PLAINTIFF'S EXHIBIT

BAB-282

THE BABCOCK & WILCOX COMPANY

BARBERTON, OHIO

February 20, 1953.

CONTRACT FOR INSULATING BOILER & APPURTENANCES

Contract No. ACC-9198 RB-139 GROUP-23

FOR AND IN CONSIDERATION of the amount hereinafter named, I, We,

Ehret Magnesia Manufacturing Co., Inc., The Asbestos Service Company, Appr

hereinafter designated the "Contractor" as hereinafter ... THE BABCOCK & WILCOX COMPANY, of Barberton, Ohio, hereinafter designated the "Company," all labor and materials necessary for the complete insulation of the equipment mentioned in the following specifications, installed in connection with XXXXX Two(2) 36'-0"/60" hp. Radiant boilers, operating at 1485 lb. per sq. in. S. W. P.

at the works of The Ohio Edison Co., Akron, Ohio hereinafter designated

Plant Location: Niles, Ohio SPECIFICATIONS (Engineers "Commonwealth Services Inc.) Jackson Mich.

I. SCOPE

These specifications cover the furnishing, delivery and complete installation of insulation for the surfaces outlined on the following pages and in accordance with the drawings listed below, all of which are a part of this contract.

SX-307890-5	7084-E-0	4031-B-0
SX- 91-5	7085-E-0	4101-B-1
SX- 92-5	7093-E-0	4102-B-0
SX- 93-7	7089-E-0	4033-B-1
SX- 94-5	7081-E-0	4032-B-0
SX- 95-6	5409-D-0	SSD-257701-10
SX- 96-5	5407-D-0	SSD- 02-10
SX-307920-5	7076-E-0	SSD- 03-10
11116-E-5	7073-E-0	SSD-267957-3
11297-E-0	9071-E-Prelim.	SSD-267958-2
11296-E-0	9082-E- "	SSD-290880-0
11553E-0	9072-E- "	
9070-E-0	9060-E- "	
7091-E-0	7103-E- "	
7092-E-0	9094-E- "	
9094-E-0	10050-E-9-26-52	
9069-E-Prelim.	SX-299903-6	
7097E-0		

II. WORKMANSHIP

XXXXXXXXXXXXX required to be covered has been installed and the boiler setting dried out, the insulation shall be applied in a XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Form ...

III MATERIAL SPECIFICATIONS

(1) HIGH TEMPERATURE INSULATING BLOCK (CALCINED DIATOMACEOUS EARTH BASE)
This block shall be moulded type block composed principally of the best diatomaceous earth and long fibre asbestos, together with the best suitable inorganic bonding material.

Thermal conductivity shall not exceed 0.70BTU/sq.ft./hr./in./°F at 400°F(mean)
" " " " " 0.80 " " " " " " " 800 " "
" " " " " 0.90 " " " " " " " 1200 " "

(2) 85 per cent MAGNESIA BLOCK
This block shall be made of 85 per cent of pure carbonate magnesia ($4MgCO_3,Mg(OH)_2,5H_2O$) and between 10 and 15 per cent of asbestos fibre. The carbonate of magnesia and asbestos shall be thoroughly mixed and uniformly distributed throughout the covering. Carbonate and sulphate of lime shall not exceed 1-1/2 per cent of the total compound.

Thermal conductivity shall not exceed 0.52BTU/sq.ft./hr./in./°F at 200°F(mean)
" " " " " 0.57 " " " " " " " 400 " "

(3) BLANKET INSULATION
Shall be composed of the best grade of mineral wool fibres compressed between metal fabrics to a density of not less than 10 lbs. per cu. ft. Tie wires between the metal fabric on each side shall be spaced on a maximum of 12 inches.

Thermal conductivity shall not exceed 0.70BTU/sq.ft./hr./in./°F at 200°F (mean)
" " " " " 0.80 " " " " " " " 400 " "
" " " " " 0.93 " " " " " " " 800 " "

(4) HIGH TEMPERATURE PLASTIC INSULATION
High temperature plastic insulation shall be the best grade of mineral wool insulating cement, made predominantly of mineral wool fibres, dry mixed uniformly with other ingredients.

Thermal conductivity shall not exceed 0.70BTU/sq.ft./hr./in./°F at 200°F(mean)
" " " " " 0.80 " " " " " " " 400 " "
" " " " " 0.93 " " " " " " " 800 " "

(5) SEALING COMPOUND
Insulkote or equivalent fibrated asphalt emulsion (long fibre asbestos with suitable binder and filler); this compound shall have 55 per cent. maximum shrinkage, with a minimum covering capacity, when dry of 42 sq. ft. 1/8" thick per 100 lb. It shall be capable of withstanding without blistering, cracking, melting, running, or continuing to support combustion after flame has been removed, when a dried test piece is placed vertically 2 in. from the end of a blowtorch with a 4 in. long blue flame, and exposed to flame 30 seconds.

(6) REINFORCING MATERIAL
Lacing Wire No. 14 B.W.G. annealed market wire (galvanized steel)
Wire Mesh 1" No. 20 B.W.G. hexagonal mesh galvanized wire.

Stucco Binder Mesh, or Lath, 1.8#/SQ YD., painted finish,

(7) For sequence of application of insulation, see drawings.

(8) Areas and sections referred to in contract items by letter or numbers are as indicated on drawing 11116-E.

(9) Where no finish coat is specified, insulation will be covered with veneer type casing by others, or insulation is within cased enclosure.

(10) All expansion joint skirts shall be insulated.

(11) With stiffeners or casing flanges less than insulation thickness, the stiffeners or casing flanges are to be covered with insulation only when the insulation without the asbestos finishing cement extends 1" or more above the outer end of the stiffeners or casing flanges.

With stiffeners equal to or greater than insulation thickness, bar stiffeners are to be covered with insulation only when the outer end of the stiffeners is more than 1-1/2" above the face of the finish coat. The structural shaped stiffeners (tee, angle, channel, or I-beam) shall be covered with insulation when same extends 1/2" or more above insulation (exclusive of finish cement). See SSD-257703.

(12) As far as possible all pipe insulation to be in sectional form. Each of the vertical runs shall be supported in such a manner as to prevent slipping or contraction. All sectional pipe insulation shall have canvas covering. This canvas shall be 8oz. for central stations and large industrial units.

(13) The Contractor shall furnish all reinforcing material unless this material is noted as furnished by the Company on the attached drawings.

(14) Equal thickness of mineral wool base blocks, or calcium hydrosilicate base blocks, may be substituted directly for 85 per cent magnesia blocks for all areas in this contract.

Equal thickness of mineral wool base blocks, or calcium hydrosilicate base blocks may be substituted for calcined diatomaceous earth blocks, EXCEPT at furnace wall tubes, where a minimum thickness of 1-1/2" calcined diatomaceous earth base block is still required next to the fire-brick on tubes, with substitution permitted on the remaining insulation block thickness.

Mineral wool base blocks or calcium hydrosilicate base blocks must meet the following specifications if used in the above noted substitutions.

INSULATING BLOCK (MINERAL WOOL BASE)

This block shall be moulded type block composed of the best grade of mineral wool fibres with the best suitable inorganic bonding material.

Thermal conductivity shall not exceed 0.47BTU/sq.ft./hr./in./°F at 200°F(mean)
" " " " " 0.58 " " " " " " " 400 " "
" " " " " 0.80 " " " " " " " 800 " "

INSULATING BLOCK (CALCIUM HYDROSILICATE BASE)

This block shall be of moulded calcium hydrosilicate. It's thermal conductivity shall not exceed the values listed above for mineral wool base block.

MATERIAL CONTRACT

(15) The B&W Co. is to be notified immediately of any doubt or question concerning materials required to suit arrangement and detail construction shown on drawings, so that same may be quickly clarified to prevent erroneous supply of materials.

(16) Mineral wool blankets to be cut in field to suit applicati n requirement.

(17) Insulation for the following is <u>not</u> to be included in this contract.
Mountings Or Piping For Mountings & Instruments.
Air Heater Casing & Hoppers.
All Flues & Ducts Including Gas Recirc Ducts & Fans.
Makeup Tubes To Cyclone Burners.
Downcomer Connections Between Steam & Mud Drums.
Downcomer Connections From Steam Drum To Rear Wall Header.
Attemperators And Attemperator Connections.
Coal Feeders, Valves, Penaflex Expan. Joints, Blast Gates, & Coal & Primary Air Piping To Cyclones.

(18) No Asbestos Rope Barriers Are To Be Used Between Insulation and casing or between Insulation & Buckstay Covers.

(19) The Studs, Nuts, Washers and speed nuts shown on drawings are not by insulation contractor.

CONTINUED
ITEM.

ITEM NO.	AREA TO BE INSULATED	High Temp. Plastic Insulation	High Temp. Block Insul.	85 Per. Mag. Block Insul.	Finish Cement	Canvas Jacket		REFERENCE DRAWING NO.
1	(A) Furnace Side Walls Area EE, C, U, G, H, J, M, H, BB (Dwg. 4031-B) (B) Furnace Front Wall Area: A-T, S-R, Q-P, O-N (Dwg. -4031-B) (C) Furnace Door Wall Area U-D, D-F, X-G (Dwg. 4031-B) (D) Furnace Side Walls (Lower Section Outside) Area H,J,JJ,ZZ,Y,CC,H (Dwg. - SSD-276473)	H	2"	3"	H	H	H	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116- -1) SSD-276473
2	(A) Furnace Side Wall Tubes (Lower Section Inside) Area H,J,JJ,HH,H Dwg. 4102-B (B) Lower Side Wall Tubes (Horizontal Section To Lower Drum) Area JJ,ZZ Dwg. 4102-B (C) Floor Cavity Closure Area H,HH Key-25	H	2"	2-1/2"3/4" High Temp. Plastic	H	1/4" XXXX. XXXX Aertite		SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-H Key 2 Key-25 4102-B
3	Superheater Floor Area H,H	H	2"	2-1/2"3/4" High Temp. Plastic	H	1/4" XXXX. XXXX Aertite		SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-H Key-17) Sect-17)

CONTINUED

ITEM NO.	AREA TO BE INSULATED	High Temp. Plastic Insulation	High Temp. Block Insul.	85 Pct. Mag. Block Insul.	Finish Cement	Canvas Jacket		REFERENCE DRAWING NO.
4	Burner Wall Area L,K,J	N	2"	2-1/2"	3/4" High Temp. Plastic	N	1/4" XXXXXX XXXXX Aertite	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-2) 4101-B
5	(A) Lower Portion Of Penthouse Front Area EE,A Rear Area CC,U (B) Top Of Boiler Area AA,BB (Insulate To Outside Of Penthouse)	N	2"	3"	N	N	N	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-3 Sect-3)
6	Top Portion Of Penthouse Front Area AA,EE Side Areas AA,EE,CC,V,BB,AA Rear Area CC,V (Apply To Outside Of Penthouse)	N	N	N	N	N	6" Mineral Wool Blanket 1" Wire Mesh On One Face. 3.4# Diamond Mesh Exp. Lath On Other Face.	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-6) 4032-B
7	Superheater Header Vestibules Area CE " OP " QR " ST	N	2"	3"	N	N	N	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-3 Sect-3)

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MATERIAL CONTRACT
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PLANT

ITEM NO.	AREA TO BE INSULATED	High Temp. Plastic Insulation	High Temp. Block Insul.	85 Pct. Mag. Block Insul.	Finish Cement	Corrug. Jacket		REFERENCE DRAWING NO.
8	Primary Furnace Floor Area J,H	N	2"	2-1/2"3/4" High Temp. Plastic	N	1/4" [illegible] Aertite		SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-5) 4033-B
9	Lower Portion Screen Tubes To Lower Drum Area GG,Y (Insulate To Outside Of Enclosure)	N	N	N	N	N	6" Mineral Wool Blanket 1" Wire Mesh On One Face 3.4# Diamond Mesh. Exp. Met. Lath On Other Face.	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-6) 4032-B
10	Cyclone Burner	N	2"	2-1/2"3/4" Hightemp Plastic	N	1/4" [illegible] Aertite		SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-23Sect23
11	(A) Cyclone Risers(4-1/2" OD) For Portions That Are Cased Above The Operating Floor(See Dwg. 11116-E Key-8) (Tubes In Bank)(Metal Lath By Insul Cont'r)	N	2"	3"	N	N	N	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key8Sect-8 & Key7Sect7)
	(B) Cyclone Headers,Risers, (4-1/2" O.D.) For Portions That Are Uncased. (See Dwg. 1111 6-E Key-7) (Tubes In Bank)(Metal Lath By Insul Cont'r)	N	2"	2-1/2"3/4" High Temp. Plastic	N	1/4" [illegible] Aertite		

MATERIAL CONTRACT
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ITEM NO.	AREA TO BE INSULATED	High Temp. Plastic Insulation	High Temp. Block Insul.	85 Pct. Mag. Block Insul.	Finish Cement	Canvas Jacket		REFERENCE DRAWING NO.
11	CONT. 11 (C) Rear Wall Header (16" O.D.) (See Dwg. 11116-E Key-7) The Handhole Fittings In Items-11B & 11C, Headers, Are Cup Type And Are To Be Covered Over Level With Insulation As A Continuation Of Adjacent Header Insulation.) 9 Insulation Retainers For Gasket Type Handhole Fittings Spaced On 4'-0" Intervals On Rear Wall Header, Item 11C, are To Be Insulated As Shown On Dwg. SSD-290880.	N	2"	2-1/2"	3/4" High Temp. Plastic	N	1/4" Aertite	
12	Exposed Drum Heads & Shell (Steam & Lower Drums)	N	2-1/2"	2-1/2"	N	N	N	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-9 Sect-9)
13	Superheater Headers And Tubes Inside Vestibules. (A) For Locations Marked 21 per drawing 11116-E Key-21 & 11296E	N	2"	N	N	N	N	SX-307890 SX- 91 SX- 92 SX- 93 SX- 94 SX- 95 SX- 96 SX-307920 (11116-E Key-21 Sect-21 " 22 " 22 11296-E 11297-E 11553-E
	(B) For Locations Marked 22 Per Drawing 11116-E Key-22 & 11297E & 11553-E The Handhole Fittings In Above Superheater Headers Are Seal Welded Cup Type, And Are To Be Covered Over Level With Insulation As A Continuation Of Adjacent Header Insulation (On Tubes In Bank The Metal Lath Is By Insul. Contr.)	N	1-1/2"	N	N	N	N	

"N" Denotes Not Applicable To This Contract.

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MATERIAL CONTRACT

1. GENERAL

The Contractor further covenants and agrees to and with the Company as follows:

(1) NON-ASSIGNABILITY OF CONTRACT.

There are no understandings between the parties hereto, as to the subject matter of this contract, other than as herein set forth. All previous correspondence, between the parties hereto, either verbal or written, are hereby terminated and withdrawn and the provisions of this contract, with the specifications and drawings referred to herein constitutes the whole agreement between the parties hereto.

The contract cannot be assigned except by a duly executed supplementary agreement signed by both parties, nor may the general conditions be modified.

(2) LAWS AND ORDINANCES.

The Contractor will fully comply with all laws, ordinances and regulations applicable to [redacted] the materials to be furnished hereunder.

(3) INSURANCE.

The Contractor will take and provide all precautions, safeguards and protections that may be required by law or that may be necessary or proper against the occurrence or happening of any accident, injuries or damage to any person or property in the performance of the work under this contract or any operations, deliveries or inspection incident thereto and will indemnify and save harmless the Company from all loss, liability, costs and expenses arising out of or in connection with any such accidents, injuries (including death resulting therefrom) or damages that may happen or occur through or because of any acts or omissions of the Contractor or of the Contractor's agents, employees or sub-Contractors and from all loss, liability and fines imposed by or by reason of the violation by the Contractor or the Contractor's agents, employees or sub-Contractors of any municipal ordinance, state law or law of the United States or any regulations thereunder during the progress of the work.

At all times until the work under this contract and all work incident thereto is completed, the Contractor will obtain and maintain (1) adequate Workmen's Compensation or Employer's Liability insurance or both as required by law and (2) adequate insurance under policies, in amounts and with insurers satisfactory to the Company to protect the Contractor from all other claims for damages for bodily injury, including death, and property damages which may arise from operations under this contract or work incident thereto, whether said operations are performed by the Contractor or the Contractor's agents, employees or sub-Contractors.

Upon demand, the Contractor shall furnish a certificate from his insurance carrier that the aforementioned insurance has been secured and such certificate shall provide that such insurance shall not be cancelled or changed until after the Company shall have received at least 5 days written notice of such change or cancellation. The Contractor will exhibit said insurance policies to the Company when requested. Compliance with this insurance provision shall not relieve the Contractor from liability under the indemnity provisions of this contract.

(See also ADDENDA No._____)

(4) MECHANIC'S LIENS.

The Contractor will not file or suffer or permit any other person, firm or corporation to file any mechanic's or other lien claim against the property of either the Company or the Purchaser [redacted] materials furnished hereunder. In case any such lien [redacted] Contractor will cause the same to be discharged within five days after receipt of notice so to do.

(5) PERFORMANCE SCHEDULE.

The Contractor has examined the drawings which are made a part of this contract and covenants and agrees that said drawings are not ambiguous and by application of accepted engineering principles express precisely the work required, material to be used and the manner of performance; that the drawings are according to said accepted engineering standards and that the Contractor fully understands said drawings [redacted] and materials specified thereon.

[redacted]

[redacted]

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[redacted]

(6) GUARANTEE.

The materials to be furnished hereunder are ordered by the Company in accordance with the requirements of The Ohio Edison Co. Of Akron, Ohio (Engineers-Commonwealth Services Inc.) Niles, Ohio

All [redacted] materials shall be of the best of their respective kinds and [redacted] purpose intended. If the workmanship or materials shall prove defective in any respect, or unsuitable for the purposes intended within one year from the date of the Purchaser's acceptance of the job, the Contractor will, upon request, remedy, repair or replace the same free of charge to the Company.

(7) PATENT INFRINGEMENT.

The Contractor shall defend at its own expense any suit or action brought against the Purchaser based on a claim that the equipment, or any part thereof, furnished hereunder constitutes an infringement of any patent of the United States, if notified promptly in writing and given authority, information, and assistance for the defense of same, and the Contractor shall pay all costs awarded thereto against the Purchaser. In case the equipment or any part thereof is in such suit held to constitute infringement and its use is enjoined, the Contractor shall, at its own expense, either procure for the Purchaser the right to continue using said equipment; or replace same with non-infringing equipment; or modify it so it becomes non-infringing; or remove said equipment and refund the purchase price and the transportation and installation costs thereof.

(10) PRICE.

The Company covenants and agrees to pay the Contractor the sum of

_____

_____

_____

_____ as and for the contract price [redacted] hereunder as follows:

The entire contract price upon due and proper completion of all said work and upon receipt from the Contractor of satisfactory proof that all claims for materials [redacted] in the performance thereof have been fully paid and satisfied and that the Company has accepted the job; or_____

_____ per cent. of the contract price upon due and proper completion of each successive_____part of said work and upon receipt from the Contractor of satisfactory proof that all claims for materials [redacted] furnished in the performance of the part of the work so completed [redacted] fully paid and satisfied; and the balance of the contract price within_____days after final completion of all the work and receipt from the Contractor of satisfactory proof that all claims for materials [redacted] furnished in the performance thereof have been fully paid and satisfied and that the Company has accepted the job.

If the Company is required to pay any taxes, assessments or contribu-

[redacted]

MATERIAL CONTRACT

It is the condition of this contract that title to the property referred to here in shall pass to the purchaser upon delivery there of to the carrier at the point of shipment.

TERMS OF PAYMENT:

IN WITNESS WHEREOF the parties hereto have executed this Contract

the_____day of_____, 194____.

_____
Executed By

For _____

the_____day of_____, 194____.

THE BABCOCK & WILCOX COMPANY,

W. C. MOULDER Purchasing Agent

BY: J. L. MacADAM,
ASSISTANT TO PURCHASING AGENT.

CAB:dlf
2-20-53

CC: A.B. Littenhouse
Cont. Div. J.J. Richey 5
Acctg.
Rec. 3
Matl.
Prod.
Gen. Prod. Control