

POLY 3 - TRAIN
1 STARTUP

CONFIDENTIAL
DO 060529



DOW CHEMICAL U.S.A.

December 8, 1987

LOUISIANA APPLIED SCIENCE AND
TECHNOLOGY LABORATORIES
P. O. BOX 400
PLAQUEMINE, LA. 70765-0400
504-389-8000

Gary Camp
2501 Bldg.

cc: Bruce Alexius - 2805
Tim Holder - 901
Steve Biggs - 2306
Henry Bell - 4701T

REACTIVE CHEMICALS COMMITTEE REVIEW - DECEMBER 8, 1987

PROJECT: High Density Polyethylene Incremental Expansion
Capital Authorization

PROJECTS REPS: Gary Camp, Tim Holder, Dave Turner

COMMITTEE PRESENT: Pennington, Cochran, Bullman, Steward (Nevill),
Mitchell, Christensen

CONSIDERATIONS:

The Train I upgrade represents no new chemistry and is the same technology as existing Trains II and III.

The Train III Degassing Modification duplicates the existing Train IV technology.

The Committee identified no Reactive Chemicals concerns and therefore supports this authorization.

J. Y. Pennington
J. Y. Pennington, Chairman
REACTIVE CHEMICALS COMMITTEE

rcb

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REACTIVE CHEMICALS REVIEW

ATTENDANCE SHEET

REVIEW: Poly B Cap. Auth - Train I Restartup

DATE: 12-8-87

1.	<u>James Pennington</u>	<u>- LOST IT</u>	<u>RK Chem</u>
2.	<u>Ruf Cochran</u>	<u>Supt</u>	<u>" "</u>
3.	<u>Arnold Bullock</u>	<u>PTS</u>	<u>" "</u>
4.	<u>Jenny E. Steward</u>	<u>Env. Ser.</u>	<u>" "</u>
5.	<u>Tim Holder</u>	<u>Poly B</u>	<u>" "</u>
6.	<u>Gary Comp</u>	<u>R&D</u>	<u>" "</u>
7.	<u>DEE TURLEY</u>	<u>Poly B</u>	<u>" "</u>
8.	<u>Mark Mitchell</u>	<u>CA 2</u>	<u>" "</u>
9.	<u>MICKY CHRISTENSEN</u>	<u>Q&P</u>	<u>" "</u>
10.	_____	_____	_____
11.	_____	_____	_____
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DOW CHEMICAL U.S.A.

LOUISIANA DIVISION

P. O. BOX 150

PLAQUEMINE, LOUISIANA 70765-0150

504 389-8000

December 6, 1987

R. W. Gallant
Administration
Building 2306

HIGH DENSITY POLYETHYLENE INCREMENTAL EXPANSION

Authorization of \$3,650,000 is requested to provide materials and labor to (1) recommission the Train I reactor system and (2) install degassing capability on Train III reactor system at the High Density Polyethylene (HDPE) production plant located in the Louisiana Division. The recommissioning of the Train I system will provide an additional 45 million pounds per year of HDPE resins for U.S. trade sales.

Recent recommendation from the Global Plastics Strategy Task Force indicated that HDPE resins are critical to Dow's future strategic growth in plastics. The Polyethylene Business Team in concert with the HDPE Product Management Team has defined a strategy to become a major participant in the HDPE market through licensing technology and building or acquisition. This new position will provide us with the ability to supply a broad range of higher molecular weight products that are cost competitive. In support of this strategy, it is necessary to participate more aggressively in selected market segments where we currently have resin advantages versus the majority of polyethylene manufacturers.

The current two train HDPE production plant is limited to 180 million pounds per year, of which, 45 million pounds is utilized internally as a feedstock for Dow's TYRIN^(TM) resins. The balance of production is sold into a variety of trade applications. This project would provide for the recommissioning of Train I, one of two smaller (45 million pounds per year) reaction trains that were rationalized in 1985, to supply feedstock to the TYRIN^(TM) plant. This will then allow the entire production of the two existing trains to be dedicated to the trade market. Additionally, Train III will be modified to be able to produce truly bimodal resins through the addition of a degasser and appropriate other equipment.

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The project package includes modifications to the existing Train I instrumentation and solvent recovery systems, and the installation of a stainless steel process hold tank. Instrumentation which is currently pneumatic will be replaced. The solvent recovery system will be modified to match the latest technology on the two currently operating trains, including the installation of a hydroclone system and a vacuum recovery system to minimize solvent losses. To improve temperature control in the process hold tank, a major quality control parameter, the existing glass-lined tank will be replaced with an existing stainless steel vessel. These changes will be incorporated with the existing Train I equipment to provide a quick and proven capacity increase.

Forty-five million pounds of ethylene per year will be required for this expansion. One additional operator per shift (total of 4) will be required. No additional supervisory personnel are required.

Support letters from the Polyethylene and Derivatives Technology Center, Polyethylene Business Manager, Safety/Loss Prevention, Environmental Services, Plastics Material Services, and Reactive Chemicals Committee are attached.

A pre-manufacturing notice is not required for this project. All depreciation will be on Account 67. The projected RTO date is nine months after authorization (projected 4th Qtr, 1988). The projected spending schedule is for the entire \$3,650,000 to be spent in 1988. Project manager for this project is Gary Camp.

G. A. Camp
Project Manager

T. K. Holder
Plant Superintendent

J. S. Biggs
Major Manager

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HDPE PLANS

CAPACITY ALTERNATIVES & QUALITY IMPROVEMENTS

- 1. TRAIN 1 RECOMMISSION**
- 2. TRAIN 3 DEGASSING MODE**
- 3. MOD V CONTROL (CATALYST & EXTRUSION)**
- 4. TRAIN IV DEBOTTLENECK**

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TRAIN 1 STARTUP

GOAL: 6 MONTHS AFTER AUTHORIZATION

COMMITMENT: 9 MONTHS AFTER AUTHORIZATION

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POLY 'B' TRAIN I START UP PROJECT

TRAIN I SHUTDOWN IN 1985

NEW ELECTRONIC INSTRUMENTATION

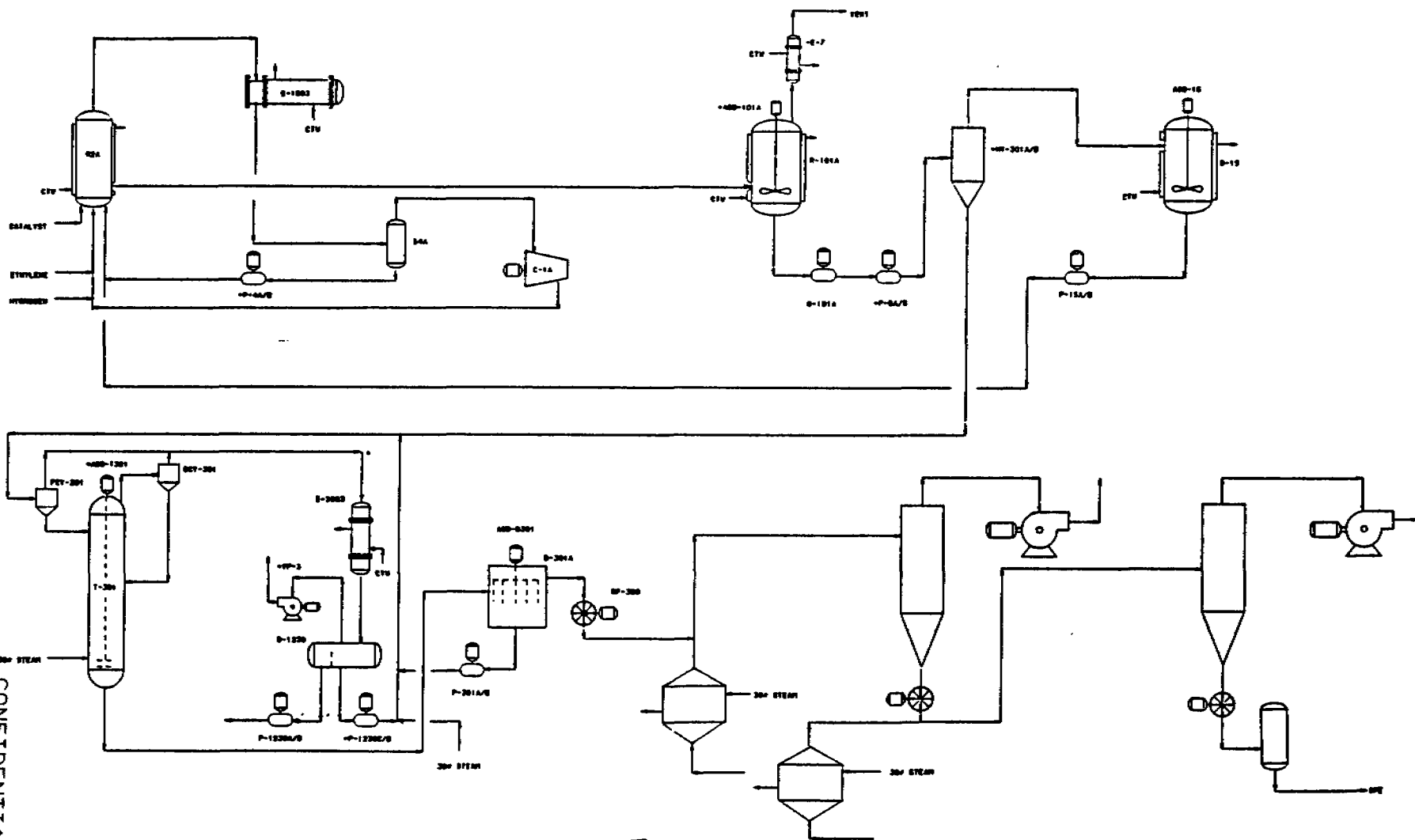
NEW PIPING FROM BLOCK HEADERS

INSTALL HYDROCLONE TECHNOLOGY

VACUUM STEAM STILL FOR SOLVENT RECOVERY

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TRAIN I

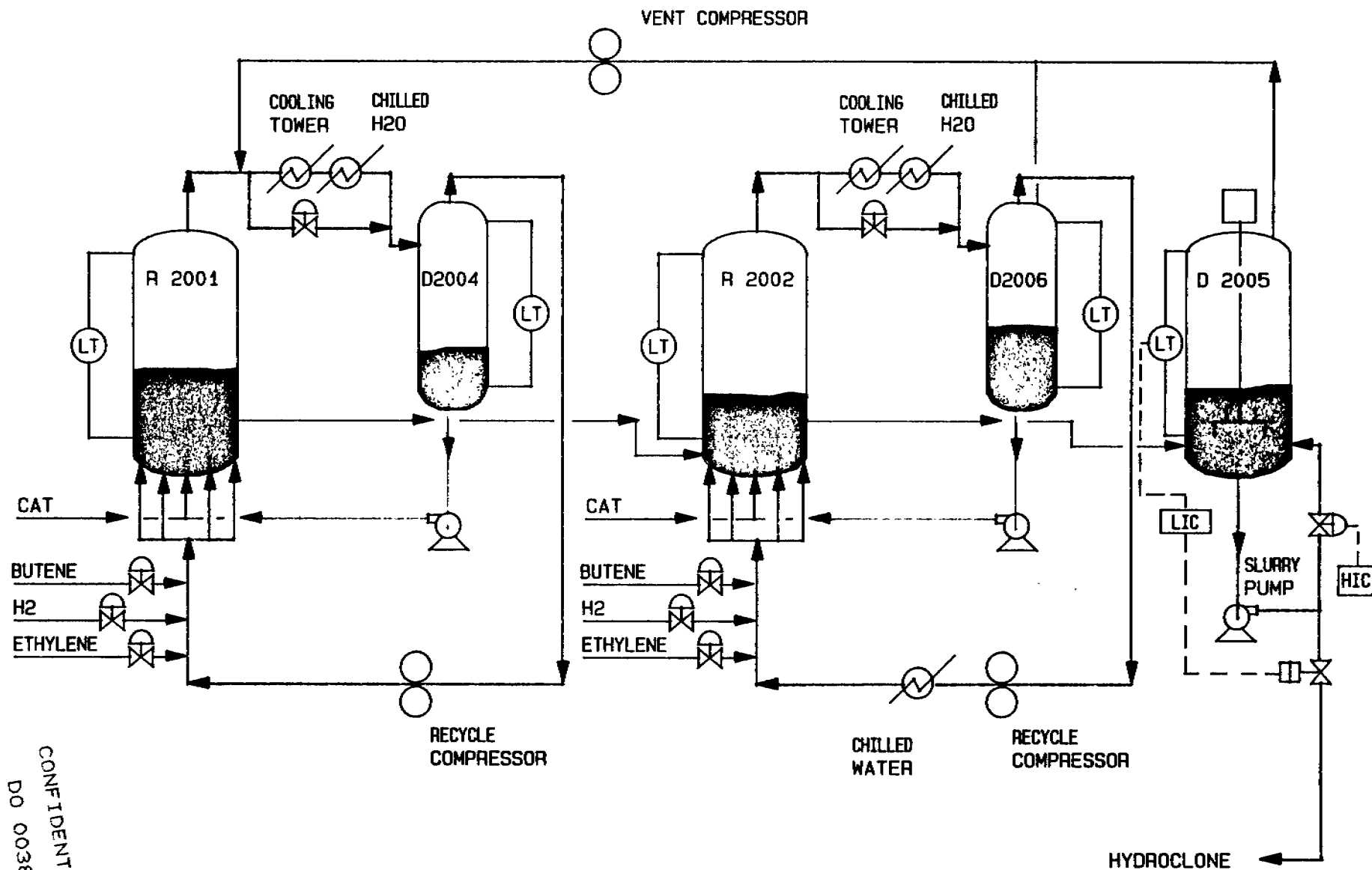
ALL NEW EQUIPMENT IDENTIFIED WITH AN APPROPRIATE TAG.

ORIGINAL S/N NO.

CAMP	3/3/77
CHANG	
DATE	
BY	
FOR	
REVISION	
DATE	
BY	
FOR	

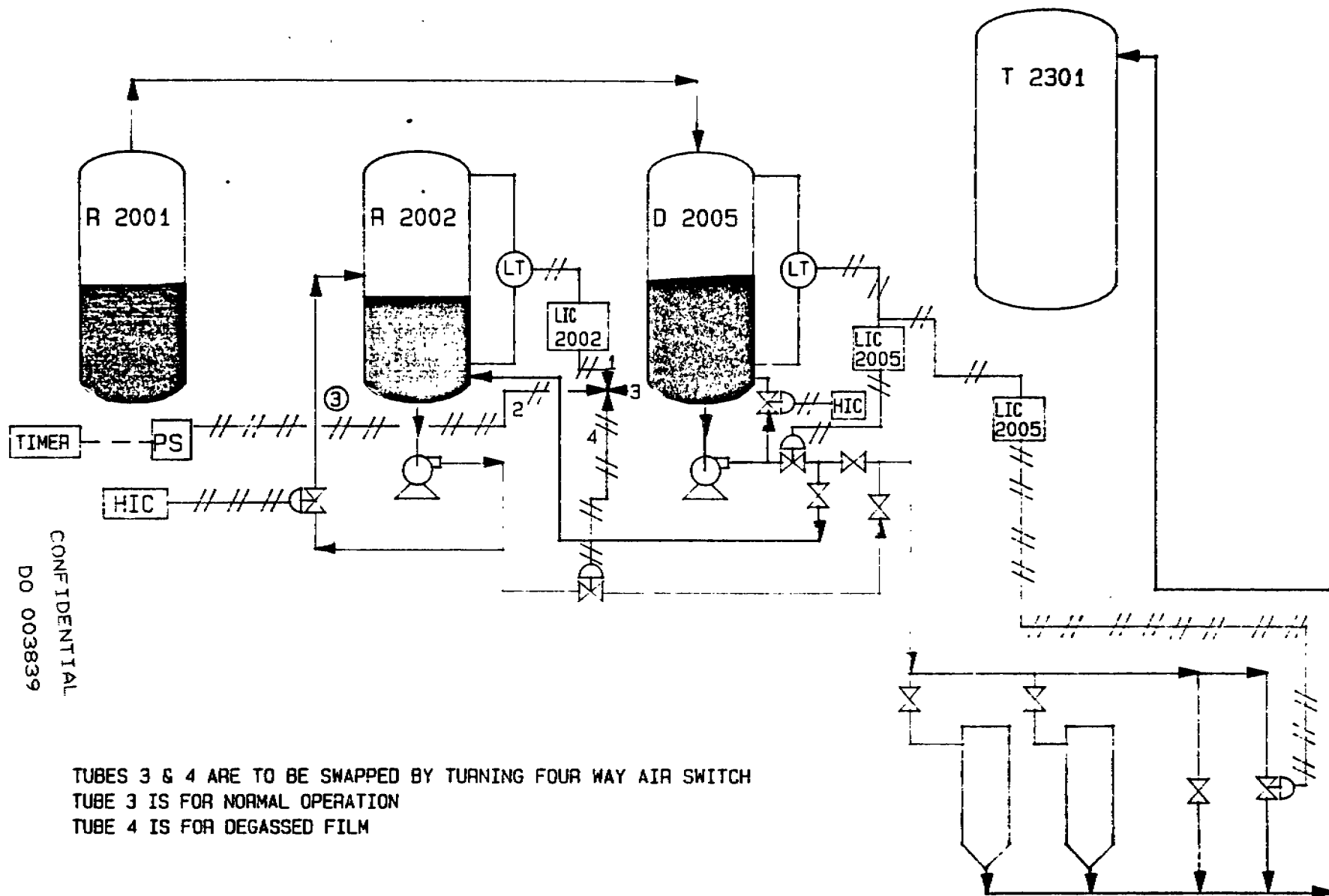
DOW CHEMICAL U.S.A. LOUISIANA DIVISION	
POLY 0	BLOCK 0
INDEX FLOW SHEET - TRAIN I	
JOB NUMBER	SCALE
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NORMAL MSP ARRANGEMENT

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TUBES 3 & 4 ARE TO BE SWAPPED BY TURNING FOUR WAY AIR SWITCH
 TUBE 3 IS FOR NORMAL OPERATION
 TUBE 4 IS FOR DEGASSED FILM

DEGASSING ARRANGEMENT

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December 1, 1987

Henry Bell	4701T
Arnold Bullman	4109
Mickey Christensen	8601A
Rex Cochran	4701T
Jack Gathers	2511
John Henley	2514
Mark Mitchell	3701
John Monroe	3301W
Mike Nevill	3502E
Gerald Wagener	2503
cc: Tim Holder	901
Bruce Alexius	2805
Gary Camp	2505
Mark Cenkus	3301W

REACTIVE CHEMICALS COMMITTEE REVIEW - POLY B

A Reactive Chemicals review is scheduled for Tuesday, December 8, 1987 at 8:30 a.m. in 2510 bldg. conference room (C-complex, AS&TL) to review TRAIN 1 STARTUP capital authorization.

If you are unable to attend please arrange for someone to substitute for you and notify me (6283) or Robbie Bagaley (1805) of your replacement.


Joan Pennington, Chairman
REACTIVE CHEMICALS COMMITTEE

rcb

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