-7684	Pipe Fabrication Details for Cement Lined Pipe	6-16-58	10-19-76
9S-8189	1½" Flange Wells for Thermocouples	8-15-60	1-22-73
9S-8190	1" Flanged Wells Used with Thermocouples	8-15-60	5-26-77
9S-8193	1" Screwed Wells for Thermocouples	8-19-60	1-22-73
9S-8194	Dial Thermometers & Wells in Storage Tanks	8-19-60	3-02-70
9S-9179	Bolt & Pipe Thread Lubricants	2-07-69	4-09-69
13S-366	Thermal Insulation Details - Vessels Without Weld Lanes	6-22-56	6-20-77
13S-368	Metal Jacket Details for Insulated Vessels	6-22-56	9-15-75
13S-378	Details - Thermal Insulation & Metal Jacket for Piping	6-03-60	9-26-75
U-69554	Branch Reinforcement Pad Installation	5-08-63	
U-71009	Dummy Pipe Supports	9-13-64	
X-67274	Standard Jackscrew Supports	6-30-61	4-05-76
X-67791	Standard Pipe Chain Hangers	11-22-61	9-19-77
Y-87366	Fire Protection Devices, Design and Installation Details	11-12-75	6-08-78
Y-87803	Control Valve Manifold Jackscrew Support Details	5-10-76	-
Y-87813	Standard Pipe Shoes, Guides, Stops and Anchors	3-31-76	5-21-76

GEMS

A-1D	Concrete Foundations and Structures	2-11-74
A-1M	Ready-Mixed Concrete	4-25-74
A-2M	Reinforcing Steel	11-14-74
A-1P	Concrete Construction	8-01-74
A-2P	Earth Fill Compaction	11-14-74
I-2M	Thermal Insulation	2-17-69
S-1M	Shop Fabricated Structural Steel	6-16-75
S-2M	Galvanized Structural Steel	11-03-75
J-3M	Shop and Field Fabricated Piping	9-25-72
J-1P	Field Pressure Testing of Piping	9-22-76
PMSS	Notes	10-07-77
J-01A	Piping Specification	8-01-74
J-03A	Piping Specification	9-22-76
J-04	Piping Specification	10-11-76
J-05	Piping Specification	10-01-76
J-07A	Piping Specification	8-01-74
J-018A	Piping Specification	9-22-76
J-020A	Piping Specification	10-01-76

LIST OF DRAWINGS AND SKETCHES

Attached hereto and made a part of Agreement No. _____ dated _____, 19____ are the following drawings and/or sketches:

Drawing or Sketch No.	Title	Date of Original Drawing or Sketch	Date of Latest Revision (If Any)
<u>GEMS (CONTINUED)</u>			
J-11	Piping Specification		10-01-76
J-13A	Piping Specification		4-20-77
J-16	Piping Specification		9-01-74
J-31A	Piping Specification		8-15-78
J-34	Piping Specification		8-15-78
J-51P	Piping Specification		9-01-74
J51SS	Piping Specification		9-01-74
J-52A	Piping Specification		2-15-76
J-65A	Piping Specification		5-01-75
J-618	Piping Specification		5-07-76