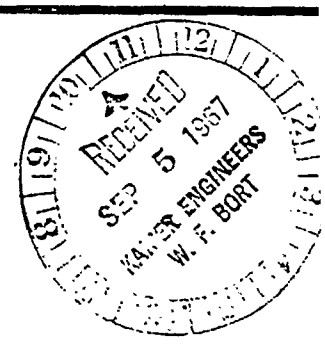
INTER-OFFICE MEMORANDUM

TO	Vern L. Frankson	**DATE**	August 30, 1967
AT	W. M. Schuck C. W. Graff (2) H. C. Boucher (3)	**FROM**	Donald K. Carlson Don Carlson
COPIES TO	See Distribution	**AT**	Middletown, Ohio
		JOB NO.	7103

SUBJECT Sub-Contract No. 7103-1063 (later numbered 7148-1063)
The Babcock and Wilcox Company
"Waste Heat Boilers"



Attached is a manually signed copy of subject Sub-Contract.
Conformed copies are being distributed.

DKC:prl

cc - with attachment

ARMCO

F. W. Barnes
L. Boehm
P. R. Smith
J. S. Lotz
Reading File

KAISER

D. A. Daly
G. L. Roberts
E. J. Denner
J. L. O'Donnell
S. Ustel
B. Scott
A. L. Gordon
C. Billings
F. N. Norton
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S. M. Lyon
L. J. Gillett
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~~W. F.~~ Bort
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KAISER ENGINEERS, INC.
Agent for
Armco Steel Corporation

SUB-CONTRACT

Sub-Contract No. 7103-1063
August 23, 1965

This Sub-Contract is made pursuant to a Contract between Armco Steel Corporation (hereinafter called "Owner"), and Kaiser Engineers, Inc., (hereinafter called "Contractor"), as Agent for Armco Steel Corporation, whereby Contractor agreed with Owner to furnish engineering, construction, and other services relating to the expansion and modernization program at Owner's Middletown Works, Middletown, Ohio.

Contractor and The Babcock and Wilcox Company (hereinafter called "Sub-Contractor"), hereby agree that the following work shall be performed by Sub-Contractor for the compensation and upon the terms and conditions hereinafter set forth on Face Sheets "A" and "B" of the Sub-Contract, and including Articles 1 through 37 of the General Terms and Conditions attached to and made a part of this Sub-Contract, as amended herein.

WORK TO BE PERFORMED: Furnish all labor, tools, supervision, shops, materials, supplies, transportation, and equipment and do all things necessary to design, detail, furnish, fabricate, deliver, unload, store and erect three (3) Waste Heat Boilers and three (3) Air Heaters, in the Owner's New Hot Strip Mill, and participate as herein provided, in boiling out, testing, and start-up of such equipment, all as required by, and in strict accordance with Exhibit "A", all such work being hereinafter sometimes called "The Work".

PLANS, DRAWINGS AND/OR SPECIFICATIONS: Attached hereto as Exhibit "A", and by this reference made a part hereof, as amended herein.

ITEMS TO BE SUPPLIED BY CONTRACTOR: As per list attached hereto marked Exhibit "B", and by this reference made a part hereof.

LOCATION OF WORK: At Owner's Middletown Works, Middletown, Ohio.

WORK TO COMMENCE: As of the date of this Sub-Contract, with field work to commence on date specified in Contractor's Notice to Proceed to be issued to Sub-Contractor.

WORK TO BE COMPLETED: Time is of the essence of this Sub-Contract, and all work shall be completed by Sub-Contractor as soon as due diligence and good practice will permit, but in no event will erection be completed later than November 23, 1966, or such extended completion date as may be applicable in accordance with and pursuant to the provisions of Article 15 hereof. Sub-Contractor will complete various phases of The Work as designated in Exhibit "C" hereof.

FACE SHEET "A"

BOND: Not required.

COMPENSATION: Sub-Contractor agrees to perform The Work for the Total Lump Sum Price set forth below, which includes all present state, federal, and local excise and transportation taxes and all other taxes pertaining to the transaction except Ohio sales and use tax applicable under the following circumstances:

Any Ohio sales and use tax liability on personal property transferred under the Sub-Contract by the Sub-Contractor to Owner will be accounted for by Owner under its Direct-Payment Permit No. 161-M. Any Ohio sales and use tax liability for materials transferred to Owner as improvements to Owner's real property will be determined by the Sub-Contractor in cooperation with Owner; such tax is Sub-Contractor's direct responsibility, but Owner will reimburse Sub-Contractor over and above the price or prices stated below for the amount of such tax.

EQUIPMENT AND MATERIAL	$ 949,182.00
ERECTION LABOR	$ 415,576.00
TOTAL LUMP SUM	$1,364,758.00

LIQUIDATED DAMAGES: None. Article 31 of the General Terms and Conditions hereof is inapplicable and is hereby deleted.

ADDRESSES:

Sub-Contractor:	Contractor:
The Babcock and Wilcox Company	Kaiser Engineers, Inc. Agent for
Barberton, Ohio Attention Vice President in Charge of Sales	Armco Steel Corporation P. O. Box "F" Middletown, Ohio 45042

SPECIAL PROVISIONS: The General Work Schedule attached hereto as Exhibit "C", Standard Conditions attached hereto as Exhibit "D" and Special Provisions attached hereto as Exhibit "E" are by this reference made a part hereof.

In Witness whereof the parties have made and executed this Sub-Contract as of the day and year first hereinabove written.

	KAISER ENGINEERS, INC. Agent for
The Babcock and Wilcox Company (Sub-Contractor)	Armco Steel Corporation (Contractor)
By /s/ E. R. Duffy	By /s/ J. E. Hughes
Title Manager, Pricing Section	Title Vice President

CONFORMED COPY

FACE SHEET "B"

DKC/cf

EXHIBIT "A"

PLANS, DRAWINGS AND/OR SPECIFICATIONS

The following attachments are by this reference incorporated herein and made a part hereof.

(1) Specification No. 7103(4-1) dated March 18, 1965, "Waste Heat Boilers for Slab Reheat Furnaces", and Addendum No. One, dated April 2, 1965.

(2) Pages two (2) through nineteen (19) of the specification portion of The Babcock and Wilcox Company Proposal No. P11-429, dated May 21, 1965, and Drawing No. P11-429-3L2, and Performance Summary Sheet No. P11-429-3L2-1S1.

Note: Certain portions of the Performance, Erection, and General Conditions of The Babcock and Wilcox Company Proposal are incorporated by Special Provision No. 5 in Exhibit "E" hereof, as modified therein.

EXHIBIT "B"

ITEMS TO BE SUPPLIED BY CONTRACTOR

1. Storage area near the site of The Work. However, Sub-Contractor will furnish all temporary buildings, docks, racks, or other facilities as required for receiving, protecting, hoisting and storing all material, equipment and tools.

2. Source of electrical power, 440 volts, 3 phase, 60 cycle, at a point within the Hot Strip Mill to be designated by Contractor.

3. Source of potable water (no sanitary facilities).

4. All of the items set forth in the following section of Specification No. 7103(4-1), as modified by the note below:

   Section 2.0 Work by Others

   Note - Sub-Contractor will not be able to utilize the permanent utilities referred to in sub-section 2.7 during the construction period, but these permanent utilities will be usable prior to start-up. Sub-Contractor must provide a portable source of compressed air if required during the construction period.

5. Drying, boiling out, field testing, operation and start-up of equipment. (Sub-Contractor's Service Engineer will participate in these activities only to the extent set forth in Proposal Page GC-8, as incorporated and modified by Special Provision No. 5(j).)

EXHIBIT "C"

GENERAL WORK SCHEDULE

Sub-Contractor will conform to the following critical phases of the Schedule:

1. Sub-Contractor will complete the erection (suitable for temporary oil firing) of one unit by September 23, 1966; a second unit by October 23, 1966; and a third unit by November 23, 1966. Only the first unit will be oil fired for temporary use; the second and third units will not be fired until Waste Heat is available subsequent to September 15, 1967. The October and November dates in 1966 have been agreed to for the second and third units for the purpose of obtaining the lowest cost construction program.

2. When waste heat from the three (3) Slab Reheat Furnaces becomes available, Sub-Contractor will advise and consult with Owner's and/or Contractor's operating personnel engaged in final testing and start-up under operating conditions, (anticipated to be late in 1967), and will furnish a Service Engineer to participate in these activities only to the extent set forth in Proposal Page GC-8, as incorporated and modified by Special Provision No. 5 (j).

EXHIBIT "E"

SPECIAL PROVISIONS

1. It is mutually understood and agreed that Exhibit "A" Specification No. 7103(4-1) and Addendum No. One thereto, are modified as follows:

   (a) Wherever in the Specification the term "Vendor" appears, it shall be construed to mean "Sub-Contractor", and wherever the term "Purchaser" appears, it shall be construed to mean "Contractor".

   (b) Item 1.1 of Section 1.0 - Scope of Work is revised to read:

   "1.1 The Work performed under the terms of this Specification shall consist of furnishing all materials, transportation and labor required to design, detail, furnish, fabricate, deliver, unload (materials), store, erect, participate in acceptance test, and start-up three (3) Waste Heat Boilers, complete and ready for operation, all as specified herein. All Work shall conform to ASME POWER BOILER CODE, latest edition, and local and state laws and regulations governing boilers and boiler equipment."

   (c) In Item 2.7.5, delete "Vendor shall specify requirements", and substitute "at 50 P.S.I.".

   (d) In Item 2.7.6, delete "Vendor shall specify requirements", and substitute "at 150 P.S.I.".

   (e) In Section 3.0, DESIGN CRITERIA, Pages 2 - 6, where words appear such as "Vendor shall furnish,...shall include,...and ...shall also include", these words shall be construed to mean "Sub-Contractor shall furnish and install...".

   (f) Item 3.4, with reference to the five (5) sentences added by Addendum No. One, change the fifth sentence thereof so that the last five words read "...one part per million solids", instead of "...three parts...".

   (g) Item 3.2, Information, change Design pressure from 475 psig to 525 psig, and in the Firing Rate Table change the Air pressure at outlet of air heater under the Maximum, Normal, and Holding Column headings from 19 inches to 16 inches W.C.

   (h) Item 3.6.2, Change model numbers of tandem blowoff valves to read "Yarway #T-6977 and T-6953".

   (i) Add new connection items as follows:

   "3.9.21 - A separate thermometer well next to the superheater outlet steam temperature connection."

   "3.9.22 - Two (2) connections (indicating and recording) for drum water level."

   "3.9.23 - A connection for controlling (and indication of) furnace draft."

(j) Delete in their entirety Items 3.9.1, 3.9.2, 3.9.5, 3.9.6, 3.9.9 through 3.9.12 and 3.9.15 through 3.9.20.

(k) Page 6 of 6, delete the two lines immediately below Item 3.9.20 and substitute the following:

"Sub-Contractor shall recommend any additional connections required for Contractor's annunciator alarm system."

2. It is mutually understood and agreed that Sub-Contract General Terms and Conditions (Articles 1 - 37), Form No. ASC-864, are modified as follows:

(a) Delete the first and second sentences of Article 9, Records, Accounts and Audits.

(b) In the sixth line of Article 12B, Performance of Work, delete the words "..in Contractor's sole opinion", and o, "Sub-Contractor is ....", and substitute "...Sub-Contractor is, due to causes within his reasonable control ...".

(c) Add paragraph "C", under Article 22, Liability:

"C - Neither the foregoing paragraph of this Article, nor any provision of this Sub-Contract shall place upon Sub-Contractor any responsibility or liability for consequential damages no matter how caused, or for injury or damage to persons, property, of The Work, when such injury or damage is brought about through the sole negligence of either Contractor or Owner."

(d) Modify the last sentence of Article 15, Delays and Extensions, so that it reads as follows:

"The Sub-Contractor shall not be entitled to, and does hereby waive any and all damages or claims for reimbursement for additional costs due to causes beyond the reasonable control of either Contractor or Owner."

(d) At the end of the second line of Article 27, Attorney's Fees, after the words ".. both plaintiffs and defendants.." insert ".. and Sub-Contractor requests the assistance of Contractor's attorneys".

(e) It is mutually understood and agreed that the following sentence is added at the end of Article 13 of the General Terms and Conditions, "Protection of Materials and Work":

"Effective with the initial operation (first firing) of the equipment, Owner shall carry and maintain insurance in the name of the Sub-Contractor and Owner as interest may appear, to the total value of the equipment and of all work performed in the erection thereof against risk of fire, lightning, wind storm, aircraft and explosion, including inherent and boiler explosion, and proceeds of such insurance shall be applied to the cost of repairing or replacing the equipment and the work destroyed or damaged."

3. Sub-Contractor understands and agrees that the attached Schedule I, (two pages), Armco Form No. S-12424, "Engineering Data Required with Sub-Contract" governs the submittal of drawings and data, both for approval and record purposes. Exhibit "A", Specification No. 7103(4-1) is hereby modified to incorporate said attachment.

4. Wherever the terms "Company" and "Purchaser" appear in the Sub-Contractor's Proposal Specification pages which are incorporated herein by Item 2 of Exhibit "A", the terms shall be construed to mean "Sub-Contractor" and "Contractor" respectively.

5. It is mutually understood and agreed that the attached pages GC-1 through GC-9, GC-11, and pages GC-14 and GC-15 (Performance, Erection and General Conditions) of the Sub-Contractor's Proposal No. P11-429, are by this reference incorporated herein and made a part hereof, modified as follows:

(a) Wherever the terms "Company" and "Purchaser" appear, they shall be construed to mean "Sub-Contractor" and "Contractor" respectively.

(b) On page GC-5, in the first sentence of paragraph 3, the words "subject to conditions stated in accompanying letter" are deleted. Also, in the first sentence of paragraph 4.1, the words "compressed air" are deleted. All other sentences in paragraph 4.1 are deleted in their entirety.

(c) Paragraph 4.2 on page GC-6 is deleted in its entirety.

(d) Paragraph 4.3 on page GC-6 is deleted and the following substituted:

"Contractor shall provide reasonably free access to the site of actual erection including right of way, together with such openings in walls, pavements, floors, or roofs as may be required for the equipment specified hereunder. Contractor shall provide suitable space for unloading and the storage of material within 1,000 feet of boiler foundation. The area adjacent to the boiler building or foundation shall be reasonably level and unobstructed for mobile crane and truck operations."

(e) Paragraph 4.4 on page GC-6 is deleted in its entirety.

(f) The second sentence of paragraph 4.5 on page GC-6 is deleted.

(g) Paragraph 5, paragraph 7.1 and the first two sentences only of Paragraph 6.1 on page GC-7 are deleted in their entirety; any other references to an erection supervisor as a cost item not included in the total price are also inapplicable.

(h). Delete the first sentence of the second paragraph and all words following "fulfilled" in the first sentence of the fourth paragraph on page GC-4.

(i). Insert new paragraph 7.3 to read:

"7.3 - If the overtime referred to in paragraphs 6.2 and 7.2 is necessitated by Schedule delays due to causes within the reasonable control of Sub-Contractor, there will be no overtime premium charge to Contractor."

(j) Substitute a semi-colon for the period at the end of the last sentence of paragraph 9 on page GC-8, and add the following:

"...; however, Sub-Contractor's Service Engineer will provide all technical communicative services, interpretation of manuals, etc., necessary for the training and instruction of Contractor's and Owner's personnel who will perform the work of drying, boiling out, and starting up. The Service Engineer will be available for advice during these operations and will, in addition, inspect these operations, and immediately notify Contractor's supervisor and Owner's supervisor of any failure to comply with required operational procedure. In the case of start-up, the Service Engineer's instructions, inspections, and surveillance will be as continuous as possible."

(k) Substitute a comma for a period at the end of the last sentence of paragraph 11 on page GC-8 and add the following:

"..., plus 15% for handling charges."

(l) Delete the second sentence of paragraph entitled "Drawings" on page GC-9 and substitute the following:

"The submittal of drawings and data for approval and for record purposes will be in accordance with Contractor's Schedule I."

(m) Delete in its entirety the paragraph entitled "Permits and Approval of Plans and Specifications" on page GC-14

(n) Delete in their entirety the paragraphs entitled "Steelwork" and "Patents" on page GC-15.

6. It is mutually understood and agreed that the material portion ($949,182.00) of the total compensation set forth herein is firm and not subject to escalation. The erection labor portion ($415,576.00) is also firm, and not subject to escalation, except for that portion of erection work performed after September 30, 1966. The agreed completion dates set forth in Exhibit "C", indicate that there will be the following days of exposure to possible labor escalation after September 30, 1966, which is the date the labor agreement with the Boilermaker's Union expires:

Unit One:	0	Days exposure
Unit Two:	23	Calendar Days Exposure (15 working days)
Unit Three:	54	Calendar Days Exposure (38 working days)

The erection labor portion of the Compensation is subject to adjustment by the number of boilermaker man-hours of work performed in October, 1966, and in any subsequent month, times any increment of increase in the hourly wages of boilermakers that may be granted in the labor agreement effective October 1, 1966. If Sub-Contractor is behind the agreed performance schedule for delivery or erection, for causes which were within his own reasonable control, the number of days he was so delayed will be deducted for the exposure time to labor escalation. The agreed performance schedule is as follows:

	JOBSITE DELIVERY	COMPLETE ERECTION
Unit One	5-7-66	9-23-66
Unit Two	6-7-66	10-23-66
Unit Three	7-7-66	11-23-66

7. Sub-Contractor understands and agrees to design, detail, furnish, and deliver the following two items as a part of The Work for no additional cost:

   (a) Three (3) floor stands and three (3) mirrors for observing water columns. Installation also by Sub-Contractor.

   (b) Three (3) type AS7 steam coil air heaters capable of preheating air to the tubular air heater to 175°F; these are in lieu of type AS5 steam coils to heat air to 135°F. Installation of heaters by others.

8. It is mutually understood and agreed that the incorporation of pages GC-1 through GC-9, GC-11, and pages GC-14 and GC-15 of the Sub-Contractor's Proposal General Condition (GC) pages as enumerated and as modified in the foregoing Special Provisions, supplement, but do not modify Sub-Contract General Terms and Conditions, Articles 1 through 37. Modifications to Articles 1 through 37 are confined to Special Provision No. 2 and FACE SHEET "B", wherein Article 31 is deleted in its entirety. To the extent of any inconsistency between any of the provisions of Sub-Contractor's Proposal General Conditions modified and incorporated herein, and other provisions of this Sub-Contract, the latter shall govern.

9. It is mutually understood and agreed that the last paragraph of Section 6, "Tests" of the Standard Conditions, Exhibit "D", is deleted and the following substituted:

   "The costs of laboratory and shop tests shall be borne by Sub-Contractor and are included in the Sub-Contract price or prices. The costs of an Erection Supervisor in conjunction with field testing are included in the Sub-Contract price or prices. Labor, material, instruments, etc., for such field testing will be provided by Contractor."