

7-6-7
Spec. No. 7152-1

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 1

APRIL 24, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

The purpose of this Addendum is to incorporate the insulation of the steam trace lines, the instrument impulse lines and instrument housings which are subject to freezing.

The following additions, together with a Supplementary Proposal Form, shall be made and become a part of the complete Specification.

3. WORK BY CONTRACTOR

Add the following paragraphs:

- 3.19 Furnish and install insulation material for sample connections consistent with that part of the attached Insulation Specification INS-3, dated April 28, 1966, for personnel protection. The sample connections to be insulated are listed on the attached tabulation entitled "Keystone Local Sampling Connections".
- 3.20 Furnish and install insulation on the steam tracing of instrument impulse lines, instrument housings and steam supply piping in accordance with Specification INS-3 "Insulation for Piping and Equipment - Keystone Project". The work would include the insulation of instruments per Typical Drawing No. W-25991 and enumerated and located on the following drawings:

<u>Drawing No.</u>	<u>Date</u>	<u>Description</u>
W-25983	3-22-67	Tar Storage Area Plan and Section
W-25984	1-18-67	Final Coolers, El. 823'-0"
W-25985	3-31-67	Final Coolers, El. 762'-0" and 808'-0" Plan
W-25986	3-30-67	Absorber Piping El.
W-25987	3-23-67	Heat Exchanger El. below 777'-0" Plan
W-25988	4-7-67	Heat Exchanger El. above 777'-0" Plan
W-25989	2-2-67	Demister Oil System Plan and Sections
W-25990	3-28-67	Drip Pot Drains Plan and Sections
W-25991	1-30-67	Tracing Details and Flash Tank
W-25992	1-27-67	Final Coolers and Absorbers Sections
W-25993	4-4-67	Phosam Facilities. Plan and Sections
W-25994	2-22-67	Water Cooling Tower Plan and Sections
W-25995	3-23-67	F.C. Sump Area Plan and Section V
W-25996	2-27-67	Boiler F.W. Storage Tank Plan and Sections - El. 814'-0"



ADDENDUM

SPECIFICATION NO. 535-4

PLAINTIFF'S
EXHIBIT
USX-93

APRIL 24, 1967

PAGE 1

USEI000285

3. WORK BY CONTRACTOR (Continued)

Add the following paragraphs: (Continued)

3.20 (Continued)

<u>Drawing No.</u>	<u>Date</u>	<u>Description</u>
W-25997	4-8-67	Steam Tracers - Phosam Facilities V
W-25998	4-5-67	Condensate Headers Plan and Sections
W-25999	1-8-67	Steam Condensate, Plan and Details
W-25600	3-4-67	Steam Condensate Plan below El. 777'-0" - Area V
W-25601	3-4-67	Steam Condensate Plan above El. 777'-0" - Area V

- 3.21 Contractor shall insulate the 30-gallon per minute Constantemp hot water heater system, Model B-321, manufactured by the Leslie Company of Lynhurst, New Jersey, located in No. 1 Control Room, in accordance with Insulation Specification INS-III. Insulate areas as indicated on Drawing No. W-21037, Revision 0, dated March 8, 1967, entitled "Piping - Schematic Control Room No. 1 Hot Water Tracer - Keystone Project - Area 6 - Clairton Works". Attached Sketches No. 4072, Pages 1 and 2, entitled "Piping - Schematic and Hot Water Heater Location. Control Room No. 1. Area VI" will furnish additional information. This will include supply lines, location of heater and discharge line.

SPECIFICATION ATTACHMENT 535-4102-62-ADD. 1

INSULATION INFORMATION

SC No.	Drawing No.	Revision No.	Line Temperature	Size	Extension	Extent of Insulation
3362	W-21995	3	256° F.	1 1/2"	4'-0" down	Insulate from conn. to disch. (4'-0" above elev. 762'-0") - Sec. UU
3372	W-21995	3	256° F.	1 1/2"	4'-0" down	Insulate from conn. to disch. (4'-0" above elev. 762'-0") - Sec. UU
3306	W-21998	5	333° F.	1 1/2"	6'-0" down	Insulate from conn. to disch. (3'-0" above platform elev. 762'-0") - Sec. "SB-SB"
6308	W-24601	10	210° F.	1 1/2"	4'-0" down	Insulate from conn. to disch. (8" above platform - elev. 777'-10") Sec. K-K
6366	W-24605	10	150° F.	1 1/2"		Insulate from conn. to disch. (4' above platform elev. 769'-0")
48800	W-24957	5	173° F.	1 1/2"		Insulate from conn. to disch. (30" above grade elev. 760'-0") - Sec. D.D.
6304	W-24608	6	120° F.	1 1/2"	3'-0" down	Insulate from conn. to disch. (1'-9" above elev. 761'-0") - Sec. A-A
6368	W-24609	6	400° F.	1 1/2"	14'-0" down	Insulate as specified for personnel protection - discharge 3'-0" above elev. 761'-0"
3068	*C-8488 Sh. 101	F	370° F.	1 1/2"		See Sketch No. 1 - Insulate from conn. to disch.
3078	*C-8488 Sh. 101	F	370° F.	1 1/2"		See Sketch No. 1 - Insulate from conn. to disch.
3382	W-21994	4	253° F.	1 1/2"		Insulate from conn. to disch. 2'-0" above floor 762'-0" - Sec. "N-N"
3392	W-21994	4	183° F.	1 1/2"		Insulate from conn. to disch. 2'-0" above floor 762'-0" - Sec. "N-N"
3508	*C-8487 Sh. 1AB	3	393° F.	1 1/2"		See Sketch No. 2 - Insulate from conn. to disch. 1'-0" above platform elev. 782'-0"
3511	*C-8487 Sh. 1B	E	393° F.	1 1/2"		See Sketch No. 2 - Insulate from disch. as specified for personnel protection
3512	*C-8487 Sh. 1B	B	393° F.	1 1/2"		See Sketch No. 2 - Insulate from disch. as specified for personnel protection
3516	*C-8487 Sh. 1B	B	215° F.	1 1/2"		See Sketch No. 2 - Insulate from disch. as specified for personnel protection
3538	*C-8487 Sh. 1AB	B	215° F.	1 1/2"		See Sketch No. 2 - Insulate from conn. to disch. 1'-0" above platform elev. 782'-0"

USE1000287

KEYSTONE LOCAL SAMPLING CONNECTIONS (Continued)
 SPECIFICATION ATTACHMENT 535 4102-62-ADD. 1
 INSULATION INFORMATION

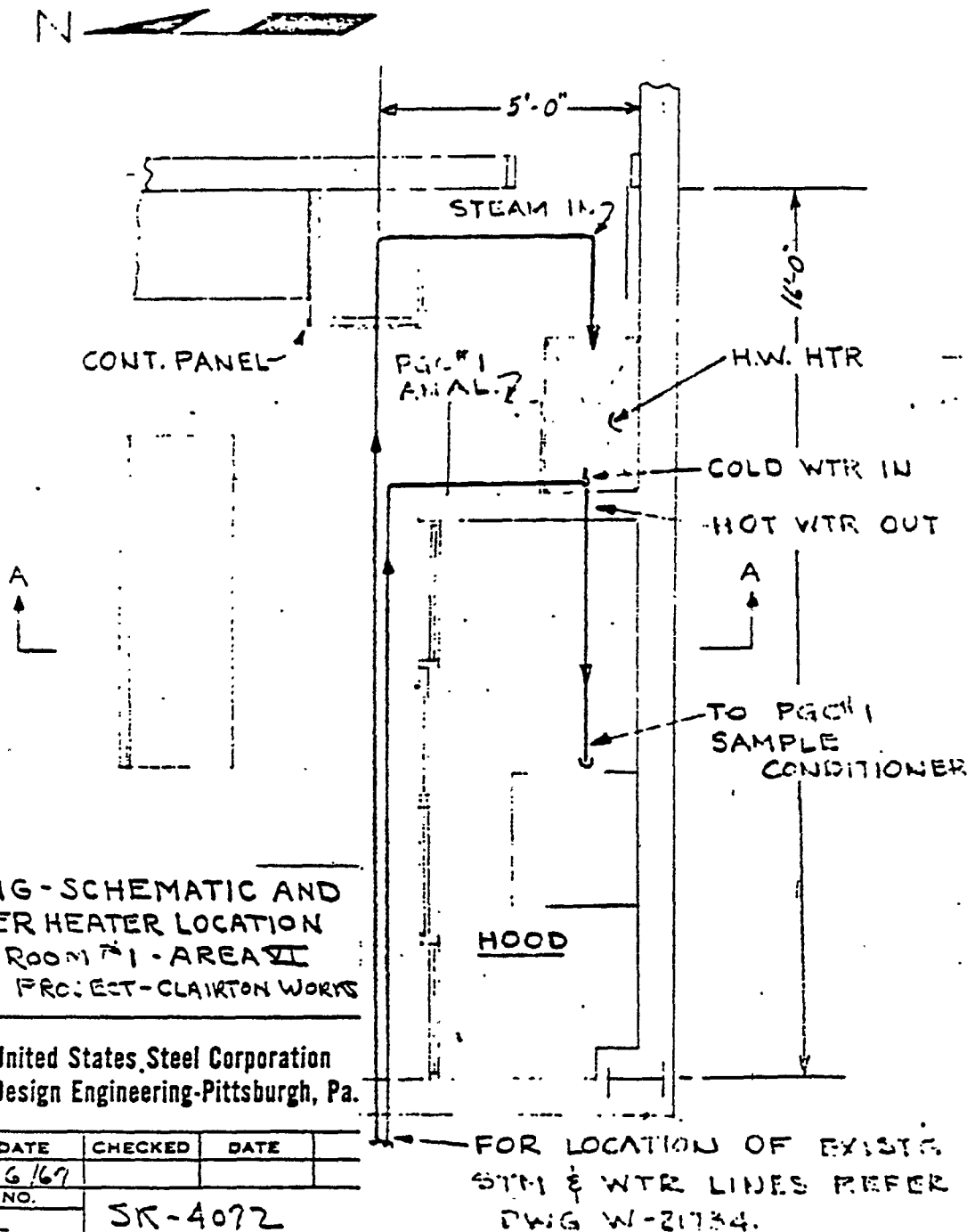
PE 2

SC No.	Drawing No.	Revision No.	Line Temperature	Size	Protection	Extent of Insulation
3541	*C 8487 Sh. 1B	B	215 F.	1/2"		See Sketch No. 2 Insulate from disch. as specified for personnel protection
3542	*C 8487 Sh. 1B	B	215 F.	1/2"		See Sketch No. 2 Insulate from disch. as specified for personnel protection
3546	*C 8487 Sh. 1B	B	215 F.	1/2"		See Sketch No. 2 Insulate from disch. as specified for personnel protection
3401	W-21996	3	200° F.	1/2"		Insulate from disch. 4' 0" above 752'-0" to 762'-0" Sec. "CB-CB"
3411	W-21996	3	200° F.	1/2"		Insulate from disch. 4'-0" above 762'-0" to 772'-0" Sec. "CB-CB"

* American Bridge Division drawings

USEI000288

DATE 3/6/67 SUBJECT: SUGGESTED LOCATION - H.W. SHEET NO. 1 OF 2
 CHKD BY DATE HTR & INCOMING LINES - CONT. RM #1 JOB NO.



PIPING-SCHEMATIC AND
 HOT WATER HEATER LOCATION
 CONTROL ROOM #1 - AREA VI
 KEYSTONE PROJECT-CLARKTON WORKS



United States Steel Corporation
 Design Engineering-Pittsburgh, Pa.

DRAWN	DATE	CHECKED	DATE
	3/6/67		
PROJECT NO.		SK-4072	
EST. 4102			

Water & steam supply lines are approx. 10' from
 CONTROL RM #1 PLAN Wall of Control

AUBURN ENGINEERING, I

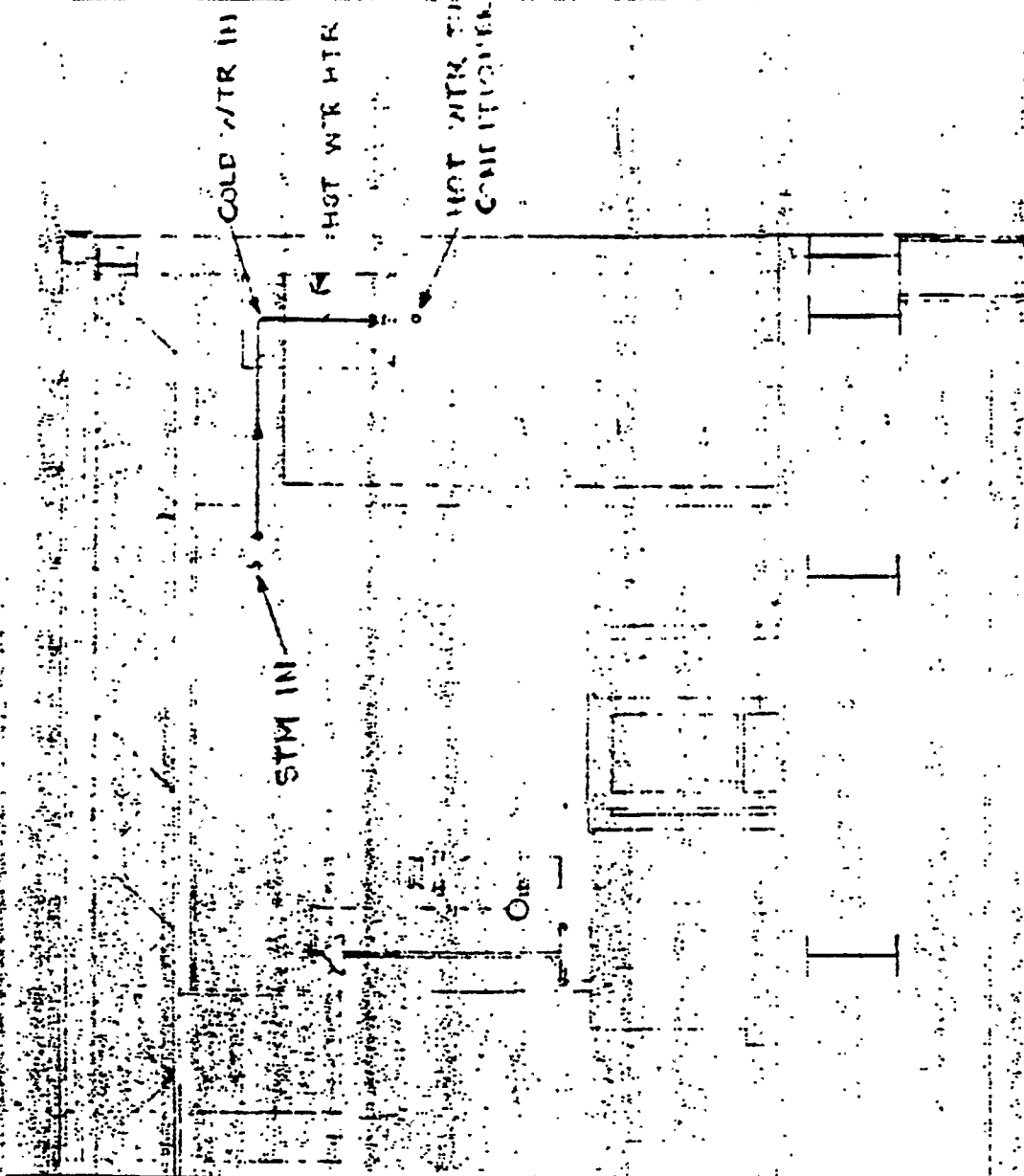
2000 ... HARRISBURG, Pa.

227 - 1480 L. 417. M.C. 1925

DATE 6/67
BY DATE

SUBJECT: SUPPLY & LOCATION H.W.
HTR & INCOMING LINES - CONTROL ROOM

SHEET NO 2 OF 2
JOB NO



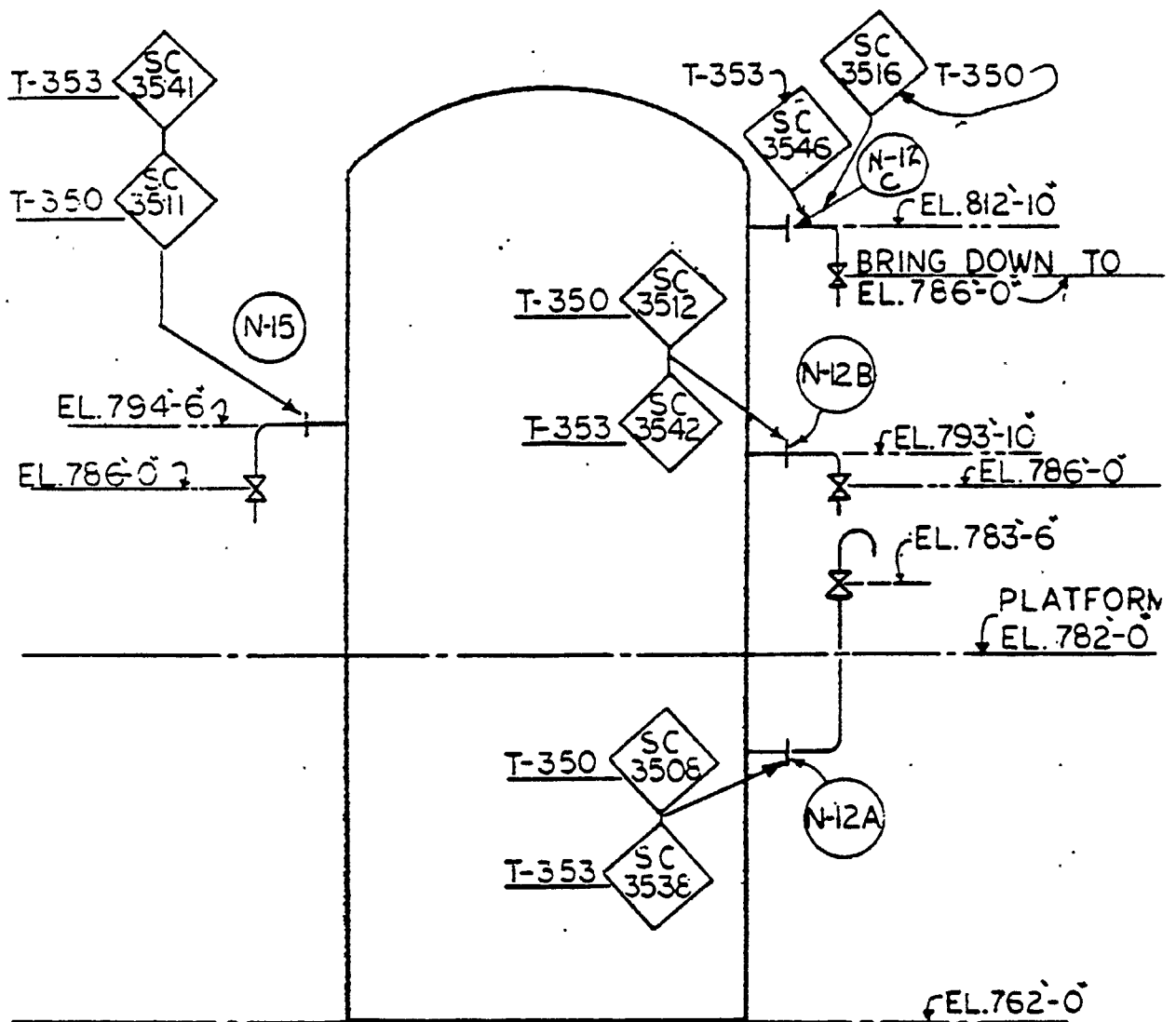
ELEVATION - F

**PIPING SCHEMATIC AND
HOT WATER HEATER LOCATION
CONTROL ROOM A1 - AREA VI
KEYSTONE PROJECT - CLAIRTON WORKS**

 **United States Steel Corporation
Design Engineering - Pittsburgh, Pa.**

DRAWN	DATE	CHECKED	DATE	SCALE
VJR	3/6/67			
PROJECT NO. SK-4072				

SK-4072



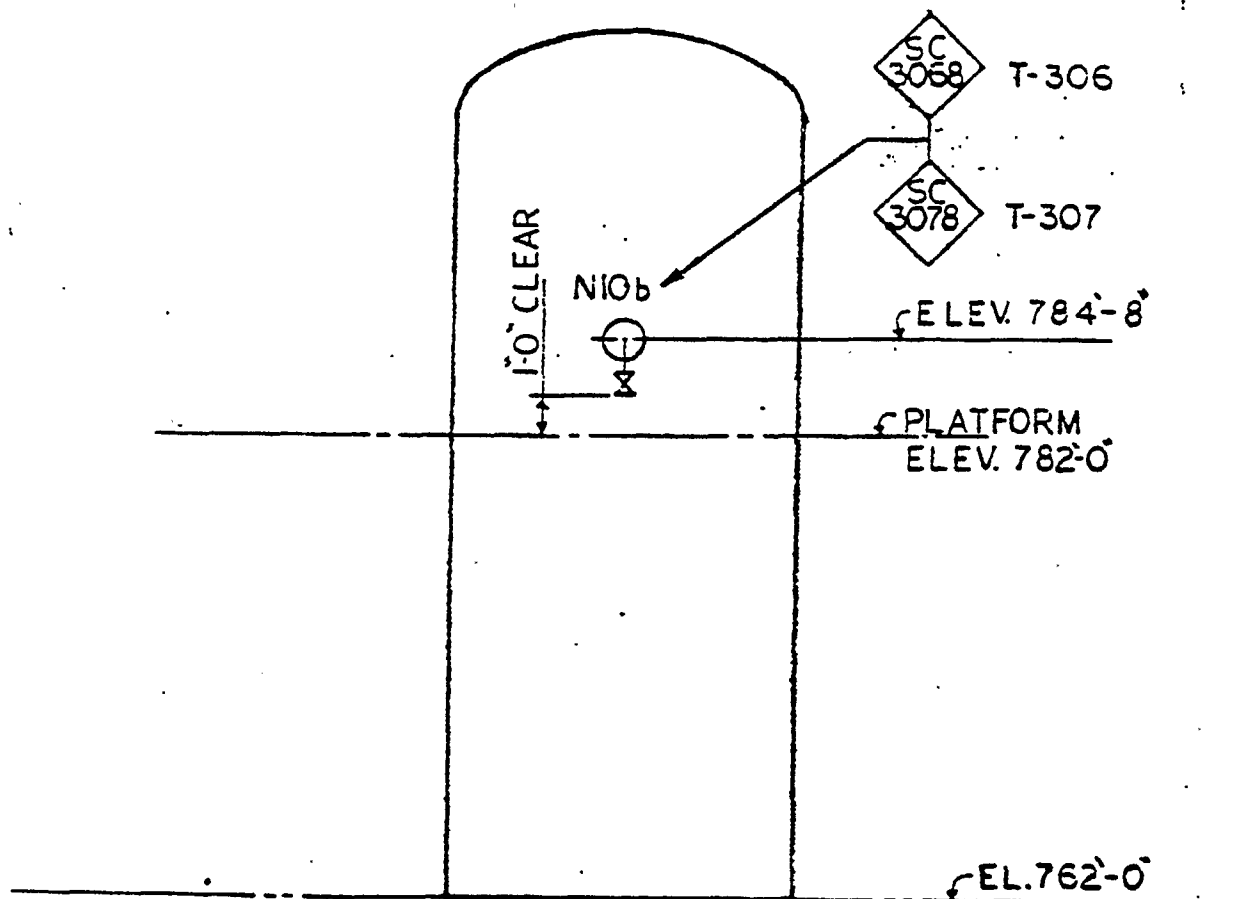
AMMONIA FRACTIONATOR
T-350 & T-358

REF. DWG. C6487
AMERICAN BRIDGE

USE1000291

SK-1

AMMONIA STRIPPER COLUMN T-306 & T-307 INSTALLATION
OF SAMPLE CONNECTIONS



AMMONIA STRIPPER COLUMN T-306 & T-307
KEYSTONE PROJECT
CLAIRTON WORKS

DWG. REFERENCE
AMERICAN BRIDGE
C-8488

USEI000292

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 1

APRIL 24, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addendum No. 1 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in the above-numbered Specification for the prices quoted below:

1. Unit prices for insulation of the following work:

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Estimated Total Cost</u>
1.1	3/8-inch impulse lines	6,000 feet approx.	\$_____ per foot	\$_____
1.2	Transmitters, etc.	149	\$_____ per unit	\$_____

2. Lump-sum price for the following work:

2.1	Furnish and install insulation for sample lines and connections described herein	\$_____
2.2	Furnish and install insulation for header and condensate system as described herein	\$_____

Date _____

Firm Name _____

Signed by _____

Title _____

SUPPLEMENTARY PROPOSAL FORM SPECIFICATION NO. 535-4102-62-ADD. 1 APRIL 24, 1967

PAGE 1 of

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4102-62

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 2

MAY 4, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

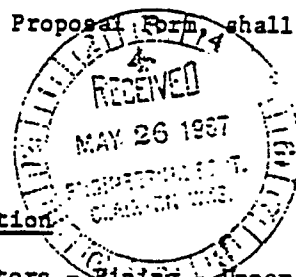
The purpose of this Addendum is to add and delete items of piping to be insulated and to provide for the addition of two (2) ammonia distillation tanks to be insulated.

The following additions, deletions and changes, with Supplementary Proposal Form, shall be attached to and become a part of the complete Specification.

6. DRAWINGS ACCOMPANYING SPECIFICATION

Add the following revised drawings:

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
W-20624	4	10-11-66	Light Oil Regenerators - Piping - Upper Plan
W-20716	7	12-9-66	Light Oil Regenerators - Piping - Lower Plan
W-20738	2	10-11-66	Separator Cold Box - External Piping - Elevation
W-21089	5	7-20-66	Arrangement - Tar Lines
W-21360	3	11-14-66	Arrangement - 14-inch Treated Water Supply
W-21364	3	5-24-66	Arrangement - Boiler Feedwater - Tanks - Pumps and Piping
W-21366	5	12-6-66	Boiler Feedwater - Suction
W-21383	4	10-19-66	Boiler Feedwater - Piping
W-21587	3	5-13-66	Final Coolers - Circulating Water
W-21632	8	12-20-66	Boiler Blow-off and Cont. Blow-down
W-21654	2	8-8-66	Arrangement - Exhaust Steam Piping to Deaerator
W-21655	4	8-8-66	Arrangement - Exhaust Steam Piping to Deaerator



ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 2

MAY 4, 1967

PAGE 1

USEI000276

6. DRAWINGS ACCOMPANYING SPECIFICATION (Continued)

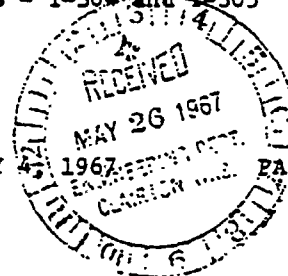
Add the following revised drawings: (Continued)

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
W-21656	1	7-7-66	Arrangement - Exhaust Steam Piping to Deaerator
W-21720	2	10-12-66	Boiler Feedwater Piping
W-21736 (redrawn)	1	10-7-66	Boiler Feedwater - Claus Plant Supply
W-21758	2	5-6-66	Drip Pot Drains - Pressure and U.F. Gas Piping
W-21807	5	5-10-66	Miscellaneous Lines to Areas 4 and 5
W-21876	4	5-18-66	Gas Piping - 4-inch - Contactor Vapor Return
W-21930	2	7-30-65	Generator Building - Exhaust Duct Floor Opening
W-21934	7	10-17-66	Steam Generator Building - Steam Piping
W-21935	6	10-17-66	Steam Generator Building - Steam Piping
W-21936	6	10-17-66	Steam Generator Building - Steam Piping
W-21937	8	10-26-66	Steam Generator Building - Steam Piping
W-21994	3	5-16-66	Phosam Facilities - Miscellaneous Piping
W-22116	7	1-5-67	Boiler Blow-down, Blow-off and Drain Piping
W-22119	5	6-1-66	Composite Piping at West Battery
W-22136	5	11-29-66	Process Air
W-22140	10	12-9-66	Tail Gas Piping
W-22151	6	12-6-66	Ammonia Refrigeration Piping
W-22153	4	6-7-66	Condensate Piping
W-22156	7	12-7-66	Ammonia Refrigeration Piping
FP-30710	B	9-19-66	Ammonia Stills - T-304 and T-305

ADDENDUM SPECIFICATION NO. 535-4102-62-ADD. 2

MAY 26 1967 PAGE 2

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6. DRAWINGS ACCOMPANYING SPECIFICATION (Continued)

The following Data Sheets listed herein shall be attached to this Addendum:

<u>Insul. Data Sheet</u>	<u>Revision</u>
5	3
7	2 and 3
8	2 and 3
9	2 and 3
10	3
11	3
12	2 and 3
13	2 and 3
14	2 and 3
16	2 and 3
18	2 and 3
19	2 and 3
21	2 and 3
22	2 and 3
23	2 and 3
24	3
31	3
32	3
34	1, 2 and 3
35	1, 2 and 3
37	1, 2 and 3
40	1, 2 and 3
41	1, 2 and 3
62	2 and 3
66	2 and 3
85	3

USEI000278

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 2

MAY 4, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda No. 1 and No. 2 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in the above-numbered Specification for the prices quoted below:

1. Lump-sum price (includes Items No. 1.1 and No. 1.2) for performing all work described herein

\$ _____

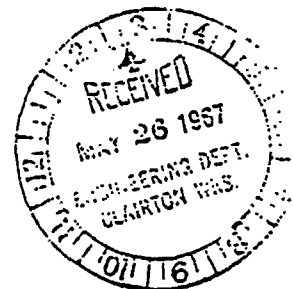
Breakdown prices as follows:

- 1.1 Price for performing all work described herein for cold insulation per INS-1

\$ _____

- 1.2 Price for performing all work described herein for hot insulation per INS-3

\$ _____



Date _____

Firm Name _____

Signed by _____

Title _____

USEI000279

4102-62

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD.3

MAY 17, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

The purpose of this Addendum is to incorporate additional insulation required for Areas 7 and 8 in accordance with the attached drawings.

The following additions, together with a Supplementary Proposal Form shall be attached to and become a part of the complete Specification.

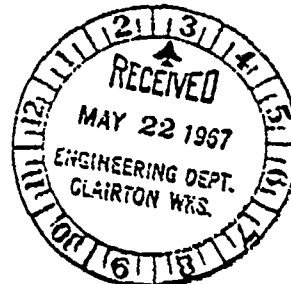
3. WORK BY CONTRACTOR

Add the following:

- 3.21 Furnish and install insulation of the steam tracing of instrument impulse lines, transmitters, steam supply piping, steam headers and a steam reduction station for Areas 7 and 8, in accordance with insulation Specification INS-3 and the following drawings:

<u>Dwg No.</u>	<u>Date</u>	<u>Title</u>
W-26002	4-14-67	Steam Tracing - Plan & Sections - Area VIII
W-26003	4-10-67	Steam Tracing & Condensate Piping Plan & Sections - Area VIII
W-26004	4-15-67	Steam Tracing & Condensate Piping Plan & Sections - Area VIII
W-26005	4-20-67	Steam Tracing - Plan above Elev. 788' H ₂ Plant - Area VII

- 3.22 Furnish and install insulation of close-coupled pressure guages per drawings listed above.



USEI000274

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD.3

MAY 17, 1967

PAGE 1 of 1

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD.3

MAY 17, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda Nos. 1, 2 and 3 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in the above numbered Specification for the prices quoted below:

1. Unit prices for insulation of the following work:

<u>Item No.</u>	<u>Description</u>	<u>Est. Quantity</u>	<u>Unit Price</u>	<u>Est. Total Cost</u>
1.1	3/8-inch impulse Lines	1,500 feet	\$_____ per feet	\$_____
1.2	Transmitters (Instrument Housings)	50	\$_____ per unit	\$_____
1.3	Stain. Steel Jacketing	1,800 feet	\$_____ per foot	\$_____
1.4	Steam Headers	335 feet	\$_____ per foot	\$_____
1.5	Pressure gauges	7	\$_____ per unit	\$_____

2. Lump-sum price for furnishing and installing steam insulation for reducing station.

\$_____

Date _____

Firm Name _____

Signed by _____

Title _____



USEI000275

4162-6

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 4

JUNE 27, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

ITEM NO. 17-13

The purpose of this Addendum is to incorporate revised drawings which consist of miscellaneous piping additions and deletions to the present contract.

The following additions, deletions and changes, with Supplementary Proposal Form, shall be attached to and become a part of the complete Specification.

6. DRAWINGS ACCOMPANYING SPECIFICATION

Add the following revised drawings:

Note: All drawings covered by this Addendum have previously been issued to the Contractor by Transmittal Letters No. 2 dated January 17, 1967 and No. 8 dated January 26, 1967.

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
W-20536 *	3	9-24-65	Main and L.O. Regenerator Valve Support Brackets
W-20576 *	3	6-17-66	Std. Pipe Support Details and General Notes
W-20577 *	1	3-4-66	Std. Pipe Support Details Screwed Piping
W-20578 *	2	4-22-66	Std. Pipe Support Details Typ. Field Const.
W-20579 *	3	6-17-66	Std. Pipe Support Details Saddle and Anchor
W-20580 *	4	4-29-66	Main and L.O. Regenerator Pipe Support Details
W-20581 *	1	3-4-66	Main Regenerators - Pipe Supports
W-20582 *	1	3-18-66	Main Regenerators - Pipe Supports
W-20583 *	3	6-17-66	Main Regenerators - Pipe Supports
W-20585 *	2	4-29-66	Compressor Building - Pipe Supports
W-20586 *	2	5-20-66	Compressor Building - L.O. Regenerator Pipe Supports
W-20587 *	2	6-10-66	Light Oil Regenerators - Pipe Supports
W-20601 *	4	7-29-66	Main Regenerators - Piping - Upper Plan
W-20602 *	4	7-29-66	Main Regenerators - Piping - Lower Plan
W-20603 *	3	5-20-66	Main Regenerators - Piping - Elev. "AB-AB"
W-20604 *	2	4-15-66	Main Regenerators - Piping - Elev. "AA-AA"
W-20605 *	5	9-8-66	Main Regenerators - Piping - Elev. "AC-AC"
W-20606 *	3	4-15-66	Main Regenerators - Piping - Elev. "AD-AD"
W-20607 *	4	7-29-66	Main Regenerators - Piping - Upper Plan
W-20608 *	5	7-29-66	Main Regenerators - Piping - Lower Plan

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 4

JUNE 27, 1967

PAGE 1

USEI000266

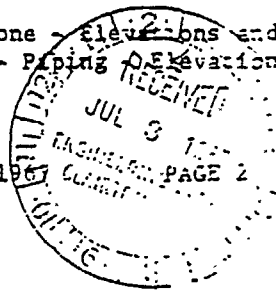
6. DRAWINGS ACCOMPANYING SPECIFICATION (Continued)

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
W-20609 *	4	7-29-66	Main Regenerators - Piping - Elev. "BB-BB"
W-20610	4	7-29-66	Main Regenerators - Piping - Elev. "BA-BA"
W-20611 *	5	7-29-66	Main Regenerators - Piping - Elev. "BC-BC"
W-20612 *	2	4-15-66	Main Regenerators - Piping - Elev. "BD-BD"
W-20613 *	4	7-29-66	Main Regenerators - Piping - Upper Plan
W-20614 *	4	7-29-66	Main Regenerators - Piping - Lower Plan
W-20615 *	4	7-29-66	Main Regenerators - Piping - Elev. "CB-CB"
W-20616 *	3	9-8-66	Main Regenerators - Piping - Elev. "CA-CA"
W-20617 *	3	7-29-66	Main Regenerators - Piping - Elev. "CC-CC"
W-20618 *	2	10-11-66	Main Regenerators - Piping - Upper Plan
W-20619 *	2	10-11-66	Main Regenerators - Piping - Lower Plan
W-20620 *	3	12-22-66	Main Regenerators - Piping - Elev. "DB-DB"
W-20621 *	2	10-11-66	Main Regenerators - Piping - Elev. "DA-DA"
W-20622 *	2	12-20-66	Main Regenerators - Piping - Elev. "DC-DC"
W-20623 *	4	7-29-66	Expansion Turbine - Piping - Plan and Elev.
W-20624 *	4	10-11-66	Light Oil Regenerators - Piping - Upper Plan
W-20629 *	8	11-25-66	Compressor Building - Piping - Upper Plan
W-20630 *	6	5-6-66	Compressor Building - Piping - Elev. "FA-FA"
W-20631 *	6	9-8-66	Compressor Building - Piping - Elev. "FC-FC"
W-20632 *	5	7-7-66	Compressor Building - Piping - Upper Plan
W-20633 *	5	7-7-66	Compressor Building - Piping - Elev. "GA-GA"
W-20634 *	6	1-3-66	Compressor Building - Piping - Elev. "GC-GC and HJ-HJ"
W-20635 *	6	10-11-66	Compressor Building - Piping - Upper Plan
W-20640 *	4	1-4-67	Compressor Building - Piping - Elev. "HC-HC and JC-JC"
W-20641	6	12-30-66	Light Oil Recovery - Piping - Lower Plan
W-20642	5	12-30-66	Light Oil Recovery - Piping - Intermediate Plan
W-20643 *	5	10-5-66	Light Oil Recovery - Piping - Upper Plan
W-20644	4	10-5-66	Light Oil Recovery - Piping - Partial Plan and Sections
W-20655 *	4	11-25-66	Compressor Building - Piping - Lower Plan
W-20656 *	4	8-5-66	Compressor Building - Piping - Lower Plan
W-20657 *	5	8-5-66	Compressor Building - Piping - Lower Plan
W-20658 *	2	8-5-66	Compressor Building - Piping - Lower Plan
W-20659 *	2	3-11-66	Compressor Building - Piping - Elev. "FD-FD"
W-20660 *	2	3-11-66	Compressor Building - Piping - Elev. "GD-GD"
W-20661 *	6	11-25-66	Compressor Building - Piping - Elev. "HD-HD"
W-20662 *	1	3-11-66	Compressor Building - Piping - Elev. "JD-JD"
W-20663 *	3	9-8-66	Compressor Building - Piping - Isometric View
W-20664 *	6	7-29-66	Compressor Building - Piping - Elev. "FB-FB and GB-GB"
W-20665 *	4	4-1-66	Compressor Building - Piping - Elev. "HB-HB and JB-JB"
W-20670 *	6	1-10-67	Blow-down and Acetone - Elevations and Plan
W-20671 *	4	7-29-66	Expansion Turbine - Piping - Elevations and Plan

ADDENDUM SPECIFICATION NO. 535-4102-62-ADD. 4

JUNE 27 1967

USEI000267



6. DRAWINGS ACCOMPANYING SPECIFICATION (Continued)

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
W-20672	5	11-29-66	Expansion Turbines - Piping - Elevations and Plan
W-20673	4	12-30-66	Light Oil Recovery - Piping - Elev. "KE-KE"
W-20674 *	5	10-5-66	Light Oil Recovery - Piping - Elev. "KF-KF"
W-20675 *	3	6-3-66	Light Oil Recovery - Piping - Elev. "KA-KA"
W-20676 *	5	1-10-67	Light Oil Recovery - Piping - Elev. "KB-KB"
W-20677	4	10-5-66	Light Oil Recovery - Piping - Elev. "KC-KC"
W-20678	7	1-10-67	Light Oil Recovery - Piping - Elev. "KD-KD"
W-20679	6	11-11-66	N ₂ Storage and Blow-down - Piping - Plan
W-20680 *	7	11-29-66	N ₂ Storage and Blow-down - Piping - Elevat
W-20681 *	1	4-22-66	N ₂ Storage Piping - Elev. "LB-LB"
W-20684	6	1-10-67	N ₂ Deriving Station Piping - Plan
W-20685 *	4	9-8-66	Deriving and Instant Air - Piping Elevation
W-20689 *	6	12-8-66	Hydrogen Cold Box - Piping - Plan
W-20690 *	9	12-12-66	Hydrogen Plant - Piping - Plan Above - 787'-10-7/8"
W-20691 *	7	11-25-66	Hydrogen Plant - Piping - Elevation "NB-NB"
W-20692 *	8	12-21-66	Hydrogen Plant - Piping - Elevation "NC-NC"
W-20693 *	8	12-20-66	Hydrogen Plant - Piping - Elevation "ND-ND"
W-20694 *	6	11-9-66	Hydrogen Plant - Piping - Elevation "PA-PA"
W-20695 *	6	11-11-66	Hydrogen Plant - Piping - Plan Above 774'-9-3/8"
W-20696 *	5	8-5-66	Hydrogen Plant - Piping - Plan at Grade
W-20697 *	7	12-12-66	Hydrogen Plant - Piping - Elevation "NA-NA"
W-20698 *	4	8-5-66	Hydrogen Plant - Piping - Elevation "NE-NE"
W-20701 *	7	12-19-66	N ₂ Plant - Piping - Upper Plan
W-20702 *	6	12-19-66	N ₂ Plant - Piping - Plans
W-20703	8	11-10-66	N ₂ Plant - Piping - Lower Plan
W-20704 *	8	12-19-66	N ₂ Plant - Piping - Elev. "QB-QB"
W-20705 *	9	12-9-66	N ₂ Plant - Piping - Elev. "QA-QA"
W-20706 *	8	11-10-66	N ₂ Plant - Piping - Elev. "QC-QC"
W-20707 *	8	12-9-66	N ₂ Plant - Piping - Elev. "QD-QD"
W-20708 *	5	8-25-66	N ₂ Plant - Piping - Elev. "QE-QE"
W-20710 *	8	11-10-66	N ₂ Plant - Piping - Plan and Elevation
W-20711 *	7	12-9-66	N ₂ Plant - Piping - Elev. "RB-RB"
W-20712 *	3	7-29-66	Main Regenerators - Piping - Upper Plan
W-20713 *	2	4-15-66	Main Regenerators - Piping - Lower Plan
W-20714 *	3	9-8-66	Main Regenerators - Piping - Elev. "DA-DA"
W-20715 *	5	7-7-66	Light Oil Regenerators - Piping - Upper Plan
W-20716	7	12-9-66	Light Oil Regenerators - Piping - Lower Plan
W-20717 *	7	1-3-67	Compressor Building - Piping - Upper Plan
W-20718 *	5	8-5-66	Compressor Building - Piping - Elev. "HA-HA"
W-20719 *	5	8-5-66	Compressor Building - Piping - Upper Plan
W-27020 *	5	8-5-66	Compressor Building - Piping - Elev. "UA-UA"
W-20721 *	6	10-25-66	Compressor Building - Piping - Elev. "UB-UB and HB-HB"
W-20722 *	3	10-11-66	Compressor Building - Piping - Lower Plan
W-20723 *	1	4-15-66	Compressor Building - Piping - Elev. "CD-CD"

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. -

JUNE 27 1967

PAGE 3

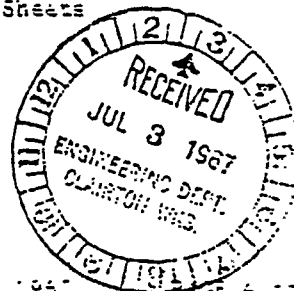
USEI000268

6. DRAWINGS ACCOMPANYING SPECIFICATION (Continued)

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
W-20724 *	7	12-20-66	Light Oil Regenerator - Piping - Intermediate Plan
W-20731	4	12-9-66	Separator Cold Box - External Piping - Plan
W-20732	4	12-9-66	Separator Cold Box - External Piping - Elev.
W-20733	3	5-25-66	Separator Cold Box - External Piping - Elev.
W-20734	3	12-23-66	Separator Cold Box - External Piping - Plan
W-20735	1	5-13-66	Separator Cold Box - External Piping - Elev.
W-20736	2	8-25-66	Separator Cold Box - External Piping - Elev.
W-20737	2	10-11-66	Separator Cold Box - External Piping - Plan
W-20738	2	10-11-66	Separator Cold Box - External Piping - Elev.
W-20739 *	2	10-11-66	Separator Cold Box - External Piping - Elev.
W-20750 *	4	10-7-66	Misc. Plans and Details - Piping - Elev. "BF-BF"
W-20751 *	3	9-8-66	Misc. Plans and Details - Piping - Elev. "CF-CF"
W-20752 *	3	12-22-66	Misc. Plans and Details - Piping - Elev. "DF-DF"
W-20758 *	8	12-9-66	Light Oil Regenerators - Piping - Elev. "EB-EB"
W-20759 *	6	12-9-66	Light Oil Regenerators - Piping - Elev. "EA-EA"
W-24605 *	9	1-3-67	Pyridine Plant - Piping - First Floor - Plan
W-24606 *	6	1-3-67	Pyridine Plant - Back Piping - Plan and Sections
W-24607 *	9	1-9-67	Pyridine Plant - Piping - Second Floor - Plan
W-24608 *	5	7-29-66	Pyridine Plant - Piping - Sections "A-A"
W-24609 *	5	12-12-66	Pyridine Plant - Piping - "H-H", "L-L" and "S-S"
W-24610 *	7	12-21-66	Pyridine Plant - Piping - "J-J", "K-K" and "F-F"
W-24611 *	3	6-10-66	Pyridine Plant - Piping - "B-B" and "D-D"
W-24612 *	3	1-9-67	Pyridine Plant - Piping - "C-C", "M-M", "EE" and "FF"

NOTE: All drawings marked * are no change but have been included in this Addendum because they were part of Drawing Transmittals No. 2 and No. 8.

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>	<u>Description</u>
Sheets 1 to 99 inclusive	2	12-20-66	Insulation Data Sheets



ADDENDUM SPECIFICATION NO. 535-4104-62-ADD

JUNE 27 1967 PAGE 4 OF 4

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UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 4

JUNE 27, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda Nos. 1, 2, 3 and 4 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in this Addendum No. 4 for the price quoted below:

1. Lump-sum price for performing all work described per this Addendum No. 4

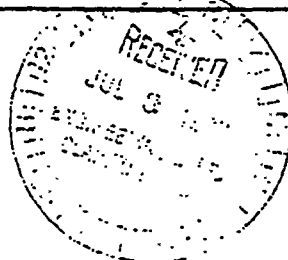
\$ _____

Date _____

Firm Name _____

Signed by _____

Title _____



SUPPLEMENTARY PROPOSAL FORM SPECIFICATION NO. 535-4102-62-ADD. 4 JUNE 27, 1967

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UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 5

JULY 26, 1967
Item 17-8-M

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

The purpose of this Addendum is to add the installation of stainless steel boxes around transmitter housings for freeze protection.

The following additions with Supplementary Proposal Form shall be attached to and form a part of the complete Specification.

3. WORK BY CONTRACTOR

Add the following:

3.20 Delete the words "Instrument Housings".

3.22 Delete the word "Transmitters".

3.24 Install thirty (30) 316 stainless steel boxes over the required instrument housings with minimum disturbance to the installed piping and tubing as possible. Subject boxes will be furnished by the Purchaser.

3.25 Provide all necessary slotting of boxes to accommodate irregular impulse piping.

3.26 Note, before installation of protective boxes on the instrument housings, Contractor shall be sure the steam tracing tubing (without insulation) is around the perimeter of the box and near the open bottom.

4. WORK BY PURCHASER

Add the following:

4.5 Designate which instruments are to have protective stainless steel boxes.

4.6 Furnish thirty (30) unassembled stainless steel boxes to be installed by Contractor on designated instrument housings.

6. DRAWINGS ACCOMPANYING SPECIFICATION

Add the following new drawings:

USEI000259

<u>Drawing No.</u>	<u>Revision</u>	<u>Date</u>	<u>Description</u>
SK-4078	0	6-28-67	Protective Boxes for Instruments
W-25991	2	6-29-67	Steam Tracing & Flash Tank Details

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 5

JULY 26, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda Nos. 1, 2, 3, 4 and 5 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in this Addendum No. 5 for the price quoted below:

1. Unit price for installing estimated quantity of
thirty (30) protective boxes on existing instrument
 housings \$ _____
- 1.1 Unit price for installation of protective
 boxes in the event Purchaser elects to add
 to estimated quantity \$ _____/unit

Date _____

Firm Name _____

Signed by _____

Title _____

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 5

JULY 26, 1967

PAGE 1 of 1

USE 1000260

152-8
Spec. 4102-6:

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 6

AUGUST 10, 1967

INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

ITEM 17-15a-c

The purpose of this Addendum is to add the insulation to the tops of four (4) light oil regenerators and thermocouple wells and nozzles.

The following additions, with Supplementary Proposal Form, shall be attached to and form a part of the complete Specification.

3. WORK BY CONTRACTOR

3.27 The four (4) light oil regenerators, numbered R-582, R-584, R-586 and R-590, shall be insulated up from the stiffener rib shown at reference elevation 31'4-5/8", the balance of the straight sides and the top heads of the vessels.

3.27.1 Insulation shall consist of two (2) 1-inch thick layers of Styrofoam board applied over mechanical fasteners which have been cemented to the shell and heads of vessels. Cement must be suitable for operation temperature of plus 50° F. One (1) layer against the vessels shall be laid dry; the second layer shall have the edges cemented to adjacent pieces. Vamasco or approved equal vapor barrier material shall be applied over second layer of Styrofoam for sides and tops.

3.27.2 Stainless steel, type 316, .010-inch thick, jacketing shall be applied on straight vertical sides up to tangent line of head on the top of tangent line, glass fabric shall be embedded in the vapor barrier material. Over the glass fabric shall be applied Insulmastic 4010 or approved equal, weather-proof coating.

3.27.3 Appropriate closure and sealing shall be applied between head and side weather coating and jacket and between the above described 2-inch of insulation and the thicker insulation of the lower side. The closure necessary between the different thicknesses of insulation shall be per Detail B, Page 10 of INS-1.

3.28 Thermocouple Nozzles

Insulate Thermocouple nozzles that are located on the light oil regenerator vessels (R-582, R-584, R-586 and R-590) with multiple thermocouples in each nozzle. The tabulation of nozzle identification of each vessel is as follows:



SPECIFICATION NO. 535-4102-62-ADD. 6

AUGUST 10, 1967

PAGE 1

USEI000255

3. WORK BY CONTRACTOR (Continued)

3.28 Thermocouple Nozzles (Continued)

<u>Nozzle No.</u>	<u>Nozzle Diameter</u>	<u>No. of Thermocouples</u>	<u>Dimension Face of Vessel to Face of Nozzle</u>
-------------------	------------------------	-----------------------------	---

Vessels R-584, R-586 and R-590

TW-16	8 inches	2	F to F 7-3/16 inches
TW-17	8 inches	4	F to F 7-3/16 inches
TW-18	8 inches	4	F to F 7-3/16 inches

Vessel R-582

TW-16	8 inches	2	F to F 7-3/16 inches
TW-17	8 inches	4	F to F 7-3/16 inches
TW-18	8 inches	1	F to F 7-3/16 inches
TW-19	2 inches	1	F to F 6 inches
TW-20	2 inches	1	F to F 6 inches
TW-21	2 inches	1	F to F 6 inches
TW-22	2 inches	1	F to F 6 inches
TW-23	2 inches	1	F to F 6 inches
TW-24a	8 inches	3	F to F 7-3/16 inches
TW-24b	8 inches	3	F to F 7 inches
TW-25	2 inches	1	F to F 6 inches
TW-26	2 inches	1	F to F 6 inches
TW-27	2 inches	1	F to F 6 inches
TW-28	2 inches	1	F to F 6 inches
TW-29	2 inches	1	F to F 6 inches
TW-30	2 inches	1	F to F 6 inches
TW-31	2 inches	1	F to F 6 inches

3.29 Insulation of these nozzles and extension space outside the face of nozzle shall be as follows:

3.29.1 Two (2) layers of Styrofoam pipe covering, each layer 1-inch thick shall be fitted over nozzle. These sections shall be fitted and cemented into the vessel side wall insulation and the layers shall be staggered with the side wall insulation. The outside end of this 2-layered tube shall be closed by two (2) 1-inch thick Styrofoam plugs cut in circular section and cemented into the tube.

The entire exposed surface shall have vapor barrier, glass fabric embedded in the vapor barrier and weather-proof coating as described for light oil regenerator tops.

3.30 The dimension from face of nozzle on vessel to outside of 2-inch thick end shall be six (6) inches.

3.31 The inside of the cavity produced by pipe covering section installed over nozzle shall be packed with slag wool after thermocouple wires are installed.

4. WORK BY PURCHASER

- 4.7 Purchaser will connect 1/2-inch pipe (threaded one end) eight (8) inches long in each thermocouple of each nozzle.

The pipe is to be installed before Contractor installs pipe covering over nozzles.

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 6

AUGUST 10, 1967

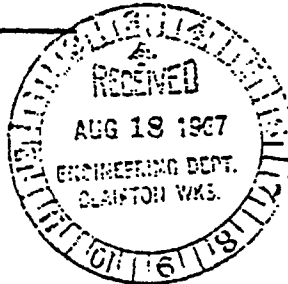
INSULATION FOR PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda Nos. 1 through 6 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in this Addendum No. 6 for the price quoted below:

Lump-sum price for performing all work
described per this Addendum No. 6

\$ _____

Date _____



Firm Name _____

Signed by _____

Title _____

SUPPLEMENTARY PROPOSAL FORM SPECIFICATION NO. 535-4102-62-ADD. 6 AUGUST 10, 1967

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Spec. 4102-

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 7

NOVEMBER 13, 1967

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

Item 17-15-d

The purpose of this Addendum is to increase the scope of work to include work in Areas 7 and 8 not previously included.

The following additions and deletions, together with Supplementary Proposal Form, shall be attached to and form a part of the complete Specification.

The following insulation data sheets have been revised:

<u>Sheet No.</u>	<u>Revision No.</u>	<u>Revision Date</u>	<u>Work Area</u>	<u>Hot or Cold</u>
33	20	10-31-67	7	Hot
39	20	10-31-67	7	Hot
40	20	10-31-67	7	Cold
41	20	10-31-67	7	Hot
53	20	10-31-67	7	Hot
54	20	10-31-67	7	Hot
56	20	10-31-67	7	Hot
57	20	10-31-67	7	Hot
63	20	10-31-67	7	Hot
64	20	10-31-67	7	Hot
66	20	10-31-67	7	Hot
72	20	10-31-67	8	Cold
76	20	10-31-67	8	Hot
80	20	10-31-67	8	Hot
81	20	10-31-67	8	Hot
82	20	10-31-67	8	Hot
87	20	10-31-67	8	Hot
99	20	10-31-67	7	Hot
102	20	10-31-67	8	Hot

6. DRAWINGS ACCOMPANYING SPECIFICATION

The following drawings have been revised:

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>
W-20703	14	10-31-67
W-20705	14	10-31-67
W-20694	6	11-9-66



ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 7

NOVEMBER 13, 1967

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UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 7

NOVEMBER 13, 1967

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

Item 17-15-d

Having carefully examined the Specification and Addenda Nos. 1 through 7 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in the above-numbered Specification for the prices quoted below:

1. Lump-sum price for performing all work described herein

\$ _____

Breakdown prices for above:

- 1.1 Price for performing all work described herein for cold insulation per INS-1

\$ _____

- 1.2 Price for performing all work described herein for hot insulation per INS-3

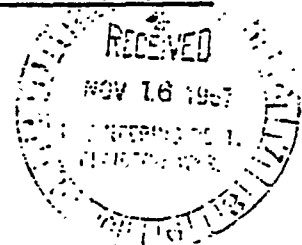
\$ _____

Date _____

Firm Name _____

Signed by _____

Title _____



SUPPLEMENTARY PROPOSAL FORM SPECIFICATION NO. 535-4102-62-ADD. 7 NOVEMBER 13, 1967

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4102-

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 8

FEBRUARY 19, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

Item 17-15-d

The purpose of this Addendum is to increase the scope of work to include work in Areas 7 and 8 previously included in drawing transmittal No. 38 dated November 26, 1967.

NOTE: This Addendum cancels and supersedes Addendum No. 7.

The following additions and deletions, together with Supplementary Proposal Form, shall be attached to and form a part of the complete Specification.

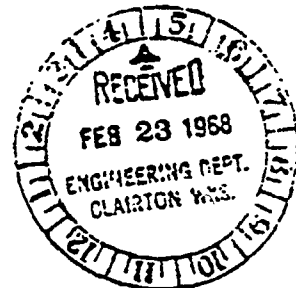
The following insulation data sheets have been revised:

<u>Sheet No.</u>	<u>Revision No.</u>	<u>Revision Date</u>	<u>Work Area</u>	<u>Hot or Cold</u>
56	20	10-31-67	7	Hot
39	20	10-31-67	7	Hot
40	20	10-31-67	7	Cold
41	20	10-31-67	7	Hot
63	20	10-31-67	7	Hot
64	20	10-31-67	7	Hot
66	20	10-31-67	7	Hot
72	20	10-31-67	8	Cold
76	20	10-31-67	8	Hot
80	20	10-31-67	8	Hot
81	20	10-31-67	8	Hot
82	20	10-31-67	8	Hot
87	20	10-31-67	8	Hot
99	20	10-31-67	7	Hot
102	20	10-31-67	8	Hot

6. DRAWINGS ACCOMPANYING SPECIFICATION

The following drawings have been revised:

<u>Drawing No.</u>	<u>Revision No.</u>	<u>Date</u>
SK-4084	2	9-25-67
W-22132	7	11-30-66
W-22133	7	10-26-67
W-22144	6	6-9-67
W-22177	2	9-2-65



UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
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PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 8

FEBRUARY 19, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

Item 17-15-d

Having carefully examined the Specification and Addenda Nos. 1 through 8 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in Addendum No. 8 for the prices quoted below:

1. Price for performing all work described
herein for cold insulation per INS-1 \$_____ (Total)
2. Price for performing all work described
herein for hot insulation per INS-3 \$_____ (Total)

NOTE: Each item of work (Addition or Deletion)
shall be priced separately.

Date _____

Firm Name _____

Signed by _____

Title _____



SUPPLEMENTARY PROPOSAL FORM SPECIFICATION NO. 535-4102-62-ADD. 8

FEBRUARY 19, 1968

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W. J. Schuch

4/12-

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 9

MARCH 14, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

The purpose of this Addendum is to include additional unit prices for additions and deletions of work as described herein.

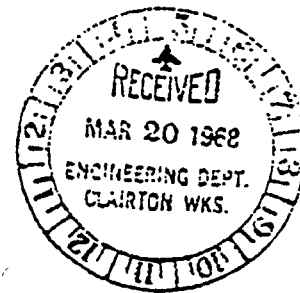
The following additions, with Supplementary Proposal Form, are attached to and shall become a part of the complete Specification.

3. WORK BY CONTRACTOR

Add the following:

- 3.32 Furnish all supervision, labor, materials, tools, equipment and incidentals necessary to insulate ten (10) liquid level transmitters shown on the attached Drawing No. CP10-1-1-C; subject transmitters are located in Area VII-B.

LIC-6141-A
LIC-6114-A
LIC-6023-A
LIC-6005-A
LIC-6092-A
LIC-9319-A
LIC-6083-A
LIC-5730-A
LIC-6243-A
LIC-5753-A



- 3.33 Furnish all supervision, labor, materials, tools, equipment and incidentals necessary to insulate approximately twenty-five (25) steam-traced liquid sections of electronic transmitters as shown on attached Drawing No. SK-1.

5. ENGINEERING DATA

5.1 General

Add the following:

- 5.1.3 Thickness of insulation for pipe sizes up to and including six (6) inches shall be 1-inch; above 6-inch pipe size, insulation thickness shall be 1-1/2-inches.

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 9

MARCH 14, 1968

PAGE 1

USEI000228

5. ENGINEERING DATA (Continued)

5.1 General (Continued)

5.1.4 Insulation shall be complete with 316 stainless steel jacketing.

5.1.5 Items described in Paragraphs 3.32 and 3.33 of this Addendum shall be insulated in accordance with applicable sections of INS-3 (hot insulation). All insulation shall be one (1) inch thick.



UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 9

MARCH 14, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda Nos. 1 through 9 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in Addendum No. 9 for the prices quoted below:

1. Unit prices for insulation of the following work:

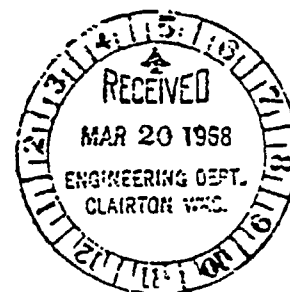
<u>Item No.</u>	<u>Description</u>	<u>Est. Quantity</u>	<u>Unit Price</u>	<u>Est. Total Cost</u>
1.1	Nominal pipe size (IPS) or insula- tion size:			
	1-inch thick:			
	1/2-inch	2,000 l.f.	\$____/ft.	\$_____
	3/4-inch	100 l.f.	\$____/ft.	\$_____
	1-inch	3,000 l.f.	\$____/ft.	\$_____
	1-1/4-inch	100 l.f.	\$____/ft.	\$_____
	1-1/2-inch	1,000 l.f.	\$____/ft.	\$_____
	2-inch	1,600 l.f.	\$____/ft.	\$_____
	2-1/2-inch	500 l.f.	\$____/ft.	\$_____
	3-inch	250 l.f.	\$____/ft.	\$_____
	4-inch	850 l.f.	\$____/ft.	\$_____
	6-inch	200 l.f.	\$____/ft.	\$_____
	1-1/2-inch thick:			
	8-inch	50 l.f.	\$____/ft.	\$_____
	10-inch	100 l.f.	\$____/ft.	\$_____

1. (Continued)

<u>Item No.</u>	<u>Description</u>	<u>Est. Quantity</u>	<u>Unit Price</u>	<u>Est. Total Cost</u>
1.1	(Continued)			
	1-1/2-inch thick: (Continued)			
	12-inch	100 l.f.	\$____/ft.	\$_____
	14-inch	30 l.f.	\$____/ft.	\$_____
	16-inch	100 l.f.	\$____/ft.	\$_____
	18-inch	50 l.f.	\$____/ft.	\$_____
	20-inch	50 l.f.	\$____/ft.	\$_____
	24-inch	50 l.f.	\$____/ft.	\$_____
1.2	Process lines with one (1) 1/2-inch O.D. steam tracer to 8-inch IPS and one (1) or two (2) 1/2-inch O.D. steam tracer over 8-inch IPS			
	1-inch thick:			
	1/2-inch	1,000 l.f.	\$____/ft.	\$_____
	3/4-inch	50 l.f.	\$____/ft.	\$_____
	1-inch	600 l.f.	\$____/ft.	\$_____
	1-1/4-inch	200 l.f.	\$____/ft.	\$_____
	1-1/2-inch	100 l.f.	\$____/ft.	\$_____
	2-inch	600 l.f.	\$____/ft.	\$_____
	2-1/2-inch	100 l.f.	\$____/ft.	\$_____
	3-inch	400 l.f.	\$____/ft.	\$_____
	4-inch	750 l.f.	\$____/ft.	\$_____
	6-inch	600 l.f.	\$____/ft.	\$_____

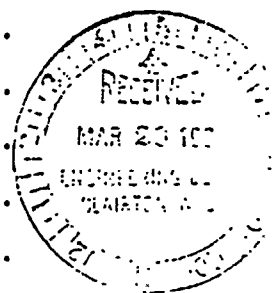
1. (Continued)

<u>Item No.</u>	<u>Description</u>	<u>Est. Quantity</u>	<u>Unit Price</u>	<u>Est. Total Cost</u>
1.2	(Continued)			
	1-1/2-inch thick:			
	8-inch	50 l.f.	\$____/ft.	\$_____
	10-inch	400 l.f.	\$____/ft.	\$_____
	12-inch	30 l.f.	\$____/ft.	\$_____
	14-inch	100 l.f.	\$____/ft.	\$_____
	16-inch	180 l.f.	\$____/ft.	\$_____
	18-inch	50 l.f.	\$____/ft.	\$_____
	20-inch	50 l.f.	\$____/ft.	\$_____
	24-inch	50 l.f.	\$____/ft.	\$_____
	30-inch	50 l.f.	\$____/ft.	\$_____
1.3	Steam traced instrument impulse lines			
	One (1) 3/8-inch impulse line with 3/8-inch copper tracer line	1,000 l.f.	\$____/ft.	\$_____
	Two (2) 3/8-inch impulse lines with single 3/8-inch copper tracer line	500 l.f.	\$____/ft.	\$_____
1.4	<u>Lines to be deleted from contract</u>			
	1-inch thick:			
	1/2-inch		\$____/ft.	
	3/4-inch		\$____/ft.	
	1-inch		\$____/ft.	
	1-1/4-inch		\$____/ft.	



1. (Continued)

<u>Item No.</u>	<u>Description</u>	<u>Unit Price</u>
1.4	(Continued)	
	1-inch thick: (Continued)	
	1-1/2-inch	\$____/ft.
	2-inch	\$____/ft.
	2-1/2-inch	\$____/ft.
	3-inch	\$____/ft.
	4-inch	\$____/ft.
	5-inch	\$____/ft.
	6-inch	\$____/ft.
	1-1/2-inch thick:	
	1/2-inch	\$____/ft.
	3/4-inch	\$____/ft.
	1-inch	\$____/ft.
	1-1/4-inch	\$____/ft.
	1-1/2-inch	\$____/ft.
	2-inch	\$____/ft.
	2-1/2-inch	\$____/ft.
	3-inch	\$____/ft.
	4-inch	\$____/ft.
	5-inch	\$____/ft.
	6-inch	\$____/ft.
	7-inch	\$____/ft.
	8-inch	\$____/ft.
	9-inch	\$____/ft.



1. (Continued)

<u>Item No.</u>	<u>Description</u>	<u>Unit Price</u>
1.4	(Continued)	
	1-1/2-inch thick: (Continued)	
	10-inch	\$____/ft.
	11-inch	\$____/ft.
	12-inch	\$____/ft.
	13-inch	\$____/ft.
	14-inch	\$____/ft.
	15-inch	\$____/ft.
	16-inch	\$____/ft.
	17-inch	\$____/ft.
	18-inch	\$____/ft.
	25-inch	\$____/ft.
	30-inch	\$____/ft.
	31-inch	\$____/ft.
	2-inch thick:	
	1-inch	\$____/ft.
	4-inch	\$____/ft.
	6-inch	\$____/ft.
	8-inch	\$____/ft.
	10-inch	\$____/ft.
	12-inch	\$____/ft.
	14-inch	\$____/ft.
	16-inch	\$____/ft.
	18-inch	\$____/ft.

1. (Continued)

<u>Item No.</u>	<u>Description</u>	<u>Unit Price</u>
1.4	(Continued)	
	2-inch thick: (Continued)	
	19-inch	\$____/ft.
	20-inch	\$____/ft.
	21-inch	\$____/ft.
	24-inch	\$____/ft.
	30-inch	\$____/ft.

1.5 Multiplying factors
(number of lin.ft.)
to be used for cost
of fittings. Flanges,
valves and bends for
work added or deleted
after this Addendum
are made part of the
contract.

	<u>6-inch and Smaller</u>	<u>Over 6-inch IPS</u>
Fittings (exclusive of flanges)	_____ each	_____ each
Valve bodies (exclu- sive of flanges)	_____ each	_____ each
Flanges	_____/pair	_____/pair
Bends	_____/l.f.	_____/l.f.

2. Unit price for insulation of one
(1) liquid section of electronic
transmitter described in Paragraph
3.33 with an estimated quantity
of twenty-five (25)

\$_____/unit

3. Lump-sum price for insulation of
ten (10) liquid level transmitters
as described in Paragraph 3.32

\$_____

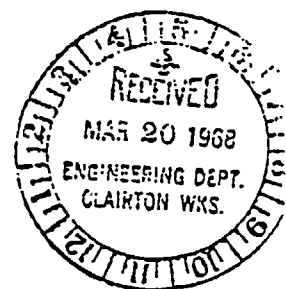
Date _____

Firm Name _____

Signed by _____

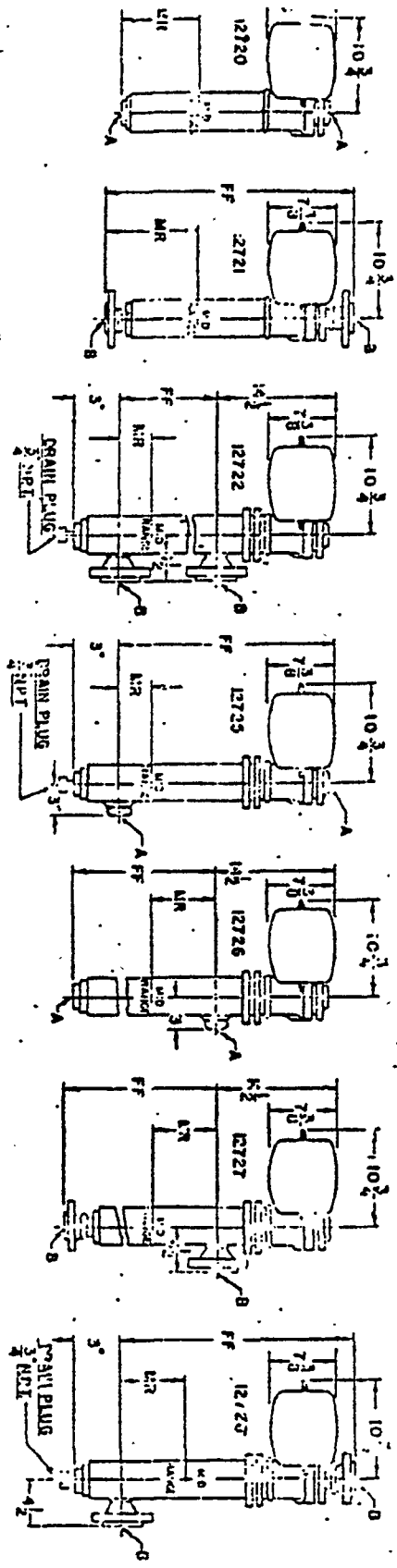
Title _____

Area Code _____ Telephone _____



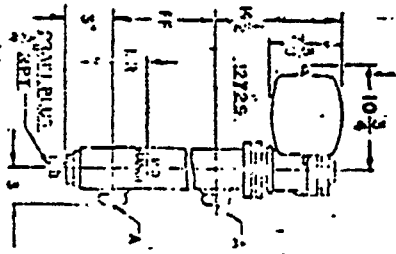
MODEL NO.	RANGE	NOTES
12720	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12721	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12722	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12723	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12724	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12725	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12726	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12727	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12728	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12729	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING
12730	0 to 150	1. 1/2" NPT-600 LB. ASA RATING 2. 1/2" NPT-600 LB. ASA RATING

Auto draining certified correct for
HUGEN CONTROL CORP.
P.O. B-23150-1 our ref. G-13645
By. L. Ellsworth 9-2056



SCREWED CONN. (A) = 1/2" - 2" NPT-600 LB. ASA RATING
FLANGED CONN. (B) = 2" SIZE 150-300-600 LB. ASA RATING

RANGE	12720	12721	12722	12723	12724	12725	12726	12727	12728	12729	12730
FF	MR	FF	MR	FF	MR	FF	MR	FF	MR	FF	MR
14	22	5	23	11	14	7	20	7	16	7	13
32	40	15	47	20	32	16	35	16	34	16	36
60	63	32	72	34	60	30	64	30	62	30	64
72	80	38	84	40	72	36	74	36	72	36	74
90	92	44	96	46	84	42	90	42	88	42	90
104	106	50	108	52	96	48	102	48	100	48	102
120	122	56	124	58	108	54	114	54	112	54	114
136	138	62	140	64	120	60	126	60	124	60	126

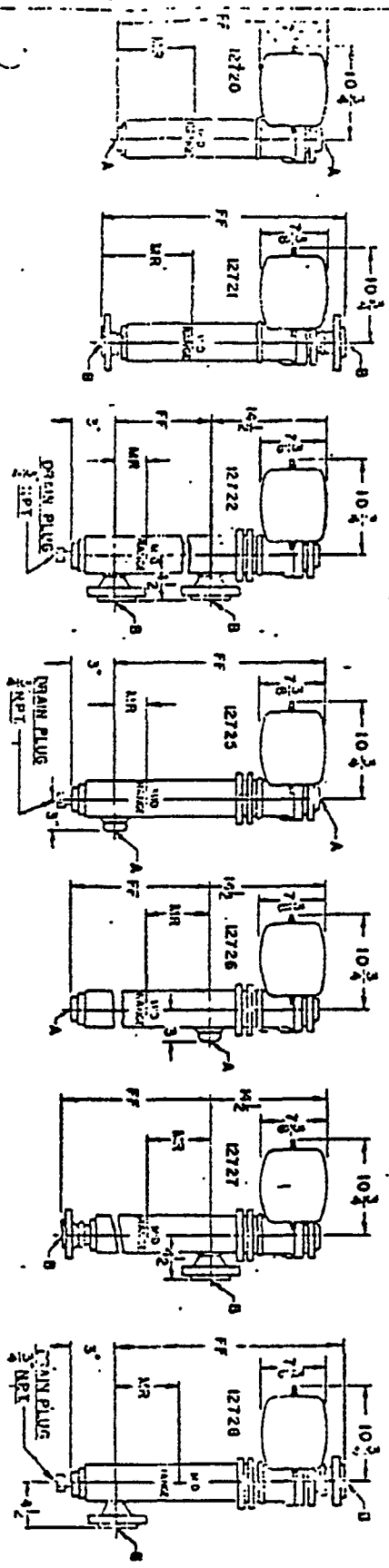


MODEL NO. 12720, 12721, 12722, 12723, 12724, 12725, 12726, 12727, 12728, 12729, 12730	
LIQUID LEVEL TRANSMITTER	
12000 SERIES	
12720, 12721, 12722, 12723, 12724, 12725, 12726, 12727, 12728, 12729, 12730	
DATE	11-10-63
BY	CP10-1-1
1	

Model No.	ASA Rating	Model No.	Range
12720	1 1/2" NF FLG 150	12721	34
12721	1 1/2" NF FLG 150	12722	32
12722	1 1/2" NF FLG 150	12723	32
12723	1 1/2" NF FLG 150	12724	32

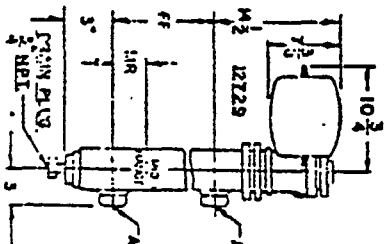
1. Chamber, Displacer, Torque tube Model 315
2. Inst. orientation left 1

THIS DRAWING CERTIFIED CORRECT FOR:
HAGAN CONTROLS CORPORATION
P.O. E-23150-1 our ref. C-13648
by. L. Elsworth 9-21-66



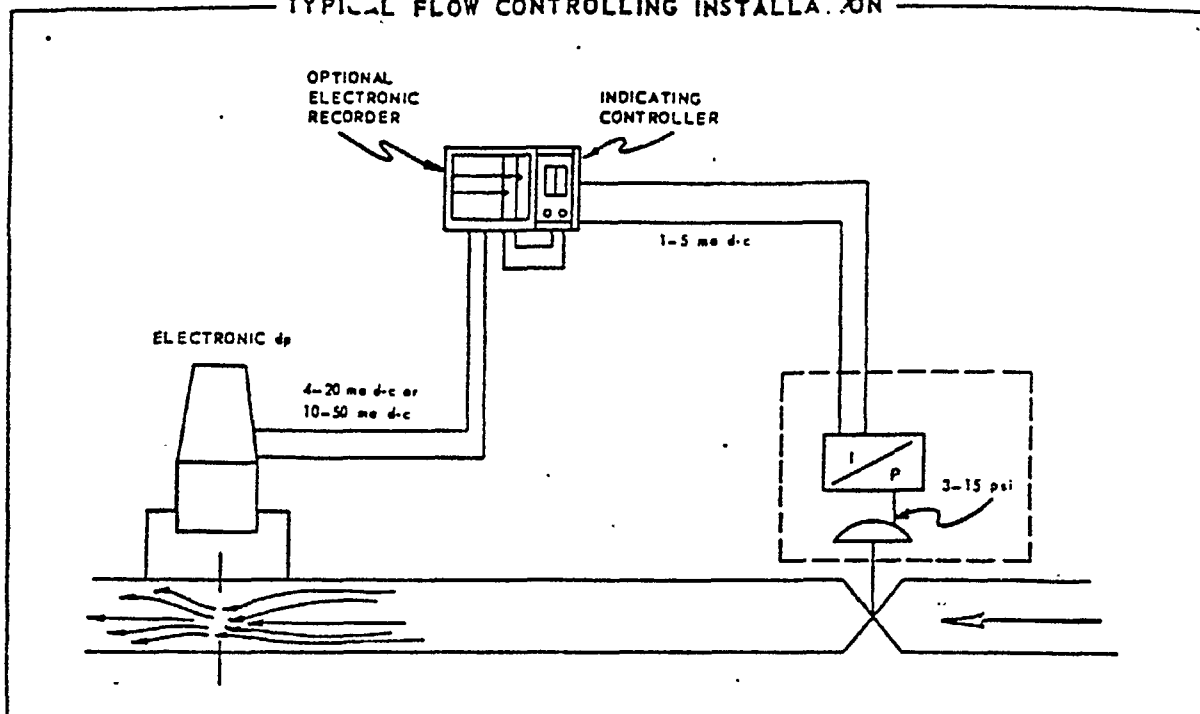
SCREWED CONN. (A) 1 1/2" - 2" NPT-800 LB. ASA RATING
FLANGED CONN. (B) 2" SIZE 150-300-600 LB. ASA RATING

Range	12720	12721	12722	12723	12724	12725	12726	12727	12728	12729
FF	MR	FF	MR	FF	MR	FF	MR	FF	MR	FF
MR	FF	MR	FF	MR	FF	MR	FF	MR	FF	MR
14	22	9	26	11	14	7	20	16	7	18
32	40	18	44	20	32	16	33	16	34	18
43	56	26	60	20	40	24	44	24	52	24
60	68	32	72	34	60	30	66	30	72	30
72	80	36	84	38	72	36	78	36	84	36
84	92	40	96	42	80	40	86	40	92	40
96	104	44	108	46	84	42	90	42	96	42
108	116	48	120	50	88	44	94	44	100	44
120	132	64	140	60	120	60	126	60	132	60

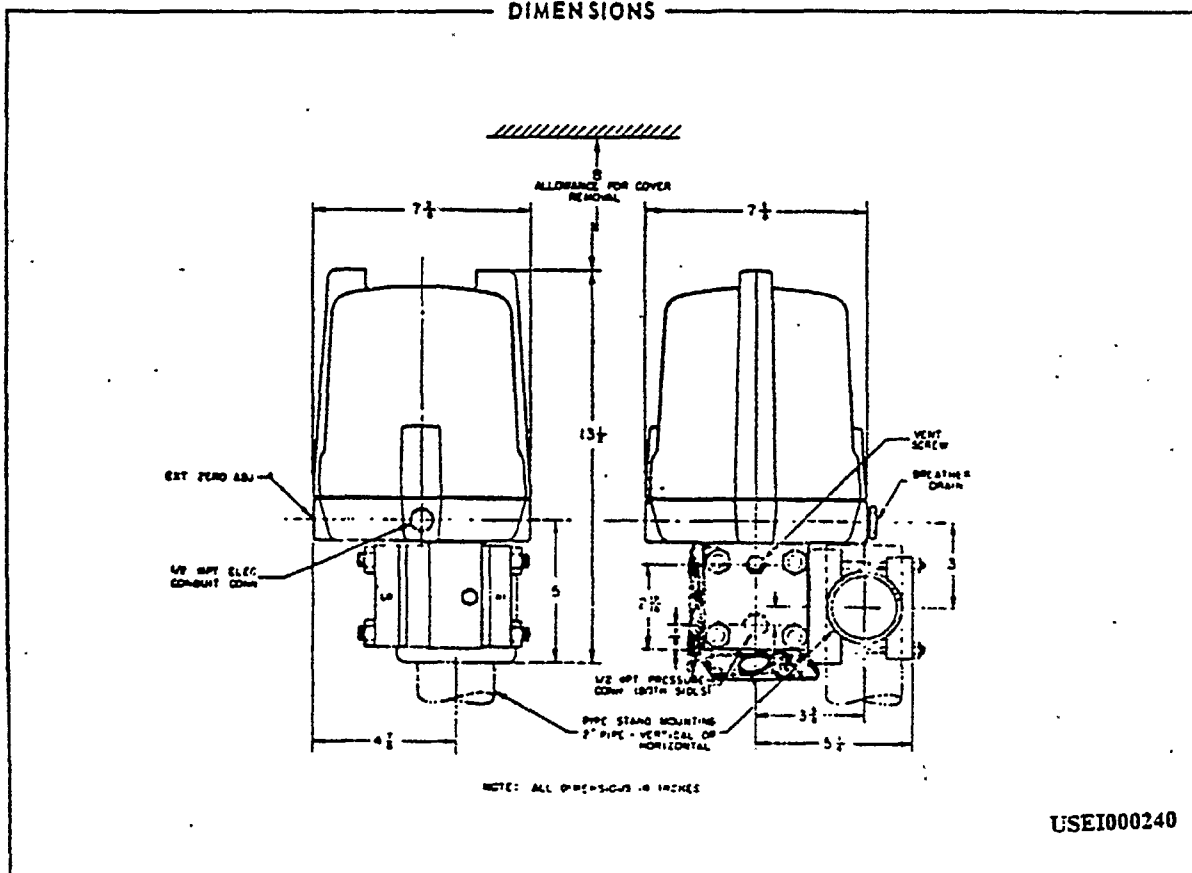


DATE: 11-10-63
BY: CPJ
CHECKED: [Signature]
APPROVED: [Signature]
LIQUID LEVEL TRANSMITTER
12000 SERIES
MODELS 12720, 12721, 12722, 12723, 12724, 12725, 12726, 12727, 12728, 12729

TYPICAL FLOW CONTROLLING INSTALLATION



DIMENSIONS



USEI000240

ELECTRONIC TRANSMITTERS

SK-1 3/11/

107-4
4102-6

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 10

APRIL 8, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

The purpose of this Addendum is to add, delete and modify operating temperature requirements of piping to be insulated.

The following additions, deletions and modifications, with Supplementary Proposal Form, shall be attached to and become a part of the complete Specification.

6. DRAWINGS ACCOMPANYING SPECIFICATION

The following revised and new data sheets are attached and shall become part of the Specification:

<u>Data Sheet No.</u>	<u>Revision or Date</u>
62	27
63	27
65	27
107	27)
108	27)
109	27) New Data Sheets
110	27)



UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

SUPPLEMENTARY PROPOSAL FORM

SPECIFICATION NO. 535-4102-62-ADD. 10

APRIL 8, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

Having carefully examined the Specification and Addenda Nos. 1 through 10 and being familiar with the various conditions affecting the work, the Undersigned offers to perform the work specified in this Addendum for the prices quoted below:

1. Price for performing all work described herein
for cold insulation per INS-1 \$ _____ (total)
2. Price for performing all work described herein
for hot insulation per INS-3 \$ _____ (total)

NOTE: Each item of work shall be priced separately.

Date _____

Firm Name _____

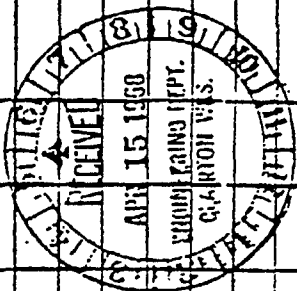
Signed by _____

Title _____

INSULATION DATA AREA - 7

107

LINE Nº	DWG Nº	SIZE	DESCRIPTION	TEMP.	INSUL TYPE (INS)	JACKET.	TRACING		
							STM	ELECT	CONT.
L-702E	W-20690	16"	FROM D726 TO & INCL. VD748-12" &	392F/-58F	1	OUTSIDE	-	-	-
	W-20691	12"	VD702GL1-12"						
	W-20694		FROM D727 TO & INCL. VD747/3-12"						
			& VD702HI-12"						
UD-735	W-20690	12"	FROM VD-748-12" TO BLINDED TEE	391F/-58F	1	OUTSIDE	-	-	-
	W-20691		@ ELEV. 795' 8 3/8"; TO & INCL.						
	W-20698		VD-736-12"; TO VD747/3-12";						
			TO & INCL. VD747/2-12"						
L-702L	W-20691	16"	FROM D726 & D727 TO & INCL.	392F/-58F	1	OUTSIDE	-	-	-
	W-20694	12"	VL702J-12" & VL702K-12";						
	W-20695		TO & INCL. VD739/1-12" & VD739/2-12"						
	W-20696								



ADDED SMT. REV(27) 31 8

USE1000219

INSULATION	DATA	AREA-
------------	------	-------

108

LINE NO	DWG No	SIZE	DESCRIPTION	TEMP.	INSUL TYPE (INS)	JACKET.	TRACING		
							STM	ELECT	CONT.
L-702D	W-20698	16"	FROM E724 THRU 26" SECTION OF PIPE TO VD737/2-12"; TO & INCL. VD702D/1-12"	-58F	1	OUTSIDE	-	-	
L-702C	W-20698	16"	FROM E722 THRU 26" SECTION OF PIPE TO VD737/1-12"; TO & INCL. VD702C/1-12"	-58F	1	OUTSIDE	-	-	
UD-738	W-20690	12"	FROM VD737/1-12" & VD739/2-12" TO VD750-12"; TO & INCL. BLINDED TEE @ ELEV. 786'-8"	392F / -58F	1	OUTSIDE	-	-	
	W-20691		FROM VD740/1-12" & VD745-12" TO & INCL. TEE ABOVE VD738/1-12" & INCL. VD738/1-12"						
UD-738	W-20692	12"	FROM TEE ABOVE VD738/1-12" TO TEE @ ELEV. 786'-8"	392F	3	OUTSIDE	-	-	
	W-20691								
	W-20690								

RECEIVED

APR 15 1983

U.S. DEPT. OF COMMERCE

U.S. CUSTOMS

APPROVED FOR EXPORT

U.S. DEPT. OF COMMERCE

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INSULATION DATA AREA- 109

Added SHT. R.F. v. 17

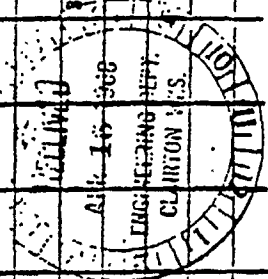
INSULATION DATA

ADDED S.W. R.V. (7) 162

(67)

INSULATION DATA AREA - 7

LINE No	DWG No	SIZE	DESCRIPTION	TEMP.	INSUL TYPE (INS)	JACKET	TRACING		QUANTITY
							STW	ELECT	
UAL 701	W-20692	1 1/2"	UAL TO UAm 705 & UAm 702	-50°F	1	OUTSIDE			130'-11'-6E
UAm 702	W-20692	1 1/2"	UAm 701 TO E 764	-50°F	1	OUTSIDE			20'-5V-21-5E-1E
UAm 703	W-20692		E765 TO D754	-100°F	1	OUTSIDE			25'-3E-2F
UAm 704	W-20692	8"	E764 TO UAm 705 & C-759 TO U.A.L.	-50°F	1	OUTSIDE			105'-1E-6E
UAm 705	W-20692	1 1/2"	UAm 701 TO E 765	-100°F	1	OUTSIDE			130'-4E
UAm 706	W-20695	6"	D754 TO UAm 705 C-759	-100°F	1	OUTSIDE			25'-3E
UAm 707	W-20695	1"	D754 TO E765	-100°F	1	OUTSIDE			135'-1V-7E-4F
UD716			THIS ITEM DELETED						20'-1V-11-7E
UD732	W-20692	12"	E763 TO UD731 & UD700	1450°F	3	OUTSIDE			50'-2V-21-4E-6E
UD790	W-20692	6"	UD700 TO VD795, VD794, VD793, VD792, VD791	1437°F	3	OUTSIDE			70'-1V-1E-3F
L703J	W-20692	8"	UV700 TO BOX WALL	-250°F	1	OUTSIDE			145'-4V-8F-8F
L704A			THIS ITEM DELETED						15'-1V-11-3F
REV.	12-20-66		REV. 5/2/67 REV. (27) 3/27/68						



(63)

LINE Nº	DWG Nº	SIZE	DESCRIPTION	TEMP.	INSUL TYPE (INS)	JACKET	TRACING		QUANTITY
							STM	ELECT	
UD738			THIS ITEM DELETED						
UD741			THIS ITEM DELETED						
UD747	M-20690	12"	VD750 TO VD747/2, VD747/3 & VD748	-58°	1	OUTSIDE			90'L-1V-3T-8E-2F
UD751	M-20699	12"	UD738 TO UD747, BOTTOM LINE ON	-10°		OUTSIDE			115'L-1V-3T-8E-2F
	M-20690		D730, D732, D734 & D735						10E-8E
L702B	M-20694	16"	E721 & UD700 TO L702C, L702D & UB730	41°	1	OUTSIDE			10'L-1E
L702C	M-20694	2"	L702B TO VB741 & VB742 (ST. 2" ONLY)	90°	3	OUTSIDE	YES		
L702D	M-20696	2"	L702C TO VB739 & VB740 (ST. 2" ONLY)	90°	3	OUTSIDE	YES		
L702E	M-20690	16"	E722, E724 & UB700 TO UD758, UD735, D726, D727 & UB730, UAC708, UB755	-58°	1	OUTSIDE			60'L-3T-7E
		12" & 2"	MODIFY IN ACCORDANCE WITH REQUIREMENTS OF L702L				YES		20'L-2V-1T-8E
L702L	M-20690	16"	D726, D727, UD738 & UD700 TO UB730 TO	-58°	1	OUTSIDE			120'L-1T-7E-2F
	M-20691	12"	UB730 & BOX-WALL						50'L-1T-5E
	M-20694	2"	L702L TO VB731, VB732, VB733 & VB734 (ST. 2" ONLY)		3	OUTSIDE	YES		
			MODIFY IN ACCORDANCE WITH REQUIREMENTS OF L702L				ON	ST. 107	

REV ① 7-29-66 REV. ② 12-20-66 REV. ③ 10/31/67 REV. ④ 3/27/68

LINE No	DWG No	SIZE	DESCRIPTION	TEMP.	INSUL TYPE (INS)	JACKET	TRACING		QUANTITY
							STM	ELECT	
② U6300	W-20703	2"	US900 TO U6823 TO X804, X811 & X824	360°F	3	OUTSIDE			70'L-IV-8E-2F
	W-20703	1"							20'L-2V-2T-5E-9F
② U6300		8"	LINES FROM R710, R712, R714, R716, D717, H2 REG. FEED GAS. HDR. D730, D734, D732, D730, E737, E738, E761, E739, D740, E741, D742, E743, D745, 3745 & U6H700 TO D767	290°F	1	OUTSIDE			
① U8750	W-20695	8"	E739, LINE TO E760, E742, E741, E748 TO D767	290°F		OUTSIDE			110'L-IV-6E-2I
② U0700	W-20690	16"	UD732 & U.A.L. TO VD701, VD702, VD703, VD704, L702B, VD715, VD703, VD707, VD708, L708, L701A, UD770, UD716, L706G, L702L, UD721, UD719 & UD780 L702B, UD707 & VD712, VD713 & VD714	437°F	3	OUTSIDE			170'L-IV-5E-2I
② U0730	W-20698	12"	MODIFY IN ACCORDANCE WITH REQUIREMENTS OF VD770 ON SHT. 109	-13°F	1	OUTSIDE			2'L-2F
② U0731	W-20693	12"	E765 & UD732 TO UD735 & UD738 TO	-10°F	1	OUTSIDE			45'L-3V-2E-2F
② U0735	W-20690	12"	UD728, UD731 & L702E TO L702C, L702D & UD717	-58°F	1	OUTSIDE			110'L-2V-5E-4I
②			MODIFY IN ACCORDANCE WITH REQUIREMENTS OF						

REV. ① 7-29-66 REV. ② 12-20-66 REV. ③ 1/17/68 REV. ④ 3/27/68

USP

UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 11

MAY 28, 1968

INSULATION OF PIPING AND EQUIPMENT
KEYSTONE PROJECT

PURPOSE

The purpose of this confirming Addendum is to increase the scope of Contractor's work in Area 7 to include insulation of additional process lines described herein.

CONTENTS

The additions and revisions contained herein shall be attached to and become a part of the complete Specification.

This Addendum consists of:

Information Sheets, pages 1 and 2

AMENDMENTS

3. WORK BY CONTRACTOR

Add the following:

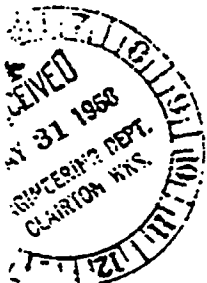
- 3.34 Furnish and install insulation for all lines including valves, flanges and fittings shown on the drawings listed per this Addendum, in accordance with Specification INS-3 "Insulation of Hot Piping, Valves and Equipment - Keystone Project".

5. ENGINEERING DATA

5.1 General

Add the following:

- 5.1.6 Insulation thickness schedule for hot piping up to 400° F. listed in INS-3 shall be applicable.
- 5.1.7 Insulation material shall be calcium silicate, molded type, if Pittsburgh Corning Unibestos molded pipe covering is not available.



ADDENDUM

SPECIFICATION NO. 535-4102-62-ADD. 11

MAY 28, 1968

PAGE 1

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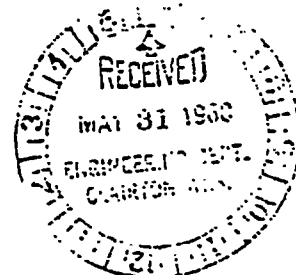
AMENDMENTS (Continued)

6. DRAWINGS ACCOMPANYING SPECIFICATION

NOTE TO CONTRACTOR: All drawings listed per this Addendum marked in green indicate additional process lines to be insulated.

Add the following revised drawings:

<u>Drawing No.</u>	<u>Revision</u>	<u>Title</u>
W-24605	11	Pyridine Plant - First Floor Piping Plan
W-24606	9	Pyridine Plant - Rack Piping - Plan and Sections
W-24607	12	Pyridine Plant - Second Floor Plan
W-24608	7	Pyridine Plant - Piping Section "A-A"
W-24609	8	Pyridine Plant - Sections "H-H", "L-L" and "S-S"
W-24610	8	Pyridine Plant - Sections "J-J", "K-K" and "F-F"
W-24611	5	Pyridine Plant - Sections "B-B" and "D-D"
W-24612	4	Pyridine Plant - Sections "C-C", "M-M", "E-E" and "F-F"
W-24618	5	Benzene Storage Tank - Piping Plan
W-24619	4	Benzene Storage Tank - Piping Details
W-20641	15	Light Oil Recovery Piping - Lower Plan
W-20644	7	Light Oil Recovery - Partial Plan and Sections
W-20674	11	Light Oil Recovery - Elevation "KF-KF"
W-20676	14	Light Oil Recovery - Elevation "KB-KB"
W-20677	9	Light Oil Recovery - Elevation "KC-KC"



UNITED STATES STEEL CORPORATION
DESIGN ENGINEERING - PITTSBURGH
225 GULF BUILDING
PITTSBURGH, PENNSYLVANIA 15230

ADDENDUM

SPECIFICATION NO. 535-4103-42-ADD. 11

MAY 28, 1948

INSULATION OF PIPING AND EQUIPMENT
KATYONE PROJECT

PURPOSE

The purpose of this confirming Addendum is to increase the scope of Contractor's work in Area 7 to include insulation of additional process lines described herein.

CONTENTS

The additions and revisions contained herein shall be attached to and become a part of the complete Specification.

This Addendum consists of:
Information Sheets, pages 1 and 2

AMENDMENTS

2. WORK BY CONTRACTOR

Add the following:

- 3.34 Furnish and install insulation for all lines including valves, flanges and fittings shown on the drawings listed per this Addendum, in accordance with Specification IX-3 "Insulation of Hot Piping, Valves and Equipment - Katyone Project".

3. INSULATING DATA

3.1 General

Add the following:

- 3.1.6 Insulation thickness schedule for hot piping up to 400° F. listed in IX-3 shall be applicable.

- 3.1.7 Insulation material shall be calcium silicate, molded type, if Pittsburgh Corning Diathene molded pipe covering is not available.



SPECIFICATION NO. 535-4103-42-ADD. 11

MAY 28, 1948

PAGE 1

UNCLASSIFIED

ADDENDUM (Continued)

6. DRAWING ACCOMPANYING SPECIFICATION

NOTE TO CONTRACTOR: All drawings listed per this Addendum marked in green indicate additional process lines to be insulated.

Add the following revised drawings:

Drawing No.	Revision	Title
W-24605	11	Pyridine Plant - First Floor Piping Plan
W-24606	9	Pyridine Plant - Hot Piping - Plan and Sections
W-24607	12	Pyridine Plant - Second Floor Plan
W-24608	7	Pyridine Plant - Piping Section "A-A"
W-24609	8	Pyridine Plant - Sections "B-B", "L-L" and "S-S"
W-24610	8	Pyridine Plant - Sections "J-J", "E-E" and "F-F"
W-24611	5	Pyridine Plant - Sections "B-B" and "D-D"
W-24612	4	Pyridine Plant - Sections "C-C", "W-W", "L-L" and "S-S"
W-24618	5	Benzene Storage Tank - Piping Plan
W-24619	4	Benzene Storage Tank - Piping Details
W-20641	15	Light Oil Recovery Piping - Lower Plan
W-20644	7	Light Oil Recovery - Partial Plan and Sections
W-20674	11	Light Oil Recovery - Elevation "X-X"
W-20676	14	Light Oil Recovery - Elevation "Y-Y"
W-20677	9	Light Oil Recovery - Elevation "Z-Z"



ADDENDUM

SPECIFICATION NO. 535-4103-42-ADD. 11

MAY 28, 1948

PAGE 2 of 2

UNCLASSIFIED