

KS 1 of 3 - For EA/ENGR.  
677473  
KS4  
14.7

PD-ABF-253

LSN75839

7.5 T/D NYLON EXPANSION PROJECT

AID Loan No. 489-H-036

# MONTHLY PROGRESS REPORT

Number (7)

F o r

January 1968

PREPARED BY

KOREA NYLON COMPANY

KOREAN GOVERNMENT

A N D

UNITED STATES

DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT

A.I.D.  
Reference Center  
Room 1856 B

## C O N T E N T S

	Page
Summary . . . . .	1
CHAPTER I      Engineering Activities . . . . .	2
CHAPTER II     Construction Activities . . . . .	5
CHAPTER III    Financial Data . . . . .	10
CHAPTER IV     Personnel . . . . .	15
CHAPTER V      Procurement Activities . . . . .	16
ATTACHMENT:   Photographs	

## SUMMARY

During the report period, extensive efforts have been directed toward the fabrication and installation works of the plant facilities so as to meet the scheduled test-run in the middle of February 1968. However, the scheduled test-run shall be a little delayed due to Lunar New Year Holiday season and minute accidents such as pilferage of loan materials, erroneous works and delay of vital items. Therefore, the expected test-run will be from the early part of March 1968.

Loan equipment and materials delivered to the job site amount to US\$4,949,254.46 as of the end of January 1968, and loan drawing status amount to US\$5,326,724.67.

Two process engineers of Chemtex came to Kolon to render field engineering services

CHAPTER I. ENGINEERING ACTIVITIES

Two process engineers of Chemtex, Mr. Norman Rooker and Mr. Eugene Goossens came to Kolon on 18th of January, 1968 to supervise and instruct 7.5 M/T plant operation as the expansion works are nearing completion.

Detailed status of installation and fabrication works are described in Chapter II. Construction Activities.

The following is the list of Drawings which Chemtex furnished during the report period.

DRAWING LIST

ARRANGEMENT & LAYOUT

<u>DATE</u>	<u>DWG. NO.</u>	<u>DESCRIPTION</u>
1/9/68	53122-a	Chip Transfer 1st Floor Plan.
"	53123-b	Air Circ. & Chip Transfer Plan 3rd Floor.
"	53124-a	Air Circ. Chip Trans. Sections G-G & H-H.
"	53125-a	Chip Transfer & Drying Sections B-B & C-D.
"	53167-a	Air Circ. & Chip Transfer Plan 4th Floor.
"	53168-a	Chip Transfer Section J-J.
1/17/68	42062-o	Arrangement of Equip. - 1st Floor
"	42063-o	" - 2nd Floor
"	42064-o	" - 3rd Floor

FOUNDATION

<u>DATE</u>	<u>DWG. NO.</u>	<u>DESCRIPTION</u>
1/5/68	52967-e	Polymer Prep. Ground Floor
1/17/68	52065-o	Partial Plan - 1st Floor
"	42066-o	Partial Plan - 2nd Floor
"	42067-o	" " - 3rd Floor

PIPINGS

<u>DATE</u>	<u>DWG. NO.</u>	<u>DESCRIPTION</u>
1/8/68	52987-d	Main Distribution Headers - Ground Floor
1/17/68	52993-c	Polymerization Piping - 2nd Floor
"	52994-c	" " - 3rd Floor
"	52995-b	" " - 4th Floor

DUCT

<u>DATE</u>	<u>DWG. NO.</u>	<u>DESCRIPTION</u>
1/9/68	42075-a	Ventilation - Monomer Charge Hopper Exhaust System.
"	53169-a	Monomer Exhaust System.

TANK

<u>DATE</u>	<u>DWG. NO.</u>	<u>DESCRIPTION</u>
1/8/68	42076-o	Air Inlet Pipe in Extraction Tank.

SPARE PARTS & EQUIPMENT

<u>DATE</u>	<u>DWG. NO.</u>	<u>DESCRIPTION</u>
1/9/68	42071-o	Monomer Recovery - Primary & Secondary Condenser.
1/11/68	31131-a	Transfer Bin Carrier.
1/15/68	42071-a	Monomer Recovery - Primary & Secondary Condenser.
"	42073-o	Monomer Recovery - 18" Dia. Connecting Pipe for Condensers.
"	53083-c	Polymerizer Ass'y.
"	53031-f	Polymerizer Tower.
1/30/68	42071-b	Monomer Recovery - Primary & Secondary Condenser.

## CHAPTER II. CONSTRUCTION ACTIVITIES

The construction works of main plant building and power house have been temporarily terminated due to the installation works of plant facilities, and the progress status of the main plant building marked 94.89% as of the end of January 1968.

Other auxiliary buildings except Batchelor's dormitory are nearing completion. The following table shows detailed construction status as of the end of January.

### Construction Status of Auxiliary Works

(As of the end of January 1968)

<u>Name of Work</u>	<u>Contract Date</u>	<u>Name of Contractor</u>	<u>Progress Rate</u>
Power House	6/18/67	Sam Hwan Enterp. Co.	96.5%
Men's Dormitory	9/7/67	"	94.0%
Women's Dormitory	"	"	94.0%
Bachelor's Dormitory	"	"	15.0%
Mess Hall	"	"	74.8%
Guard House	"	"	92.0%

CONSTRUCTION PROGRESS CHART (MAIN BUILDING)  
As of February 29, 1968

Chart No. 1

Name of Works	Progress Rate	'67										'68	
		4	5	6	7	8	9	10	11	12	1	2	
Temporary Work	8.47	0	3.13	15	22.95	33.47	48.52	68.46	79.40	89.54	100		
							43.64	54.78	67.59	83.93	86.29	87.48	
Reinforced Concrete Work	35.28	0	5	30	50	75	100						
								94.87	97.62	98	100	100	
Water Proofing Work	10.40						0	60	100				
									35.36	70	95	100	
Plaster's Work	15.22			01	3	10	40	70	95	100			
							4.34	5.48	45	85	91	95	
Other Works	36.63		4.46	12.55	14.97	19.55	36.41	68.00	75.28	89.41	100		
								30.63	47.50	52.30	70.1	87.31	87.55
Total	100	0	3.40	16.27	24.89	36.30	52.63	74.26	86.13	94.13	94.95	100	
								47.34	59.41	73.31	91.04	93.60	94.89

The fabrication and installation works of plant equipment have been smoothly progressed during the report period and progress status as of the end of January 1968 are as follows:

(1) POLYMERIZATION AREA

Melt Tank Head, Agitator and Scale Tank were completed installation. Filter and Filter Frame were fabricated. The Polymerization feeding system was completed and jacking work of Polymerization Finishing Tower has been progressed. About 80 percent of this area was completed.

(2) POLYMER CHIP FORMATION

Quench Trough, Blower and Chip Polymer Cutter were installed. Roughly 60 percent was progressed.

(3) MONOMER EXTRACTION AREA

Two Extraction Tanks, Wash Water Circulating System and Wash Water Transfer Pump Area were completed installation. Approximately 80 percent was finished.

(4) CHIP DRYING AREA

Various vessels for Chip Drying System were installed. Transfer Bin and Carrier were fabricated. About 85 percent was completed.

(5) POLYMER SPINNING AREA

Feed Hopper, Extruder and accessories were installed.

The work of this area progressed by 57 percent.

(6) YARN WIND-UP AREA

All frames of Yarn Wind-Up machines were installed and, partially, accessories such as Godet Motor & Roll were set to the Machines. Circulating Tanks of Finish System Area were fabricated. About 45 percent was completed.

(7) TEXTILE AREA

All the Drawtwister Frames were installed and six sets were completed. Approximately 60 per cent was progressed.

(8) WATER DISTRIBUTION AREA

Cooling Tower was installed and Soft Water System was completed. About 90 percent was progressed.

(9) STEAM GENERATION AREA

Boiler No. 1 was completed and Boiler No. 2 was progressed 95 percent. This area was progressed by 97.5 percent.

(10) REFRIGERATION AREA

Chilled Water Circulating Tank and accessories were installed. Piping work of this area was progressed.

(11) AIR CONDITIONING AND VENTILATION AREA

Heat Exchanger, Air Washer and Rota Spray were installed and insulated. 737 feet of Duct was set. About 80 percent was completed.

(12) POWER GENERATION AREA

Three sets of Motor Generators were installed and related Piping & Wiring Works were completed. 1,000 KVA Substation was progressed 80 percent.

(13) LIGHTING SYSTEM AREA

Lighting Work of Main plant building and power House were progressed by 80 percent.

(14) NITROGEN GENERATION SYSTEM AREA

Supports and Heat Exchangers were fabricated and set to the Cold Box. About 40 percent was completed.

(15) DOWTHERM SYSTEM AREA

Dowtherm Vaporizers were installed, and Pack Pre-Heating vessels were fabricated. About 65 percent was completed.

(16) PIPING AREA

Piping works of Out Door and Spinning Area were completed, and Polymerization Area Piping Work has been progressed. About 75 percent was progressed.

### CHAPTER III. FINANCIAL DATA

Disbursement of AID Loan Fund incurred during the reporting period amounts to US\$310,276.35 and the total amount disbursed as of the end of January 1968 is US\$5,326,724.67.

Local currency expenditures incurred during the period totaled 47,286,400 Won and cumulative total as of the end of January become 398,395,885.27 Won.

Following tables show the details of AID Loan drawing status and of local currency for the expansion.

#### AID Loan Drawing Status

(As of the end of January 1968)

Unit: US Dollar

<u>Invoice No.</u>	<u>Drawn Date</u>	<u>Description</u>	<u>Amount</u>
3054-56	Jan. 10	Glove Valve	1,548. <u>95</u>
3056-57	"	Circuit Breaker, Strainers	17,592. <u>19</u>
3060-59	"	Gage, Thermometer, Switches etc.	1,793. <u>84</u>
3066-61	"	Hardware	2,927. <u>65</u>
3076-62	Jan. 12	D/W, Take-up M/C, Spinnerettes etc.	167,331. <u>43</u>
3078-64	"	Valves, Fittings, etc.	16,182. <u>88</u>
3082-66	Jan. 17	Control Panels, Disc. etc.	18,229. <u>68</u>
3086-67	Jan. 22	Valves, Fans, Steel Pipe etc.	28,425. <u>08</u>

<u>Invoice No.</u>	<u>Drawn Date</u>	<u>Description</u>	<u>Amount</u>
3089-68	Jan. 23	Controllers, Transmitters	4,754. <u>01</u>
3091-69	Jan. 26	Heater Assemblies	1,472. <u>88</u>
3095-70	"	Bobbins, Reducers, etc.	38,758. <u>42</u>
3097-72	"	Heaters, Valves, Hardware	11,259. <u>27</u>
			<hr/>
Amounts in this reporting period			310,276. <u>35</u>
Amounts in the previous reporting periods			5,016,448. <u>32</u>
Cumulative total through this reporting period			5,326,724. <u>67</u>

Expenditures on 7.5 M/T Expansion Project

(Local Currency)

Unit: Won

<u>Items</u>	<u>Balance carried-over</u>	<u>January 1968</u>	<u>Total</u>
(1) Bldgs. Construction Works	249,448,944	28,716,010	278,164,954
(2) Structures	15,565,382	2,119,316	17,684,698
(3) Preliminary Works (Including fabrication and installation works)	19,192,672	11,945,035	31,137,707
(4) Tools & Fixtures	4,550,164	-	4,550,164
(5) Temporary Work	998,327	101,960	1,100,287
(6) Land	672,000	-	672,000
<u>Sub-Total</u>	<u>290,427,489</u>	<u>42,882,321</u>	<u>333,309,810</u>
(7) Salaries & Wages	7,263,388	1,836,505	9,099,893
(8) Welfare Exp.	2,640,968	53,248	2,694,216
(9) Office Exp.	1,470,823	47,751	1,518,574
(10) Travel Exp.	654,052	76,160	730,212
(11) Communication Exp.	90,512	300	90,812
(12) Consumables	1,055,686	24,210	1,079,896
(13) Engineers Stay Exp.	784,001	146,930	930,931
(14) L/C Open Charge	3,921,055	-	3,921,055
(15) Entertainment Exp.	14,811,968	331,020	15,142,988
(16) Interest on AIF Loan	8,044,999. <u>27</u>	-	8,044,999. <u>27</u>

<u>Items</u>	<u>Balance carried-over</u>	<u>January 1968</u>	<u>Total</u>
(17) Delivery Exp. including custom clearance	11,095,037	1,624,213	12,719,250
(18) Conference Exp.	1,873,250	-	1,873,250
(19) Storage	3,111,577	-	3,111,577
(20) Other Exp.	3,864,680	263,742	4,128,422
<u>Sub-Total</u>	<u>60,681,996.27</u>	<u>4,404,079</u>	<u>65,086,075.27</u>
<u>Grand Total</u>	<u>351,109,485.27</u>	<u>47,286,400</u>	<u>398,395,885.27</u>

RECORD SHEET

KOREA NYLON CO., LTD.

CODE NO. \_\_\_\_\_

SHEET NO. \_\_\_\_\_

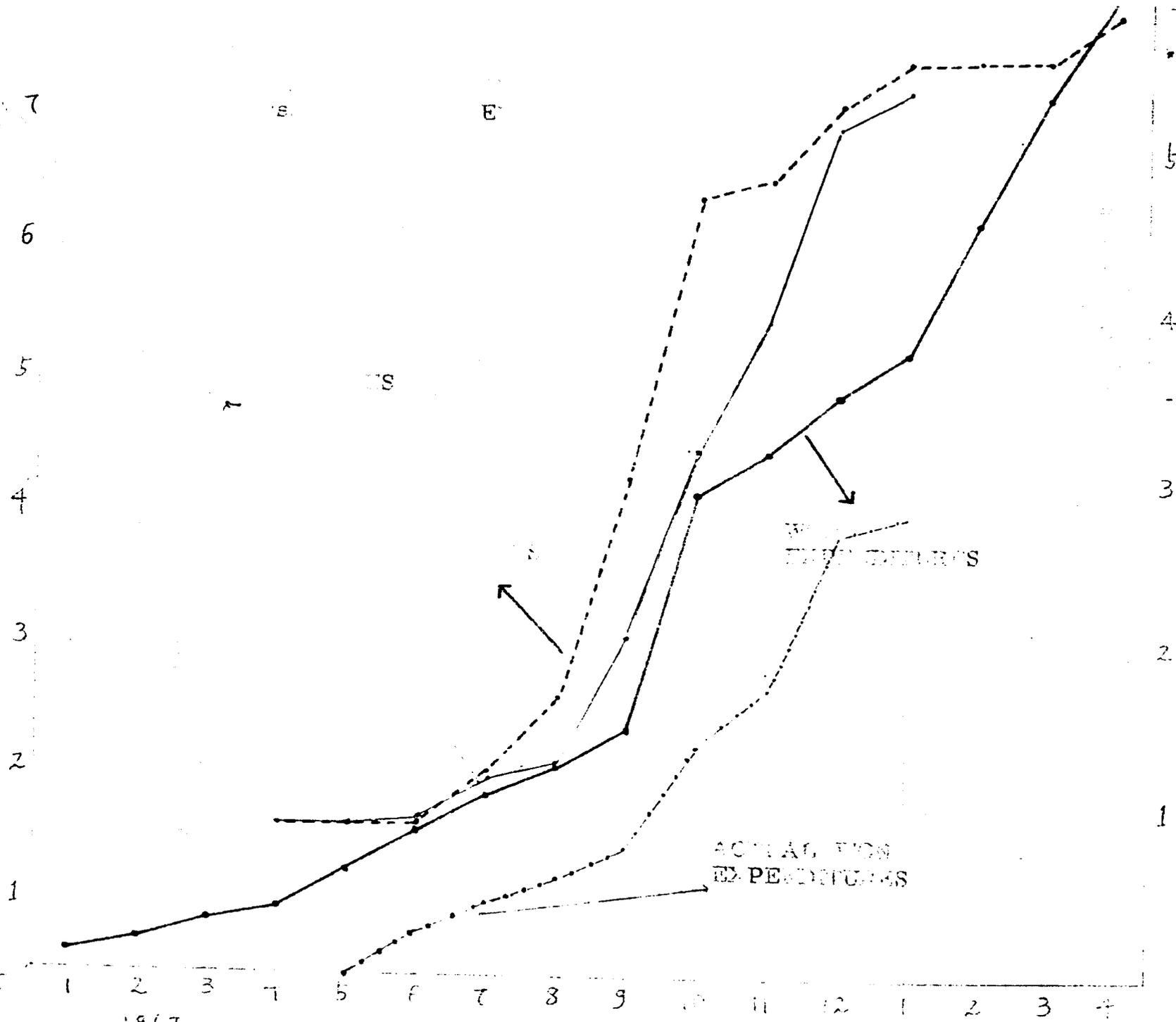
DATE \_\_\_\_\_

BY \_\_\_\_\_

SUBJECT \_\_\_\_\_

AMOUNT

YEAR 1967



CHAPTER IV. PERSONNEL

Four persons of Maintenance Section of existing plant have been transferred to the Engineering Section of 7.5 M/T plant Construction Department to deal out the expansion works, and the total membership of Construction Department has been increased by 62 persons.

Total 102,317 man/day labor power were put into 7.5 M/T expansion work until the January 1968 and the details are shown below;

Unit: man/day

<u>Name of Work</u>	<u>Contractor</u>	<u>Kolon</u>	<u>Temporary Hire by Kolon</u>	<u>Total</u>
Main Plant Bldg.	31,451	530	-	31,981
Power House	3,765	120	-	3,885
Other Const. Works	62,120	2,158	2,173	66,451
<u>Total</u>	<u>97,336</u>	<u>2,808</u>	<u>2,173</u>	<u>102,317</u>

LABOR FORCE EMPLOYED BY MONTH

Unit: man/day

<u>Name of Work</u>	<u>Until Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Jan.</u>	<u>Total</u>
Main Plant Bldg.	21,706	3,014	3,832	2,964	465	31,981
Power House	1,589	544	1,010	600	142	3,885
Other Const. Works	6,576	6,898	20,344	12,825	19,808	66,451
<u>Total</u>	<u>29,871</u>	<u>10,456</u>	<u>25,186</u>	<u>16,389</u>	<u>20,415</u>	<u>102,317</u>

CHAPTER V. PROCUREMENT ACTIVITIES

US\$1,145,401.35 worth of 7.5 M/T loan equipment and materials were delivered to the job site during January 1968. And cumulative total as of the end of January is US\$4,949,254.46, which is equivalent to 85.2 percent out of total amount of US\$5,810,000.

The following is the details of carried-in loan equipment during the report period.

Loan Equipment List Delivered to Job Site

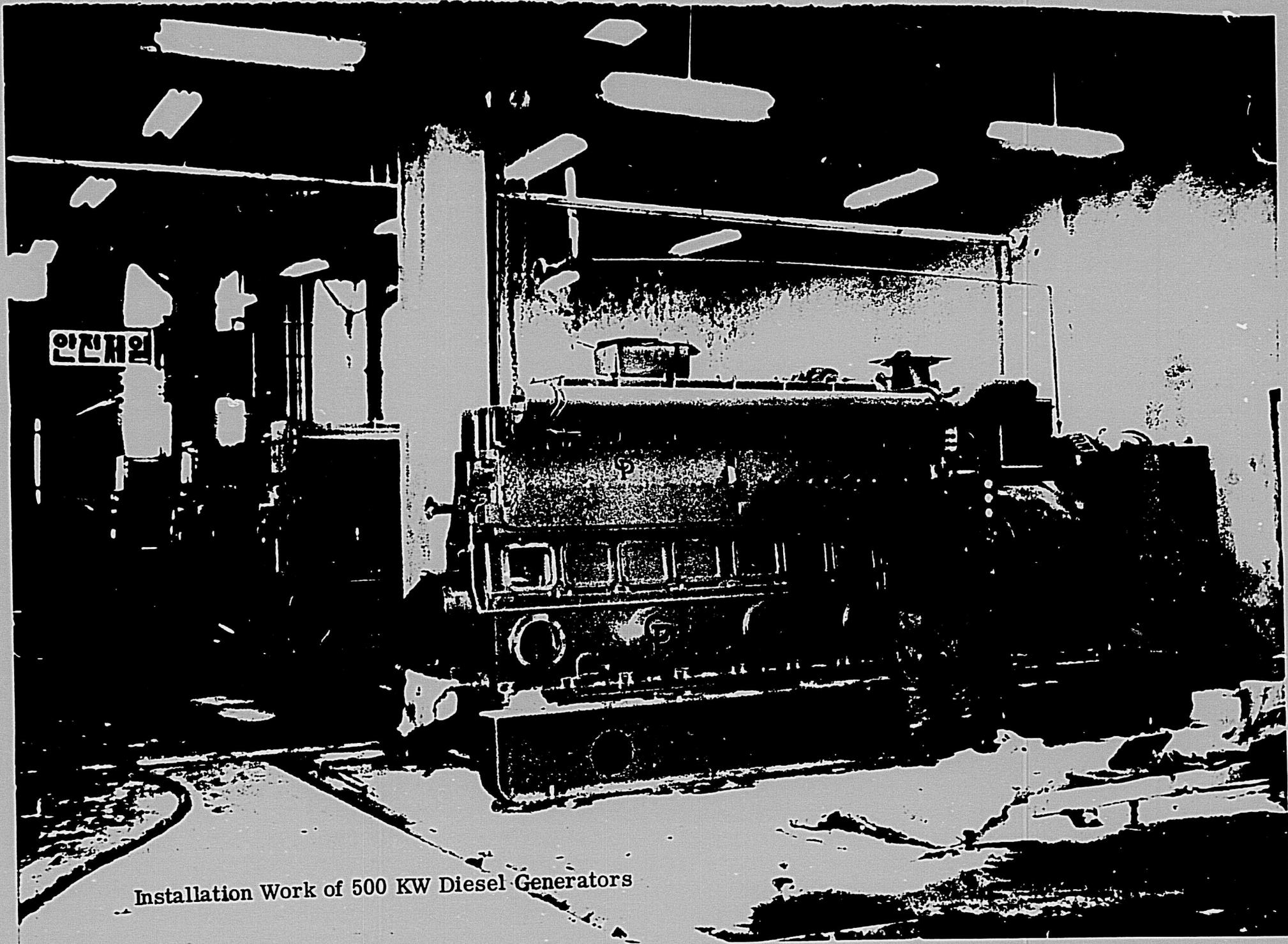
(During the Report Period)

<u>P.O.No.</u>	<u>Item Description</u>	<u>Amount(US\$)</u>
CT132-2,4	Extruder & Clamp	441,492.15
8,12,59	D/T part, Pump Block	
87,103,114	Spinnerettes, Valves	
121,122,131	Transfer Sys., Converter Sheaves, Pump Block Ass'y., Panel Boards	
CT132-153	Steel Conduit	
CT132-2,4,	Extruder & Clamps	420,843.50
9,8,11,70,73	D/T Part, Diesel Generator	
76,80,81	Sets, Spinnerator Sets	
83,90,102	Fittings, Pressure Gage,	
108,116,121	Regulators, Pumps	
164,166,168	Heater Assemblies	

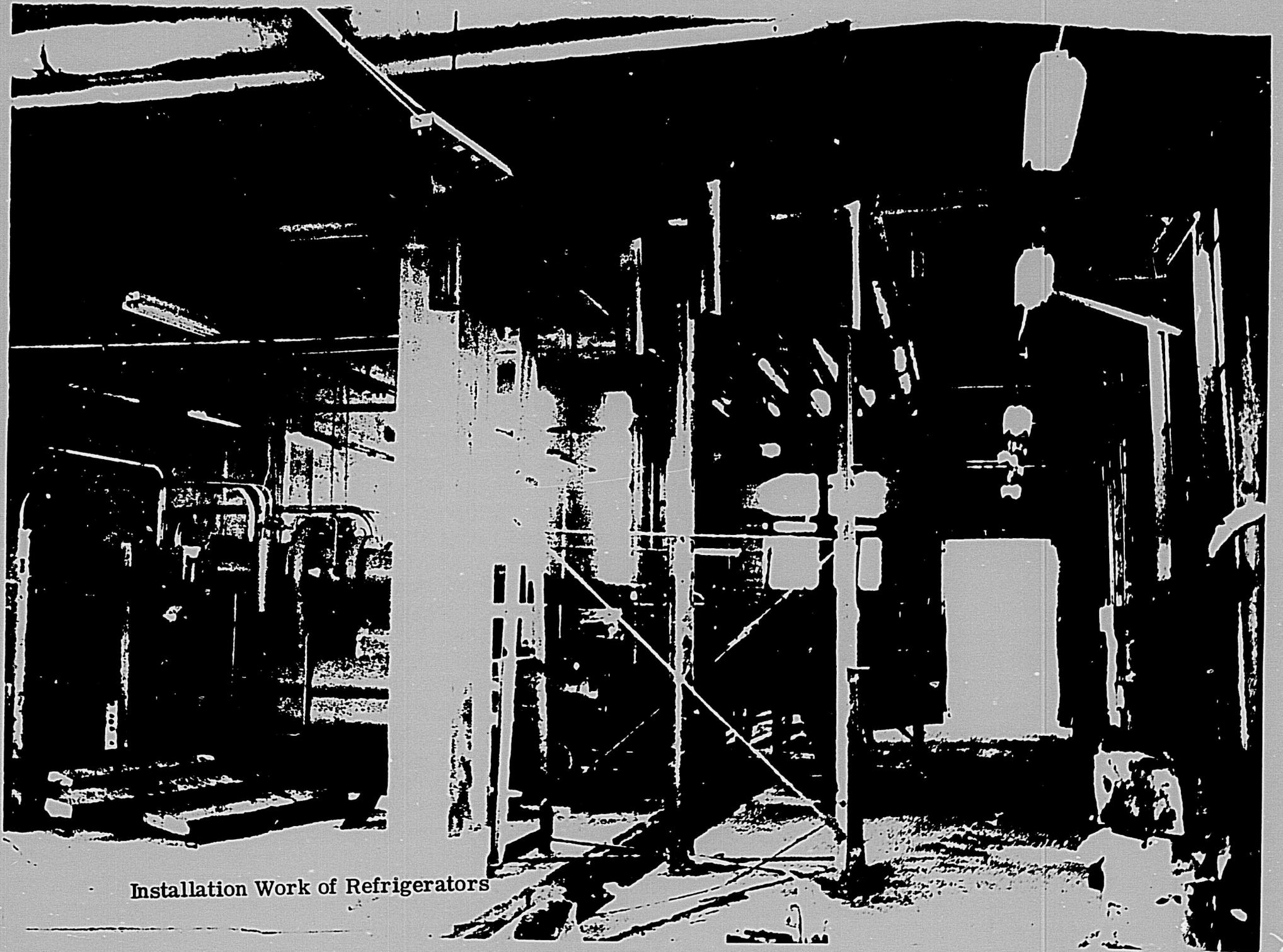
<u>P.O. No.</u>	<u>Item Description</u>	<u>Amount (US\$)</u>
175,113,120	Plug, Valves, Heating Coils	
134,139,145	Dampers, Dust Collectors & Parts	
153,162,181	Lifting Eye, Capscrews, Pressure	
	Valve, Leveltronic Relay,	
	Fittings, Orifice Flanges & Plates	
	Gear Couplings, Vaporizers, Valves	
	Air Filter equipment, Exhaust	
	Fans, Thermocouples, Copper Cable,	
	Pall Rings, Steel Pipe	
CT132-6,58	Shaft & Flywheel	
90,107	Heat Exchangers, Control Panels	
115,153	Carbon Steel Strip, Drying Sys.,	
159	Copper Cable, Valves	
CT132-3,5	Grounding Resistor	87,496. <u>06</u>
16,41,59	Steel Pipe, Pack Ass'y.,	
90,94,107	Gauges, Pump, Transfer Sys. Parts,	
115,123	Switches, Gate Valve, Temperature	
153,140,143	Regulator, Steam Trap, Gasket,	
145	Angle Sheets, Plates, Bar, Pre-	
	cooler w/separator, Starters,	
	Reducers, Screw Nut Hinge,	
	Louvers, Recorder	

<u>P.O. No.</u>	<u>Item Description</u>	<u>Amount (US\$)</u>
CT132-11,91	Fittings, Tripping Devices, )	
107,131	Hinge Leaf & Clevis, Panel Board, )	5,707. <u>19</u>
185,190	Tape, Hose & Clamp, Gage )	
CT132-94	Globe Valves	1,822. <u>30</u>
CT132-39	Circuit Breaker Elements )	
94	Strainers )	20,696. <u>69</u>
CT132-70	Pressure Gage, Thermometer, )	
85,77,165	Vibratory Horn, Float Switches, )	2,110. <u>40</u>
187,193	Safeguard, Rotameter, Asbestos )	
207,210	Cloth, Steel Bar, Flanges )	
CT132-77,79	Annunciator, Coupling	No charge
CT132-4	Drawtwister Parts	No charge
CT132-173	Control Panels )	
208	Saw Cut Disc )	21,446. <u>68</u>
CT132-12	Air Flow Controller Chart )	
	Recorder, Pressure Transmitter )	5,592. <u>95</u>
CT132-80	Heater Assembly	1,732. <u>80</u>
CT132-4,123	Washer, Receptacles	No charge
CT132-92	Dehumidifier Part	No charge
CT132-128,188	Level Gage, Fittings	2,071. <u>01</u>
CT132-215	Plug Valve	948. <u>49</u>
CT132-57	Oxygen Monitor Part	No charge

<u>P.O. No.</u>	<u>Item Description</u>	<u>Amount(US\$)</u>
CT132-39	Substation Part	No charge
CT132-186	Pipe Fittings	3,177. <u>07</u>
CT132-12	Seated Valve	No charge
CT132-82	Water Pump	17,580. <u>05</u>
CT132-109	Pressure Blower	) 4,031. <u>05</u>
	Safety Head Discs.	
CT132-36	Steel Tube	28,953. <u>32</u>
CT132-89	Y-Branch Heater, Flange, Steam	) 13,246. <u>20</u>
94,133	Trap, Rotameter & Indicator,	
182,204	Tees, Elbows, Plug Valve, Gage	
184,191,203	Glass, Coaxial Cable	
	Amount in this report period	<u>3,803,853.11</u>
	Amount in the previous report period	<u>1,145,401.35</u>
	Cumulative total through this report period	<u>4,949,254.46</u>

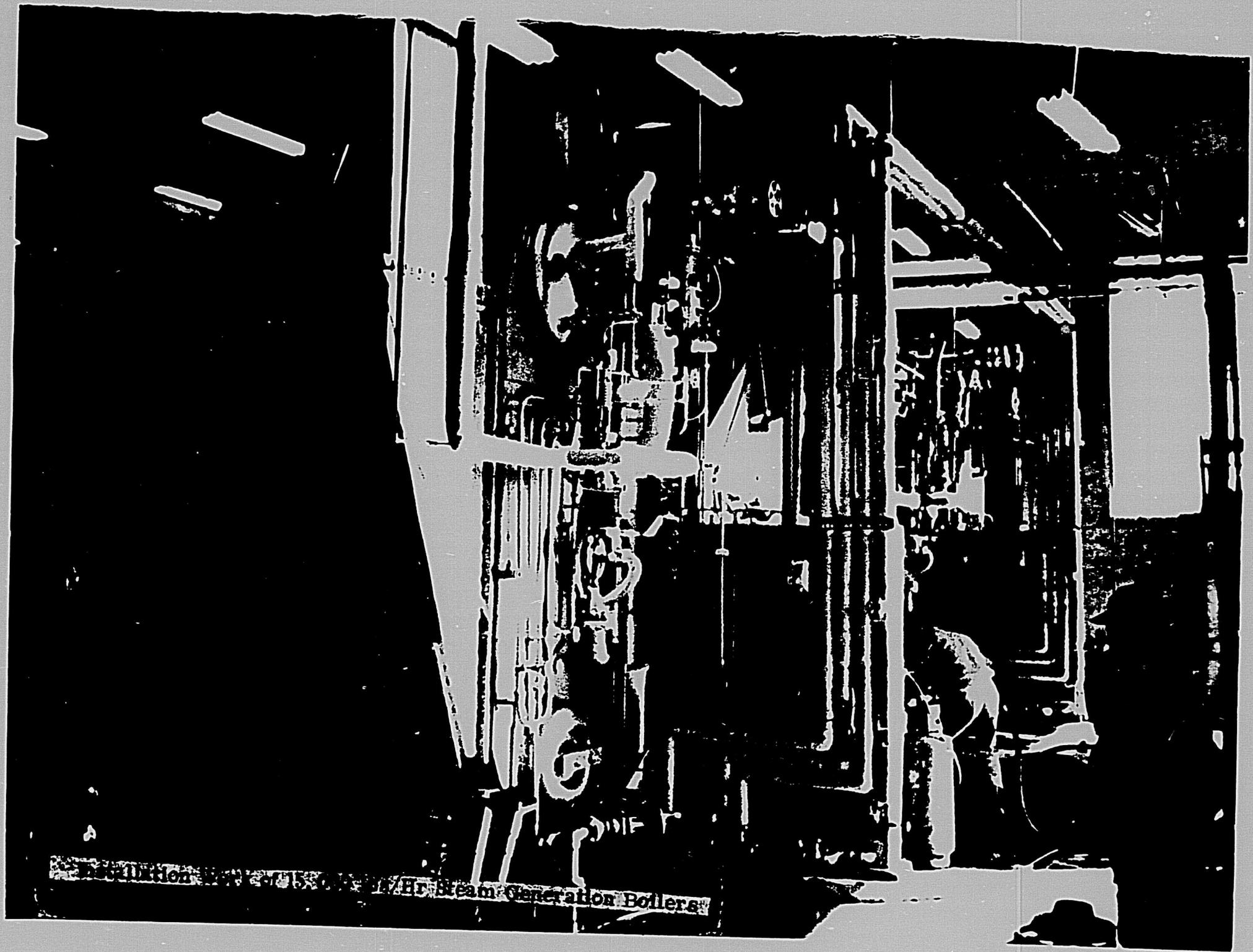


Installation Work of 500 KW Diesel Generators



Installation Work of Refrigerators

2



Distillation Section of 1500 HP Steam Generation Boilers

22