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11236 S. Torrence Ave.
Chicago IL 60617



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Tar Precipitator Replacement
Dated: 1991

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12/5/91

TO: J. GARZELLA

FROM: R. MARTELLO

SUBJECT: REPLACE (3) TAR PRECIPITATORS

ENCLOSED PLEASE FIND THE SCOPE OF WORK
AND REFERENCE DWGS FOR THE ABOVE SUBJECT.
THIS INFORMATION IS BEING SENT TO YOU FOR
YOUR REVIEW, COMMENTS AND APPROVAL.

THE PROJECT IS ON HOLD UNTIL I HEAR FROM
YOU.

J.G.

J.G.
DEC 5 1991
RECEIVED

cc: D. D'Amico
J. Harris
M. Mariani
G. Casper
B. Cowley

SPECIFICATION
FOR THE REPLACEMENT OF
THREE COKE OVEN GAS TAR PRECIPITATORS

SPECIFICATION NO. II-4339

DECEMBER 3, 1991

ACME STEEL COMPANY
10730 BURLEY AVENUE
CHICAGO, ILLINOIS 60617

SPECIFICATION NO. II-4339

1.00 INTRODUCTION

This specification is written to define the scope of work for the replacement of three (3) coke oven gas tar precipitators at the Coke Plant. The precipitators are designated as No. 1, No. 2 and No. 3 from south to north. The scope of this specification generally includes the removal of the existing precipitators and installation of in kind replacement units.

2.00 SCOPE OF WORK

The contractor shall furnish all necessary labor, material, equipment, supervision and tools to perform the following scope of work for each precipitator.

2.01 Dismantling

2.01.1 Remove and salvage the following:

- a. Gas reheater
- b. Insulator compartments
- c. Electrode support frame
- d. Electrode steady frame
- e. Gas outlet and inlet access platforms as required

NOTE: These platforms are not shown on drawings.

2.01.2 Disconnect miscellaneous piping to the tank, insulator compartments and reheater.

2.01.3 Dismantle for scrap and haul to a designated area in the plant the following:

- a. Precipitator tank
- b. Transition plate
- c. Heater plate with pipes and pipe steady frame

2.01.4 Remove old grout on existing foundation down to sound concrete.

2.01.5 Install temporary supports for main platform steelwork.

2.01.6 Remove existing grout around the outside of the bases on No. 1 and No. 3 precipitators.

2.02 Installation

2.02.1 Install the following:

- a. New precipitator tank
- b. New header plate with pipes and pipe steady frame
- c. New transition plate
- d. Salvaged gas reheater
- e. new gas reheater cap plate on No. 3 precipitator only
- f. Salvaged electrode support frame
- g. Salvaged electrode steady frame
- h. Salvaged insulator compartments
- i. Salvaged gas outlet and inlet access platforms

2.02.2 Reconnect miscellaneous piping to the tank, insulator compartments and reheaters.

2.02.3 Reconnect main platform steelwork to the tank.

2.02.4 Install grout under precipitator tank.

2.03 Work Performed by Others

The following items shall be performed by Acme Steel personnel:

2.03.1 Electrode removal and installation. The contractor shall allow for one (1) day of free access during dismantling for electrodes. The contractor shall allow two (2) days of free access during erection of new precipitator for installation of the electrodes.

2.03.2 H.T. cable and insulator connections.

2.03.3 Purging and blanking of the precipitator.

2.04 Materials Specifications

2.04.1 Steel plate shall be Type ASTM A516-60.

2.04.2 Steel piping shall be Type ERw, ASTM A53, Gr. A or B, standard weight.

2.04 Materials Specifications (continued)

- 2.04.3 Gasketing material shall be Garlock Style 3000, 1/8 in. thick, full face. Use die cut dovetail splice joints for sizes that exceed the available gasket sheet size.
- 2.04.4 30 in. diameter pipe flanges shall be 1-1/4 in. thick, machined face, 38-3/4 in. O.D., with twenty-eight (28) 1 in. diameter holes on a 36 i. bolt circle.
- 2.04.5 All welds shall be full strength unless noted otherwise.
- 2.04.6 All work shall conform to API and AWS specifications.
- 2.04.7 The precipitator shell shall be fabricated per drawings as follows:
- a. Precipitator No. 1 and No. 2
Shell: 26709-C and 7192-A
Gas outlet pipe: 26112-AG and AH
Pipe header: SKF 871
Transition plate: 26116
 - b. Precipitator No. 3
Shell: 36699-C and 7192-A
Gas outlet pipe: 37584-CE
Pipe header: SKF 871
Transition plate: 26116
- 2.04.8 The precipitator tank shall be hydrostatic test at 5 PSIG.
- 2.04.9 All exterior surfaces shall be painted one (1) shop coat of Carboline 801 Two Component Epoxy (black). Abrasive blast all surfaces to a commercial finish. Apply coating to 6-8 mils dry film thickness.
- 2.04.10 All flanged and welded pipe connections made in the field shall be pressure tested with soap solution while pressurized with purge gas.
- 2.04.11 The contractor shall field check dimensions before fabrication.

3.00 SPECIAL CONDITIONS

3.01 A daily "hot work" permit shall be provided at the job site by the By-Product Department supervisor. No burning or welding shall be performed until this permit is posted.

4.00 BID INSTRUCTIONS

4.01 Bids shall be submitted on the attached bid form.

4.02 Bids shall be based on performing the dismantling and erection of one precipitator at a time. Allow approximately two (2) weeks from completion of a precipitator to starting demolition of the next precipitator.

5.00 ATTACHMENTS

5.01 Acme Steel Proposal Form

5.02 Acme Steel Contractor Safety Responsibility

5.03 Drawings:

| <u>Drawing No.</u> | <u>Title</u> |
|--------------------|-------------------------------------|
| 36699-C | Diagram of Shell |
| 26709-C | Diagram of Shell |
| 7192-A | Detail of Shell |
| 7315-A | General Arrangement of Precipitator |
| 7383-B | Electrode Support Frame |
| SKF 871 | Pipe Header Detail |
| 26112 | Gas Pipe Detail |
| 37584 | Gas Pipe Detail |
| 26116 | Transition Plate and Reheater |
| 37577 | Gas Piping Plan |
| 26208 | Platforms |
| 37657 | Platforms |
| 37658 | Platforms |

5.00 The Undersigned has examined the location of the proposed work and is familiar with the local conditions as will effect the proposed work.

5.01 Names of Contractor Personnel and/or Sub-contractor present at site of inspection:

5.02 Names of Acme Steel Personnel present or contacted at Plant during site inspection:

5.03 Exceptions or scope changes to Specifications, Drawings or Conditions noted at site inspection, included or excluded in the proposal price. (Be specific; if none, state none).

6.00 For the alternate of _____

add - deduct the amount of \$ _____ to - from the stipulated price.

6.01 (for other alternate)

7.00 This proposal shall stand firm until _____
after which date it shall be void.

The above proposal is hereby respectfully submitted by;

CONTRACTOR _____

By _____

Title _____

Business Address _____

Date _____

12/20/91

TO: J. GARZELLA
FROM: R. MARTELLO
SUBJECT: TAR PRECIPITATORS

AT THE MEETING ON 12/17/91 ON THE ABOVE SUBJECT, OPERATIONS REQUESTED THAT REPLACEMENT OF THE (3) PRECIPITATOR SEAL POTS BE ADDED TO THE PROJECT.

I HAVE REVIEWED THE REQUIREMENTS FOR REPLACEMENT OF THE SEAL POTS IN KIND AND DETERMINED THAT THIS IS NOT FEASIBLE DUE TO THE FOLLOWING SITE CONDITIONS:

1. PROXIMITY OF EXISTING FOUNDATIONS FOR EXCAVATION.
2. DEPTH OF EXCAVATION REQUIRED - APPROX 11 FT.
3. LIMITED OVERHEAD CLEARANCE FOR EXCAVATION.
4. LIMITED ACCESS FOR EXCAVATION.
5. UNSTABLE SOIL CONDITIONS - WATER TABLE AT ABOUT 7 FT BELOW GROUND.

AN ALTERNATE TO THE IN KIND REPLACEMENT IS TO INSTALL A SLIGHTLY SMALLER SEAL POT INSIDE OF THE EXISTING SEAL POT. I WILL BE PREPARED TO REVIEW THE DETAILS OF THIS ALTERNATE WITH YOU ON 12/27/91.



1/22/92

cc: R. WALTERS

TO: J. GARZELLA

FROM: R. MARTELLO

SUBJECT: TAR PRECIPITATOR PROJECT

THE GAS INLET SPOOLS FOR THE TAR PRECIPITATORS HAVE BEEN INSPECTED. THE RESULTS OF THE THICKNESS TESTS ARE ATTACHED. ALSO, THE EXTERIOR CONDITION OF THE SPOOLS IS SATISFACTORY AND THERE ARE NO FIBERGLASS OR WELDED REPAIR PATCHES. THEREFORE, ENGINEERING RECOMMENDS THAT THE REPLACEMENT OF THE INLET SPOOLS IS NOT TO BE INCLUDED AS PART OF THE TAR PRECIPITATORS PROJECT.

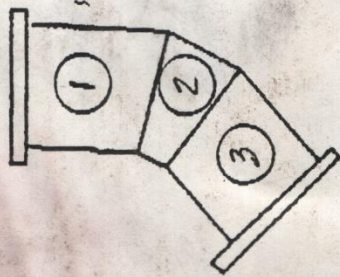
Jm

ERE

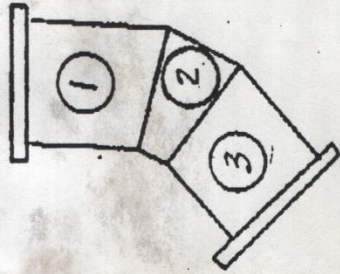
RECEIVED
JAN 27 1992
J. G.



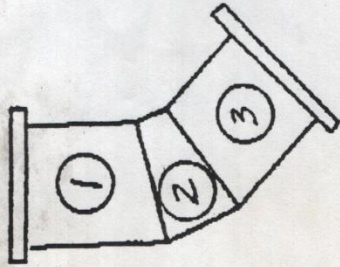
ORIG = 5/16" = .3125



(A)



(B)



(C)

Plan View

| | 1 | 2 | 3 |
|------------|------|------|------|
| * (circle) | .285 | .310 | .314 |
| (circle) | .307 | .235 | ~ |
| (circle) | .285 | .306 | .302 |

| | 1 | 2 | 3 |
|------------|------|------|------|
| * (circle) | .352 | .344 | .329 |
| * (circle) | .309 | .339 | ~ |
| * (circle) | .304 | .341 | ~ |
| * (circle) | .332 | .300 | .322 |

| | 1 | 2 | 3 |
|------------|------|------|------|
| (circle) | .313 | .319 | .312 |
| (circle) | .344 | ~ | ~ |
| * (circle) | .320 | .318 | .325 |
| * (circle) | .362 | .315 | .315 |

* All Reading Orientations Based View Looking East

JAB, RY, HMM
11/15/92