UOP LLC
25 East Algonquin Road
Des Plaines, Illinois 60017-5017, USA

PROJECT SPECIFICATION
Project - 301 SHEET

REV	DATE	BY	APP'D	REV	DATE	BY	APP'

REV

VESSELS
TEC-300-12 ATTACHMENT 1

SERVICE RECYCLE COMPRESSOR SUCTION DRUM (EXISTING) **ITEM NO** V-2203

Design Conditions at Top	INT 00.0 kg/cm2(g)	@ 000°C
	EXT FULL VACUUM	@ 00°C
	Metal Temperature(Min)	00°C
Operating Conditions		00°C
		°C
Radiograph		*
Postweld Heat Treat		*

Material	Corrosion Allowance
*	*

This Vessel is in the Following Service(s):	
Hydrogen	-
Hydrofluoric (HF) Acid	-
Hydrofluoric (HF) Acid (with Resid. Elem. Control)	-
Wet Hydrogen Sulfide (H2S)	-
Severe Cyclic	-
Caustic	-
Carbonate	-
Amine	-

Vessel Heads	
Top	*
Bottom	*
Accessories Applied by Fabricator	
Ladder & Platform Clips	*
Insulation Clips & Rings	YES
Vessel Support	*

Nozzles and Manways

Mark	No	Size Inches	Service
	1	2	OUTLET
	1	VESSEL ID	MANWAY
	1	2	INLET
	1	2	INLET
	1	6	HANDHOLE
	2	1 1/2	LG-LC
	1	3	OUTLET

Class - *

Facing - *

Normal Liquid Level = 000 ABOVE BOTTOM TANGENT

Specific Gravity = 0.000

REFERENCE:

RECYCLE COMPRESSOR SUCTION DRUM ITEM NO V-2203
ORIGINAL UOP PROJECT NO 6950 (1988)
* CUSTOMER OR FABRICATION DWG NO & REVISION:
DAEKYUNG MACHINERY & ENGINEERING CO, DWG. NO. DV-898-001, REV 4 (1989)

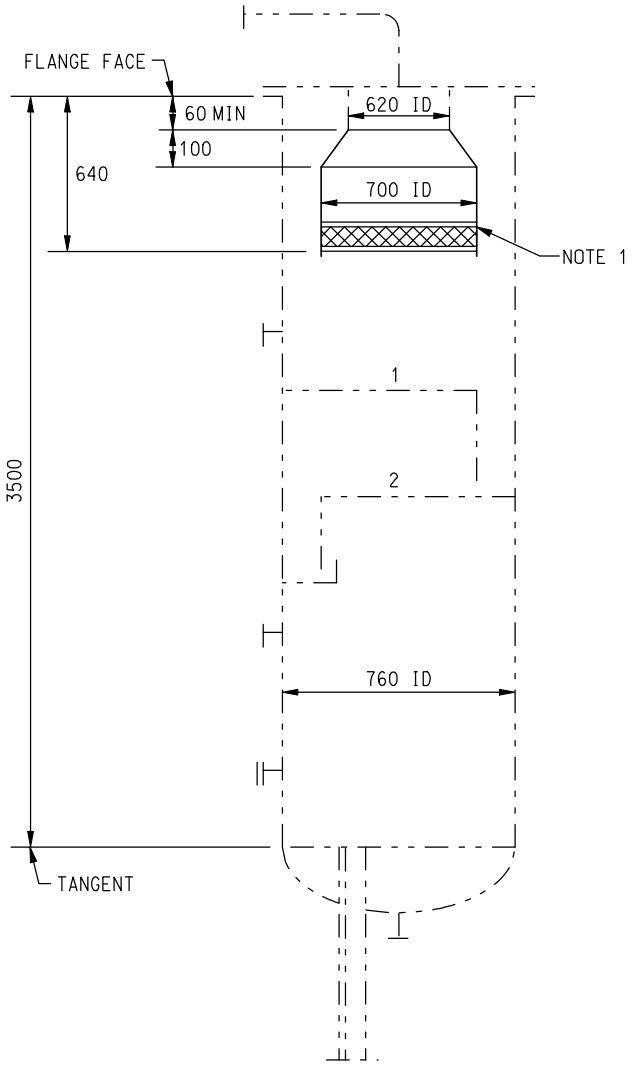
NOTES:

MODIFICATIONS REQUIRED FOR THE NEW SERVICE:

1. REPLACE EXISTING MESH BLANKET WITH NEW 700 ID MESH BLANKET (BY OTHERS) STYLE A: MONEL, AS SHOWN. SEE STD SPEC 3-35 AND SUPPORT PER UOP DWG 3-265.
2. SEE NOTES F, G AND H ON SHEET 2.

LEGEND:

NEW OR MODIFIED CONFIGURATION
EXISTING CONFIGURATION



Drawings Referred to in this Specification

3-265						

UOP LLC
25 East Algonquin Road
Des Plaines, Illinois 60017-5017, USA

PROJECT SPECIFICATION
Project - 301 SHEET

REV	DATE	BY	APP'D	REV	DATE	BY	APP'

REV

VESSELS
TEC-300-12 ATTACHMENT 1

SERVICE NET GAS CHLORIDE TREATER (EXISTING)

ITEM NO V-2007FB

Design Conditions at Top	INT 00.0 kg/cm2 (g)	@ 00°C
	EXT FULL VACUUM	@ 00°C
	Metal Temperature (Min)	00°C
Operating Conditions		00°C
		°C
Radiograph		*
Postweld Heat Treat		*

Material	Corrosion Allowance
*	*

This Vessel is in the Following Service(s):

Hydrogen	-
Hydrofluoric (HF) Acid	-
Hydrofluoric (HF) Acid (with Resid. Elem. Control)	-
Wet Hydrogen Sulfide (H2S)	-
Severe Cyclic	-
Caustic	-
Carbonate	-
Amine	-

Vessel Heads

Top	*
Bottom	*

Accessories Applied by Fabricator

Ladder & Platform Clips	*
Insulation Clips & Rings	NO
Vessel Support	*

Nozzles and Manways

Mark	No	Size Inches	Service
	1	24	MANWAY
NEW NOZZLE(S)			
AI	1	6	INLET
AM	1	20	MANWAY
CD	1	6	OUTLET / BOTTOM

Class - ASME CL150 (NEW)
* (EXISTING)

Facing - RAISED FACE (NEW)
* (EXISTING)

Normal Liquid Level = N/A

Specific Gravity = N/A

REFERENCE:

NET GAS CHLORIDE TREATER ITEM NO V-2007FB (FORMERLY ITEM NO.2007F) NOT AN ORIGINAL UOP VESSEL DESIGN.

* CUSTOMER OR FABRICATION DWG NO & REVISION: PROCON (GB) LTD., DWG NO 457-A11, REV 3 (1989)

NOTES:

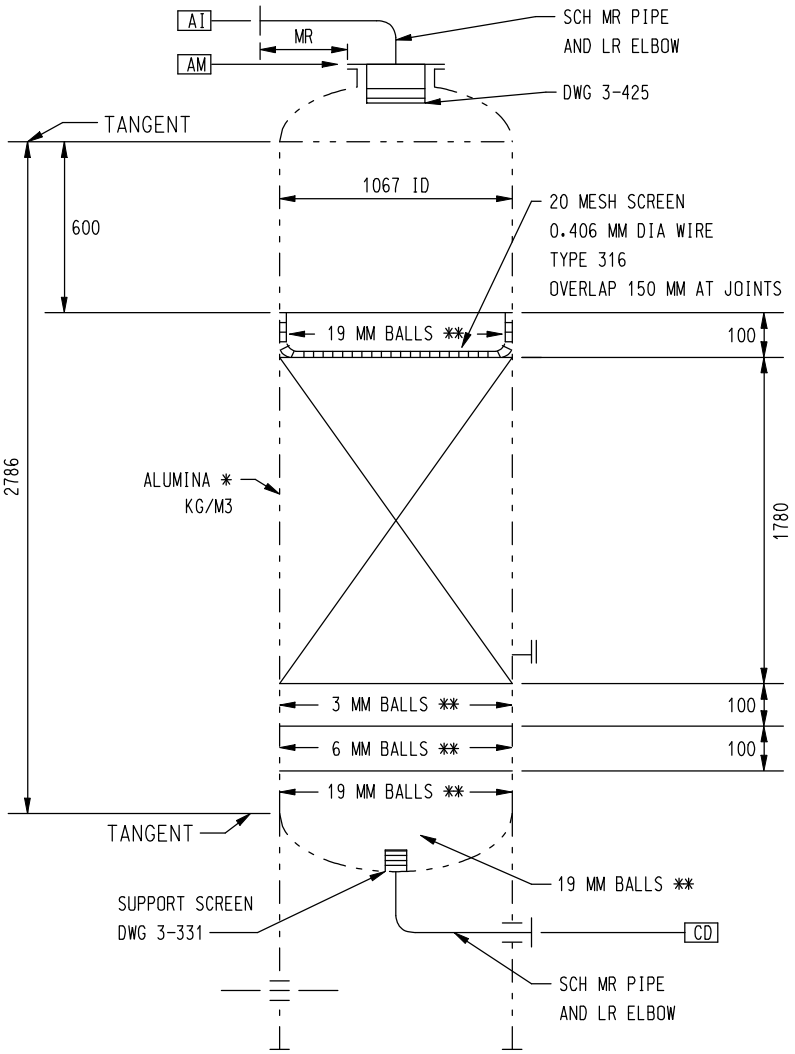
MODIFICATIONS REQUIRED FOR THE NEW SERVICE:

1) VENDOR DRAWING INDICATES AS-1548-1-430 MATERIAL. REFINER TO ENSURE THAT THIS STANDARD MEETS OR EXCEEDS KILLED CARBON STEEL REQUIREMENTS.
2) VESSEL TO BE RE-RATED.
3) REMOVE ALL INTERNALS AND MODIFY VESSEL AS SHOWN BELOW.
4) SEE NOTES F, G AND H ON SHEET 2.

LEGEND:

———— NEW OR MODIFIED CONFIGURATION

- - —— - - —— EXISTING CONFIGURATION



* BED MATERIAL, SEE PROJECT SPEC 106.
** INERT CERAMIC BALLS, TYPE I, SEE STD SPEC 3-37.

Drawings Referred to in this Specification

3-331	3-425					

VESSELS
TEC-300-12 ATTACHMENT 1

REV	DATE	BY	APP'D	REV	DATE	BY	APP'D

SERVICE	STABILIZER (EXISTING)	**ITEM NO**	V-2510

Design Conditions at Top	INT 0.0 kg/cm2(g)	@000°C
	EXT 0.0 kg/cm2(g)	@000°C
	Metal Temperature(Min)	00°C
Operating Conditions	TOP	00°C
	BOTTOM	00°C
Radiograph		*
Postweld Heat Treat		*

Material	Corrosion Allowance
*	*

This Vessel is in the Following Service(s):	
Hydrogen	-
Hydrofluoric (HF) Acid	-
Hydrofluoric (HF) Acid (with Resid. Elem. Control)	-
Wet Hydrogen Sulfide (H2S)	-
Severe Cyclic	-
Caustic	-
Carbonate	-
Amine	-

Vessel Heads	
Top	*
Bottom	*

Accessories Applied by Fabricator	
Ladder & Platform Clips	*
Insulation Clips & Rings	YES
Vessel Support	*

Nozzles and Manways

Mark	No	Size Inches	Service
	1	6	OUTLET
	1	24	MANWAY
	1	4	INLET
	1	24	MANWAY
N2	1	4	FEED
	1	14	REBOILER RETURN
	1	10	REBOILER DRAW
	1	24	MANWAY
	2	2	LG-LC
	1	3	OUTLET
NEW NOZZLES			
GT	1	1 ID	TI

Class - ASME CL300 (NEW)
EXISTING (*)

Facing - RAISED FACE (NEW)
EXISTING (*)

Normal Liquid Level = 0000 ABOVE BOTTOM TANGENT
Specific Gravity =0.00
Delta-P Vessel(Total) =0.00 kg/cm2(g)
NOZZLES MUST NOT BE LOCATED IN DOWNCOMERS

LEGEND:

——— NEW OR MODIFIED CONFIGURATION

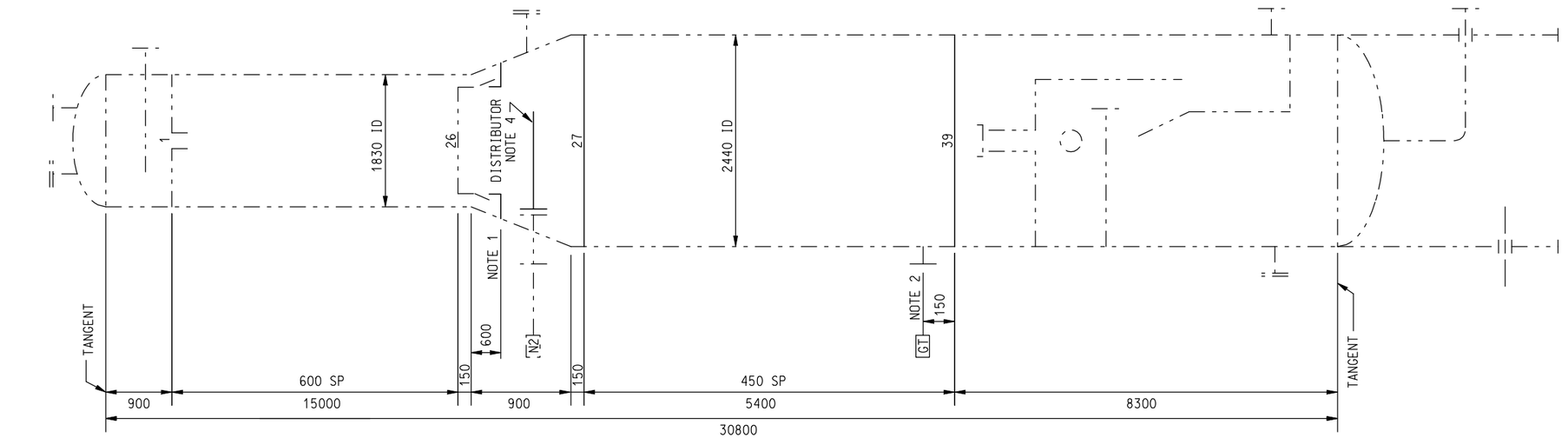
- - — - - EXISTING CONFIGURATION

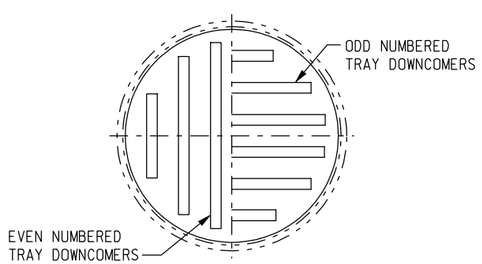
ORIGINAL UOP PROJECT NO 6950 (1988)
*CUSTOMER OR FABRICATION DWG NO & REVISION:
KOREA HEAVY INDUSTRIES, DWG. NO. K330M38-D-0301, REV 3 (1990)

NOTES:

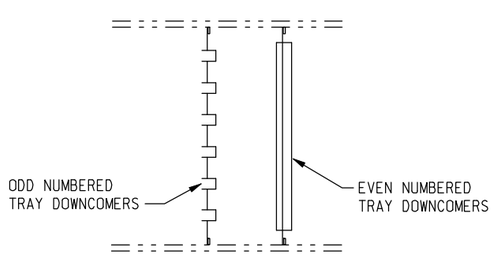
MODIFICATIONS REQUIRED FOR THE NEW SERVICE:

1) REMOVE EXISTING TRAYS #27-36 AND REPLACE WITH 13 NEW UOP ECMD TRAYS, AS SHOWN. REDUCE TRAY SPACING TO 450 MM. MODIFY TRAY 26 DOWNCOMER LENGTH AND PROVIDE A DISTRIBUTOR TRAP TO SUIT NEW TRAY BELOW.
2) INSTALL NEW 1 INCH ID TI NOZZLE "GT" ABOVE EXISTING TRAY 39, AS SHOWN.
3) SEE PLAN VIEW FOR ECMD TRAY DOWNCOMER ORIENTATION.
4) FOR EXISTING NOZZLE "N2" AN INTERNAL DISTRIBUTOR IS TO BE FURNISHED BY ECMD TRAY SUPPLIER, SEE UOP PROJECT SPECIFICATION 307.
5) EXISTING MANWAY ORIENTATION AND LOCATION IN THE ECMD TRAYED SECTION OF VESSEL TO BE CONFIRMED BY ECMD TRAY SUPPLIER.
6) SEE NOTES F, G, H AND I ON SHEET 2.

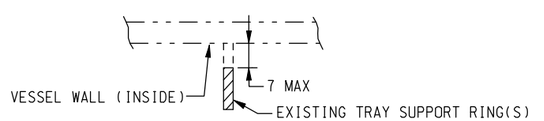




PLAN VIEW
(NOTE 3)



ELEVATION VIEW



REMOVE EXISTING TRAY SUPPORT RING(S)
IF NOT UTILIZED FOR THE NEW SERVICE

Drawings Referred to in this Specification

VESSELS
TEC-300-12 ATTACHMENT 1

REV	DATE	BY	APP'D	REV	DATE	BY	APP'D

SERVICE	DEETHANIZER COLUMN (EXISTING)	ITEM NO	C-5102

Design Conditions at Top	INT 00.0 kg/cm2(g)	@000°C
	EXT FULL VACUUM	@000°C
	Metal Temperature(Min)	00°C
Operating Conditions	TOP	00°C
	BOTTOM	00°C
Radiograph	MR	
Postweld Heat Treat	MR	

Material	Corrosion Allowance
KILLED CARBON STEEL	3

This Vessel is in the Following Service(s):	
Hydrogen	-
Hydrofluoric (HF) Acid	-
Hydrofluoric (HF) Acid (with Resid. Elem. Control)	-
Wet Hydrogen Sulfide (H2S)	-
Severe Cyclic	-
Caustic	-
Carbonate	-
Amine	-

Vessel Heads	
Top	2:1 ELLIPTICAL
Bottom	*

Accessories Applied by Fabricator	
Ladder & Platform Clips	AS REQUIRED (#)
Insulation Clips & Rings	YES
Vessel Support	*

Nozzles and Manways

Mark	No	Size Inches	Service
	2	2	LC
	1	22	MANWAY
	4	3/4	LG
	1	1/2	PI
NEW NOZZLE(S)			
AI	1	4	REFLUX
AM	1	24 ID	MANWAY
AO	1	8	OVHD VAPOR
AV	1	2	VENT
AU	(#)	(#)	RELIEF (#) SEE NOTE
BI	1	4	FEED
BM	1	24 ID	MANWAY
CI	1	16	REBOILER RETURN
DC	1	12	BOTTOM OUTLET

Class - ASME CL300 (NEW)
* (EXISTING)

Facing - RAISED FACE (NEW)
* (EXISTING)

Normal Liquid Level = 000 mm ABOVE BOTTOM TANGENT
Specific Gravity =0.000
Delta-P Vessel(Total) = 0.00 kg/cm2
NOZZLES MUST NOT BE LOCATED IN DOWNCOMERS

ORIGINAL UOP PROJECT NO 7752 (1979)
* CUSTOMER OR FABRICATION DWG NO & REVISION:
ACERO FABRICANTES C.A. DRAWING NUMBER RCN-150655, REV 5 (1981)

(#) BY CONTRACTOR
(#) THE NUMBER, FLANGE RATING, AND SIZE OF NOZZLES AT THIS LOCATION SHALL BE DETERMINED BY THE CONTRACTOR

NOTES:

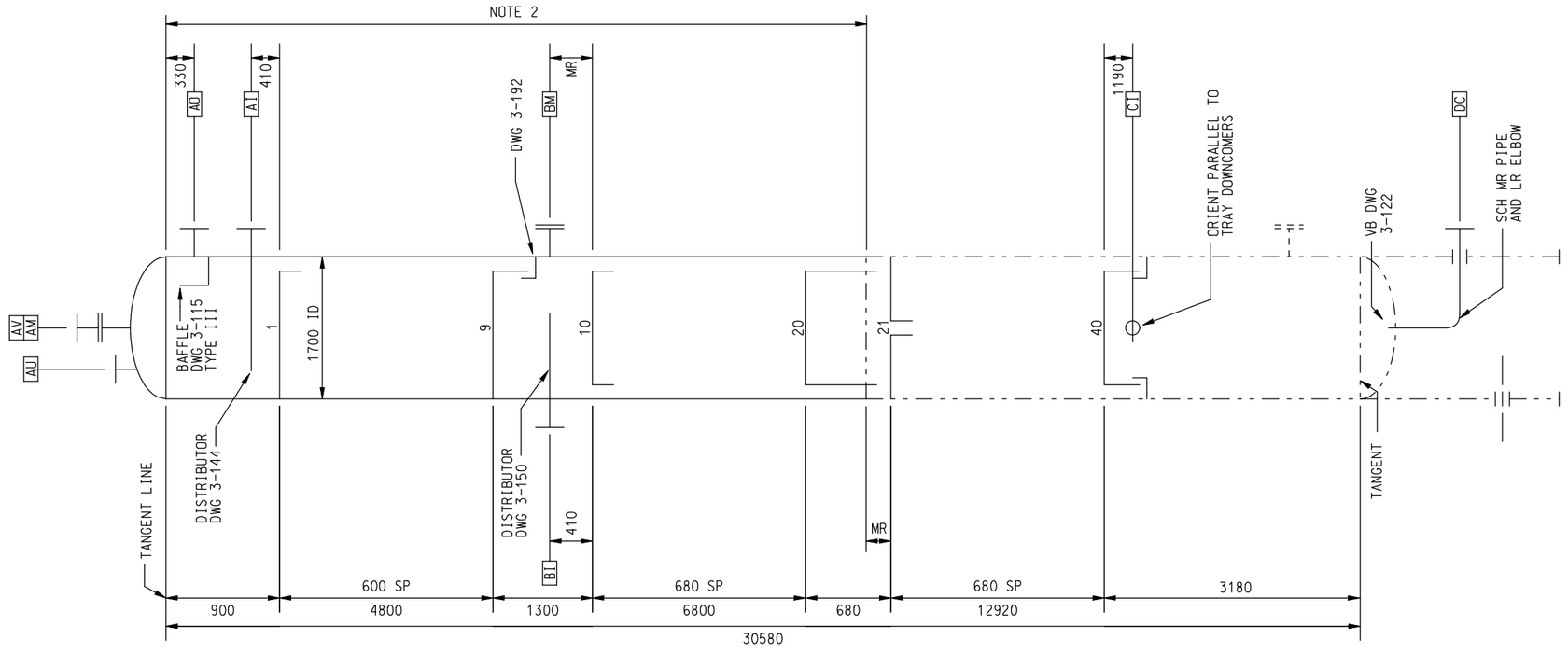
MODIFICATIONS REQUIRED FOR THE NEW SERVICE:

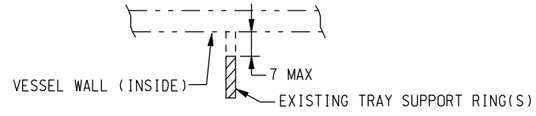
1) REMOVE ALL EXISTING TRAYS AND REPLACE WITH 40 TOTAL NEW TRAYS, AS SHOWN. SEE UOP PROJECT SPECIFICATION 307.
2) REPLACE EXISTING TOP HEAD, UPPER 900 ID SHELL PORTION AND CONE SECTION ABOVE TRAY 21 WITH A NEW 1700 ID SHELL AND TOP HEAD AS SHOWN TO MATCH LOWER SHELL PORTION.
3) REPLACE EXISTING 8 INCH BOTTOM OUTLET NOZZLE "DC" AND VORTEX BREAKER WITH A NEW 12 INCH NOZZLE AND NEW VORTEX BREAKER AS SHOWN.
4) REPLACE EXISTING REBOILER VAPOUR RETURN NOZZLE "CD" WITH NEW 16 INCH NOZZLE "C1".
5) SEE NOTES F, G AND H ON SHEET 2.

LEGEND:

———— NEW OR MODIFIED CONFIGURATION

— - - — EXISTING CONFIGURATION





REMOVE EXISTING TRAY SUPPORT RING(S) IF NOT UTILIZED FOR THE NEW SERVICE

Drawings Referred to in this Specification

3-115	3-122	3-144	3-150	3-192		