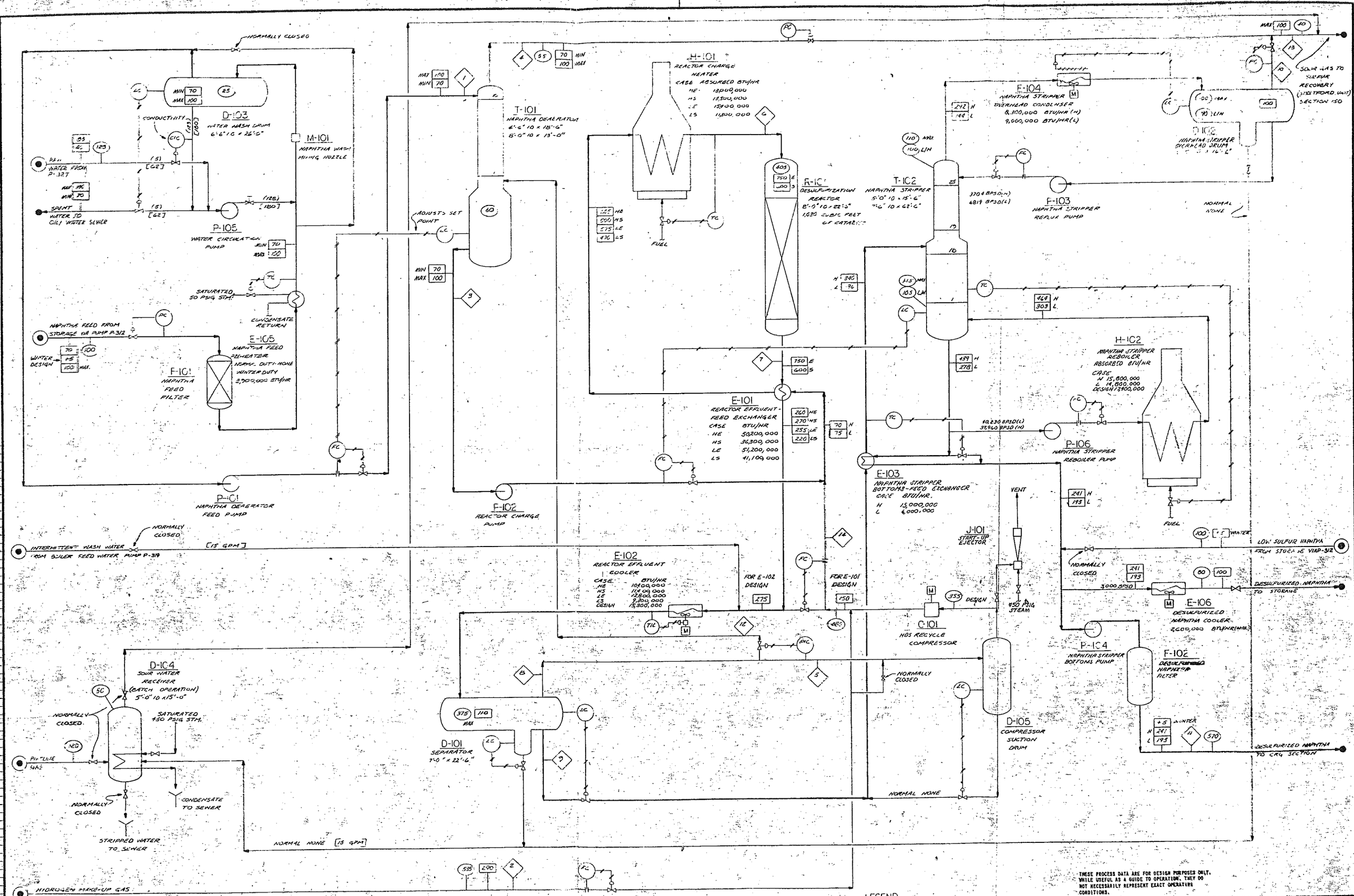
NORMALLY CLOSED
D-103
WATER WASH DRUM
6'-6" ID x 26'-6"
CONDUCTIVITY
M-101
NAPHTHA WASH MIXING NOZZLE
DEM. WATER FROM P-32T
SPENT WATER TO OILY WATER SEWER
P-105
WATER CIRCULATION PUMP
SATURATED 50 PSIG STM.
CONDENSATE RETURN
NAPHTHA FEED FROM STORAGE VIA PUMP P-312
WINTER DESIGN
E-105
NAPHTHA FEED PREHEATER
NORM. DUTY: NONE
WINTER DUTY
3,700,000 BTU/HR
F-101
NAPHTHA FEED FILTER
P-101
NAPHTHA DEAERATOR FEED PUMP
INTERMITTENT WASH WATER FROM BOILER FEED WATER PUMP P-319
[15 GPM]
T-101
NAPHTHA DEAERATOR
6'-6" ID x 18'-6"
8'-0" ID x 13'-0"
ADJUST SET POINT
F-102
REACTOR CHARGE PUMP
H-101
REACTOR CHARGE HEATER
CASE ABSORBED BTU/HR
HE 13,000,000
HS 13,500,000
LE 15,900,000
LS 11,500,000
FUEL
R-101
DESULFURIZATION REACTOR
8'-0" ID x 22'-3"
1,030 CUBIC FEET OF CATALYST
E-101
REACTOR EFFLUENT-FEED EXCHANGER
CASE BTU/HR
HE 50,200,000
HS 36,300,000
LE 51,200,000
LS 41,100,000
E-102
REACTOR EFFLUENT COOLER
CASE BTU/HR
HE 10,900,000
HS 14,600,000
LE 12,800,000
LS 9,300,000
DESIGN 15,300,000
FOR E-102 DESIGN
FOR E-101 DESIGN
T-102
NAPHTHA STRIPPER
5'-0" ID x 15'-6"
7'-6" ID x 62'-6"
E-104
NAPHTHA STRIPPER OVERHEAD CONDENSER
8,300,000 BTU/HR (H)
9,000,000 BTU/HR (L)
D-102
NAPHTHA STRIPPER OVERHEAD DRUM
F-103
NAPHTHA STRIPPER REFLUX PUMP
3704 BPSD (H)
4819 BPSD (L)
NORMAL NONE
SOUR GAS TO SULFUR RECOVERY (STRETFORD UNIT) SECTION 150
H-102
NAPHTHA STRIPPER REBOILER
ABSORBED BTU/HR
CASE
H 15,800,000
L 14,800,000
DESIGN 17,900,000
P-106
NAPHTHA STRIPPER REBOILER PUMP
10,230 BPSD (L)
37,940 BPSD (H)
E-103
NAPHTHA STRIPPER BOTTOMS-FEED EXCHANGER
CASE BTU/HR.
H 15,000,000
L 6,000,000
VENT
J-101
START-UP EJECTOR
450 PSIG STEAM
C-101
HDS RECYCLE COMPRESSOR
DESIGN
LOW SULFUR NAPHTHA FROM STORAGE VIA P-312
NORMALLY CLOSED
3000 BPSD
E-106
DESULFURIZED NAPHTHA COOLER
2,600,000 BTU/HR (APPROX.)
DESULFURIZED NAPHTHA TO STORAGE
P-104
NAPHTHA STRIPPER BOTTOMS PUMP
F-102
DESULFURIZED NAPHTHA FILTER
DESULFURIZED NAPHTHA TO CRG SECTION
D-104
SOUR WATER RECEIVER
(BATCH OPERATION)
5'-0" ID x 15'-0"
NORMALLY CLOSED
SATURATED 450 PSIG STM.
PIPELINE GAS
CONDENSATE TO SEWER
STRIPPED WATER TO SEWER
D-101
SEPARATOR
7'-0" x 22'-6"
D-105
COMPRESSOR SUCTION DRUM
NORMAL NONE [15 GPM]
HYDROGEN MAKE-UP GAS FROM CRG SECTION
LEGEND
PRESSURE, IN PSIG
TEMPERATURE, IN °F
STREAM NUMBER AS SHOWN ON SEPARATE MATERIAL BALANCE TABLES
( ) HOT GPM, NORMAL
[ ] HOT GPM, DESIGN
H HEAVY NAPHTHA FEED CASE
L LIGHT NAPHTHA FEED CASE
E END-OF-RUN VALUES
S START-OF-RUN VALUES
THESE PROCESS DATA ARE FOR DESIGN PURPOSES ONLY. WHILE USEFUL AS A GUIDE TO OPERATION, THEY DO NOT NECESSARILY REPRESENT EXACT OPERATING CONDITIONS.
This Drawing is the Property of the FOSTER WHEELER ENERGY CORPORATION
110 SOUTH ORANGE AVE., LIVINGSTON, N. J.
PROCESS FLOW DIAGRAM
SECTION 100
NAPHTHA HYDRODESULFURIZATION
50 MM SCFD SNG PLANT
PHILADELPHIA GAS WORKS
PHILADELPHIA PENNSYLVANIA
DRAWN BY J.G.
SCALE: NONE
DWG. NO. 1779-1-50-101C
0 25 MAY 76 GENERAL REVISION
C 24 NOV 76 450 PSIG STEAM TO D-104
B 25 JAN. 1976 MINOR REVISION
A 31 DECEMBER 1975 ORIGINAL ISSUE