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PD-ABF-254

7.5 T/D NYLON EXPANSION PROJECT

AID Loan No. 489-H-036

Number (8)

F o r

February 1 9 6 8

PREPARED BY

KOREA NYLON COMPANY

F O R

KOREAN GOVERNMENT

A N D

UNITED STATES

DEPARTMENT OF STATE

AGENCY FOR INTERNATIONAL DEVELOPMENT **APR 12 1968**

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SUMMARY

Now, our 7.5 M/T expansion work is nearing its completion. Almost all the architectural works and installation of machinery have been completed. There only remains some installation and finishing works.

Over 94 percent of loan equipment and materials, equivalent to \$5,475,533.92, have been delivered to the job site as of the end of February 1968, and Chemtex, our supplier, have received \$5,540,770.91 from Irving Trust Company since April 1967.

Kolon's men and women workers removed to their new and well furnished dormitories which were completed this month.

We greeted one American engineer who is good at nitrogen generation.

CHAPTER I. ENGINEERING ACTIVITIES

Charles Martin who came from "The Process Plant Corporation" of America arrived February 29, 1968 to advise operation techniques of nitrogen generator.

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

TANK

<u>Date</u>	<u>Dwg. No.</u>	<u>Description</u>
2/13	53461-0	Reinstallation of Generator Synchronizing Panel
2/13	53025-0	Interconnection diagram sheet #1
"	53006-0	Interconnection diagram sheet #2
"	53178-0	Electrical-Lighting Cross Section

SPARE PART & EQUIPMENT

2/13	22141-0	Spinnerette Pack Filter Screen
	22276-a	Polymer Extrusion Head Filter Screen

PIPINGS

2/13	52990-b	Monomer Recovery Piping Plans & Sections
	52991-b	Monomer Recovery Piping Sections

FLOW SHEET

2/13	58271-b	Monomer Recovery
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CHAPTER II. CONSTRUCTION ACTIVITIES

During this report period, finishing work of main plant building as well as installation of main equipment have been undertaken. Except painting work, nearly all the works of main plant building have been completed.

Men's and women's dormitories have been completed and thus our workers have removed into their new dormitories.

Kolon's whole efforts have been concentrated on the fabrication and installation works of plant equipment. The following is the detailed progress status of each process area.

(1) Polymerization Area

Recovered Monomer, Caprolactam Filtering, Caprolactam Storage and Blending, and Polymerization Feeding System have been completed. Nearly 90% of this area was completed. Especially ~~Polymerization~~ finishing tower was completed its installation.

(2) Polymer Chip Formation Area

Gear Pump and heating jacket were installed. About 85 percent was finished.

(3) Monomer Extraction Area

Wash Water Circulating System and Wash Water Transfer Pump were completed. Heating Coil was fabricated and installed

to storage Tank. Approximately 90% work was done.

(4) Chip Drying Area

Air Floor Controller was fabricated. The progress rate of this area is 94 percent.

(5) Polymer Spinning Area

Quench Chamber and Interfloor Tube were fabricated by Hankook Industrial Co. The progress rate of this area marks 85 percent.

(6) Yarn Wind-Up Area

All the works of this area were nearly completed.

(7) Textile Area

Remaining three drawtwisters out of total 15 sets were installing. About 85 percent was progressed.

(8) Steam Generation Area

All the works of this area were completed and had a successful test run.

(9) Refrigeration Area

Refrigerant charging press gages, thermometers and switches were set to the frames.

(10) Air Con. and Ventilation Area

Ventilator was completed. Also, existing drawtwister duct and roof exhauster were installed. About 90 percent was completed.

(11) Frequency Conversion Area

The existing M.G. Set Transfer Switch was connected with the new M.G. Set of 7.5 M/T Expansion Plant.

(12) Power (Floor 1, 2, 3, 4)

Each Refrigerator, Extruder, Monomer Extractor and Control System were completed their wiring connection.

(13) Nitrogen Generation System Area

Nitrogen Flow Meter, Oxygen Analyzer were installed and one Nitrogen Storage Tank was removed.

Cold Box Interconnecting Pipe Leak Test was successfully completed.

(14) Piping

Piping works of polymerization and chip transfer system area were half completed.

CHAPTER III. FINANCIAL DATA

Chemtex has drawn US\$214,044.94 during the report period from Irving Trust Company of New York and total drawn amount marked US\$5,540,769.61 as of the end of February 1968.

Local currency expenditures incurred during the period totaled ¥60,248,563 and cumulative total as of the end of this period became ¥458,644,448.27.

Following tables show the details of AID L/C drawing status and local currency expenditure for the expansion.

AID L/C Drawing Status

(As of February 29, 1968)

Unit: U.S.\$

<u>Invoice No.</u>	<u>Drawn Date</u>	<u>Description</u>	<u>Amount</u>
3112-79	Feb. 1	Couplings, Elbows, Fitting	5,365. <u>96</u>
3109-77	"	Plug Valves	806. <u>22</u>
3110-78	"	Heat Exchangers	3,510. <u>48</u>
3108-76	"	Valves, Conveyor & Pipe	17,306. <u>18</u>
3102-73	"	Flanges	3,257. <u>52</u>
3064-60	Feb. 6	Resins	7. <u>50</u>
3125-85	"	Cooling Equipment	9,302. <u>54</u>
3126-86	"	Barometric Condenser	2,382. <u>13</u>

<u>Invoice No.</u>	<u>Drawn Date</u>	<u>Description</u>	<u>Amount</u>
3130-89	Feb. 6	Switchgear	63,323. <u>08</u>
3106-75	Feb. 1	Level Gage & Ells	1,760. <u>06</u>
3117-82	Feb. 5	Flanges & Reducers	2,700. <u>51</u>
3123-84	"	Elbows, Circuit Breaker	1,427. <u>05</u>
3128-88	Feb. 14	Controller, Lock Fastener	7,773. <u>59</u>
3138-92	"	Air Compressor Accessories	3,111. <u>31</u>
3140-93	"	Pressure Gage & Gasket	3,043. <u>42</u>
3144-94	Feb. 19	Pipe & Block Insulation	3,366. <u>24</u>
3148-96	Feb. 20	Heat Exchangers & Recording Controller	12,152. <u>65</u>
3161-101	"	Switchgear	69,876. <u>42</u>
3147-95	"	Vibratory Horn, Realy	2,114. <u>67</u>
3155-99	Feb. 27	Flow Recorder	1,073. <u>91</u>
3160-100	Feb. 27	Reducers & Cap Screw	384. <u>40</u>
Amounts in this report period			214,044. <u>94</u>
Amounts in the previous report periods			5,326,724. <u>67</u>
Cumulative total through this report period			5,540,769. <u>61</u>

Expenditures on 7.5 M/T Expansion Project

	(Local Currency)		Unit: Won
<u>Items</u>	<u>Balance carried-over</u>	<u>February 1968</u>	<u>Total</u>
(1) Bldgs. Construction Works	302,605,238	24,440,284	302,605,238
(2) Structures	17,684,698	333,312	18,018,010
(3) Preliminary Works (including fabrication and installation works)	31,137,707	31,124,261	62,261,968
(4) Tools & Fixtures	4,550,164	466,975	5,017,139
(5) Temporary Work	1,100,287	16,300	1,116,587
(6) Land	672,000	-	-
<u>Sub-Total</u>	<u>33,309,810</u>	<u>56,381,132</u>	<u>389,690,942</u>
(7) Salaries & Wages	9,099,893	2,371,552	11,471,445
(8) Welfare Exp.	2,694,216	78,508	2,772,724
(9) Office Exp.	1,518,574	329,549	1,848,123
(10) Travel Exp.	730,212	41,160	771,372
(11) Communication Exp.	90,812	4,715	95,527
(12) Consumables	1,079,896	62,000	1,141,916
(13) Engineers Stay Exp.	930,931	602,079	1,533,010
(14) L/C Open Charge	3,921,055	-	-
(15) Entertainment Exp.	15,142,988	232,260	15,375,248
(16) Interest on AID Loan	8,044,999.27	-	-
(17) Delivery Exp. including Custom clearance	12,719,250	-	-

<u>Items</u>	<u>Balance carried-over</u>	<u>February 1968</u>	<u>Total</u>
(18) Conference Exp.	1,873,250	-	-
(19) Storage	3,111,577	-	-
(20) Other Exp.	4,128,422	58,620	4,187,042
(21) Utility		86,968	86,968
<u>Sub-Total</u>	<u>60,681,996.27</u>	<u>3,861,431</u>	<u>68,953,506.23</u>
<u>Grand Total</u>	<u>351,109,485.27</u>	<u>60,248,563</u>	<u>458,644,448.27</u>

RECORD SHEET

KOREA NYLON CO., LTD.

CODE NO.

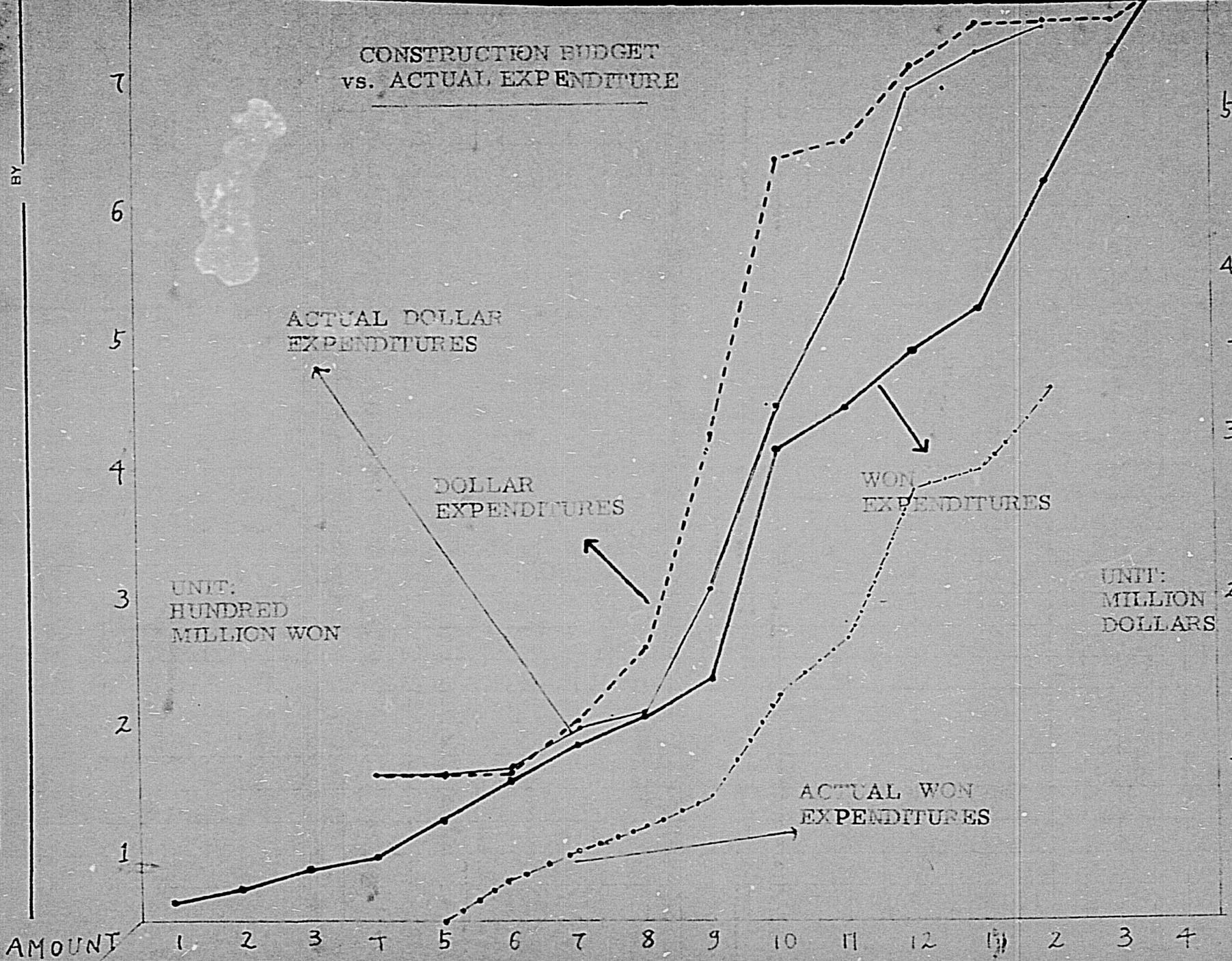
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DATE

BY

SUBJECT

CONSTRUCTION BUDGET vs. ACTUAL EXPENDITURE



UNIT: HUNDRED MILLION WON

UNIT: MILLION DOLLARS

AMOUNT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

CHAPTER IV. PERSONNEL

Following table shows detailed labor power employed to each construction work.

Unit: MAN/DAY

<u>Name of Works</u>	<u>Contractor</u>	<u>Kolon</u>	<u>Temporary Hire by Kolon</u>	<u>Total</u>
F/N main plant bldg.	33,064	557	-	33,621
Power House	3,819	122	-	3,941
Men's dormitory	11,211	45	-	11,256
Women's dormitory	9,457	44	-	9,501
Bachelor's dormitory	1,235	12	-	1,247
Mess hall	9,220	41	-	9,261
Guard house	2,256	26	-	2,282
Tank fabrication	3,451	133	-	3,584
Lighting work	2,367	218	-	2,585
Wiring connection	3,925	574	-	4,499
Quench chamber fabrication	2,192	88	-	2,280
Piping works	5,963	85	-	6,048
Other works	20,831	1,702	2,493	25,026
<u>Total</u>	<u>108,991</u>	<u>3,647</u>	<u>2,493</u>	<u>115,131</u>

CHAPTER V. PROCUREMENT ACTIVITIES

US \$ 528,012.26 worth of loan equipment and materials were delivered to the job site during this month:

Total loan equipment and materials delivered to the plant site amounts to U.S. \$5,477,266.72, or 94 percent out of total loan amount.

Details of carried-in loan equipment are shown as follows.

<u>P.O. No.</u>	<u>Item</u>	<u>Amount (U.S.\$)</u>
CT 132-94	Gate Valve	
135	Adapter	
139	Exhaust Fans	33,441. <u>27</u>
182	Steel Pipe Fitting	
200	Steel Pipe	
CT 132-140	Bolt Nut Washer	3,444. <u>29</u>
CT 132-4	D/T Part, Take-Up m/c	
8	Spinnerettes	
12	Air Flow Controllers	
90	Dampers	
94	Slip Flanges (Partial)	
96	Industrial Fans	196,860. <u>50</u>
134	Ventilating Unit	
142	Grilles Registers	
149	Air Compressor	
156	Air Dryer	
CT 132-46	Valve	
123	Pipe Fitting	
6	Interval Meter (Partial)	
84	Aquameter Part	
85	Thermometers (Partial)	
90	S/W (Partial)	
130	Spinnerettes	

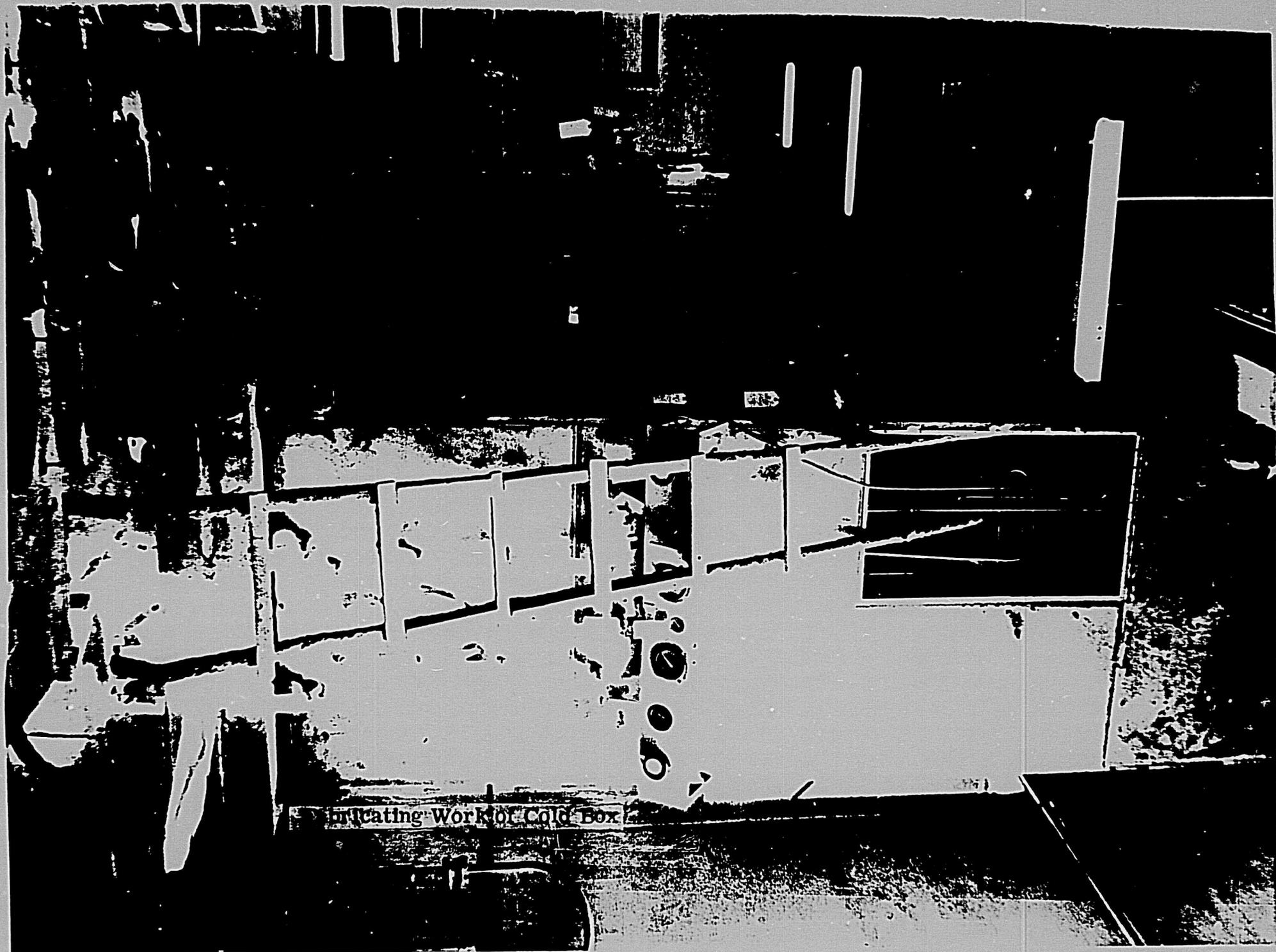
<u>P.O. No.</u>	<u>Item</u>	<u>Amount (U.S.\$)</u>
153	Cable Roll (Partial)	19,038. <u>70</u>
161	Separator Guides	
172	Stereomicroscope	
182	Fitting (Partial)	
CT 132-9	Set Tools & Wrench	
90	80 Hand Quadrante	No Charge
128	Plug & Bearings	
CT 132-157	Bobbins	
188	Pipe Fittings	45,598. <u>22</u>
CT 132-59	Elbow	
123	Circuit Breakers	
192	Pressure Gage	
214	Piano Hinge	1,678. <u>88</u>
220	Reducer	
223	Plug Valve	
CT 132-123	Porcelain Receptacles	No Charge
CT 132-94	Valve (Partial)	
107	Aluminum Pipe & Castings	
117	Vertical Conveyor	20,360. <u>21</u>
123	Circuit Breaker, Coils Push Bottons	
207	C/S Plate. Bar. Sheet	
CT 132-59	Couplings	
	Elbows	
184	Plug Valve	6,312. <u>90</u>
216	Valve	
217	Pipe Fittings	
CT 132-90	Valves	
	Controller (Partial)	
123	Circuit Breaker	9,145. <u>40</u>
214	Lock Fastners	
CT 132-3	Switchgear Equipment	74,497. <u>74</u>
CT 132-11	Dial Thermometers	No Charge

<u>P.O. No.</u>	<u>Item</u>	<u>Amount (U.S.\$)</u>
Ct 132-94	Flanges (Partial)	
188	Valves	
	Valves (Partial)	3,580. <u>50</u>
192	Pressure Gages	
219	Tee Reducer Flange	
227	Gaskets	
CT 132-4	Travers Guides & Holders	No Charge
CT 132-15	Demineralizer	7. <u>50</u>
CT 132-188	Flanges	3,832. <u>38</u>
CT 132-58	Heat Exchangers	4,129. <u>98</u>
CT 132-47	Cooling Equipment	
124	Reducing Valves	10,944. <u>17</u>
186	Elbow Flanges	
CT 132-195	Insulation	8,960. <u>40</u>
CT 132-77	Vibratory Horns (Partial)	
127	Time Delay Relays (Partial)	2,487. <u>85</u>
209	Hardware for Ground Resistors	
226	Relays	
CT 132-98	Valve (Partial)	
123	Coils (Partial)	
188	Elbows	3,035. <u>37</u>
219	Flange	
222	Sight Glasses	
CT 132-12	Flow Recorder	1,263. <u>42</u>
CT 132-188	Reducers	
224	Cap Screws	452. <u>23</u>
CT 132-3	Switchgear Equipment	82,207. <u>55</u>
CT 132-80	Heater Assemblies	1,732. <u>80</u>
	Amounts in this report period	528,012. <u>26</u>
	Amounts in the previous report period	4,949,254. <u>46</u>
	Cumulative total through this report period	5,477,266. <u>72</u>

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

Chart No. 1

Name of Works	Progress Rate	'67 4	5	6	7	8	9	10	11	12	'68 1	2
Temporary Work	8.47	0	3.13	1.5	22.95	33.47	48.52	68.46	79.40	89.54	100	
Reinforced Concrete Work	35.28	0	5	30	50	75	100					
Water Proofing Work	10.40						0	60	100			
Plaster's Work	15.22			01	3	10	40	70	95	100		
Other Works	36.63		4.46	12.55	14.97	19.55	36.41	68.00	75.28	89.41	100	
Total	100	0	3.40	16.27	24.89	36.30	52.63	74.26	86.13	94.13	94.95	100
											94.89	
							47.34	59.41	73.31	91.04	93.60	95.89



Indicating Work for Cold Box



...hing Tower

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