

GAS SEPARATION

PLANT CT

DESIGN REPORT

EXPANSION TO 5,535 M.C.F.D. CONTAINED ETHYLENE AND

700 M.C.F.D. CONTAINED PROPYLENE PRODUCTION

RG3

GAS CRACKING FURNACES

COOLING AND SCRUBBING SYSTEM

DRIPOLENE REMOVAL SYSTEM

GAS PROCESS DEVELOPMENT DEPARTMENT

CARBIDE AND CARBON CHEMICALS CORPORATION

SOUTH CHARLESTON, WEST VIRGINIA

DECEMBER 15, 1943

PLAINTIFF'S
EXHIBIT

76014.00

UCASB02113220

WV-17818

Motor to be 440 volt, 60 cycle, 3-phase, explosion proof type, Underwriters approved for Class I, Group D service, and conforming to the general "Specifications for Electric Motors for the CT Plant".

This pump and motor unit will be a duplicate of Item RG-141, WP-23, Plant CT, purchased on Carbide and Carbon Chemicals Corporation's Purchase Contract No. 82198.

RG3-108 - COOLING TOWER.

To cool the water in the furnace cooling water cycle.

This shall be a Marley "Standard Induced Draft" Cooling Tower of three cells, capable of cooling 1000 G.P.M. of water from 165°F. to 80°F. at 75°F. wet bulb atmospheric conditions. This tower is to be a duplicate of the Cooling Tower, Item RG-149, WP-23, Plant CT, purchased from the Marley Company on Carbide and Carbon Chemicals Corporation's Purchase Contract No. 81807.

The specifications as to material, design, and construction shall be identical with the specifications for these items for Item RG-149, but shall include any changes or additions made in Item RG-149 during erection. The tower shall be subject to the same guarantees of material and construction as Item RG-149.

RG3-109 - FLUE (NOT SHOWN ON FLOW SHEET).

To conduct hot combustion gases from the individual furnace breechings to the central stack.

This will be an extension of the existing furnace building flue. It includes six uptakes. It shall be constructed in accordance with Drawing R-103714, and the following specifications.

Steel Plate.

3/16" minimum thickness mild steel plate.

Insulation.

Internal insulation consisting of 4-1/2" minimum thickness of Johns-Manville #20, or equivalent, insulating brick. Surface to be covered with a brush coat of refractory cement. The flue uptakes shall be insulated on the outside with a 1-1/2" thick layer of Johns-Manville Super-X Insulating Block and a 1-1/2" thick layer of Magnesia covered with a reinforced surface of hard finish insulating cement.

Wind Loading.

The main breeching shall be reinforced and anchored to resist a wind loading of 40 lb./sq.ft.