

PROGRESS REPORT ON  
CLEVELAND  
AIRCRAFT ENGINE RESEARCH LABORATORY  
NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

FILE COPY

RETURN TO ADMINISTRATIVE FILES  
OF AIRCRAFT ENGINE RESEARCH  
LABORATORY, CLEVELAND, OHIO.

Submitted by Robert S. Lippitt

Approved \_\_\_\_\_

August 30, 1947

FILE COPY  
To be returned to  
the files of the Aircraft Engine  
Research Laboratory.

050-30

1. The following construction contracts are in force:

Contract No.	Project	Awarded To	Cost	% Complete	Est. Comp. Date	Remarks
1035	Hangar	R. P. Carbone Const. Co.	\$308,102.53	56%	Oct. 15, 1941	Contractor ) Approx. 40% behind schedul
1040	Engine Prop. Test House	R. P. Carbone Const. Co.	133,604.28	67%	Oct. 31, 1941	
1150	Heat Exchangers	Whitlock Mfg. Co.	5,272.00	15%	Dec. 15, 1941	
1222	Automatic Controls H.E.	Johnson Service Co.	2,236.00	15%	Sept. 15, 1941	
1170	Acoustical Mufflers	Homestead Insulating Co.	27,671.00	0%	Oct. 1941	
1109	Fence	Cyclone Fence Co.	10,981.00	95%	Nov. 1, 1941	Held up until hangar comp.
1175	Roads and Storm Sewers	Allied Corp.	122,590.00	10%	Dec. 8, 1941	Surveying & laying 27" storm sewer
1176	Power and Tel. Duct Banks	Collier Const. Co.	35,018	15%	Sept. 30, 1941	
1179	Water Dist. and San. Sewers	Kassouf Const. Co.	103,100.00	0%	Nov. 15, 1941	

2. The following construction projects have been advertised for bids:

Project	Est. Cost	Adv. for bids	Opening date	Est. Const. Time	Remarks
Service Bldg.	\$480,000	Aug. 12, 1941 (readvertised)	September 5, 1941	270 days	

3. The following projects will be released for bids next:

Fuels & Lubs Bldg.	Sept. 4, 1941	
Heating Plant	September 4, 1941	Est. Cost. \$142,000
Comb. & Cooling Air System-EPH.	September 2, 1941	118,580

4. The following projects are in the design stage:

Project	Design Specs.	Design	Drafting	Constr. Specs.	Est. Cost	Est. date of bid
<u>Fuels &amp; Lubes Bldg.</u>						
Architectural	100%		98%	100%		
Structural	100%	100%	100%	100%		
Electrical	100%	100%	100%	100%		
Plumbing	100%	95%	75%	95%	Estimates in Preparation	
Heating & Ventilating	100%	100%	30%	100%		
Exhaust system	100%	100%	80%	100%		
Fire Protection	100%	100%	95%	75%		
<u>Heating Plant</u>						
Mechanical	100%	100%	95%	98%	\$142,000	Sept. 4, 1941
Structural	100%	100%	85%	98%		
<u>Wind Tunnel</u>						
Electrical Drive (AAL)	90%	80%	0	20		Feb. 28, 1942
Steel Structure (AAL)	90%	80%	3	20		Feb. 28, 1942
Refrigeration System (LMAL)	30%	0	0	0		Apr. 30, 1942

Project	Design Specs.	Design	Drafting	Constr. Specs.	Est. Cost	Est. out on bid
4. (Continued)						
<u>Engine Research Building</u>						
S. C. Wings	20%		0	0		
Structural		60%				Oct. 31, 1941
Office Section	70%		0	0		
Structural		40%				Oct. 31, 1941
Electrical		70%				
Heating & Ventilation		70%				
Plumbing		0%				
Central Section	10%		0	0		June 30, 1942
<u>Engine Prop. Test House</u>						
Comb. and cooling air systems	100%	100%	100%	95%	\$118,580	Sept. 2, 1941

4. (Continued)

Project	Design Specs.	Design	Drafting	Constr. Specs.	Est. Cost	Est. out on bid
<u>Electrical Distribution System</u>						
Substation C.	100%	95%	100%	90%	\$84,000	Sept. 5, 1941
Substation A & B	80%	20%	0	0	787,000	Nov. 3, 1941
Other Substations	50%	20%	0	0	303,000	depends on bldg. progress
Protective signaling Equipment	72%	20%	10%	5%	7,000	
Telephone system	91%	28%	5%	0	60,000	(May 30, 1942 (July 30, 1942
Emergency power system	90%	25%	0	0	9,000	(with bldgs; (June 30-42
Street Lighting	80%	50%	0	0	20,000	Deferred

5. Equipment status is as follows:

Equipment for	Design Specs.	Bid Specs.	Purchased
Flight Research Building	95%	7%	7%
Technical Service Building	95%	87%	67%
Fuels & Lubs. Building	93%	27%	22%
Engine Prop. Test House	97%	8%	7%
<u>Engine Res. Bldg.</u>			
Refrigerating System	80%	40%	0
Combustion Air Supply	60%	0	0

## 5. (Continued)

Equipment for	Design Specs.	Bid Specs.	Purchased
<u>Engine Res. Bldg. (Continued)</u>			
Exhaust Evacuation	80%	0	0
Cooling Air System	10%	0	0
Dynamometers	20%	15%	10%
Testing Instruments	15%	10%	5%
M. G. sets	50%	50%	50%
S. C. Test Engine	25%	15%	10%
Exhaust gas generators	5%	0	0
Bed plates	25%	0	0
Engine Components			
Research Equipment			
Carburetor test rooms	15%	0	0
Ignition research	40%	5%	5%
Fuel injection research	5%	0	0
Engine accessories	5%	0	0
Stresses research	65%	10%	5%
Photographic equipment	90%	40%	40%
Office Equipment	75%	50%	50%
Service Equipment	80%	20%	20%

CONTRACT

between

NATIONAL ADVISORY COMMITTEE  
FOR AERONAUTICS

and

THE SAM W. EMERSON COMPANY

for

CONSTRUCTION OF SEVERAL UNITS OF THE  
AIRCRAFT ENGINE RESEARCH LABORATORY  
CLEVELAND OHIO

1. (a) Engine Research Building	\$1,844,000.
(b) Refrigeration System	400,500.
(c) Piping system for the altitude exhaust system	200,000.
(d) Installation of remainder of equipment	389,925.
2. Administration Building	330,000.
3. Wind Tunnel Office and Shop Building	83,000.
4. Utilities Building	50,000.
5. Foundations of the Wind Tunnel	95,000.
6. 50,000 KW Electrical Power Transforming and Distribution System	<u>250,000.</u>

Estimated total cost \$3,642,425.

It is understood and agreed that neither the Government nor the Contractor has guaranteed that the work can be accomplished and completed for the said estimated sum of \$3,642,425.00 and in no event shall the Contractor be obligated to continue its performance under this contract beyond a point at which the costs of such work not as yet paid by the Government, together with the Contractor's earned fee referable thereto and the Contractor's obligations and liabilities under contracts for services, labor, material, and supplies required for the performance of such work shall equal the unexpended portion of the said estimated cost; unless the Government shall determine that the cost of performing the work plus fees to be paid the Contractor hereunder will be in excess of such amount, and agree by notice in writing to pay such increased cost.

Excerpt from: Chronological Record of events relative to Cost-plus-a-fixed-fee contract Naw-1425, from first meeting of Advisory Board through final approval of contract.

See File: C-54-3E - Storage Box # 33, Mail, Communications & Records <sup>13</sup>

Mr. William O. Parrish

Mr. P. Reed

Mr. E. R. Sharp

The final draft of the contract was presented to the Contractor for signature.

Mr. Reed, attorney for the Contractor, insisted upon a rider to the contract with regard to discounts. The rider was duly attached and initialed by Messrs. Chamberlin and Emerson. The contract was then signed by Mr. Chamberlin, for the Government, and by Mr. Emerson for the Sam W. Emerson Company. Mr. Edward R. Sharp and Mr. A. W. Hutton signed as witnesses to the signatures of Mr. Chamberlin and Mr. Emerson, respectively.

The conference adjourned.

Mr. Chamberlin returned to Washington in the evening with the contract as signed.

December 31, 1941, Wednesday:

The necessary approvals of the contract within the Committee's organization were secured. Due to the illness of Mr. Chamberlin, Mr. Sharp was called to Washington, arriving at 5:15 p.m., to discuss the contract provisions with Mr. Victory, Secretary of the National Advisory Committee for Aeronautics. At 6:00 p.m. Mr. Victory and Mr. Sharp took the contract to the White House where it was approved by the President at 6:30 p.m.

Approved:

*Edward R. Sharp*

Chairman, Advisory Board

PERIOD May 3, 1942 TO May 9, 1942.

Naw-1425-2 Administration Bldg.	Sam W. Emerson Company - General - Concreting complete in 1st floor columns, 2nd floor beams and slab. Rubbing of basement walls, ceiling, columns and beams. Forming for 2nd floor columns and roof beams and decking. Started waterproofing exterior foundation walls.	
Subcontract-9	Martien Electric Co. - Electrical - Shop work. Conduit and boxes installed in 2nd floor slab.	
Subcontract-10	Feldman Brothers - Plumbing & Heating - Completed sub-drain around outside walls. Future mens' toilet in basement roughed in. Roughing in for mens toilet on 1st floor. Running sewer trenches in basement. Running 6" steam line in basement. Sleeves installed in 2nd floor slab.	
Total Contract Naw-1425-2 Completion. . . . .		16%
Naw-1425-5 Wind Tunnel Foundations.	Sam W. Emerson Company - General - Excavations for pier foundations for wind tunnel.	
Total Contract Naw-1425-5 Completion. . . . .		0.5%
Naw-1425-6 - 50,000 KW Elec. Power Dist.	Sam W. Emerson Company - General - Placing concrete over duct - M.H. #20 to #22.	
Subcontract-1	Mercurio Excavating Co. - Excavation - Excavated between M.H. #22 & #24.	
Subcontract-9	Martien Electric Co. - Conduit - Layed duct between M.H. #20 & #23.	
Total Contract Naw-1425-6 Completion. . . . .		30%
Total Contract Naw-1425 Completion. . . . .		9%

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Weather Conditions: Cloudy - Fair - Favorable.

Temperature: Lowest 45 Degrees above. Highest 75 Degrees.

Remarks: Dedication of Engine Propeller Test House took place on Friday, May 8, 1942.

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Signature:

  
Charles A. Herrmann,  
Engineer

CONSTRUCTION REPORT NO. 100

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12/28/42  
11/1/43

NAw-1460	Wind Tunnel	Pittsburgh Des Moines Steel Company - Girder 84 to 98 90% welded and flushed. 69 to 83 and corner B - 75% welded. Girder C 90% welded. Girder D erected, fitted and ready for welding. 75% of tunnel steel on site. 30-31 erected. 10% test chamber framework erected.	
		Percent Complete:	
		Delivery of material	80%
		Erection	20%
		Welding	15%
Total Contract NAW-1460 Completion . . . . .			28%
NAw-1474	Cooling Air Fans	Buffalo Forge Company - Cooling Air Fans.	
	Subcontract-B	Vogt and Conant - Rigging fan, motor and coupler.	
Total Contract NAW-1474 Completion . . . . .			40%
NAw-1490	Laboratory Equipment	E. H. Sheldon Company - Installing Laboratory equipment Fuels and Lubes Building.	
	Fuels & Lubes Building	Subcontract-B - Gorman and LaVelle - Running process piping to Lab. benches.	
	Subcontract-G	Doan Electric Company - Wiring outlet on lab benches.	
Total Contract NAW-1490 Completion . . . . .			93%
NAw-1509	Exhaust Evacuators	Roots Connersville - General - No work performed. Norris Brothers - Delivered small shipment of pumps and parts.	
Total Contract NAW-1509 Completion . . . . .			10%
NAw-1623	Inter-mediate Voltage Cable	Henry Ihle, Inc. - Made 3 splices in tunnel. Connected primary sides of two transformers at Substation "D". Racking and fireproofing cable in tunnel.	
Total Contract NAW-1623 Completion . . . . .			97%
NAw-1625	Exhaust Gas Coolers	York Ice Machine Corp. - Exhaust gas cooler.	
	Subcontract-B	Norris Brothers - Erecting supports and coolers.	
Total Contract NAW-1625 Completion . . . . .			7%
NAw-1680	Combustion Air Cooling System	A. E. Magher Inc., - General - Fan No. 2 partly assembled.	
	EPTH	Collier Construction Company - Wire all pulled except main from controller room to equipment.	
Total Contract NAW-1680 Completion . . . . .			31%

CONSTRUCTION REPORT NO. 100

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12/28/42  
1/1/43

NAw-1425-2 Adm Bldg Continued:

NAw-1425-2 Total Completion . . . . . 97%

NAw-1425-3 Wind Tunnel Shop-Office Sam W. Emerson Company - Lay brick Cent. Hi Sec.  
Lay tile Office Sec lavatories. Install plaster grounds.

Subcontract-9 Martien Electric - Hook up temporary heater, basement. Install switch boxes, Office.

Subcontract-10 Feldman Brothers - Run steam lines basement. Hook up heater (temporary).

Subcontract-23 J. Boehm Company - Install heating and cold air duct (Office)

Subcontract-31 Armstrong Cork Company - Cover heating ducts, Office.

Subcontract-33 Hasek Glass Company - Install glass Shop Sec.

Total Contract NAW-1425-3 Completion . . . . . 75%

NAw-1425-4 Utilities Building Sam W. Emerson Company - No work performed.

Total Contract NAW-1425-4 Completion . . . . . 99.5%

NAw-1425-5 Wind Tunnel Foundations Sam W. Emerson Company - No work performed.

Total Contract NAW-1425-5 Completion . . . . . 99%

NAw-1425-6 50,000 KW Electric Power and Distribution Substation "A"

Substation "B"

Subcontract-9 Martien Electric Company - Installing racks in tunnel. Installing structure lights. Wiring controls. Adjust buss on oil circuit breakers.

Total Contract NAW-1425-6 Completion . . . . . 86%

NAw-1425-S2 Sewage Pumping Station Sam W. Emerson Company - General - No work performed.

Total Contract NAW-1425-S2 Completion . . . . . 87%

NAw-1425-S3 Exhauster Building Sam W. Emerson Company - Forming G S Motor base. Finishing mezzanine floor. Concrete side. Placing wood finish in offices-mezzanine floor.

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NAw-1425-S14	Flag Pole	Sam W. Emerson Company - General - No work performed.	
Total Contract NAW-1425-S14 Completion . . . . .			75%
NAw-1425-Spect 48	Gate House	Sam W. Emerson Company - General - Laying interior tile walls; framing toilet door and heater recesses. Furring walls and ceiling for plastering. Rubbing concrete.	
Subcontract-9		Martien Electric Company - Installing conduit and pulling wire for power telephone and signal lines.	
Total Contract NAW-1425-S48 Completion . . . . .			40%
NAw-1425-Spec 57	Combustion Tunnel	Sam W. Emerson Company - General - Completed wood-work and trim including window sash and peep hole glass.	
Subcontract-9		Martien Electric Co. - Installed electrical conduit, outlets, wiring and switches and telephone line with phone.	
Subcontract-10		Feldman Brothers - Installed inside water supply pipe.	
Total Contract NAW-1425-Spec 57 Completion . . . . .			90%
Total Contract NAW-1425 Completion . . . . .			86%
NAw-1454	Combustion Air Compressors	Dravo Corporation - No work performed.	
Total Contract NAW-1454 Completion . . . . .			26%
NAw-1460	Wind Tunnel	Pittsburgh-Des Moines Steel Company - General - Erected rings #X-9-10-15-16-60 and 61 complete. Chipped rings #9-10-11-13-14-26-27-28-33-34-35-36-64-65 65½-66-67-68 and X partially. Built sheds ladders etc.	
Subcontract-3		Collier Construction Company - Installed switch gear Exhauster and Refrigeration Buildings. Placed grounds in air dryer building. Installed conduit to motor for Prop. Drive shaft.	
Total Contract NAW-1460 Completion . . . . .			40%
NAw-1460-1(b)	Test Chamber Structure	Pittsburgh-Des Moines Steel Company - No work performed.	
Total Contract NAW-1460-1(b) Completion . . . . .			15%

File 507

CONSTRUCTION REPORT NO. 134

AIRCRAFT ENGINE RESEARCH LABORATORY

CLEVELAND, OHIO

Period August 23, 1943, through August 28, 1943.

Naw-1358 Combustion and Air Cooling System, EPTH - Arthur E. Magher Company - General. Contract complete except painting air duct.

Total Contract Naw-1358 Completion.....99.50%

Engine Research Building This contract is being broken into separate contracts between the NACA and former subcontractors.  
Electrical work - Naw-2611 - Martien Electric Company.  
Masonry Work - Unassigned.  
F. R. Arend Company - Painting - No number assigned.  
During past week, most of basement ceiling and walls painted.

Summary of completion:

Office Section - Substantially complete.

Central Section - 97.55%

East Wing 99.86%

West Wing 99.86%

Total Engine Research Building Completion.....98.12%

Refrigeration System Arthur E. Magher Company - Supervision. Testing ammonia compressors. Charging system.  
Armstrong Cork Company - Insulating pipe.

Total Refrigeration System Completion.....95.25%

Wind Tunnel Shop and Office Substantially complete. Some painting in the shop and incidentals to be completed.

Total Wind Tunnel Shop and Office Completion.....99%

Exhauster Building Incidental sheet metal work to be completed.

Total Exhauster Building Completion.....99.50%

Refrigeration Building Substantially complete. Lighting fixtures, interior painting, and miscellaneous cement work to be complete.

Total Refrigeration Building Completion.....98.55%

Ice Tunnel Foundations Substantially complete. Remaining work to be done:  
One reinforced floor beam in Test Chamber, concreting around motor base in blower foundation, grading and trench covers.

Total Ice Tunnel Foundations Completion.....98%

CONSTRUCTION REPORT NO. 134

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Parking Areas and Secondary Roads    Allied Corporation - No work performed. Temporary suspension of work due to the contractor not meeting specifications.

Total Parking Areas and Secondary Roads Completion.....95.50%

Sidewalks                      All sidewalks are in that can be laid under present plans. Construction buildings are in the way of further progress. Approximately 150 feet of sidewalk is yet to be laid.

Total Sidewalks Completion.....99.50%

NAW-1454 Combustion Air Compressors    Dravo Corporation - General. No work performed.

Total Contract NAW-1454 Completion.....98%

NAW-1460 (A) Wind Tunnel Shell & Rings    Pittsburgh-Des Moines Steel Company - Apply insulation, 19% complete. Erect steel jacket over and wire mesh under insulation, 16% complete. Erect coil headers, 96% complete. Weld balloon housings, 95% complete. Test Section fairings, 97% complete. Weather guards, 85% complete. Grout piers, 50% complete. Erection of hoisting house, 25% complete.

Total Contract NAW-1460 (A) Completion (Wind Tunnel Shell & Rings).....95%

NAW-1460 (B) Wind Tunnel Test Chamber    Pittsburgh-Des Moines Steel Company - General. Weld and fit balance frame, 75% complete. Johns-Manville Company - Install corner strips, 92% complete. Collier Construction Company - Run conduit to and into Test Chamber, 60% complete.

Total Contract NAW-1460 (B) Completion, Test Chamber.....84.50%

NAW-1460 (C) Wind Tunnel Painting    Pittsburgh-Des Moines Steel Company - Paint altitude tunnel inside and outside, Air Dryer tank, and Test Chamber.

Total Contract NAW-1460 (C) Wind Tunnel Painting Completion.....29%

NAW-1460 (E) Refrigeration    Pittsburgh-Des Moines Steel Company - General. Set and grout Carrier equipment, 90% complete. Set Worthington exhaustor equipment, 15% complete. Fit and weld elbows for distribution header and pipe for flash cooler, 59% complete. Coils and headers, secondary system, 80% complete. Manhole and electric ducts, 50% complete. Collier Construction Company - Wiring Carrier equipment, 60% complete.

Total Contract NAW-1460 (E) Refrigeration System Completion.....84%

NAW-1460 Ice Tunnel    Pittsburgh-Des Moines Steel Company - Erect, fit and weld side plate steel, 31.50% complete.

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CONSTRUCTION REPORT NO. 134

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NAw-1460 Ice Tunnel - Cont'. Collier Construction Company - Lay conduit to Manhole C-3.  
 Total Contract NAW-1460 Ice Tunnel Completion.....31.50%  
 Total Contract NAW-1460 Completion.....71%

NAw-1509 Exhaust Gas Evacuators Roots-Connersville Blower Corporation - Supervision.  
 Arthur E. Magher Company - Working on dewatering pipe.  
 Total Contract NAW-1509 Completion.....67%

NAw-1555 Altitude Wind Tunnel Propeller Drive General Electric Company - Supervision.  
 Cleveland Cartage Company - Brushes on M.G. sets, motor bearings and rings.  
 Total Contract NAW-1555 Completion.....89%

NAw-1625 Exhaust Gas Coolers in ERB York Ice Machinery Corporation - During past week pump lines to surge drum and cooler D-2 have been installed. Inlet diffuser bolted on. Pressure control piping installed on A-6 cooler. A-5 cooler moved into position. Electrical controls and motor starting wiring installed on water separators. All equipment under this contract has been delivered.  
 Summary of completion:  
     A coolers 79%      D coolers 85%  
     B coolers 96%      E separators 75%  
     C coolers 85%      Electrical work 54%  
 Total Contract NAW-1625 Completion.....76%

NAw-2664 Heating Plant Boiler #3 Foundation Schirmer-Schneider Company - Concrete foundations built for boiler #3. Work complete except for fire brick in ash pits.  
 Total Contract NAW-2664 Completion.....80%

NAw-2568 Research Equipment Storage Building Hadlock-Krill Company - General. Carpenters building and setting foundation wall forms, north section, east and west elevations, also forms for piers, north section. Laborers pouring concrete wall and pier forms, also stripping forms. Foundations and piers 55% complete.  
 Smith and Oby Company - No work done.  
 Joseph and Aftoora Company - Trenching and laying 8" storm sewer from M.H. #2 to catch basin #1 and from M.H. #2 to catchbasin #2. Excavated for manholes #2, #3, #4, and #6. Built brick manholes, #4 and #6. Backfilling 15" sewer line and 8" sewer line.  
 Central Excavating Company - Excavating for Barrel Storage Building. Backfilling around foundation walls, Research Equipment Building.  
 J. Hill Company - Making up columns, Res. Equip. Bldg.  
 Total Contract NAW-2568 Completion.....8%

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NAW-2611 Ext. Martien Electric Company - Little work done this week  
of Electrical due to time required for moving tools and equipment to  
Work in ERB job. Started extending refrigeration system control  
wiring.

Total Contract NAW-2611 Completion.....0.5%

NAW-2612 Ext. Feldman Brothers - General. Installing 3-way Nordstrom  
of Piping (motorized) valves on refrigeration (air) system in  
Systems in ERB Carburetor Room, basement.

Total Contract NAW-2612 Completion.....0.5%

Naw-2660 Engine James McHugh Company - General. During past week the  
Propeller Research contractor constructed numerous equipment shacks and  
Building #2 dug for footings and trenches along the north and east  
portions. Excavation approximately 50% complete. Dirt  
from excavation being placed in fill in valley north of  
site.

Progress summary: Excavation, 30% complete.

Total Contract NAW-2660 Completion.....0.75%

Weather: Favorable

Temperature: 64° to 85°

Copies to:  
Files (orig.)  
Col. Stewart  
Gulick  
Hunsicker

Signature:

~~Charles A. Herrmann,~~  
Senior Civil Engineer

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From

## AIRCRAFT ENGINE RESEARCH LABORATORY

CLEVELAND, OHIO

Period August 30, 1943, through September 4, 1943.

Naw-1175 Road System	Allied Corporation - Work suspended 1/25/43; resumed 8/31/43. Repairing defects in bituminous concrete paving on Road "A".	
Total Contract Naw-1175 Completion.....		99.3%
Naw-1358 Combustion and Air Cooling System, EPTH	Arthur E. Magher Co. - General. Cooling air test not satisfactory.	
Total Contract Naw-1358 Completion.....		98%
Engine Research Building	Painting of piping being done by unit price. F. R. Arend Company - Painting of process piping in basement. Wm. E. Feiten - Installed expansion joints in parapet wall coping. No other activity under general construction. See NAW-2611 for "electrical" work.	
	Summary of completion:	
	Office Section - Substantially complete except for re-pointing granite steps.	
	Central Section 97.58%	
	East Wing 99.86%	West Wing 99.86%
Total Engine Research Building Completion.....		98.91%
Refrigeration System, ERB	Arthur E. Magher Company - Supervision. Testing refrigeration equipment. Running refrigerated air blower and compressors in connection with "A" unit. Engineer from Magher Company making tests. Tore down #1 compressor to repair broken cylinder. Armstrong Cork Company - Insulating air piping at "B" units. Filling insulation around main pipes with way filler.	
Total Refrigeration System Completion.....		95.75%
Wind Tunnel Shop and Office	Miscellaneous items to be completed.	
Total Wind Tunnel Shop and Office Completion.....		99%
Exhauster Building	Structural contract completed.	
Total Exhauster Building Completion.....		100%
Refrigeration Building	Working on lighting outlets.	
Total Refrigeration Building Completion.....		98.55%
Ice Tunnel Foundations	Substantially complete. Remaining work to be done: One reinforced floor beam in Test Chamber, concreting	

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Ice Tunnel Foundations around motor base in blower foundation, grading and trench covers.  
Total Ice Tunnel Foundations Completion.....98%

Parking Areas and Secondary Roads Allied Corporation - No work performed. Temporary suspension of work due to the contractor not meeting specifications.  
Total Parking Areas and Secondary Roads Completion.....95.50%

Sidewalks All sidewalks are in that can be laid under present plans. Construction buildings are in the way of further progress. Approximately 150 feet of sidewalk is yet to be laid.  
Total Sidewalks Completion.....99.50%

Naw-1454 Combus- Dravo Corporation - Bearing to be replaced in one compression Air Compressors  
Total Contract Naw-1454 Completion.....98%

Naw-1460 (A) Pittsburgh-Des Moines Steel Company - Apply insulation to Wind Tunnel tunnel, 21% complete. Erect steel jacket and wire mesh, Shell & Rings 18% complete. Erect coil headers, 97% complete. Weld balloon housings, 95% complete. Weather guards, 90% complete. Grout piers, 85% complete. Erection on hoisting house, 30% complete.  
Total Contract Naw-1460 (A) Completion (Wind Tunnel Shell & Rings).....95.05%

Naw-1460 (B) Pittsburgh-Des Moines Steel Company - General. Weld balance Wind Tunnel frame, 80% complete. Weld side and closing plates, 75% Test Chamber complete. Glazing 80% complete. Floor sleepers, 50% complete. Johns-Manville Company - Siding, 93% complete. Collier Construction Company - Run conduit to and into Test Chamber, 65% complete.  
Total Contract Naw-1460 (B) Test Chamber Completion.....85%

Naw-1460 (C) Pittsburgh-Des Moines Steel Company - Paint altitude tunnel Wind Tunnel inside and outside; Air Dryer tank, Ice Tunnel structural Painting and Test Chamber.  
Total Contract Naw-1460 (C) Wind Tunnel Painting Completion.....30%

Naw-1460 (E) Pittsburgh-Des Moines Steel Company - General. Set and Refrigeration System grout Carrier and Worthington equipment, 91% complete. Set Worthington equipment, 20% complete. Fit and weld elbows, distribution headers, and pipe for flash cooler, 60% complete. Coils, headers, secondary system, 82% complete. Concreting electric trench, 70% complete. Collier Construction Company - Wiring Carrier equipment, 62% complete.  
Total Contract Naw-1460 (E) Refrigeration System Completion.....84.50%

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NAw-1460 Ice Tunnel Pittsburgh-Des Moines Steel Company - Erect, fit and weld side plate steel, 32% complete. Grout piers, 20% complete. Collier Construction Company - Lay conduit to manhole C-3 and Test Chamber, 55% complete.

Total Contract NAW-1460 Ice Tunnel Completion.....32%

Total Contract NAW-1460 Completion.....72%

NAw-1509 Exhaust Gas Evacuators Roots-Connersville Blower Corporation - Supervision. Furnish and install evacuating pumps and controls in connection with altitude exhaust system in basement of Engine Research Building. Arthur E. Magher Company - Subcontractor for installation. During past week the contractor has completed millwork on assembly of first stage of #1 evacuator. Steamfitters making pipe connections. This contract still requires delivery of #4 pump and 2nd stage of #1 pump and installation of same.

Total Contract NAW-1509 Completion.....68%

NAw-1555 Altitude Wind Tunnel Propeller Drive General Electric Company - Supervision. Cleveland Cartage Company - Truing propeller drive shaft, 90% complete. Collier Construction Company - Bracketing M.G. sets. Wiring M.G. sets and conduit, 10% completion.

Total Contract NAW-1555 Completion.....90%

NAw-1625 Exhaust Gas Coolers in ERB York Ice Machinery Corporation - During past week A-5 cooler was placed on supports. A-4 cooler brackets lowered to correct elevation. Spray supply lines and pump lines on D-2 cooler completed. All coolers under this contract are now placed and all are connected to exhaust system except A-4, A-5, and one inlet on D-2 cooler. Spray supply lines and pressure control lines are yet to be installed on A-4 and A-5 coolers, also electric wiring on these coolers. F. R. Arend - Painting of equipment.

Summary of completion:		Painting	5%
A coolers	85%	D coolers	88%
B coolers	98%	E separators	78%
C coolers	88%	Electrical Work	58%

Total Contract NAW-1625 Completion.....78%

NAw-2664 Heating Plant Boiler #3 Foundation Schirmer-Schneider Company - Brick ash pits and concrete foundations. Contract complete except for tar in Wind Tunnel and plate over duct.

Total Contract NAW-2664 Completion.....90%

NAw-2568 Research Equipment Storage Bldg. Hadlock-Krill Company - General. Carpenters building and setting foundation wall forms, pier forms, valve pit foundation walls. Laborers helping carpenters and masons.

<p>Naw-2568 Research Equipment Stor- age Bldg. and Barrel Storage Building - Continued</p> <p>Equi</p>	<p>Pouring concrete, valve pit foundation walls. Masons Laying face brick, back-up blocks and concrete brick in 8" rear wall, east elevation. Smith and Oby - Unloaded 8" C.I. pipe and set sleeves through valve pit foundation walls. Joseph and Aftoora Company - Built brick manholes #4 and #6 and brick catch basins #1 and #2. Backfilled 8" sewer line. J. Hill Company - Making up reinforcing steel columns and placing steel in valve pit foundation walls. F. R. Arend Company - Painting - Primed exterior window frames and door frames for Barrel Storage and Research Equipment Building. Central Excavating Company - Excavated foundation walls, Barrel Storage Bldg. Excavating foundation walls, Equipment Storage Bldg. and backfilling inside and out- side of building. Running into soft filled ground at foundation wall, north end of building. Excavation must go 16" below grade at this area in order to strike hard ground.</p>
<p>Total Contract Naw-2568 Completion.....</p>	<p>8.50%</p>
<p>Naw-2611 Exten- sion of Electri- cal work in ERB</p>	<p>Martien Electric Company - During past week the contrac- tor has been extending conduit and wiring of refrigera- tion controls on compressors and B units of refrigeration system in connection with refrigeration contract.</p>
<p>Total Contract Naw-2611 Completion.....</p>	<p>0.6%</p>
<p>Naw-2612 Exten- sion of Piping Systems in ERB</p>	<p>Feldman Brothers - General. During past week steamfitter have installed numerous 3-way valves on refrigerated air process piping and are installing control piping for carburetor test equipment. Armstrong Cork Company - (Sub under old contract) - Insulating altitude exhaust system piping.</p>
<p>Total Contract Naw-2612 Completion.....</p>	<p>0.75%</p>
<p>Naw-2660 Engine Propeller Res. Building #2</p>	<p>James McHugh Company - General. During past week contrac- tor completed excavation for footings and trenches. Poured approximately 35% of footings and starting wall forms. Electrical contractor digging power duct trench Plumbing contractor delivering material and laying out work.</p>
<p>Total Contract Naw-2660 Completion.....</p>	<p>1%</p>

Weather: Generally favorable - some rain.

Temperature: 52° to 94°

Copies to:

Mr. Sharp  
Col. Stewart  
Mr. Gulick  
Mr. Hunsicker  
Files (Original)✓

Signature: \_\_\_\_\_

Guy M. Lagle,  
Acting Chief of Bldgs. and  
Grounds.

✓

CONSTRUCTION REPORT NO. 145

AIRCRAFT ENGINE RESEARCH LABORATORY

CLEVELAND, OHIO

November 8, 1943 through November 13, 1943

NAw-1175 Road System	Allied Corporation - General. No work performed.	
Total Contract NAW-1175 Completion.....		99.75%
Refrigeration System, ERB	Arthur E. Magher Company - Contractor making test runs on blower and compressors and adjusting equipment and controls. Armstrong Cork Company - Insulating "A" unit blower and intake diffuser. Insulating "B" unit re-heaters and refrigerated-air piping.	
Total Contract on Refrigeration System, ERB, Completion.....		98.6%
Wind Tunnel Shop and Office	No work performed. Painting to be completed.	
Total Wind Tunnel Shop and Office Completion.....		99%
Refrigeration Building	Interior walls and ceiling to be painted. Basement lighting outlets to be completed.	
Total Refrigeration Building Completion.....		98.20%
Parking Areas and Secondary Roads	Allied Corporation - Scarifying, re-grading, and rotting for uniform compact surface the existing slag base paving on Administration Building Parking Area A. <u>Note:</u> Work being done to correct defective work formerly done and rejected for noncompliance with specifications.	
Total Parking Areas and Secondary Roads Completion (Revised).....		75%
NAw-1454 Combustion-air Compressors	Substantially complete.	
Total Contract NAW-1454 Completion.....		100%
NAw-1460 (A) Wind Tunnel Shell	Pittsburgh-Des Moines Steel Company - General. Applying insulation, 46% complete. Erecting steel jacket, 43% complete. Erecting D vanes, bronze wire, and C vanes air control. Balloon housing, test section doors and air foil erection, 25% complete. Exhauster scoop and make-up air, 85% complete. Shell, 98% complete.	
Total Contract NAW-1460 (A), Wind Tunnel Shell, Completion.....		97.50%
NAw-1460 (B) Test Chamber	Pittsburgh-Des Moines Steel Company - General. Control room, 80% complete. Insulation, 80% complete.	

# CONSTRUCTION REPORT NO. 145

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NAw-1460 (B), Test Chamber (Continued)	Collier Construction Company - Panel and switch boxes and pull wire, 84% complete.
Total Contract NAW-1460 (B) Completion (Test Chamber).....	92%
NAw-1460 (C) Painting	Pittsburgh-Des Moines Steel Company - General. Painting exhaust pipe, Ice Tunnel and Altitude Tunnel inside.
Total Contract NAW-1460 (C) Wind Tunnel Painting Completion.....	53%
NAw-1460 (E) Refrigeration System	Pittsburgh-Des Moines Steel Company - General. Coils and headers outside, liquid and vapor lines, expansion joints on distribution header, 76% complete. Exhauster trench and concrete mats, 75% complete. Setting and grouting Worthington, 60% complete. Coils louvers secondary, 50% complete. Kollier Construction Company - Drive motor and motor-generator sets, 65% complete.
Total Contract NAW-1460 (E) Completion (Refrigeration System).....	91%
NAw-1460 Ice Tunnel	Pittsburgh-Des Moines Steel Company - General. Erecting and welding shell and test chamber, 50% complete. Erecting coils, 30% complete.
Total Contract NAW-1460 Completion (Ice Tunnel).....	49%
Total Contract NAW-1460 Completion.....	81%
NAw-1509 Exhaust Evacuators	Roots-Connersville Company - General. Supervision. Arthur E. Magher Company - Contractor leveling and grouting driving motor and first stage of No. 4 evacuator. Second stage of No. 4 evacuator now being unloaded and moved into building by Norris Brothers. This completes delivery of equipment on this contract except some mufflers and accessories. No. 3 evacuator undergoing running tests.
Total Contract NAW-1509 Completion.....	92%
NAw-1555 Motor and Propeller Drive Shaft	General Electric Company - No work.
Total Contract NAW-1555 Completion.....	96%
NAw-1625 Exhaust- Gas Coolers	York Ice Machinery Corporation - Contractor testing and adjusting gauges, valves, sprays, and completing odds and ends. Moving out surplus tools and fittings. Contract complete except painting, tests, and minor adjustments.
Total Contract NAW-1625 Completion.....	98.3%

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NAw-2129 Heating Plant, Boiler #3	E. Keeler Company - General. No work. Westinghouse Electric Company - No. work. J. Kernan - Brick in fire box, 35% complete.
Total Contract NAW-2129 Completion..... 80%	
NAw-2334 - Toledo Scales	Toledo Scale Company - Preliminary work.
Total Contract NAW-2334 Completion..... 5%	
NAw-2568 Research Equip. Storage Building	<p>Hadlock-Krill Company - General. Forming and shoring for concrete columns, beams, and roof slab in northeast end, poured concrete columns, beams, and roof slab in northeast end of office section. Wrecked forms and shoring from central storage section. Placing limestone coping on northwest and southeast parapet walls and installing granite steps and platform in northwest (main) and southeast office section entrances of Research Equipment Building.</p> <p>Smith &amp; Oby Company - Installing 4" cast-iron pipe, fire and domestic water lines from 8" main into building pit, 2½" galvanized-iron pipe suction line from outside steam pit to inside pump pit, 2" galvanized-iron pipe discharge line and 4" cast-iron pipe drain from sump pit to outside storm sewer line and underfloor and downspout roof drainage lines to outside storm sewer line.</p> <p>The Joseph &amp; Aftoora Company - Excavating for 6" vitrified clay pipe storm sewer line on southeast side of Research Equipment Building.</p> <p>E. Donnelly - Placing form pans for concrete roof slab.</p> <p>J. Hill Company - Placing reinforcing steel in beams and roof slab in northeast end of Research Equipment Building.</p> <p>Industrial Cement Floors Company - Finishing concrete.</p> <p>Kinnear Door Company - Installing overhead rolling door at southeast storage section entrance to Research Equipment Building.</p>
Total Contract NAW-2568 Completion..... 50%	
NAw-2611 Extension of Electrical Work in ERB.	<p>Martien Electric Company - Contractor now installing control cables, wiring, hydraulic and motorized valve controls. Wiring Roots-Connersville evacuator controls and motor feeders on No. 1 and No. 3 evacuator. Completing and checking central control panel connections and installing signal lamps on panel board. Completing installations in rooms CW-11 and SE-5.</p>
Total Contract NAW-2611 Completion..... 65%	

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# CONSTRUCTION REPORT NO. 145

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NAW-2612 Extension of Piping System in ERB.	Feldman Brothers Company - Contractor installing 3-way plug valves on combustion-air system. Completing piping on combustion-air compressors. Installing piping (intake and exhaust) on Roots-Connersville evacuators. Installing Republic controls on altitude-exhaust valves (Butterfly).
Total Contract NAW-2612 Completion..... 65%	
NAW-2660 Engine Propeller Res. Building No. 2.	James McHugh Construction Company - General. During the past week, contractor has completed walls of test cell No. 4 and increased shoring for roof slab. Building forms for back wall and mezzanine floor in central section. Clearing wreckage in cell No. 3. <u>Electrical contractor</u> has completed underground ducts from manhole 44 to manhole 46 and is now running main conduit in central section. <u>Plumbing contractor</u> has completed steam mains from Fuel and Lubricants Building to road leading to Engine Propeller Research Building and all catch basins and sub-drains and 80% of sewers and manhole drains.
Total Contract NAW-2660 Completion..... 26%	
NAW-2677 Research Equip. Storage Bldg. (Elec.)	Doan Electric Company - No work performed.
Total Contract NAW-2677 Completion..... 1%	
NAW-2700 Icing Research Bldg.	Cleveland Construction Company - General. Digging power line trench. Poured 60 lineal feet of concrete in power line duct bank. Set first floor columns. W. M. West & Sons - Built exterior masonry walls to second floor level, office section and lintel-high shop section. Feldman Brothers - Excavated fire and water line trench from valve pit to water main. Laid 70 lineal feet of fire and water pipe. Ran roof drains at entrance canopies. Doan Electric Company - Laid 60 lineal feet of duct bank conduit. James Hill Company - Erecting steel hoisting tower. E. Donley Son - Setting metal pans on second floor.
Total Contract NAW-2700 Completion..... 25%	
NAW-2710 Engine Research Bldg. (Painting)	F. R. Arend Company - Painting process piping and electric conduit in Engine Research Building basement. Spraying second coat of paint on Altitude-exhaust system piping.
Total Contract NAW-2710 Completion..... 25%	

CONSTRUCTION REPORT NO. 145

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NAW-2717 Extension of Road D. Repair of Roads A, C, & E.	Allied Corporation - General. Placing bituminous concrete surface course on Road A. Improvement at north-east (main entrance). Building drainage structures on Road D. Lakeshore Construction Company - Forming and pouring concrete curb and gutter on Road D.
Total Contract NAW-2717 Completion..... 30%	

Weather: Fair, some rain and snow.

Temperature: 31° to 55°

Copies to:

Mr. Sharp

Mr. Gulick

Col. Stewart

Mr. Hunsicker

Files (Original) ✓

Signature

*Byron A. Hunsicker*

Byron A. Hunsicker,  
Chief, Buildings and Grounds Div.

RECEIVED  
BUREAU OF BUILDINGS

NAw-1425-1(c)	Process Piping	Sam W. Emerson Company - General. Feldman Brothers - Running of process piping, altitude exhaust, cooling air, cooling tower water supply and return.	
Total Contract NAw-1425-1(c) Completion . . . . .			69%
NAw-1425-1(d)	In-stallation of Equip-ment	Sam W. Emerson Company - Installation of panel boards and instruments in control rooms. Setting and lining up various equipment in E.R.B. Work in progress.	
Subcontract-10		Feldman Brothers - Installation of oil and prestone cooling and heating systems in M.C. Rooms in progress. Running pipe connections to various equipment in E.R.B. in progress.	
Total Contract NAw-1425-1(d) Completion . . . . .			52%
NAw-1425-2	Adm. Building	Sam W. Emerson Company - Installed lock on base-ment partition doors. Reconstructed partition around chilled water pump.	
Subcontract-F2		Minneapolis Honeywell - Installing relays on thermostatic controls.	
Subcontract-31		Armstrong Cork Company - Covering steam pipe and finishing coat of insulating plaster on fan ducts in all fan rooms.	
Subcontract-36		F. R. Arend - Painting, - Painting ventilating ducts and pipe in fan rooms.	
Total Contract NAw-1425-2 Completion . . . . .			99.5%
NAw-1425-3	Wind Tunnel Office and Shop Section:	Sam W. Emerson Company - General - Knotty pine wainscoting completed. Hanging interior doors. Completed exterior brick masonry and stone coping.	
Subcontract-10		Feldman Brothers - Setting toilet fixtures and dark room sink. Connecting permanent heat system.	
Subcontract-23		J. C. Boehm - Duct work and blower metalwork in basement.	
Subcontract-28		Martien Electric Company - Wire pulled. Hanging light fixtures.	
Subcontract-33		Hasek Glass Company - Interior and exterior doors glazed 1st and 2nd floor.	
Subcontract-34		H. A. Erf - Accoustical ceilings 1st floor.	
Subcontract-36		R. F. Arendt - Painting walls 1st floor.	
Subcontract-37		Mills Company - Set toilet metal partitions.	
Total Contract NAw-1425-3 Completion . . . . .			84%

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CONSTRUCTION REPORT NO. 149

AIRCRAFT ENGINE RESEARCH LABORATORY

CLEVELAND, OHIO

December 4, 1943 through December 10, 1943

NAw-1175 Road System	Allied Corporation - General. Reset part of road markers. Patches various spots on Road A and B. Remaining work to be completed:- curb inlet castings, various valve boxes to be reset and general clean up.
Total Contract NAW-1175	Completion (Corrected estimate)..... 99.76%
NAw-1425 Refrigeration System, ERB	Arthur E. Magher Company - No work being done on system except insulation of reheaters and humidifier by Armstrong Cork Company, and installation of thermocouple wiring by Martien Electric Company. On completion of these items, final tests will be run.
Total Contract NAW-1425, Refrigeration System, ERB,	Completion..... 99.2%
Wind Tunnel Shop and Office	No work performed. Painting to be completed.
Total Wind Tunnel Shop and Office	Completion..... 99%
Refrigeration Building	No work performed. Painting to be completed.
Total Refrigeration Building	Completion..... 98.20%
Parking Areas and Secondary Roads (Formerly NAW-1425 Sub. 44)	Allied Corporation - general. Completed scarifying, re-grading and surface treating Fuels and Lubricants Bldg. and Engine Research Building, East and West wing parking areas and driveways. Note: Some slag waste pushed over curbs on landscape areas and some oil "asphaltic" sprayed on concrete curbs to be cleaned up by Contractor, otherwise, contract substantially completed.
Total Contract for Parking Areas and Secondary Roads	Completion..... 99%
NAw-1454 Air Compressors, ERB	Dravo Corporation - General. Contractor has completed most of contract and will be ready for test runs on #2 and #3 as soon as the piping and electrical contractors have completed installation of control piping and wiring
Total Contract NAW-1454	Completion..... 98.5%
NAw-1460 (A) Wind Tunnel Shell	Pittsburgh-Des Moines Steel Company - General. Test section doors and fairing, 86% complete. Erection on motor drive shaft cone and fan fairing, 60% complete. Balloon housing, 90% complete. Altitude Tunnel Shell, 98% complete.

# CONSTRUCTION REPORT NO. 149

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NAw-1460 (A), Wind Tunnel Shell (Continued)  
     Armstrong Cork Company - Insulate top half test section,  
     70% complete.  
 Total Contract NAW-1460 (A), Wind Tunnel Shell Completion..... 98.50%

NAw-1460 (B)                      Pittsburgh-Des Moines Steel Company - General. Insula-  
 Test Chamber                      tion of balance chamber, 90% complete.  
     Collier Construction Company - Panels, switch boxes,  
     Toledo Scales, and pull wire, 92% complete.  
 Total Contract NAW-1460 (B) Test Chamber, Completion..... 94.50%

NAw-1460 (C)                      Pittsburgh-Des Moines Steel Company - General. Painting  
 Painting                              Altitude Tunnel inside, exhaustor pipe and vanes.  
 Total Contract NAW-1460 (C), Painting, Completion..... 58%

NAw-1460 (E)                      Pittsburgh-Des Moines Steel Company - General. Liquid  
 Refrigeration                      and vapor lines, distribution header, flash cooler, and  
 System                                  secondary, 85% complete. Exhaustor pipe from Tunnel to  
     Exhaustor Building and manholes, 90% complete. Setting  
     and grouting Worthington Equipment, 72% complete. Air  
     dryer and closing scoop, 75% complete. Exhaustor hook-  
     up, 67% complete.  
     Collier Construction Company - Switch gear, wire Worthing-  
     ton and cable, 80% complete.  
 Total Contract NAW-1460 (E), Refrigeration System, Completion..... 93%

NAw-1460 Ice                      Pittsburgh-Des Moines Steel Company - General. Erecting  
 Tunnel                                  and welding shell plate steel and test chamber, 57% com-  
     plete. Erection of trench from Refrigeration Building to  
     the Ice Tunnel, 40% complete.  
     Johns-Manville Company - Erecting corrugated siding, 80%  
     complete.  
 Total Contract NAW-1460, Ice Tunnel, Completion..... 55%

Total Contract NAW-1460 Completion..... 85%

NAw-1509 Exhaust                      Roots-Connersville Company - General. Supervision.  
 Evacuators                              Arthur E. Magher Company - Completed assembly on No. 4  
     evacuators. Requires installation of cooling and seal-  
     water piping and oiling system.  
 Total Contract NAW-1509 Completion..... 97%

NAw-1555 Motor and                      General Electric Company - No work.  
 Propeller Drive  
 Shaft  
 Total Contract NAW-1555 Completion..... 97%

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# CONSTRUCTION REPORT NO. 149

- Page 3 -

NAW-1625 Exhaust-Gas Coolers	York Ice Machinery Corporation - General. Making adjustments on pumps, floats, and valves. Putting water separators into operation.	98.8%
Total Contract NAW-1625 Completion.....		
NAW-2129 Heating Plant, Boiler #3	E. Keeler Company - No work.	
Total Contract NAW-2129 Completion.....		97%
NAW-2334 Toledo Scales	Toledo Scale Company - Setting, erecting, and balancing scales (include materials), 70% complete.	
Total Contract NAW-2334 Completion.....		70%
NAW-2568 Research Equip. Storage Building	Hadlock-Krill Company - General. Roof completed, sheet metal and brick work completed, Coal Storage, Research Equipment Building, grading, 95% complete. Glazing completed. Overhead doors completed, Research Equipment Building. Smith & Oby Company - All outside plumbing and inside soil lines practically finished, Research Equipment Bldg Joseph & Aftoora - Sewer work completed. Manholes being constructed. Advance Metal Weatherstrip Company - Caulking, 80% complete.	
Total Contract NAW-2568 Completion.....		67%
NAW-2611 Extension of Elec. Work in ERB	Martien Electric Company - During the past week, most of the work has been concentrated on central valve controls basement lighting, and receptacles and dismantling and moving 1500 KW motor-generator set.	
Total Contract NAW-2611 Completion.....		75%
NAW-2612 Extension of Piping System in ERB	Feldman Brothers Company - During the past week, Contractor has extended Altitude-Exhaust system in rooms CE-5 and CW-5, installed intake and exhaust piping on No. 4 Roots-Connersville evacuating blower. Installed cooling-air outlet controls, substantially completed, exhaust-gas generator piping, and hook-ups between combustion-air and refrigerated-air systems.	
Total Contract NAW-2612 Completion.....		77%
NAW-2660 Engine Propeller Res. Building No. 2.	James McHugh Construction Company - General. During the past week, general contractor has poured approximately 75% of central section roof, 30% of storage room floor slab, 25% of central section floor slab, floor under acoustic sections of cell No. 4, mounted Mono-Rail in Cell #4 and built roof slab shoring and deck for cell #7	

# CONSTRUCTION REPORT NO. 149

- Page 4 -

NAW-2660 Engine Propeller Res. Bldg. No. 2 (Continued)	
	<u>Plumbing Contractor</u> - Installed floor drains in central section. Completed steam ducts to building and storm sewer to electric manhole at substation "C". Now shifting domestic water main to Engine Propeller Research Building No. 1.
	<u>Electrical Contractor</u> - Installed main under floor conduit to main breaker panel. Laid underground duct system to Engine Propeller Research Building No. 1.
Total Contract NAW-2660 Completion.....	42%
NAW-2677 Research Equip. Storage Bldg. (Elec.)	
	Doan Electric Company - General. Installing overhead conduit, pull boxes, and conduit to base receptacles in Research Equipment Building.
Total Contract NAW-2677 Completion.....	15%
NAW-2680 Heating and Ventilating Res. Equip. Bldg.	
	Smith & Oby - General. Installing steam lines from outside pit to inside service pit, overhead mains and lateral and down pipe to radiators in Research Equipment Building.
Total Contract NAW-2680 Completion.....	25%
NAW-2700 Icing Research Bldg.	
	Cleveland Construction Company - General. Brickwork 80% complete, concrete 60% complete. Rough carpentry work, 60% complete. Plumbing, roughing in, 35% complete and electric wiring, 30% complete.
	Doan Electric Company - running conduit for floor slab.
	West Son - Parapet walls to finish.
	J. Hill Company - 60% complete.
	Feldman Brothers Company - Installing soil pipe for toilets, urinals, and lavatories.
Total Contract NAW-2700 Completion.....	35%
NAW-2710 Engine Research Bldg. (Painting)	
	F. R. Arend Company - Painting process piping and electrical conduit in Engine Research Building Basement.
	Painting prime coat on insulated refrigeration pipes in multicylinder room and east and west mezzanine basements.
Total Contract NAW-2710 Completion.....	45%
NAW-2717 Extension of Road D, repair of Roads A, C, and E.	
	Allied Corporation - General. Placed clay and slag backfill around edges of concrete driveway to Wind Tunnel Office and Shop.
	Lakeshore Construction Company - Poured concrete driveways to Exhauster and Refrigeration Buildings and concrete walks from Wind Tunnel Office and Shop drive to office and shop entrance doors.
Total Contract NAW-2717 Completion.....	99.75%

CONSTRUCTION REPORT NO. 149

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Naw-2800 Installation of piping and equipment for Boiler #3.	E. J. Young Corporation - Install overflow on heating tank, trays in Swartwout heater, and pop valves and extensions through roof. Fittings on soot blowers.
Total Contract Naw-2800 Completion..... 25%	
Naw-2808 Extension of domestic and fire water lines from Res. Equip. Stor. Bldg. to Spchgr. Bldg.	Feldman Brothers Company - General. Pipe line approximately 75% laid, with 50% tested.
Total Contract Naw-2808 Completion..... 70%	

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Weather: Fair and favorable.

Temperature: 16° to 48°.

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Copies to:

Mr. Sharp  
Mr. Gulick  
Col. Stewart  
Mr. Hunsicker  
Files (Original) ✓

Signature

*Byron A. Hunsicker*  
12/16/43  
Byron A. Hunsicker,  
Chief, Buildings and Grounds Division.

Cleveland, Ohio,  
May 29, 1943.

MEMORANDUM: For All Concerned.

Subject: Contractor's Conference, C-HAW-1460, May 29, 1943.

Present: Messrs. Sharp, Stewart, Gulick, Herrmann, Young, Monroe, Heidenreich, Schmidt, Bittner, Idle, Franco, Hudnall, Limb, Boone, Cooper, Mix, Meares.

Worthington Pumps - Mr. Sharp reported that he and Mr. Gildersleeve made a trip to Worthington Pump and Machinery Corp. to see about dates and subcontracting. July would see considerable improvement in that position — now promise better-than-November schedule. Mr. Idle was informed by Mr. Sharp that two pumps could be delivered in July.

Mr. Idle stated, "Mr. Charles E. Cooper is leaving the Pittsburgh-Des Moines Steel Co. as of June 1 to accept employment, as Expeditor, with the NACA. The reason for this change is that the expediting for the PDM Steel Co. on the Altitude and Ice Tunnels is becoming increasingly less, due to final delivery of materials. Mr. Cooper will continue to expedite remaining material on PDM contracts. We feel that it is quite a compliment to both Mr. Cooper and to the Pittsburgh-Des Moines Steel Co. that the NACA requested his services upon completion of his job with us."

Wind Tunnel Drive Motor - 18,000 h.p. motor and switchgear equipment shipped yesterday. Other M-G set being boxed, to come out next Tuesday from Schenectady, N. Y. Shaft and hub shipped today.

Mr. Idle stated Overly Mfg. Co. will have representative here next Wednesday to start Vane "A". Will take two or three weeks for Vane "A" and then will move over to Vane "B". Suggested someone should be designated to push thrust bearing of motor shaft. Schmidt said will follow closely. Mr. Gulick suggested speed up Cleveland Cartage. Bearings are to come out with shaft and hub. Little end of tunnel is all fabricated in shop ready to be shipped any time foundations are ready. It was suggested that we can get started on tunnel before foundations are finished. Tentative date -- 14th.

Mr. Cooper advised that Shaw-Box Crane was shipped on the 27th. Monday, Carrier compressors 12 and 13 are to leave. The 14th will leave on the 7th of June. Flash cooler will be shipped first or middle part of next week. Mr. Idle reported that the Flash cooler leaks at gaskets. Mr. Franco said to check on fittings and connections on flash coolers and distribution header.

Drawings - Mr. Bittner inquired about test section drawings; and General Electric drawings regarding W.T. Drive System. Having difficulty in getting them. Plenty of equipment drawings but no work drawings. Need drawings in W.T. because equipment has been shipped, must have something for men to work with. Only one set drawings on job.

Mr. Bittner wants room so that he can remove equipment from hangar and apron. Inquired also about a shanty that PDM moved across the road. Miscellaneous switchgear, electric heater, etc. are missing from it. Must be located.

STAFF MEMOS 1943

May 23, 1943.

Drawings - (continued)

Mr. Sharp asked if 16 electricians were to be put on Martien's job. Advised that since drawings would not be ready for three weeks, June 7 at earliest, men would be put on other work. Mr. Bittner advised that there was more than enough work now for 23 men, and they will be kept busy for at least two weeks.

General - Mr. Boone complained about first-aid service. Must have more cars available and a nurse as soon as possible. Mr. Herrmann advised him that a nurse would soon be available, and any car could be used to rush cases. Mr. Boone also inquired about fire patrol. Mr. Herrmann informed him that the guards make regular rounds and report from designated spots all over the site.

as

Copies to:

Pittsburgh-Des Moines Steel Co. (Mr. Idle -6)

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