FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

S/O #107647

1. Manufactured and certified by TRANTER PHE, INC., 1900 OLD BURK HIGHWAY WICHITA FALLS, TEXAS 76306
(Name and address of Manufacturer)

2. Manufactured for NOVA CHEMICALS INC MONACA, PA #115080 & #115081
(Name and address of Purchaser)

3. Location of installation PES EXPANSION PROJECT BEAVER VALLEY, PA
(Name and address)

4. Type: VERTICAL (Horiz., vert., or sphere) | PLATE TYPE HEAT EXCHANGER (Tank, separator, jkt. vessel, heat exh., etc.) | SK762&SK763 (Mfg's serial No.) | NA (CRN) | D-6-107647 (Drawing No.) | 45084-45085 (Nat'l. Bd. No.) | 2005 (Year built)

5. ASME Code, Section VIII, Div. 1: 2004, NA (Edition and Addenda (date)) | NA (Code Case No.) | NA (Special Service per UG-120(d))

Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): NA (b) Overall length (ft & in.): NA

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	29 3/4"	6' - 1 13/16"	SA516-70N	2 1/2"	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

7. Heads: (a) NA (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (b) NA (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) (10) 1 1/2" DIA., SA193-B7; NUTS: SA194-2H
(Mat'l Spec. No., Grade, size, No.)

8. Type of jacket NA Jacket closure NA
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions NA If bolted, describe or sketch.

9. MAWP 150 (internal) NA (external) psi at max. temp. 350 (internal) NA (external) °F Min. design metal temp. -20 °F at 150 psi.

Impact test NO, UCS-66a & UHA-51(d)(1) at test temperature of NA °F
(Indicate yes or no and the component(s) impact tested)

11. Hydro., ~~pneu~~, ~~combn~~. test press. 195 PSI Proof test NA

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: NA (Stationary (Mat'l Spec. No.)) | NA (Dia., in. (subject to press.)) | NA (Nom. thk., in.) | NA (Corr. Allow., in.) | NA (Attachment (welded or bolted))

NA (Floating (Mat'l Spec. No.)) | NA (Dia., in.) | NA (Nom. thk., in.) | NA (Corr. Allow., in.) | NA (Attachment)

13. Tubes: NA (Mat'l Spec. No., Grade or Type) | NA (O.D., in.) | NA (Nom. thk., in. or gauge) | NA (Number) | NA (Type (Straight or U))

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): NA (b) Overall length (ft & in.): NA

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
-	NA	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

15. Heads: (a) NA (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (b) NA (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) NA
(Mat'l Spec. No., Grade, Size, No.)

ra Chemicals / Jacobs Constructors
ES Expansion Project #17981
SO 107647
Tag #E2223 and E2224
Serial # SK 762 & SK 763
Reactor Jacket Cooler
58-CG87-60P11-0007

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Form 1040 Rev. 2

16. MAWP NA (Internal) NA (external) psi at max NA (Internal) NA (external) °F Min. des al temp. NA °F at NA psi.

17. Impact test NA at test temperature of NA °F
(Indicate yes or no and the component(s) impact tested)

Hydro., ~~pneu~~, ~~combnd~~. test press. NA Proof test NA

Nozzles, Inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
INLET	2	8"	RFWN	SA312-TP304L	SA182-F304L	0.5	0	NA	WELDED	WELDED	END FRAME
-	-	-	-	-	-	-	-	-	-	-	-
OUTLET	2	8"	RFWN	SA312-TP304L	SA182-F304L	0.5	0	NA	WELDED	WELDED	END FRAME
-	-	-	-	-	-	-	-	-	-	-	-
VENT/DRAIN	4	1"	THRDOLT	SA182F-316L	-	3000#	0	NA	WELDED	-	NOZZLE
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

20. Supports: Skirt NO (Yes or No) Lugs NA (No.) Legs 3 (No.) Others NA (Describe) Attached WELDED TO END FRAME (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
(List the name of part, item number, mfg's. name and identifying number)
NA

22. Remarks: O.A. LENGTH: 17.11 MODEL: UXP-060-UP
SUPERCHANGER TO CARRY: 30% PROP GLY / WATER #19, NOZZLES: 150# RAISED FACE WELD-NECK
PLATES: SA240-316 QUANTITY: 106 PLATE THK.: .0236 SEAL PLATES: SA240-304L

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1,
U Certificate of Authorization No. 8698 Expires 12/31/2006
Date 1-26-05 Name TRANTER PHE, INC (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TEXAS and employed by OneBeacon America Insurance Company of MA. have inspected the pressure vessel described in this Manufacturer's Data Report on July 26, 2005, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 7-26-05 Signed (Authorized Inspector) Commissions - NB12472A (Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,
U Certificate of Authorization No. Expires

Date Name (Assembler) Signed (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of and employed by of have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items , not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date Signed (Authorized Inspector) Commissions (Nat'l Board incl. endorsement, State, Province and No.)