



ESSO CHEMICAL CANADA

Chemical Technology Department, P.O. Box 69, Sarnia, Ontario, Canada N7T 2P1 Tel. (519) 339-2781

B.L. LOCKHART
Manager

85PL8 C0245

January 31, 1985

Vinyl Chloride Safety
Association Meeting

Dear Member:

The Phoenix meeting was generally felt to have been very productive, with a wide range of topics covered. The fact that the true confessions section was devoid of spectacular incidents is a measure of our success as an industry in promoting safe operation.

John Anderson, our 1985 Vice-Chairman, has tentatively arranged the next meeting for September 12 and 13 at the Innisbrook Inn and Resort, Tarpon Springs, Florida. Members should arrange to arrive by the evening of Wednesday, September 11 via Tampa International Airport.

Our next program chairman will be John Vaughan of I.C.I. Hillhouse, U.K. In order to provide a satisfactory meeting, he needs to know what your wants are and where he can turn to satisfy them. The attached questionnaire addresses these needs. Please complete it as soon as possible, and return it to him at the address on the last page, remembering that we rely on volunteer discussion leaders, seminar presenters, survey takers, etc. for our success.

A list of Permanent Representatives and attendees at Phoenix is attached. A copy of the initiator handling survey is included for those members who provided input to the survey.

I hope to see you all in Tampa.

Yours truly,

A handwritten signature in dark ink, appearing to read "J.R. Wallace", written over a horizontal line.

J.R. Wallace, Secretary
VC Safety Association

JRW/jäg
Attachment
2737J

VPE566816

- 5. Work Order Systems
- 5.1 Maintenance Work Orders _____
- 5.2 Work Permits _____
- 5.3 Vessel Entry Permits _____
- 5.4 Lock-Out Systems _____
- 5.5 Plant Operating Instructions _____
- 6. Legislation-Regulatory
- 6.1 Regulatory Update _____
- 6.2 Update on EPA-OSHA Actions _____
- 6.3 PVC Food Application
Regulation Regulations _____
- 6.4 Other Legislation Topics _____
- 7. Chemical Hazards
- 7.1 Polyperoxide Formation _____
- 7.2 Storage and Handling of
Peroxide Initiators _____
- 7.3 Inhibition of Recovered Monomer _____
- 7.4 Other Chemical Hazard Topics _____
- 8. Plant Design
- 8.1 Location of Control Rooms _____
- 8.2 Design of Control Rooms _____
- 8.3 Bunding of Monomer Storage _____
- 8.4 Materials of Construction _____
- 8.5 Electrical Classification
in Hazardous Areas _____
- 8.6 Relief Systems _____
- 8.7 Other Plant Design Topics _____
- 8.8 Gasket and Sealing Materials _____

- 9. Safety Programmes
- 9.1 Safety Committees and How to Make them Effective _____
- 9.2 Dupont Stop Programme _____
- 9.3 Incentive/Reward Systems Their Role in Promoting Safety _____
- 9.4 Safety Surveys _____
- 9.5 Incident Investigation Techniques _____
- 9.6 Other Safety Programme Topics _____
- 10. Process Safety
- 10.1 Controlling Runaway Reactions _____
- 10.2 Closed Reactor Hazards _____
- 10.3 Inspection Procedures _____
 - .1 Process Vessels _____
 - .2 Process Piping _____
 - .3 Nozzles _____
- 10.4 Gasholder Hazards _____
- 10.5 Other Process Safety Topics _____
- 11. Any Other Safety Topics of Particular Interest _____

RETURN TO: Mr. John Vaughan
P.O. Box 3 (Thornton Cleveleys)
I.C.I Hillhouse Works
Blackpool
FY5 4QB
Lancashire
England
Phone: 0253-856161
Telex: 67483 ICIPLAST CLVLYS

JRW/1066J

VPE566819

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location

PHOENIX

Date

OCT 1984

Company Name	Attendee	Position	Company Address	Telephone and/ Telex Number
AKZO				
AIR PRODUCTS	JOHN BARR JOHN ANDERSON	MGR. Regulatory Resp. PRODUCTION SUPERINTENDENT	Box 538 ALLENTOWN PA 18105 Highway 90, PACE, FL.	215-481-8343 904-994-5511
AISCONDEL				
BORDEN	H. R. Jepsen R. S. Shah	MGR. MH. SERVICES Tech. Mgrs.		217-486-2411
CERTAINTEED	C. A. GELLNER R. J. KELLY	PLANT MGR DIR. OPER.	P.O. Box 253, SULPHUR, LA 70663 238 TUCKER HILL LANE, MALVERN PA-19355	318-882-1441 215-341-7127
DOW	BOB OUBRE	Tech Mgr.	P.O. Box B, Freeport, Tx. 77541	409/238/9455

VPES66820

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location PHOENIX

Date OCT 1984

Company Name	Attendee	Position	Company Address	Telephone and/ Telex Number
DIAMOND SHAMROCK ALBERTA GAS.	WJ McDONALD	See last Page	DSAG	
ENICHEM POLIMERI	GIANNI BENETTA	TECH + PROD MGR	MILANO FIORI STRADA 2 PALAZZO F 7 20090 ASSAGO (MILANO) ITALY	02/520 26567
ESSO CHEMICAL CANADA.	JIM WALLACE	TECHNOLOGY	P.O. BOX 69 SARVIA ONTARIO N7T2P1	(519) 339-2284
	NINO PELLARIN	PVC OPERATIONS	P.O. BOX 3004 SARVIA ONT. N7T1H5	(519) 889-9061
	Bob Noble	Ops Supt	" " "	339-2891
ESSO PEPAS EKO CHEMICAL AE	COSTAS SGOURIS	Process Section Head	P.O. Box 44, Thessaloniki, Greece	JRW TELEX 064-76110 (031) 460412
FORMOSA.				
FRUTAROM.				
	VPES66821			
	O. WILINSKI	V.P. Engineering & Technology	P.O. Box 1929 Haifa 31019 ISRAEL	(4) 912213 Tx. 46289 EL.
GENERAL TIRE				

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location

PHOENIX

Date

OCT 1984

Company Name	Attendee	Position	Company Address	Telephone and/ Telex Number
GEORGIA PACIFIC	JIM GARRET	TECH MGR	Box 764 PLACERMINN LA	504 687 6321
	MARCUS SMITH	PROD. Supt	PO Box 629 ✓ ✓	✓ ✓ ✓
B.F. GOODRICH.	Herman Waltemate	MAN. SAFETY	6100 Oak Tree Blvd, Cleveland Ohio 44121	216-447-6428
	PAUL SHORE	PT. MGR	2104 E. 222nd St. LUNGBACH CA 92656	213-513-7111
GOODYEAR				
HÜLS				
I.C.I	JOHN VAUGHAN	SECT MANAGER	PO Box 3 HILLHOUSE WKS	TELEX 67483 CLVLS
	BRIAN DENNITT	Retired Admin	BLACKPOOL FY5 4QB LANCS ENGLAND	
L.V.M.	Bill Bryan	Plant Manager	PO Box 24 6190 AA Beck Hillm	36100
KEYSOR-CENTURY	KENNETH S.K. LAW	VICE PRESIDENT	26000 SPRINGBROOK ROAD SAUGUS CALIFORNIA 91350	805-259-2360
	MARQUEL A. ESPINO	PROD. MGR.		

UPES66822

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location PHOENIX Date OCT 1984

Company Name	Attendee	Position	Company Address	Telephone and/ Telex Number
HITSUI TOATSU. ?				
NORSK HYDRO	OLA AAS	PLANT MANAGER	NORSK HYDRO FORSGRUNN FABRIKK, NORWAY	17 55 51120
NORSK HYDRO				
U.K.				
ex B.I.P.				
NORSK HYDRO	Sune Andersson	Prod. Man. PVC	Box 854, S-444 01 STENUNGSVAJ Sweden	+4630371560 Telex 2437
SWEDEN ex Kema Nord.	Joe King	Mgr. Curator.	Box 699 Rottelidgatan Ra. 19464	215.327 6749
OCCIDENTAL	Charles McClary	Production Man	Rokuski, Burlington NJ	609 459-2500
P.P.G.	Ben Rogers	VCM Production	P.O. Box 1000, Lake Charles, La	318 491-4930
	Roy Stack	Tool Eng	17002 PPG INDUSTRIES, P.O. Box 412-434-2803 Pittsburgh, Pa 15272	

VPES66823

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location PHOENIX Date OCT 1984

Company Name	Attendee	Position	Company Address	Telephone and/ Telex Number
PANTASODE				
PEQUIVEN	Milagros Diaz	Ind. Hygiene		(066) 311319
	JOSE PEREZ	MCI Plant Mgr	PEQUIVEN/COMPLEJOZULIA AP 159 MARCAIBO / VENEZUELA	(066) 311314
PETROQUIMICA COLUMBIA	RAMUNDO PINTAUD	DIRECTOR OF PRODUCTION	ATAHADO AEREO 1707 CARITA GENTA, COLOMBIA S. A	85 247
POLIMEROS DE MEXICO				
PRIMEX	JORGE ZABATE	PLANT MANAGER	CARR. A LA RESERVAACION #73 PUEBLO, MEXICO	35-23-66
	TITOL DE LA TORRE	SAFETY SUPERVISOR		
	LEIBERDO ESTEBAN	PLANT MANAGER	Km. 3.5 Acceso Puerto Industrial Bataury	59958
	JUAN VALLE	SAFETY SUPERVISOR		MEXICO POST CODE 1640
SHELL				

VFE566824

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location PHOENIX Date OCT 1984

Company Name	Attendee	Position	Company Address	Telephone and/ Telex Number
SHINTECH	John T. Young	Environmental	5618 East Hwy 33a Freepart Texas	409/433-7861
SOLVAY	George Gerlich	Asst. Mgr. R&D	Solvay America Corp 609 Ave NY 10017	212 838 8303
	Robert Bonny	Plc prod. manager	Rue du Prince Albert 33 - Brussels - Belgium	(322) 5166062
S.E.P.I.				
TALLEYRAND				
TENNECO POLYMERS, INC.	Chuck Hendricks	Prod. Mgr.	P.O. Box 849 Pasadena, Tx 77801	713 884-4021
	SIMKACHTICK	MAN-ENV. SCI.	P.O. BOX 849 PASADENA, TEX 77594	713/884-4110
UNION CARBIDE	MERLE EISENHOUR	PRINCIPAL ENGINEER	P.O. Box 471 Texas City, Tx	409-948-6518
	↑ Jim Wallace - Merle will be the VCC representative. For VCSA from name on gskay.			

VINYL CHLORIDE SAFETY ASSOCIATION

MEMBERS AND PERMANENT REPRESENTATIVES

AS OF OCTOBER 1984

Akzo Zout Chemie Locatie Rotterdam
Drs. H. Steengena
VCM Production Manager
Postbus 7020
3000 HA Rotterdam, Nederland b.V.

Air Products
Mr. J.T. Barr
Manager Regulatory Response
Plastics Division
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AISCONDEL S.A.
Mr. Salvador Cebolla
Plant Manager
Vilaseca/Tarragona
Spain

Borden Chemical
H.R. Jepsen, Jr.
Mgr. Manufacturing Services
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Certain-Teed Corporation
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(601) 369-8111

Dow Chemical Company
Mr. Robert R. Oubre
VCM-EDC Technical Manager
P.O. Box B
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Diamond Shamrock Alberta Gas Ltd.
Mr. Derek Bennett
Manager Safety, Health & Environment
Box 3418, Fort Saskatchewan
Alberta, Canada

Electrochemical Industries
(FRUTAROM) Limited
Mr. O. Wilinski
Vice-President, Production
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04-912231 Telex 46289 EIF IL

Enichem Polimeri S.p.A.
Mr. Gianni Benetta
Manufacturing Process Manager
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E.K.O. Chemical A.E.
Mr. George Younis
Plastics Plant Manager
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Formosa Plastics Company
Mr. Bill Hager
Box 329, School House Road
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Georgia-Pacific
Mr. J.F. Gabbett
Technical Manager, PVC
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B.F. Goodrich Company
Mr. Herm Waltemate
6100 Oak Tree Boulevard
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(216) 447-6498

VPF566827

- Goodyear Tire & Rubber Company
Mr. Dan Snyder, Production Manager
5409 Baker Avenue
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Huls

Dr. Wolfram Pabmann
VCM/PVC Product Manager
Cehmische Weke Huls AG
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Imperial Chemical Industries
Europa, Ltd.
Mr. Geoff M. Hodd
Vinyls Technical Group
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Everberg, Belgium
Tel. No. Brussels 731-6900

Norsk Hydro Plastics
Mr. Sune Anderson, Production Manager
S-444 01
Stenungsund, Sweden
Telex 2437

Keysor-Century Corporation
Mr. Kenneth S.K. Law
Director, Engineering Department
26000 Springbrook Road
Saugas, California 91350
(805) 259-2360 Telex 67-7239

Mitsui Toatsu Chemicals, Inc.
Mr. Kenichi Yoshida
International Department
2-5 Kasumigaseki 3-Chome
Chiyoda-Ku, Tokyo, Japan
Telex 0222-3622 (MTCHEMJ)

Petroquimica
Mr. Rodolfo Gedeon, Plant Manager
Apartado Aereo 1707
Manomal, Cartagena
Colombia, S.A.
Telex 37747

Polimeros de Mexico, S.A. de C.V.
Mr. Felipe R. Montiel
Vosques Verciruelos 190
Vosque Velas
Lomas Mexico 11700

Nippon Zeon of American, Inc.
Dr. Marty Matsuo

- General Mgr., Technology & Project
201 East 42nd Street
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Horsk Hydro A.S.
Mr. Per Rangnes
Production Manager
Porsgrunn Fabrikker
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035-51120
Telex 21764 HYDRON

Norsk Hydro Polymers, Ltd.
Mr. David Middleton, Plant Manager
Aycliffe Trading Estate
Darlington, County Durham
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Occidental Chemical Company
Mr. J.A. King
Manager, Environmental Compliance
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Pottstown, Pennsylvania 19464
(215) 327-6749

PPG Industries
Mr. Roy Stack
Sr. Technical Service Engineer
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Limburgse Vinyl Maatschappij
(LVM) N.V.
Dr. Albert Barthels
Tessenderlo Chemie - L.V.M.
Stationsstratt,
B3980 Tessenderlo (Beigie)

Pequiven
Jose Perez, PVC Plant Manager
Apartado de Correo 159
Maracaibo, Venezuela
Telex 62366 PETRO VC

Tenneco Chemicals, Inc.
Mr. James W. Kachtic P.E.
Manager, Environmental Sciences
P.O. Box 849
La Porte Road
Pasadena, Texas 77501
(713) 479-3411

VPE566828

Union Carbide Corporation
Merle Eisenhower, Principal Engineer
P.O. Box 471
Texas City, Texas 77590
(713) 948-5518

Wacker-Chemie GMBH
Mr. Herbert Deuschl, Production Manager
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8000 Munich 22, Germany
89-2109-494

Vulcan Chemicals
Mr. Donald W. Malcolm
Superintendent MCF-II
P.O. Box 341
Geismar, Louisiana 70821

Solvay & Cie
Mr. Robert Bonny
Mgr., VCM Manufacturing Department
Central Technical Office
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Telex 21337 SOLV B

Promociones Industriales Mexicanas,
S.A. (PIMEX)

Mr. Jorge Zarate M., Plant Manager
P.O. Box 64
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Puebla, Pue, Mexico 29620
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Telex 178258 PIMXME

Shell Chemical Company
Mr. R.G. Heller
Process Manager V. Operations
P.O. Box 2633
Deer Park, Texas 77536
(713) 241-2931

Shintech
Mr. John J. Yonge
Supervisor, Environmental Control
5618 East Hwy. 332
Freeport, Texas 77541
(713) 233-7861

State Establishment for
Petrochemical Industries S.E.P.I.
Dr. Ahmed R. Mohammed
P.O. Box 933
Basrah, KHOR Al-Zubair, Iraq

VPE566829

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location WASHINGTON D.C Date 9 OCT 1986

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
AKZO	HANS NIEUWENHUYSEN		P.O. Box 7020 - 3000 HA - ROTTERDAM	(10) - 4198270
	- TECHN. MANAGER		AKZO ZOUTCHENIER - ROTTERDAM	
	Harry van der Boud.	Dev. Mgr.	ff	(10) - 4348270
	JOHN ANDERSON	PVC PRODUCTION SUPERVISOR	P.O. Box 467 PENSACOLA, FL 32592	904-994-5511
AIR PRODUCTS	JOHN T BARRA	Mgr. Reg. Economic	Box 538 Allentown PA 18105	215-481-8343
	DAVID A RUISE	PVC MAINT. ENGINEER	P.O. Box 467 PENSACOLA, FL	(904-994-5511)
	HAROLD COLEMAN	Proc. Devt. Mgr.	Box 538, ALLENTOWN PA 18105	215-481-4184
AUSCONDEL				
BORDEN	N M BLACOMAN	Env. Aff. Mgr.	BORDEN (1780 S 11 LAMING RD., KEIMWOOD, MA	617-537-1711
	P GUAY	Tech Mgr	P.O. Box 27 Tallahassee, FL	217 486 2111
	N M LATHROP	PROD MGR	P.O. Box 427 GEISMAR, LA	504 673-6121
CERTAIN-TEED	C.A. GELLNER	Prod Mgr	P.O. Box 253 Sulphur LA 70763	310-882-1441
	R. T. KELLY	DIE OPER	VALLEY FIEGEL, PA	
CHEMICALS + PLASTICS				
INDIA				

VPE566830

VINYL CHLORIDE SAFETY ASSC ATION MEETING

Location

WASHINGTON D.C

Date

9 OCT 1986

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
DOW	ROB OUBRE	Tech Mgr	P.O. Box 88 Freeport, TX 77541	409 238 9455
D.S.A.G.				
ENICHEM POLIMERI	GIANNI BENETTA	PVC TECHNOLOGY PRODUCTION MGR	MILANO FIORI - PAL. F7 STRADA 2 MILANO (ITALY)	02-52026567
ESSO CHEMICAL CANADA	JIM WALLACE	PVC TECHNOLOGY	PO BOX 69 SARNIA ONTARIO	(519) 339 6134
	PAUL SCHULTZ	PVC OPERATIONS	PO. Box 3004 SARNIA, ONTARIO	(519) 339-6116
	MIKE SIELOFF	PVC OPERATIONS	PO BOX 3004 SARNIA, ONT N7T1M5	(519) 339-6012
EKO CHEMICAL A.E	JOHN MANDRAVELIS	PVC PRODUCTION	P.O. BOX 10044 THESSALONIKI/GREECE	031-760-412
FORMOSA	Gay Su	Env. Engr.	Box 400, Point Comfort, Tx	(512) 987-2666
	FRED CHASTAIN	MAINT. COORDINATOR	"	"
	STAN LIENG	SR PROC. ENG.	"	"
	R.W. Boyer	TECH MGR	Box 320 Schoolhouse Rd, Del City, Del 19026	1-302-836-2263
	Stan Heath	Env. Mgr.	Box 271, Baton Rouge La	1-504-356-8644
	Kelly Serio	VCM Supv	"	" " " 8681
	Arno Boehmeyer	Reg Off Mgr	Box 320 Schoolhouse Rd Del City, DE 19026	1-302-836-2213

VFES66831

Approved / [Signature]

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location WASHINGTON D.C. Date 9 OCT 1986

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
FRUITAROM	DOV GORDISMAN	PLANT MANAGER	P.O. Box 1929 HAIFA ISRAEL	04-912-234
GEORGIA GULF.	JIM GABBETT FRANK BORRELLI Bill Baker Adolph Peterson	TECHNICAL MGR. PIT MGR. Production MGR. Tech. Sk. Supt.	P.O. Box 629 Plaquemine, LA. 70765 Box 619 River Road Delaware City Del P.O. Box 629 Plaquemine, LA 70765 " " " "	504-389-2662 302-368-5392 504-389-2648 504-389-2653
B.F. GOODRICH.	H. Waltemate D. Kiel	Mgr. Saf. Insp. Gen. Mgt. Saf. Insp. Gen.	6100 Oak Tree Blvd., Cleveland, OH 44115 PO Box 400 Pedricktown NJ 08071	216-447-6498 609-299-2800
GOODYEAR.				
HÜLS				
I.C.I.	BRIAN BENNETT ROGER FOX ANDREW JERVIS	MEDICAL ADVISOR SECTION MANAGER SOLICITOR	I.C.I. HILLHOUSE WORKS BLACKPOOL ice RUWEPEN CUESBURE I.C.I. MILLBANK, LONDON	0928 517 599 01-834 4444
GEORGIA GULF	BOYD ALLEMAN	PROD MGR. - VCM	P.O. Box 629 PLAUQUEMINE, LA. 70765	(504) 389-2671

VPE56683Z

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location WASHINGTON D.C

Date 7 OCT 1986

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
L.V.M.	THOMAS J.M	Plant Manager	BP 49. 62160 DULLY LES NIMES FRANCE	21 72 92 33 Telex: 210491
KEYSOR - CENTURY.	KEN LAW	V. P.	26000 SPRINGBROOK RD SAUGUS CA 91350	805-209-2360
MITSUI - TOATSU.	Yasuo Ohnuma	Patent Dept	2-5 Kasumigasaki 3 chome Chiyoda ku Tokyo	
NORSK HYDRO NORWAY	OLA AAS	PLANT MANAGER	N-3504 PORSGRUNN, NORWAY	+47-35-51120.
NORSK HYDRO U.K.	DAVID MIDDLETON	DIRECTOR	NEWTON CLIFFE, DARLINGTON, Co. DURHAM, ENGLAND.	0325-31-5122 58322
NORSK HYDRO SWEDEN				

VPES66833

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location _____

Date _____

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
OCCIDENTAL	Bill Lessig	PLANT MANAGER	P.O. Box 8 ADDIS, LA. 70710	504-383-6297
	Bill Winterfield	MGR. ACID 21 DRV	P.O. Box 728 NIAGARA FALLS NY	716 286 3424
	JIM KACHICK	MGR - ENV. SCI.	P.O. BOX 849 PASADENA, TEX 77501	713/889-4110
	JOE KING	MGR ENV COMPLIANCE	BOX 699 POTTSTOWN PA 19464	215 327 6749
P.P.G.	Clark S. Graybill	Operations Supervisor	P.O. Box 1000 LAKE CHARLES LA.	(318) 491-4935
	Roy Stark	T. Sec'y.	1 PPG Place Piquette, MI 48670	(412) 439-2403
PEQUIVEN	PEDRO R. MURILLO	ENVIRONMENTAL INSPECTOR	P.O. BOX 159, MARACAIBO, ^{ZULIA} 4002.	(066) 31-12-80
	Romulo Montiel	PIC PLANT MANAGER	- P.O. Box 159 MARACAIBO, VELA	066 31-13-67
PETROQUIMICA COLOMBIA				
POLINEROS DE MEXICO				
GRUPO PRIMEX	TITO DE LA TORRE	SATEL ENG.	CARRETERA A DESARROLLO 73 PUEBLA MEX	(22) 352366
	JORGE ZARATE	PLANT MGR.		

VPES66834

VINYL CHLORIDE SAFETY ASSOCI. MEETING

Location

WASHINGTON D.C.

Date

9 OCT 1986

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
SHELL				
SHINTECH	ERV SCHROEDER John Yonge	DIR. MANUF Environmental	5618 Hwy 332E, Freeport Tx "	409-233-7861
SOLVAY	George GERLICHY Robert BONNY	Dir. Mkt R&D Plant manager	Solvay Technologies Inc, 6095 Ave W NY 10017 SOLVAY Brussels Rausbeek 310	212 838 8563 02/266.2111
S.E.P.I				
TENNECO PARTNERS				
UNION CARBIDE	Bob Arnold	Manufacturing Group leader	P.O. Box 411 Tulsa City, TX 72513	409-948-5144

VPES66835

VINYL CHLORIDE SAFETY ASSOCIATION MEETING

Location WASHINGTON D.C. Date 9 Oct 1986

Company Name	Attendee	Position	Company Address	Telephone and/or Telex Number
VISTA POLYMERS	John McCulloch, Ch. Proc. Eng.		P.O. Box 19029, Houston, TX 77224	713-531-3273
	Eric Meyer, Sr. Pac. Eng.		" " " "	713-531-3249
	Richard Foreman, Environ.		P.O. Box 91 Aberdeen, MS	601-369-3609
	Joe Ledwith, Jr. Env. Act.		Box 19009 Houston TX 77224	713-531-3446
VULCAN CHEMICALS	Don Malcolm, Prod. Supt.		P.O. Box 227, Gaisman, LA 70816	504-973-5000
WACKER	Herbert Deurell	Product. Adv.	P.O. Box 1, 8000 Munich 22	89-21091999
CHEMIE				
VISTA CHEMICAL COMPANY	George Hopkins	Chief Prod. Eng.	P.O. Box 675, Levee Plant, Westlake, LA	518-494-5062
ETPQUINIA OLOMBIANA S.A.	Raimundo Pineda	Director of Production	P.O. Box 1707, Cartagena S.A.	DN (57)(59) 8247
Retroquimia	Rosendo Velaz.	Asistente. Sp. Product.	P.O. Box 1707, Cartagena, Colombia	(57)(59) 81249 TLX 037 747

VPE566836

VISTA

To JF HDG RAC

Date 6-16-86

JHM JCL

From R.A. FROHREICH

attached is the announcement
on this falls Vinyl chloride Safety
Asn meeting and the results
of the rupture disc survey.

RAF

VPE566837

THE VINYL CHLORIDE SAFETY ASSOCIATION

Secretary J.R.Wallace. Esso Chemical Canada, P.O. Box 69, Sarnia
Ontario, Canada. N7T 2P1 Tel. (519) 339-2284

April 14, 1986.

To Members of the Vinyl Chloride Safety Association:

The date and location of the 1986 meeting of the Association are confirmed as Thursday and Friday, October 9 and 10, at the Hotel Washington. Pennsylvania Avenue at 15th Street Washington D.C. 20004.

This Hotel is located between the White House and the Capitol, in the centre of the main visitor attractions. The Hotel itself is steeped in tradition, but, thanks to recent renovations, offers contemporary luxury facilities. A reservation card is enclosed. For direct communication, call (202) 638-5900, or in the U.S. toll free 800-424-5900, rooms should be reserved by Sept 12, do not forget to mention the UCSA.

You should arrange to arrive on Wednesday, October 8. The Hotel is a 15 minute cab ride from the National Airport, or, by subway, 2 blocks from the Metro Centre Station. From the Dulles International Airport the most economic route is to take a Greyhound Bus to the Capitol Hilton, and then a taxi five blocks to the Hotel.

The program chairmen are busily putting together the agenda, and request that you communicate your needs, ideas, problems, suggestions, offers to present papers, lead discussions, or conduct surveys, complaints about previous meetings, true confessions, and anything else that will demonstrate that you and your co-workers are contributing members of our organization. They may be reached by telephone or mail as follows :-

America

Larry Peyton - Formosa Plastics Delaware, P.O. box 320,
Delaware City De. 19706, Phone ~~(302) 836 2200~~
302-836-2210

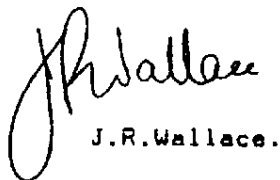
Europe

Ola Aas - Norsk Hydro PVC Plant, N3901
Porsgrunn, Norway. Phone +47 35 51120

I look forward to seeing you again at another stimulating and informative meeting.

As a contributor, you will find enclosed a copy of the completed rupture disc survey conducted by E.C.C., with apologies for the delay. Note that this is the only copy of the report coming to your company, please ensure that the participating plants receive copies.

Yours very truly


J.R.Wallace.

VPE566898

VINYL CHLORIDE SAFETY ASSOCIATION
P.V.C. REACTOR RUPTURE DISC SURVEY

M. J. Bate - Esso Chemical Canada

Summary of Responses (Tabulation of the raw data is attached)

1. Number of Respondents: 38

2. Rupture Disc Set Pressure:

(i) Consider $(\frac{\text{Rupture Disc Burst Pressure @ Burst Temp.}}{\text{Reactor Vessel Pressure Rating}}) \times 100\%$

Average for all Respondents = 90.0%
Standard Deviation = 14.7%
Range: Low Value = 60.0%
High Value = 115.2%

Note: 14.7% of respondents are operating with a higher burst pressure than V.P.P. In each of these cases the disc was not in series with a safety valve and therefore was likely not responsible for primary pressure relief. Several respondents provide multiple discs on each vessel each with different burst pressure and capacity.

(ii) 62.5% of respondents operate with the rupture disc in series with a safety valve.
Of these respondents only 36% provide for some loss in safety valve capacity due to the presence of the rupture disc below it. The average assumed capacity loss for those who provide it is 11.5% (range = 1 to 20).

(iii) Manufacturing Ranges of Rupture discs:
% over specified pressure - Average = 3.9% (43% specify 0%)
Range = 0-10.9%
% under specified pressure - Average = 2.8% (38% specify 0%)
Range = 0-10%

73% of respondents receive their discs without special order from the manufacturers to attain the required manufacturing range.

VINYL CHLORIDE SAFETY ASSOCIATION
P.V.C. REACTOR RUPTURE DISC SUPVEY

2. Rupture Disc Set Pressure: (cont'd)

- (iv) Burst Tolerance of Rupture Discs:
Average = 5.1%
Range = 2-11

86% of respondents receive their discs without special order from the manufactures to attain the required burst tolerance.

3. Rupture Disc Types

- (i) Rupture discs in use on PVC reactor vessels:

<u>Type</u>	<u>% of Respondents</u>
Prescored & Bulged	32.5%
Prescored Reverse Buckling	17.5%
Reverse Buckling Knife Gate	25%
Conventional bulged	25%

- (ii) Rupture disc materials:

<u>Material</u>	<u>% of Respondents</u>
316 SS	47.5%
Nickel	37.5%
Inconel	7.5%
Aluminum	5%
Graphite	2.5%

- (iii) Disc orientation:

15% of respondents specify J-bolts to prevent improper disc orientation. For the respondents who do not provide J-bolts, the techniques for assuring proper orientation are:

Training	-29.4%
Special Holders	-44.1%
Identifying Label	-17.6%
Nothing Done	-8.8%

- (iv) 47.5% of respondents provide some type of torque requirements during installation of the rupture discs.

VINYL CHLORIDE SAFETY ASSOCIATION
P.V.C. REACTOR RUPTURE DISC SURVEY

3. Rupture Disc Types: (cont'd)

(v) Disc types not recommended:

The main types of disc not recommended were reverse buckling knife gate discs, and graphite discs. The major reasons given were due to unreliability of the reverse buckling knife gate disc caused by corrosion of the knives and reversal of the disc (causing increased burst pressure) caused by cycling pressure or overflow conditions. Graphite discs were noted for fouling, cracking, and splintering when broken.

4. Rupture Disc Leak Detection

(i) Leak detection techniques:

Pressure gauge	-45.2%
Pressure switch/alarm	-48.4%
Red ball indicator	- 6.4%

(Note: Many companies use more than 1 device).

(ii) Venting techniques for spaces between safety devices:

PG and block valve	-25.8%
Relief Valve	-29.0%
Excess flow valve	-29.0%
Not vented	-15.2%

96% of respondents who vent this space do so to atmosphere.

(iii) Disc Inspections:

Almost all respondents visually inspect the rupture discs in place during a vessel entry or by using a lamp and mirror. The frequency of the inspections varied widely from every few reactor cycles to once per year.

VINYL CHLORIDE SAFETY ASSOCIATION
P.V.C. REACTOR RUPTURE DISC SURVEY

5. General

(i) Fouling prevention techniques:

Apply antifoulant	-35%
Use teflon coated disc	-16%
Water spray	-16%
Other	-33%

(ii) Present areas of concern:

No concern	-48%	
Premature failure	-13%	
Fouling	- 6%	
Handling/Installation	-26%	(reverse buckling knife gates predominately)
Overpressuring	- 6%	(reverse buckling knife gates predominately)

(iii) Premature Rupture Disc Failures:

53% of the respondents experienced some premature failures in 1984. The major reported causes were:

- Improper installation and handling
- Process conditions (eg. cycling pressure)
- Poor quality discs
- HPW damage

(iv) Overpressure:

5 respondents reported having had overpressure situations in the past when rupture discs did not properly operate. 3 of these situations occurred with reverse buckling discs due to dull knife blades, disc fouling, and disc reversal during a liquid overfill. One overpressure of a prescored and bulged disc was caused by a bad housing while the other was caused by pressure accumulation above the disc and fouling.

TABULATION OF RESPONSES pg 2 of 7

Company Designation	H	I	J	K	L	M
Set Pressure Considerations						
Reactor Size (USG)	20000	34100	10000	8000	3700	20000
vessel Rating (psig)	300	300	100	235	206	220
RD Size (in.)	12	6	6 + 8	5.91	6	2+5/1+8
In Series with SU ?	yes	yes	no	yes	yes	Yes (for 6" RDs)
PG Burst P @ 72F (psig)	312	196	105		220	237
Design Burst I (F)	363			150	212	200
Burst P @ Burst I (psig)	270	102		232	180	6"-210/18"-225
Manufacturing Range-over/under(I)	5/5	5.9/1.6		10/10	-	
Special manufacturing range ?	no	yes	no	yes	-	
Burst tolerance (I)	2	2	5	10	-	2
Special burst tolerance ?	no	yes	no	yes	-	no
SU capacity red'n due to RD (I)	20	0	none	not available	-	none
SU setting (psig)	270	185	90	232	180	200
RD Manufacturing and Installation						
RD Type	KBA rev buckling	prescored/bulged	reverse buckling	prescored/bulged	BU	rev. acting insert
Manufacturer	Continental	Osaco E-0857-01	BS&B S-90	Fike, Poly S-D 150	BS&B	Continental-KBA
Number of discs per location	1	4	22	1	1	3
Disc Material	SS 316	SS 316/TFE/SS316	nickel	316 SS	SS/TFE	316SS/TFE
Disc orientation device	none	special holder	J bolts	none	special holder	special holder
Torque requirements used ?	yes	no	yes	no	no	yes
Discs not recommended-type	Crosby	graphite/brass	all others	reversing		
-reason	Pinholing	cracking/reacts with UCM	premature failure	Not allowed by law if hydrostat possible.		
Leak detection device	press. gauge	tattle-tail gauge		Pressure ind.	pressure ind.	PI
Vent method for space above RD	not vented	none		none	none	none
Vent destination		atn				-
Press monitoring freq for space	every batch	once/year		2-4 X per year	50% of all RDs	-
Frequency of RD leaks	never	rare		only once	50% of all RDs	-
Frequency of RD pin-holes	never	none	Close to vessel	Wash every batch	RD on cooled nozzle	once in 3 yrs
RD fouling prevention method	water spray	none	none	1	daily	cooled nozzle
RD inspection freq (react cycles)	4X per year	none		visual	visual	2-3
Type of inspection	visual		24	2-6	6(due to leaks)	visual
RD replacement freq (no.s)	<12	12				8
General						
Present concerns	Plugs below RD	Cannot inspect	none	Satisfied	none	none
Number of failures in 1984	5	0-5	none	none	5-20	0-5
Failure causes-1.	Poor quality RD	press/vac flexing	overpressure		Faulty manufacture	Faulty manufacture
-2.		high temp.				
-3.						
Overpressure ever occurred ?	no	no	no	yes	no	no
Overpressure amount (psig)				215		
Least overpressure				1982		
Overpressure causes-1.				Back-up pressure		
-2.				Fouling		
Other comments	Good experience with Continental discs	Most failures due to pressure/vac cycling	Corrosion of SS RDs led to failure. No problems with nickel discs.	Vacuum supported discs susceptible to fouling.	Use PI to detect pressure above RD	Use PI to detect pressure above RD
			Pressure test if vessel removed from service.		Coat nozzle under RD to prevent polymerization.	

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Company Designation	M	D	P	G	R	S
Swet Pressure Considerations						
Reactor Size (USG)	6600	7250	5300	20000	6600	8450
Vessel Rating (psig)	250	312	-	224	217	217
RD Size (in.)	4	6	6	6	8	8
RD Series with SV?	no	yes	yes	yes	no	no
RD Burst P @ 72F (psig)	-	276	-	-	277	277
Design Burst T (F)	176	175	175	190	158	158
Burst P @ Burst T (psig)	274	256	250	211	250	250
Manufacturing Ranges/over/under (%)	10/0	5/0	5/5	0/0	-	-
Special manufacturing range?	yes	no	yes	no	-	-
Burst tolerance (X)	10	5	-	5	11	11
Special burst tolerance?	yes	yes	-	no	no	no
SV capacity req'd due to RD (X)	none	-	0	1.4	-	-
SV setting (psig)	-	256	250	211	-	-
RD Manufacturing and Installation						
RD Type	plain	Scored	Rev buckling	Prescored/bulged	bulged	bulged
Manufacturer	Sigri-n	BS&B-6FM or S-90	Johnson Matthey	Fike Foly 5D	BS&B type BV	BS&B type BV
Number of discs per location	1	1	1	6	1	1
Disc Material	graphite	SS	nickel	nickel	316SS	316SS
Disc orientation device	none	J bolts	arrow on unit	disc tag	none	none
Torque requirements used?	no	yes	no	no	none	none
Discs not recommended-type	Elfab-Hughes	BS&B RB90	none	reverse buckling	graphite, rev. buck.	graphite
-reason	Cannot install between flanges.	RD may reverse against knives without rupture pressure gauge	-	Engineering dept not allow them.	doe fouling, hydrostatic overfill	fouling
Leak detection device	-	-	PG with ind manual valve	PG and alarm manual valve	-	-
vent method for space above RD	-	-	atn	atn	-	-
vent destination	-	atn	atn	atn	-	-
Press monitoring freq for space	-	every batch	every batch	continuous	-	-
Frequency of RD leaks	-	-	2/yr	none in 3 yrs	-	-
Frequency of RD pin-holes	-	-	never	none in 3 yrs	-	-
RD fouling prevention method	none	disc location	none	reactor coating	Alufoil under disc	Alu-foil under disc
RD inspection freq (react cycles)	once/month	daily	1	150	4	150
Type of inspection	visual	visual	visual	visual	curvature gauge	replaced
RD replacement freq (no.s)	24	1000-2000 batches	at failure	24	4 batches. Re-use if inspection OK	150
Experi.						
Present concerns	none	none	Wrong installation, handling or knife damage	Occasional pluggage	none	none
Number of failures in 1984	0	0	0-5 per react.	none	none	none
Failure causes-1.	Tension problems	-	Deformed by cleaning	-	-	-
-2.	-	-	Wrong joints	-	-	-
-3.	-	-	-	-	-	-
Overpressure ever occurred?	yes	no	no	no	yes	no
Overpressure amount (psig)	284	-	-	-	305	-
Last overpressure	1980	-	-	-	1975	-
Overpressure causes-1.	Bad housing	-	-	-	overfilled	-
-2.	-	-	-	-	-	-
Other comments	:Tension free installation in a metal SS housing. :Exhaust pipe should be larger than inlet pipe.	Bad experience with BS&B RB90(see above)	Interested in disc systems that prevent wrong installations, work for liquid and for vapour and can be cleaned without RD damage.	-	-	-

VBE:60845

Company Designation	T	U	V	W	X	Y
Sat Pressure Considerations	2000	4000	-	-	13200	24000
Reactor Size (USG)	300	300	-	-	240	200
Vessel Rating (psig)	3	3	-	-	8	10
RD Size (in.)	yes	yes	no	yes	no	yes
In Series with SU ?	189	189	-	-	-	195
RD Burst P @ 72F (psig)	-	-	-	-	185	183.5
Design Burst T (F)	180	180	-	-	232	190
Burst P @ Burst T (psig)	2/2	2/2	10/5.2	10.9/5.7	2/2	0/3
Manufacturing Range-over/under(X)	no	no	no	no	no	no
Special manufacturing range ?	2	2	5	5	-	5
Burst tolerance (%)	no	no	no	no	-	no
Special burst tolerance ?	0	0	0	NDA	-	20
SU capacity rad'n due to RD (X)	100	100	-	-	-	200
SU setting (psig)						
RD Manufacturing and Installation	reverse buckling Continental-Zap	reverse buckling Continental-Zap	Dual Prasc. + bulge Proquip DV80	Pres + bulge w/ VS Proquip DV80	Rev buck/knife Continental-Zap	Preacored + bulged BS&B 77-37-009-45
RD Type						
Manufacturer	316SS	316SS	2	2	316SS	nickel
Number of discs per location	holder guide rings	holder guide rings	SS/TFE/SS	316SS/Inconel/316SS	none	J bolts
Disc Material	yes	yes	Special holder	vent side marked	no	no
Disc orientation device	none	-	yes	reverse buckling	-	-
Torque requirements used ?			nickel-sealed	Corrosion of knife		
Discs not recommended-type			Pinholing due to P fluctuations.	blades.		
-reason			PG and alarm	P switch + alarm	P alarm switch	Tall-tale @ P switch
Leak detection device	pilot valve	pilot valve	10 psig rel. vlv.	10 psig Nupro RV	manual valve	excess flow valve
Vent method for space above RD	atn	atn	atn	atn	atn	atn
Vent destination	-	-	-	15 sec	continuous	-
Press monitoring freq for space	every 2 weeks	once every 2 wks	none since '85	none	<1 per year	-
Frequency of RD leaks	none	-	none since '85	none	Only once	none
Frequency of RD pin-holes	teflon liner	teflon liner	water spray	Fouling inhibitor	TFE lined RD	Fouling inhibitor
RD fouling prevention method	10	10	1	400	500	10-15
RD inspection freq (retest cycles)	press. test	pressure test	visual	Visual(lamp/mirror)	visual in place	visual
Type of inspection	10 cycles	10 cycles	6-12	0	on failure	12
RD replacement freq (no.s)						
General						
Present concerns	Installation of disc holder on reactor	Installation of disc and holder	TFE pinching during installation.	Installation damage	Inspection freq. Dull knives. Corrosion	Satisfied
	5-20	5-20	>20	0	none	0-5
Number of failures in 1984	bad holder	Bad holder	Pinholing of Ni RDs			Hydrostatic overflow
Failure causes-1.	mis-handling	Handling of unit	Pinching of TFE line rs			
-2.	corrosion	Corrosion				
-3.	yes	yes	no	no	yes	no
Overpressure ever occurred ?	190	190			30	
Overpressure amount (psig)	1984	1984			1984	
Least overpressure	fouling	Fouling			Dull knife blades	
Overpressure causes-1.					Valve leak under RD	
-2.	-Follow manufacturer's instructions.	-Follow manufacturer's instructions.	Nickel sealed dual element RDs not recommended due to turtlebacking.		in a dual assembly	Must install properly
Other comments	-Bench P test every disc before use.	-Bench P test every disc before use.	TFE discs require careful installation.			
	-Most important to assure even torquing of disc in holder and of holder in flanges.	-Most important to assure even torquing of disc in holder and of holder in flanges.				

VP5566846

TABULATION OF RESPONSES pg 5 of 7

Company Designation	I	AA		AB	AC	AO		
Set Pressure Considerations								
Reactor Size (USG)	18000	4300	18600	4000	4300	14000	16000	16510
Vessel Rating (psig)	270	290	300	227	250	232	300	300
RD Size (in.)	12	8	12	4	4	4	18	12
In Series with SV ?	yes	yes	yes	no	no	no	yes	yes
RD Burst P @ 72F (psig)	312	207	295.5	227	249	-	263/283	-
Design Burst T (F)	363	167	190	-	-	180	196	190
Burst P @ Burst T (psig)	270	200	221	-	-	225	205-215/260-276	250
Manufacturing Range-over/under (%)	2/2	0/0	0/5	0/0	0/5	-	-	5/5
Special manufacturing range ?	no	yes	no	yes	no	-	no	no
Burst tolerance (%)	5	5	5	5	5	-	-	5
Special burst tolerance ?	no	no	no	no	no	-	no	no
SV capacity red'n due to RD (%)	0	15	15	-	-	-	none	none
SV setting (psig)	270	210	250	-	-	-	215/255	231
RD Manufacturing and Installation								
RD Type	Reverse acting knife	Pre-scored + bulged	Rev buck.	bulged	reverse buckling	bulged	rev buck. (unscored)	
Manufacturer	Continental KBA	BS&B GFN	BS&B-S90	BS&B-BV	BS&B RB-90	BS&B	Elfab Hughes Rk76	
Number of discs per location	1	16	16	12	2+2	2	1	
Disc Material	316SS	Ni	Ni	Ni	Ni	nickel	316SS	
Disc orientation device	Knives prevent error	Disc Tab	Disc tab	Disc tab	none	sandwich links	Disc tag	
Torque requirements used ?	yes	Yes	yes	no	yes	yes	no	
Discs not recommended-type	aluminum, silver	Type DV/ BV under SV			-	reverse buckling	graphite, scored	
-reason	HCl corrosion	-fragmentation			-	Premature failure in cycling service.	fragmentation	
Leak detection device	telltale gauge	P switch + ind	P switch	<-	excess flow valve	P switch + alarm	P gauge	
Vent method for space above RD	excess flow valve	low P relief valve	<-	<-	excess flow valve	10 psig RV	10 psig RV	
Vent destination	atm	atm	atm	atm	-	atm	atm	
Press monitoring freq for space	-	-	-	-	-	-	-	
Frequency of RD leaks	2/yr	rarely	never	never	very seldom	1/yr	never	
Frequency of RD pin-holes	2/yr	never	never	never	very seldom	none causing P	never	
RD fouling prevention method	antifoulant, water spray	inhibitor + HPW wash			none	inhibitor coating	inhibitor coating	
RD inspection freq (react cycles)	100	1 month to 1 year			000	300	130	
Type of inspection	visual	visual			?	visual	visual	
RD replacement freq (no.s)	12	5-12			randomly each year	12	12	
General								
Present concerns	Nozzle plugs under discs.	-Damage by HPW wash			none		-handling hydrostats	
Number of failures in 1984	2	-Improper torquing			0	3	-deformation	
Failure causes-1.	?	5-10			-	pinhole leaks	0	
-2.		Damage by HPW						
-3.		Improper torquing						
Overpressure ever occurred ?	no	No			not recently		no	
Overpressure amount (psig)								
Last overpressure								
Overpressure causes-1.								
-2.								
Other comments		- GFN and S90 RDs are prone to damage by HPW					-Minimize piping between RD and reactor.	
		- Nozzle plugs were common until inhibitor used					-Paper gaskets allow leak-tight seals between RD and holder.	
							-2 RDs in series are unsatisfactory due to the shock-wave effect of the first disc bursting.	

VPES66847

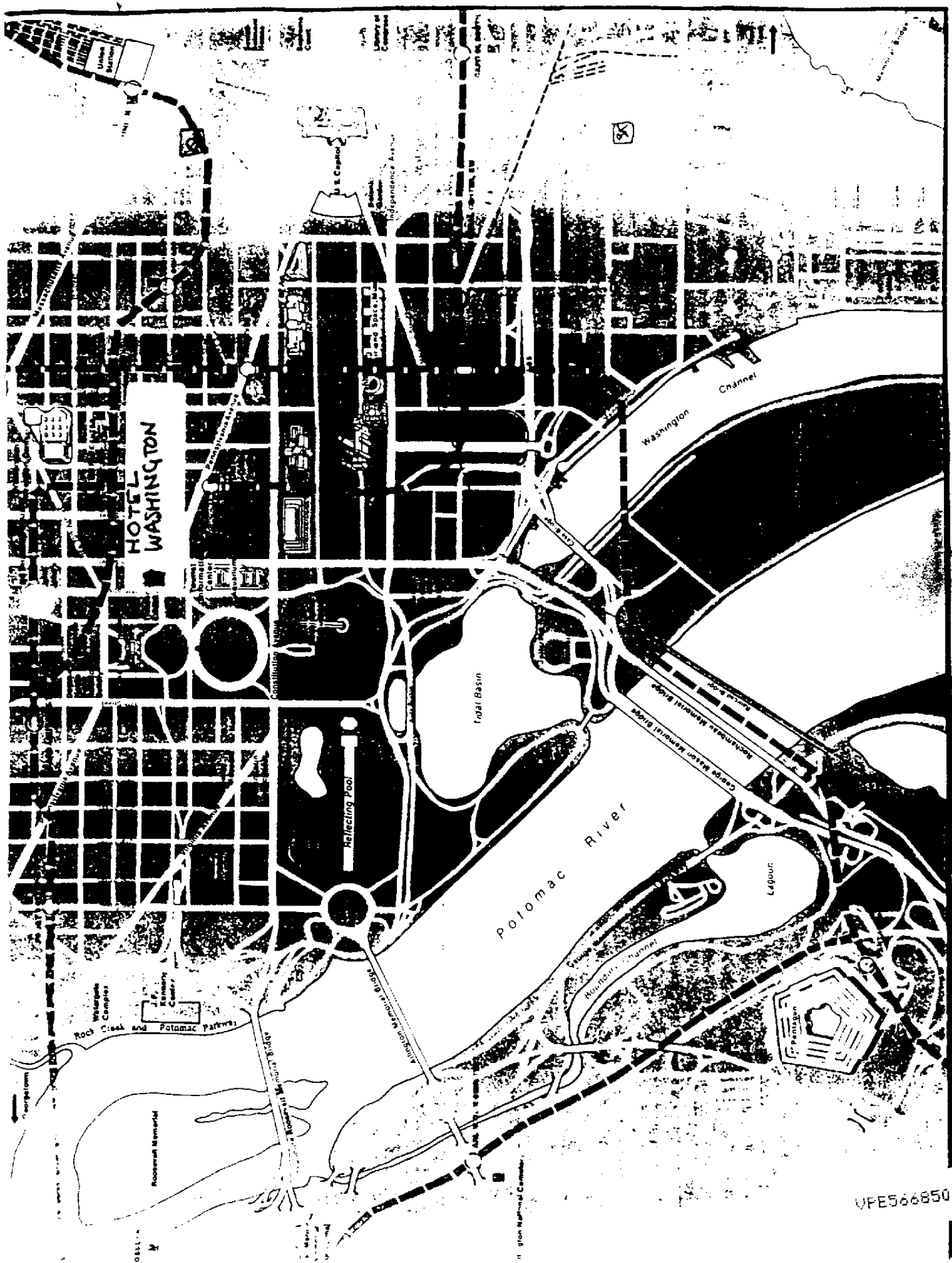
	AE	AF	AG	AH	AI	AJ
Company Designation	4500	10000	18000/30000	18000	-	10500
Pressure Considerations	-	-	200/225	200	-	335
Factor Size (USG)	6	8	6/8	2X6 / 2X8	-	12
Vessel Rating (psig)	no	no	yes	yes	-	no
AS Size (in.)	122	100.4	228	189, 198, 200, 200	-	-
IS Series with SU?	221	220.5	176	200	-	160
AS Burst P @ 72F (psig)	9.3/5	9.3/5	0/0	0/0	10.9/5.7	6/3
Design Burst T (F)	no	no	no	no	no	no
Burst P @ Burst T (psig)	-	-	5	5	5	5
Manufacturing Range-over/under(?)	-	N/A	no	no	no	no
Special manufacturing range?	-	N/A	none	10	no data	N/A
Burst tolerance (I)	-	N/A	10 psig under RD	185, 195, 200, 200	-	N/A
Special burst tolerance?	-	-	-	-	-	-
SV capacity red'n due to RD (X)	-	-	-	-	-	-
SV setting (psig)	bulged BS&B DV	bulged BS&B-DV	prescored rev buck BS&B 590	Prescored rev buck BS&B 590	Prescored + bulged Proquip DV800	conventional domed Marston Excelstor
RD Type	INC/TFE/316SS	INC/TFE/316SS	nickel	nickel	316SS/INC/316SS	Aluminum
Manufacturer	1 bolts	J bolts	none	none	vent side marked	special holders
Number of discs per location	no	no	yes	yes	yes	no
Disc Material	-	-	SS	SS	reverse buckling	composite discs
Disc orientation device	-	-	chloride cracking	chloride cracking	corrosion of knives	-
Torque requirements used?	-	-	-	-	-	-
Discs not recommended-type	none	red ball (in project)	P gauge	P gauge	P switch + alarm	none
Reason	N/A	-	excess flow valve	excess flow valve	10 psig RU	none
Leak detection device	-	-	atn	atn	atn	atn
Vent method for space above RD	-	-	-	-	every 15 sec	N/A
vent destination	-	-	negligible	none	none	<1 per yr
Press monitoring freq for space	water wash	water wash	once	once	never	N/A
Frequency of RD leaks	1	1	none	disc material	inhibitor coating	inhibitor coating
Frequency of RD pin-holes	visual	visual	none	1	400	1
RD fouling prevention method	3	5	12	leak check	visual (lamp/mirror)	visual
AS inspection freq (react cycles)	-	-	-	6	8	80 batches
Type of inspection	-	-	-	-	-	-
AS replacement freq (no.s)	-	-	-	-	-	-
General	0	0	0-5	-premature failures	Damage during installation	none
Present concerns	-	-	unknown	-overpressure	none	5-20
Number of failures in 1984	no	no	no	5-20	-process damage	Punctured by lump
Failure causes-1.	-	-	-	unknown	-unknown	-
-2.	-	-	-	-	-	-
-3.	-	-	-	-	-	-
Overpressure ever occurred?	-	-	-	-	-	-
Overpressure amount (psig)	-	-	-	-	-	-
Test overpressure	-	-	-	-	-	-
Overpressure causes-1.	-	-	-	-	-	-
-2.	-	-	-	-	-	-
Other comments	VPES0688B	-	-	-	-	-

-Inspect incoming RDs.
 -Burst test one disc from each lot received.
 -Install in holders and test to 90% of burst P in shop.
 -Only qualified mechanics to do installations.

-Inspect and protect disc after every batch.
 -Disc should be far enough away from liquid level to prevent damage during agitation.

Company Designation	AL	AM
Set Pressure Considerations		(VCM plant data)
Reactor Size (USG)	confid	-
Vessel Rating (psig)	confid	-
RD Size (in.)	4-8	-
In Series with SV ?	yes	-
RD Burst P @ 72F (psig)	90-95% of VPR	-
Design Burst I (F)	-	-
Burst P @ Burst I (psig)	-	-
Manufacturing Range-over/under(I)	0/0	-
Special manufacturing range ?	yes	-
Burst tolerance (X)	5	-
Special burst tolerance ?	no	-
SV capacity red'n due to RD (X)	<1%	-
SV setting (psig)	90-100% of VPR	-
RD Manufacturing and Installation		
RD Type	prescored + bulged	rev buck-knife
Manufacturer	BSEB GFN	Continental
Number of discs per location	16	50-100
Disc Material	nickel	mostly none
Disc orientation device	none	none
Torque requirements used ?	no	yes
Discs not recommended-type	vacuum supp't/knife	
-reason	-leakage	
	-no good for hydrostat	
Leak detection device	red ball ind	P switch
Vent method for space above RD	red ball @ 5F	bleed valve
Vent destination	air	
Press monitoring freq for space	N/A	
Frequency of RD leaks	over 5 mo.s	seldom
Frequency of RD pin-holes	none since '84	unknown
RD fouling prevention method	water spray	N/A
RD inspection freq (react cycles)	3-5 days	yearly
Type of inspection	visual	
RD replacement freq (mo.s)	6	no pattern
General		
Present concerns		Reversal without rupture.
Number of failures in 1984	0-5	0-5
Failure causes-1.	-fatigue of material	Poor design
-2.		
-3.		
Overpressure ever occurred ?	no	no
Overpressure amount (psig)		
Last overpressure		
Overpressure causes-1.		
-2.		
Other comments	-Never use discs with knives in flanges. -Do not use RDs with vacuum supp't. -Replace RDs on preventive basis. -Use water spray to keep RD clean.	-Have found some discs reversed or dented on VCM spheres. -Moving towards prescored RDs.

VPES66849



HOTEL WASHINGTON

Radai Basin

Reflecting Pool

Potomac River

Lagoon

Washington Channel

George Mason Memorial Bridge

Rock Creek and Potomac Parkway

UPE566850