

WORTHINGTON PUMP & MACHINERY CO.

October 7, 1918.

Memorandum

From: Woman in Industry Service, Department of Labor

To: War Labor Board

Subject: Application of the Worthington Pump and Machinery Company, Hazleton, Pa. for permission to employ women at night.

1. The Office of the Secretary of War has referred the request of this Company to us for recommendation.
2. Has the War Labor Board information about this plant and if so, will it be possible for us to have access to the data, insofar as it bears upon the desirability of permitting a suspension of the state labor laws for a specified period?
3. If such suspension were granted, will it be possible for the War Labor Board to undertake the supervise this plant, filing regular reports with the Secretary of Labor, showing the conditions affecting women on the night shift. This supervision is intended to insure the effective employment of women. If a certificate is granted, it will be understood that it will remain in force only so long as the required standards, including compliance with the award of the War Labor Board, are maintained.

MVK/ALL

Mary Van Kleeck, Director  
Woman in Industry Service.



May 24, 1918.

FROM: Woman's Branch, Industrial Service Section.

TO: The Acting Chief of Ordnance, through Industrial Service Section.

SUBJECT: Application of Worthington Pump and Machinery Corp. to employ women at night in their plant at Hazelton, Pa., submitted through Philadelphia District Ordnance Office.

1. The attached letter from the Worthington Pump and Machinery Corporation to the Ordnance Department through Capt. Henry Soss, is a request that the Ordnance Department should take some action making possible the employment of women in three 8-hour shifts, including employment during hours now prohibited by the Pennsylvania labor laws. According to this law women may not work in factories after 10 P.M. or before 6 A.M. The company explains that utilization of the full capacity of this plant will demand a force of which approximately 50% will be women. At the date of the application only 200 women were employed in a force of 2500. Owing to local conditions of housing, transportation and labor supply it is impossible to secure enough men for the increased force necessary. The company say that with the three-shift system it is necessary to have the shifts rotate each week, so that each man employed now works at night one week out of every three. Rotation of shifts, if a large proportion of the force were women, could only be accomplished by employing women at night.

2. Attention is called to the report of the Progress Section showing the urgent need for increased production of the product of this plant.

3. A representative of the Women's Branch has investigated the plant and her report is summarized as follows:

General Summary. Physical working conditions and methods of management well considered and up to date. Employment department needs strengthening, and special arrangements made for selection of women workers. Work of women appears to be effective and not beyond physical powers, necessary standing at machines the only drawback.

Conclusion: The question of night work in this case rests on necessity of maximum shell production over period of the war. If the need for 75" shell and fuse parts demands the utilization of the nation's full time capacity, with proper oversight and discipline of workers, plant conditions in the Worthington Pump & Machinery Corp. are not unfavorable to night work for women.

4. The Women's Branch makes the following recommendations:

- (a) It is necessary to advise the company that the Pennsylvania labor law does not permit any exemptions for any reason whatever, and that only the Pennsylvania Board of Labor & Industry can decide whether on any ground suspension of the law without explicit permission from the legislature is possible.
- (b) Attention is called to our memorandum of May 24th showing that it has been deemed wise that requests for exemptions from state labor laws should not be made except by the Secretary of War, and then only after thorough investigation establishing an urgent need, and demonstrating the production can be secured in no other way.
- (c) In view of the fact that evident improvements might be made in the method of utilizing the force of women workers in this plant, especially through improved employment methods, a member of the Women's Branch or a competent woman designated by it should be assigned to the plant for a long enough period to insure the most effective methods for the employment of women.
- (d) In view of the fact that the proportion of women employed is now comparatively small, it is recommended that in the immediate future women be employed only by day during hours permitted by the Pennsylvania labor law, and that on the basis of the study of conditions affecting women made possible by the plan of the preceding paragraph, the necessity for a night shift for women later be determined.
- (e) If it should become necessary to permit the employment of women at night, it is recommended that the Ordnance Department acting in co-operation with the state Department of Labor should make the following requirements:
  - 1. There should be close supervision by a representative of the Women's Branch of the Ordnance Department.
  - 2. Records of output should be kept in such a way as to determine the best schedule of hours from the point of view of production.
  - 3. A lunch room should be provided in which a nourishing meal can be secured at midnight and at the close of the night shift, since one of the objections to



night work is the difficulty of securing a meal in the morning corresponding to the day worker's dinner.

*Supervision* 4. Transportation facilities making it possible for the workers to come to work and to return home without undue delay or fatigue, should be provided.

18  
5. No woman under ~~21~~ years of age should be employed at night.

6. The night shift should not work more than eight hours, and should have not less than three quarters of an hour's recess at midnight, with rest periods in the period of work before and after midnight.

7. Night work should be strictly limited to women employed on the contract specified.

*Wm. L. B. Board*  
8. In general, the standards outlined in General Orders No. 13 issued by the Chief of Ordnance should be rigidly required in any plant having a special exemption for night work.

*Rotating shifts*

MARY VAN KLEECK.

In Charge of Women's Branch  
Industrial Service Section.

MVK/afl

October 7, 1918.

Memorandum

From: Miss Peterson  
To: Miss Van Kleeck  
Subject: Reference to War Labor Board  
Application of the Worthington Pump and  
Machinery Company, Hazleton, Pa. for per-  
mission to employ women at night.

1. Delivered memorandum from Miss Van Kleeck to War Labor Board to Miss Obenauer.
2. (a) The War Labor Board has no information in reference to the Worthington Pump and Machinery Company located at Hazleton, Penn.  
(b) The War Labor Board has made an investigation of this company's plant at Buffalo and the experience of the War Labor Board has been that when one company plant comes before the board other plants soon follow.
3. If the Hazleton, Pennsylvania, plant should come before the War Labor Board notice will be forwarded to Miss Van Kleeck.



U. S. DEPARTMENT OF LABOR

WOMAN IN INDUSTRY SERVICE

WASHINGTON

October 7, 1918.

Memorandum

From: Miss Peterson

To: Miss Van Kleeck

Subject: Reference to War Labor Board  
Application of the Worthington Pump and  
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1. The Office of the Secretary of War has referred the request of this Company for recommendation.
2. Has the War Labor Board information about this plant and if so, will it be possible for us to have access to the data, insofar as it bears upon the desirability of permitting a suspension of the state labor laws for a specified period?
3. If such suspension were granted, will it be possible for the War Labor Board to undertake to supervise this plant, filing regular reports with the Secretary of Labor, showing the conditions affecting women on the night shift. This supervision is intended to insure the effective employment of women. If a certificate is granted, it will be understood that it will remain in force only so long as the required standards, including compliance with the award of the War Labor Board, are maintained.

MVK/ALL

Mary Van Kleeck, Director  
Woman in Industry Service.

CC: Dr. E. B. Bricker  
Miss Louise Corneell,  
Miss Mary Van Kleeck,  
Miss Siebert.

September sixteenth,  
Nineteen hundred and eighteen.

SUBJECT: Employment of Women after 10:00 P. M.

Northington Pump and Machinery Co.,  
Masleton, Pennsylvania.

Cont. Leren : \*\*

Attention - Mr. Wm. Goodman,  
Asst. to Vice Pres.

Your favor of September twelfth has been received with attached copy of petition which you are sending to the Secretary of War.

I note your request in this petition that "That portion of the Pennsylvania State Labor Law restricting the employment of females to the hours between six A.M. and ten P. M. be suspended for the duration of the Ordnance contracts," and in this connection, desire to say that we cannot suspend our present labor laws nor do we deem it advisable to do so. Furthermore, I am of the opinion that the War Department does not wish us to suspend our laws making the general employment of women at night possible. The Secretary of War, however, is considering a plan whereby a short-term permit can be issued where the necessity actually exists for the employment of women after ten P. M. contrary to the provisions of our Pennsylvania Female Labor Law.

We believe you will readily appreciate the difference between the suspension of our laws and the granting of a short-term permit, authorizing certain essential industries to employ women at night.

Thanking you for sending us copy of the petition and assuring you that we will be glad to co-operate in the adjustment of the difficulty which at present confronts you, I remain,

Yours very sincerely,

new Kalms  
Acting Commissioner.

P/P/3



SECRETARY'S OFFICE  
SEP 25 1918  
WAR DEPARTMENT

WAR DEPARTMENT  
OFFICE OF THE CHIEF OF ORDNANCE  
PRODUCTION DIVISION  
WASHINGTON

To insure prompt attention,  
in replying refer to

No. \_\_\_\_\_  
Attention of \_\_\_\_\_

September 24, 1918.

03-5845

From : Chief of Ordnance.  
To : Secretary of War.  
Subject : Re; Request of Worthington Pump & Machinery  
Corporation for exemption from State Laws.

1. It is requested that application be made through the state Department of Labor requesting an exemption in the case of the Worthington Pump & Machinery Corporation from operation of the state law which prohibits the employment of women on night work between the hours of 10 p. m. and 6 a. m.

2. A complete report on the matter is attached herewith.

C. C. WILLIAMS,  
Major General, U. S. A.  
Chief of Ordnance.

By: *C. C. Jamieson*  
C. C. Jamieson,  
Colonel, Ordnance, U. S. A.  
Production Division.

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Production Division.



WAR DEPARTMENT  
OFFICE OF THE CHIEF OF ORDNANCE  
PRODUCTION DIVISION  
WASHINGTON

To insure prompt attention,  
in replying refer to

No. \_\_\_\_\_  
Attention of \_\_\_\_\_

September 23, 1918

C3-6845

FROM: Women's Branch, Industrial Service Section

To: Major B.H. Gitchell, Chief, Industrial Service Section

SUBJECT: Worthington Pump & Machinery Corp.:-- Request for Permission to Employ Women between the Hours of 10 P.M. and 6 A.M. in their plant at Hazleton, Pa.

1. Attached hereto is request for suspension of state labor laws filed through the Philadelphia District Ordnance office by the Worthington Pump & Machinery Corp. of Hazleton, Pa.
2. The Women's Branch of the Philadelphia Ordnance Office has gone over the case carefully. Miss Cornell visited the plant on September 11th in company with Miss Siebert of the Pennsylvania Dept. of Labor & Industry.
3. Attention is called to the following salient facts in the situation:
  - (a) The plant is engaged in making 75mm high explosive shell, and boosters and adapters, which are urgently needed in the Ordnance program.
  - (b) Operations are carried on in three 8-hour shifts; two shifts rotating weekly, on which women are employed; one permanent, on which men only are engaged. Shortage of male labor in the vicinity is already a handicap to production, and the company is confronted with the necessity of further expanding its working force.
  - (c) The claim of the company that women must be employed on night shift to attain maximum production, appears to be substantiated by all evidence.
4. On the basis of the above facts the Women's Branch submits the following recommendations:
  - (a) That the War Department take necessary steps to extend to the Worthington Pump & Machinery Co. per-

mission to employ women over 18 years of age between the hours of 10 P.M. and 6 A.M., in order to allow the operation of the three 8-hour shifts rotating weekly.

(b) That such permission be dependent on the establishment of the following conditions at the plant.

1. Installation of woman supervisor who shall have full backing of the management and the confidence of the workers.
2. Provision of safeguards from the usual drawbacks accompanying a night shift which shall be acceptable to the Women's Branch; these to include serving of hot drinks on night shift; adequate transportation to outlying districts; and extension of toilet facilities with the increase of numbers employed.

NOTE:- In par.17 and 18 of the petition filed by the company(see attached copy) it is stated that the company will "obligate itself to make proper provision for access to plant and return therefrom --- --- and all proper provision in the way of matrons etc.----- as to afford every reasonable safeguard for such women" (employed on night shift).

3. That a representative of the Women's Branch of the Industrial Service Section, Ordnance Department, be assigned to insure and assist in the establishment of these recommendations, working in cooperation with supervisor of women.

*Clara M. Tead*

CLARA M. TEAD  
Director, Women's Branch  
Industrial Service Section



NOTED  
SEP 17 1918

WAR DEPARTMENT  
OFFICE OF THE CHIEF OF ORDNANCE  
WASHINGTON

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO

No. \_\_\_\_\_

ATTENTION OF \_\_\_\_\_

CLASSIFIED BY
<i>Carter</i>
BRIEFED OR STRIPPED BY
<i>Moore</i>

September 16, 1918.

From: Estimates & Requirements Division.

To: Production Division,  
Industrial Service Section,  
Woman's Branch,  
(Attention Miss Clara M. Teed).

Subject: Status of Contracts held by Worthington Pump & Mach. Co.

1. In compliance with your request of September 14, here-  
with is attached status of contracts held by Worthington Pump  
& Machinery Co.

Odus C. Horney,  
Brig. Gen., Ord. Dept., U. S. A.

By: *Sanford H. Thompson*  
Sanford H. Thompson,  
Maj., Ord. Dept., U. S. A.

*1 Encl.*

SEP 16 1918

O. C. WAR DEPT.

*Worthington Pump & Mach. Co.*

RECEIVED DIVISION

SEP 16 1918

ADW. DIVISION

50934

U.S. WAR DEPT.  
ADM. DIVISION

1918 SEP 16 PM 8 16

MAIL & RECORD BRANCH  
IN

RECEIVED  
SEP 16 1918

RECEIVED  
SEP 16 1918

TO: THE SECRETARY OF WAR  
FROM: THE SECRETARY OF THE ARMY  
SUBJECT: [Illegible]

[Illegible text block containing several lines of typed text, likely a memorandum or official communication.]

SEP 16 1918

OFFICE OF THE CHIEF OF BUREAU  
[Illegible text]



004.4  
4648

Worthington Pump & Mach Co.  
Encl 1

WORTHINGTON PUMP AND MACHINE COMPANY

Sheet 1.

75 M/M H.E. & GAS SHELL

Machining & Forging

<u>Ordered</u>	<u>Date</u>	<u>Contract Promises</u>						
		<u>Mar.</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	
(1) 1,900,000	11/13/17	75,000	175,000	275,000	350,000	500,000	525,000	
		<u>Dec.</u>	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>
(2) 750,000	12/31/17	25,000	75,000	125,000	125,000	125,000	125,000	150,000

Forgings

<u>Promised Delivery</u>		<u>Actual Delivery</u>	<u>Estimated Delivery</u>				
			<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>After Dec.</u>
(1) To 9/1/18	1,775,000	418,710	85,127	75,000	100,000	100,000	1,121,163
(2) To 9/1/18	750,000	259,322	0	0	0	0	0

Compiled By: Progress Section,  
Estimates and Requirements Division,  
September 16, 1918.

50934

MACHINING 75 M/M H. E. SHELL

<u>Ordered</u>	<u>Promised Del.</u>	<u>Actual Del.</u>	<u>Estimated Deliveries</u>				
	<u>To 9/1/18</u>		<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>After Dec.</u>
2,575,000	2,575,000	254,561	125,000	150,000	175,000	200,000	1,670,439

MACHINING 75 M/M GAS SHELL

75,000	To 9/1/18 75,000	28,837	0	0	0	0	0
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SUMMARY.Forgings and Machining

<u>Total</u>		<u>Actual Del.</u>	<u>Balance to be Delivered</u>	
<u>Ordered</u>	<u>Forging</u>	<u>Machining</u>	<u>Forging</u>	<u>Machining</u>
2,650,000	678,032	283,398	1,971,968	2,366,602

Compiled By: Progress Section,  
Estimates and Requirements Division,  
September 16, 1918.

50934



BOOSTER & ADAPTER MARK III

Sheet 3.

<u>Ordered</u>	<u>Date</u>	<u>-----Contract Promises-----</u>								
		<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>
5,000,000	2/1/18	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	200,000

<u>Promised Del.</u>	<u>Actual Del.</u>	<u>Estimated Deliveries</u>					
<u>To 9/1/18</u>		<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>After Dec.</u>	
5,000,000	775,600	375,000	600,000	750,000	750,000	1,749,400	

Compiled By: Progress Section,  
Estimates & Requirements Division,  
September 16, 1918.

50934

ORDNANCE DEPARTMENT  
OFFICE OF ORDNANCE DISTRICT CHIEF  
1710 MARKET STREET  
PHILADELPHIA, PA.

~~Production~~ DIVISION

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

EMK: JNR  
September 16th, 1918.

NO. ....  
ATTENTION OF

Major R.A. Greene.

From: Phila. District Ordnance Production Office.  
To: Col. C. C. Jamieson,  
Chief of Production Division,  
7th & B Streets, Washington, D.C.  
Subject: Worthington Pump & Machinery Corporation, Hazleton, Pa.

1. Enclosed herewith is a formal application by the Worthington Pump & Machinery Corporation, Hazleton, Pa. for permission to work women on night shifts. Attached thereto is the following file:

- a. Indorsement by Capt. Henry Soss, Production Officer at the plant.
- b. Indorsement by Capt. R. E. Bryant, Army Inspector of Ordnance at the plant.
- c. Supplemental letter from Capt. Henry Soss.
- d. Supplemental letter from Capt. Bryant.
- e. Supplemental letter from Major F. N. Masters, of the Inspection Division, Phila. District Ordnance Office.
- f. Recommendation by Miss Cornell of the Women's Branch, Industrial Service Section, Production Division, Phila. District Ordnance Office.
- g. Recommendation by Major W.M. Schwartz, Inspection Manager, Phila. District Ordnance Office.

2. This Production Division thoroughly indorses the application made by the Worthington Pump & Machinery Corporation, and requests that you do everything in your power to have it approved by the Secretary of War.



Col. C. C. Jamieson

-2-

Sept. 16, 1918.

3. Appreciating the extremely urgent need for 75 m/m complete rounds, we have given no small proportion of our time, as a Production Office, in striving to increase the output of boosters and adapters at this plant. We believe we have made every effort possible to obtain adequate results without having women on night shifts, and we are convinced that the scarcity of labor and the dissatisfaction and restlessness caused by operating with a permanent night shift of men render further attempts in this direction useless.

4. We therefore have come to the decision that the whole question resolves itself into whether Washington does or does not consider the problem of producing 75 m/m ammunition of sufficiently vital importance to warrant the suspension of the Penna. State Labor Law restricting the employment of females between the hours of 6 a.m. and 10 p.m.

*R. A. Greene*

R. A. GREENE,  
Major, Ord. Dept. U.S.A.  
Production Manager.

Encs.

# WORTHINGTON PUMP AND MACHINERY CORPORATION

MAIN OFFICES:  
115 BROADWAY, NEW YORK

## WORKS:

WORTHINGTON  
BLAKE AND KNOWLES  
DEANE ——— SNOW-HOLLY  
POWER AND MINING MACHINERY  
LAIDLAW ——— HAZLETON  
INGECO ENGINE



## HAZLETON WORKS

HAZLETON, PA.

September 12, 1918.

## BRANCH OFFICES:

ATLANTA	LOS ANGELES
BIRMINGHAM	MINNEAPOLIS
BOSTON	NEW ORLEANS
BUFFALO	OMAHA
CHICAGO	PHILADELPHIA
CINCINNATI	PITTSBURGH
CLEVELAND	ST. PAUL
DENVER	ST. LOUIS
DETROIT	SALT LAKE CITY
EL PASO	SAN FRANCISCO
HOUSTON	SEATTLE
KANSAS CITY	TULSA
	WASHINGTON

Sir:

1. We would respectfully petition that that portion of the Pennsylvania State Labor Law restricting the employment of females to the hours between 6 A.M. and 10 P.M. be suspended for the duration of the Ordnance contracts at the plant of the Worthington Pump and Machinery Corporation, Hazleton Works, Hazleton, Pa., thus permitting the employment of women on each of three 8-hour shifts interchanging weekly.

2. The following data and information are submitted for your consideration:

3. This plant is employed exclusively on the following work:

Army Ordnance Contract G 1743-967A covering  
750,000 - 75 M/M Common Steel Shell  
Army Ordnance Contract G 925-502A covering  
1,900,000 - 75 M/M Common Steel Shell  
Army Ordnance Contract G 524-314A covering  
5,000,000 - Adapters  
Navy Department Contract 652 covering  
290,000 - 6-Pdr. Common Projectiles  
Navy Department Contract 652 covering  
165,000 - 3-Pdr. Common Projectiles

The plant has no other product beyond this.

4. Production of this plant is necessarily in the highest degree repetitive. Operations are laid out in regular sequence, and a constant and even supply



of material from each operation is necessary to the maintenance of constant and even output of the succeeding operation. The work is carried on in three 8-hour shifts, one-half hour of each shift being allowed for lunch and rest; the actual working period of each shift being 7-1/2 hours.

5. We are operating at present with women to as great an extent as possible on two of the three shifts; namely, 6 A.M. to 2 P.M. shift and 2 P.M. to 10 P.M. shift. These shifts swing or interchange each week. The third shift, from 10 P.M. to 6 A.M., is necessarily composed solely of men. Consequently, these men form a constant night shift and receive a 10% bonus for so doing.

6. As a result of this condition employment on this shift is particularly undesirable. Consequently, under the present condition it is an impossibility to maintain this night shift on a parity as to productiveness with the other two shifts on which women can be employed, and this condition while bad now will become increasingly difficult with the further necessary increase on the other two shifts accompanying larger production.

7. The under-manned night shift is already a marked handicap on the other two shifts, and the continuous and even supply of material from one operation to the next suffers daily interruption with the result of increased unbalancing of the work done on the other two shifts, greatly reducing the efficiency of the two shifts on which women are already employed.

8. It should also be kept in mind that the turnover of labor, which we are constantly endeavoring to reduce, is much more marked among male employees than among female employees. (See Appendix B).

9. Attention is called to the fact that this Company has been operating in close harmony with the wishes and recommendations of the Philadelphia Ordnance Office, and with results in production which are evident from the following comparison:



10. We have increased our production from an average of about 4,000 shells per week during May, 1918, to our present production of 31,000 per week, both figures being the quantities accepted by Government inspection.

11. The capacity of the plant with three fully manned shifts is estimated at 120,000 per week. The present production is approaching the maximum which can be reached under the present labor limitations.

12. For the past five weeks this plant has been making a very strenuous effort, in co-operation with the Philadelphia Ordnance Office and with the Federal Employment Service, to augment its force. These efforts have been partially successful, but, as shown by statistics of available labor in Appendix A, this plant is located disadvantageously as to the supply of male labor, altho the available supply of female labor offers considerable promise.

13. The feature in the situation which makes the supply of male labor particularly difficult to obtain is the fact that the plant is located in the center of a mining region, and in view of the urgent necessity of avoiding any crippling of mining production in any way, this plant has been consistently endeavoring to avoid the employment of any men engaged in mining. This attitude on the part of the Company cuts it off from the great liquid source of male labor supply in this region.

14. If permission were given for the employment of women between the hours of 10 P.M. and 6 A.M., such permission would result in a very rapid recruiting of the present night shift to the same strength as the two other shifts, and would release, for such of certain operations of our work on which male labor is essential, a considerable surplus of labor now employed on our present night shift for which female labor could be immediately substituted.

15. We are now employing about 4,400 people. To reach the full production of this plant a force of approximately 6,000 people, divided equally into three shifts, will be necessary. A further increase in the present morning and afternoon shifts would result in an insignificant increase in production, unless the night shift is also increased, which is going to be a matter of very great difficulty, if not impossible, if restricted to men.



16. It should be kept in mind that every effort has been made to organize this plant in such a way as to make the employment of women as safe and agreeable to them as is humanly possible. An excellent dispensary and hospital are maintained, in charge of a physician, and conducted by five trained nurses; two nurses being constantly on duty at night.

17. The Company would obligate itself to make proper provision for access to the plant and return therefrom, altho the hours of such access and return on the part of the night shift would remain identical with the present hours on the 2 P.M. to 10 P.M. shift in going off work, and the 6 A.M. to 2 P.M. shift in coming on to work.

18. All proper provision would be made in the way of matrons for properly looking after women employed on night shift, as is now done in the case of the two day shifts on which women are employed, and we think it can be said without any question that the night shift would be so conducted, in the event of the employment of women thereon, as to afford every reasonable safeguard and protection for such women.

19. To sum the situation up, permission to employ female labor any 8 hours in 24 would result in --

- (a) Considerable augmentation of force.
- (b) Greatly increased efficiency of such force, due to more perfect balancing of shifts and reduction of labor turnover.
- (c) As a combination of the above two factors, a marked increase in production.
- (d) Utilization of a fairly good supply of unemployed local female labor as against the necessity of artificial and undesirable transfer of male labor from other districts to this district. This alternative is both uneconomic and inefficient.

(e) A very desirable relief of the existing marked shortage of labor in this district, both for mines and for this industry.

Respectfully submitted,

WORTHINGTON PUMP AND MACHINERY CORPORATION  
HAZLETON WORKS

*William Goodman*  
*Asst to V. P.*

To: The Honorable Secretary of War,  
Washington, D.C.

WG\*MH



## APPENDIX A.

The following figures as to labor supply in this district are submitted herewith:

A rough census of the total population of Hazleton, West Hazleton, Freeland, McAdoo, Jeanesville, Audenried, Jeddo, Harwood, Conyngham, in fact all places adjacent to either trolley service or a bus service from which labor can be drawn for use in our plant, shows approximately 65,000 men, women and children. Of this 65,000 there are about 20,000 able-bodied workmen, and about 15,000 able-bodied women over 21 years of age. In other words, the total working population of the district which is available for our use is about 35,000 men and women.

Regarding the men: A rough statement of their allocation is as per the following:

Workmen in the Anthracite coal mines -----	12,000
Workmen in other factories in Hazleton ---	1,600
Workmen in our own factory ---	3,400
Men farming, in stores, and in miscellaneous commercial pursuits -----	3,000
	<u>20,000</u>

As regards women, their allocation is approximately as follows:

Women employed in other factories in Hazleton ---	3,000
Women employed in our own factory ---	1,000
Women employed in miscellaneous commercial work in Hazleton ---	4,000
Women unemployed ---	7,000
	<u>15,000</u>

To obtain capacity in the production of ammunition from our factory, which is as you know devoted exclusively to Army and Navy projectile work, we estimate that approximately 6,000 employees will be required. We now have in our factory 1,000 women and 3,400 men, or a total of 4,400 employees. This is about three-quarters of our ultimate requirement, and it is necessary for us to obtain over 1,500 more employees during the next six weeks or two months.

An examination of the allocation of available workmen in this district shows that there are at present no men unemployed. If we were to increase our force by 1,500 men it would be necessary to rob the Anthracite coal mines and other essential industries. It is not possible for us to obtain this number of male employes from non-essential industries in this district. Approximately 2,000 workmen have been removed from this district and employed by such concerns as the Bethlehem Steel Company, Eddystone Ammunition Corporation, and many others. We, in planning our working force figured largely on these 2,000 men, but now that they are gone some other means to gain an adequate working force must be considered. Of course, we can take no labor away from the coal companies. We could take labor away from the other factories in this city, but we are largely dependent upon many of these other factories for supplies and supplemental machine work.

It seems impracticable to import male labor from other districts. It is impossible to house them in sufficient quantity to make it worth while, and further, the importation of labor from outside districts, which may or may not be employed in essential industries, is contradictory to the national program of employment.

On the other hand, there are nearly 7,000 able-bodied women 21 years of age or over in this territory who are unemployed. If we were permitted concession allowing women to work any 8 hours during the 24, our entire additional 1,500 employes could be women. This will not disturb the balance of any industry in the district, since it would simply mean employing women who are not now working.



## APPENDIX B

We submit as follows employment figures from week ending July 20, 1918 to date:

<u>Week Ending</u>	<u>Men Em- ployed</u>	<u>Weekly Voluntary Quits (%)</u>	<u>Women Em- ployed</u>	<u>Weekly Voluntary Quits (%)</u>
July 20	3,276	3.3	935	1.4
" 27	3,327	4.7	943	1.5
Aug. 3	3,336	3.4	938	1.9
" 10	3,305	3.9	951	1.9
" 17	3,325	3.4	940	2.3 *
" 24	3,391	3.3	923	3.4 *
" 31	3,434	4.8	936	3.1 *
Sept. 7	3,475	4.8	956	3.2*

\* The increased percentage of quits in these four cases is the result of teachers and pupils returning to school.

It will be noted that in spite of the fact that our turnover as represented by percentage of voluntary quits is low both for men and women, nevertheless owing to the extreme difficulty of obtaining men the building up of our force has been slow. During this period we have exercised every effort, thru the Federal Employment Service, to build up this force. We have not tried particularly as yet to build up our force of women, since the figures as shown are about as near as we can go in the employment of women until the night shift is made more effective.

It should also be noted that altho the percentage of voluntary quits among men is comparatively low most of these quits occurred on the night force, the percentage of night force turnover alone being three to four times the figures given.

Worthington Pump and Mach. Corp., Hazleton, Pa.  
Sept. 11, 1918.

1st Ind.

From Henry Soss, Capt. Ord. Dept. U.S.A., Worthington Pump and Mach. Corp., Hazleton, Pa., Sept. 11, 1918. To the Secretary of War through the District Ordnance Office, Philadelphia, Pa.

1. The writer has carefully gone over the matter of employing women to work any eight (8) hours out of the twenty-four (24) for a period not to exceed fifty-four (54) hours per week.

2. The Plant is running on three (3) shifts, two (2) of which rotate and on which women are now successfully employed, while a permanent shift of men is being operated at night.

3. The writer finds that women are well able to replace men on the majority of operations in this plant and produce satisfactory workmanship. Since putting women on various operations, the Company has been able to utilize men formally working on the aforesaid operations, for work which women are unable to do.

4. Since Mr. Goodman has taken over the management of the Worthington Pump and Mach. Corp., Hazleton, Pa., production has increased on both adapters, boosters and shells 100%. The writer feels that Mr. Goodman has shown such excellent results that he is absolutely worthy of the full backing of the War Department in obtaining dispensations for which he asks.

5. It is recommended that the petition submitted by the Worthington Pump & Mach. Corp., Hazleton, Pa. be acted upon favorably.

*Henry Soss*

HENRY SOSS  
Capt. Ord. Dept. U.S.A.  
Production Officer.

HS:EA

2nd Ind.

From Army Inspector of Ordnance, Worthington Pump and Mach. Corp., Hazleton, Pa., Sept. 11, 1918. To the Secretary of War through the District Ordnance Office, 1710 Market St., Philadelphia, Pa.

1. The above petition has been gone over carefully by the writer and its statements verified. From personal observation, believe the employment of women in this Plant throughout the twenty-four (24) hours is necessary to secure the maximum output at the earliest possible time.



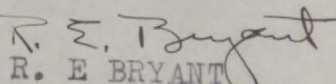
Worthington Pump and Mach. Corp., Hazleton, Pa.  
Sept. 11, 1918.

To the Secretary of War through the District Ordnance Office, Philadelphia, Pa.

2nd Ind.

2. Believe this petition is especially worthy of attention in view of the admirable record made by the new management during the past two months. On the 75 M/M Shell, the quality has so improved that our daily rejections has been decreased from 40% to less than 5%, in addition to which there has been a large increase in production. This improvement in quality and increase in quantity is still continuing, but it is evident that the maximum production under the present labor limitations will be less than 50,000 per week; whereas, with equal shifts of maximum size, the plant apparently can produce 120,000 per week.

3. It is, therefore, recommended that the petition of the Worthington Pump & Mach. Corp., Hazleton, Pa. be granted.

  
R. E. BRYANT  
Capt. Ord. Dept. U.S.A.  
Army Inspector of Ordnance.

REB:EA

ADDRESS REPLY TO

OUR FILE

NO.

WAR DEPARTMENT

TELEPHONE NO.

YOUR FILE NO. \_\_\_\_\_

## ORDNANCE DEPARTMENT

INSPECTION DIVISION

OFFICE AT

Hazleton, Pa.

PLEASE MAKE REPLIES IN DUPLICATE

AND REFER TO OUR FILE NUMBER

DATE Sept. 12, 1918.

FROM: Army Insp. of Ord. Worthington Pump & Mach. Corp.

TO: Miss Louise Cornell, Philadelphia, Pa.

Subject: IMPROVED QUALITY OF 75mm. SHELL SUBMITTED TO INSPECTION

1. Supporting figures given in my 2nd. Ind. to Worthington Company's request for suspension of law restricting powers for female labor, submit the following.

Mr. Goodman, new Manager of the plant, succeeded Mr. Jennings the early part of July. The last week in June the number of shell accepted was 14,570, quantity returned to the company as faulty was 5,868, or approximately 40%. For the last week in August, corresponding figures were 25,827 accepted, and 1,321 returned, or approximately 5%.

*R. E. Bryant*  
R.E. BRYANT.  
Capt. Ord. Dept. U.S.A.  
Army Insp. of Ord.



ADDRESS REPLY TO

OUR FILE

No.

WAR DEPARTMENT

TELEPHONE NO.

YOUR FILE NO. \_\_\_\_\_

## ORDNANCE DEPARTMENT

INSPECTION DIVISION

OFFICE AT

Hazleton, Pa.

PLEASE MAKE REPLIES IN DUPLICATE

AND REFER TO OUR FILE NUMBER

DATE Sept. 12, 1918.

FROM: Henry Soss, Capt. Ord. Dept. U.S.A.

TO: Miss Louise Cornell, Philadelphia, Pa.

Subject: INCREASED PRODUCTION AT THE WORTHINGTON PLANT.

1. Mr. Goodman, new Manager of this plant, took up his duties about the 15th of July. The writer finds that for the week ending July 13th production on 75mm. shell was 16,985 and on Mark III adapters and boosters 28,975, whereas, the production for the week ending yesterday, Sept. 11th. was 30,994 75mm. shell, and 56,500 Mark III adapters and boosters, or very nearly 100% increase in both items.

*Henry Soss*  
HENRY SOSS  
Capt. Ord. Dept. U.S.A.  
Production Officer.

C O P Y

ORDNANCE DEPARTMENT  
OFFICE OF ORDNANCE DISTRICT CHIEF  
1710 MARKET STREET  
PHILADELPHIA, PA.

PRODUCTION DIVISION

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

..... NO. ....  
ATTENTION OF  
.....

September 12, 1918.

FROM: Louise Cornell, Women's Branch.  
TO: Major Greene, Production Chief.  
SUBJECT: Petition of Worthington Pump & Machinery Corp. for  
permission to employ women between the hours of 10  
P.M. and 6 A.M. at Hazleton, Pa.

1. I visited the Hazleton Plant of the Worthington Pump and Machinery Corporation on September 11th, accompanied by a representative of the Pennsylvania Department of Labor and Industries.

2. With Mr. Goodman, Mr. Miller, Mr. Tyler, Captain Soss and Captain Bryant the question of the necessity of employing women at night was gone over carefully. A second visit through the plant was made at 10 P. M. at the time of changing shift.

3. I am of the opinion that shortage of labor has affected production at this plant, and that the need for seriously considering permitting the employment of women at night is at hand. The work is suited to women, and hours, wages and working conditions favorable. It is believed that a rotating night shift for women could, with proper supervision, be established here without encountering many of the drawbacks usually accompanying such a shift.

4. It is my recommendation, therefore, that the petition from the Worthington Corporation, which will probably reach your office on September 13th, be referred with your indorsement to the Secretary of War, through the Industrial Service Section.

LOUISE CORNELL  
Women's Branch



C O P Y

ORDNANCE DEPARTMENT

OFFICE OF ORDNANCE DISTRICT CHIEF

1710 MARKET STREET  
PHILADELPHIA, PA.

PRODUCTION DIVISION

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

September 14, 1918.

..... NO. ....  
ATTENTION OF .....

FROM: Louise Cornell, Women's Branch, Philadelphia District.

TO: Clara Tead, Acting Director, Women's Branch, Ordnance Office,  
through Philadelphia Production Office.

SUBJECT: Worthington Pump & Machinery Corp., Hazleton, Pa.: Request for  
permission to employ women between the hours of 10 P.M. and  
6 A.M.

1. Visit to Plant, September 11, 1918.

Following conference with Major Greene, Major Schwartz, and Major Masters, Cornell visited plant September 11th, accompanied by Siebert of the Pennsylvania Department of Labor and Industries.

Second visit same date, at 10 P.M.

2. Persons Interviewed

Mr. William Goodman, General Manager  
Mr. Tyler, Assistant Manager  
Mr. Miller, Employment  
Miss Marcum, Matron  
Capt. Soss, Ordnance Production Officer  
Capt. Bryant, Army Inspector of Ordnance

3. Statement of the Case

Plant now operating on three 8-hour shifts: 2 day shifts, interchanging weekly, 30% women; night shift permanent, 1/3 the size of day shifts, and composed of men only. Turnover on night shift estimated twice as high as on the day shifts, in spite of 10% bonus. Lack of housing facilities in town limits number of workmen who can be imported. 70% the estimated proportion of male employees under 31 years of age. Necessity of increasing present force by 1600 to fully man 3 shifts. Extent of possible employment of women on 2 shifts said to have been reached without throwing out the balance of the production.

4. Salient Facts Relating to Employment Management

- a. No. Employed: 4400; men 3400, women 1000.
- b. Hours: 6 A.M. to 2 P.M.; 2 P.M. to 10 P.M.; 10 P.M. to 6 A.M.  
lunch period, 1/2 hour.



- c. Shifts: -2 day shifts, 500 women on each, rotating weekly.  
Night shift, 500 men, no rotation,

Operators must report for work 5 minutes ahead of time, relieving worker at machine without need of turning off power. Change of shift accomplished in orderly fashion.

Production on each shift depends largely on output of preceeding shift. Present night shift is distributed to bring up low points in production. It is stated by the management that until night shift is well balanced, little can be done to increase production on the other shifts.

- d. Wages :- Premium based on production. (See report May 3, 1918)

Women -  $27\frac{1}{2}$  - 30¢ per hour

Men -  $32\frac{1}{2}$  - 35¢ " "

Piece rate after minimum production is reached.

It was inferred by the management that hour rate for men and women would be made equal in 3 rotating shifts could be effected.

- e. Employment Methods: -Centralized department procures and hires all workers. Permitted by the Employment Service to send out scouts, but not to advertise. Foremen have right of discharge, -no transfers. Weekly report filed by this department indicated slow increase in force, and comparatively low voluntary turnover.

No Physical examination required.

No woman to employ women.

- f. Welfare Department: A "Welfare" man is employed to conduct recreation, etc. Has little bearing on problems of handling men, or production.

- g. Supervisor of women: Head matron woman under 30. Little experience. Has little support of management or workers. Situation in this plant demands woman of high caliber, who shall receive backing of the management, and can inspire workers with confidence. Mr. Goodman recognizes this, and has asked the Women's Branch to suggest the right person.

- h. General working conditions: (See report of May 3, 1918)  
Conditions in plant excellent. Machines equipped with compressed air devices, and well guarded. Lighting good by day, and at night general and local lighting makes shop bright. No lunch room, but plans exist for the



building of a separate cafeteria. All available space is occupied at present. Shop canteens might be arranged as a temporary measure.

Locker rooms for women- 2 women to one locker.

Toilet facilities-permit the employment of 500 girls per shift.

- i. Transportation:- Motor busses are run by Company to bring girls who live beyond trolley or train routes. Willing to increase this service as necessary, and will provide means to take home any girl who has to go home in the middle of the night.

As 10 p.m. to 6 a.m. shift comes to work, and leaves work at the hour the previous shift leaves, and the following comes on, it is not supposed that difficulties in transportation will be encountered if women are employed at night.

- j. Labor supply:- Local employment bureau said to report plenty of men available in New York, -but that their transportation must be paid, and the rate for New York laborers -46¢. (37-40¢ is Hazleton rate) Little success has been met in holding men thus brought from a distance. Mines, and other war industries have exhausted stable local supply of male labor.

Plant Employment department reports that it has from 1000-1500 women applicants registered.

### 5. Summary:

That plant conditions can be made favorable to the employment of women on night shift, -notably by installing a woman supervisor of unusual capacity, and by establishing shop canteens where hot drinks can be secured. Work in plant well suited to women. Evidence obtained indicates that labor shortage is already a factor limiting production. Recent change in management has been accompanied with favorable results reflected in production and shop organization.

### 6. Recommendations

- a. That the Women's Branch, Ordnance, take the necessary steps to secure for the Worthington Pump and Machinery Company permission to employ women at night in the interests of maximum production of necessary war materials.
- b. That such permission be dependent of the establishment of the following conditions at the plant:
  - (1) Installation of woman supervisor who shall have full backing of the management and the confidence of the workers.
  - (2) Establishment of safeguards for the ordinary drawbacks accompanying a night shift which shall be acceptable to the Women's Branch: these to include, -provision for serving hot drinks, adequate transportation to outlying parts, extension of toilet facilities with the increase of numbers employed.

4.

c. That such action receive the earliest possible attention  
of the Women's Branch.

*Louise Cornell*

Louise Cornell  
Women's Branch  
Philadelphia District.



## ORDNANCE DEPARTMENT

OFFICE OF ORDNANCE DISTRICT CHIEF

1710 MARKET STREET

PHILADELPHIA, PA.

INSPECTION DIVISION

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

September 13, 1918

PAND NO. 400.192 Worthington

ATTENTION OF

MAJOR F.M.MASTERS.

From:- Major F. M. Masters.

To:- Mr. J. C. Jones, District Chief.

Thru: Major W. M. Schwartz, Inspection Manager.

Subject: USE OF WOMEN ON NIGHT SHIFT AT WORTHINGTON  
PUMP AND MACHINERY CORPORATION.

1. Concerning the application of the Worthington Pump and Machinery Corporation for the setting aside of the state laws in connection with the employment of women between the hours of ten P. M. and six A. M., in reviewing the case as presented by the Worthington Pump and Machinery Corporation, certain statements made therein would condemn the case on its own testimony, without some further explanation.

2. They state that the total number of employees required in the plant will be about six thousand, - that they now have employed four thousand four hundred, and with this number of employees, which is two-thirds of the total number required to fully man the plant, their production is less than fifty per cent.

3. In further explanation of this condition, a detailed statement of conditions as they have existed up to the present time at the plant should be given consideration.

4. The government has invested in this plant about a million and a half dollars in buildings and equipment. In laying out the plant, the equipment was ordered before the plans were completed, with the result that it was not properly tooled and balanced in all of its operations. The original plans were to make forgings from the raw rounds, and machine them into finished shells of the seventy-five m/m size, in addition to the making of adapters and boosters, Mark III, and machining of navy shells. When the plant was first equipped, the forge shop was not in operation, and they were supplied with rough forgings from other forge plants. These forgings require machining both inside and outside. Many thou-



Mr. J. C. Jones

September 13/18

sands of these forgings were shipped to the plant, and a great many of them are still in process of machining in the plant. However, these will all be finished within the next few days. When these are completed, then the shop will take up active production on the forgings which they are now making in their own plant, which are made by the French cold-drawn process, and do not require machining on the inside.

5. The estimated possible production of the plant is based upon the machining of the French type forgings, and not on the forgings with which they have been supplied. Furthermore, due to a lack of sufficient heat treating capacity, which condition has now been remedied, the plant was limited in its production, up to date owing to this operation. This unbalanced condition in the plant has piled up many thousands of shells in a partially machined condition, ahead of the various operations. This will shortly start to balance itself and start a uniform flow of the product, provided they can balance the shifts and fully man the heat treating, sand-blasting, and forge shop operations, on which men only can be employed.

6. Furthermore in the production figures given in the petition, they have made no mention of the navy shells, which are being produced in considerable quantity, and of course, this product uses a large number of the employees.

7. Furthermore, their labor up to the present time might all have been classed as unskilled labor. It was necessary to teach the women how to handle the machines and perform the various operations. They are only now becoming efficient, and it is only of very recent date that any of the operators have made their piece rates to any large extent.

8. In addition to this, the former management was open to considerable criticism in their attitude towards the work, and a large amount of defective material produced. It became necessary a short time ago to make a careful survey and study of the entire plant, with a view to remedying all errors in the machining operations, as well as the organization, so as to eliminate the large number of defectives, speed up the operations, and get up to production.

9. The new management has cooperated heartily in every respect, has made recommended changes, with the result that the number of rejections is greatly reduced, as certified to by Captain Bryant in his statement, and the production is rapidly increasing.

10. Furthermore, there is one other item which should be considered, and that is the lack of power in the operation of the plant. Due to insufficient power supply, the plant is sometimes closed down as many as ten to twenty times a day. This,



Mr. J. C. Jones

PAND-312 P. D.  
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of course, seriously hinders the operations on a machining job, - when the lathes stop in the midst of a cut, it is nearly always necessary to re-set the tools, and frequently re-grind same.

11. This condition has just recently been taken up by the Plant Facilities Section of the Production Division, acting on recommendation and taking steps to provide additional power supply, which will help solve many of their problems when it is installed.

12. The writer has made a very careful study of all the conditions at the plant, has been in close touch with all of its operations and difficulties, and at the present time believes that the only possible solution to increase production is that of additional labor supply, and the only available labor supply seems to be the employment of additional women, working them twenty-four hours per day.

13. The question might be raised of why not fully man two shifts, but this does not seem advisable, when there is such a tremendous pressure being brought to bear for the increased production of adapters and boosters, and by taking the other step, it will be possible to put this plant on full production and secure one hundred per cent. of its capacity, rather than put on two full shifts, which would naturally give you less than a two-thirds production in the plant.

14. For the above stated reasons, it is urged that the petition of the Worthington Pump and Machinery Corporation be given favorable consideration.

*F. M. Masters*

F.M.MASTERS,

MAJOR ORD.DEPT.U.S.A.

HEAD--PROJECTILE & TRENCH-WARFARE MATERIAL  
SECTION.



## ORDNANCE DEPARTMENT

## OFFICE OF ORDNANCE DISTRICT CHIEF

PAND-250 Worthington 1710 MARKET STREET  
District Chief PHILADELPHIA, PA.

INSPECTION DIVISION

TO INSURE PROMPT ATTENTION  
IN REPLYING REFER TO:

PAND NO. 230 Worthington  
ATTENTION OF

September 12, 1918.

MAJOR W.M.SCHWARTZ.

From:- Inspection Manager,  
Phila.Ord.District,

To:- District Chief,  
Phila.Ord.Dist.

Subject: USE OF WOMEN ON NIGHT SHIFT AT WORTHINGTON  
PUMP AND MACHINERY CORPORATION.

1. It is recommended that the request of the Worthington Pump and Machinery Corporation, Hazleton, Penna, for permission to work women on the night shifts be approved.

2. The need for 75 m/m complete rounds is very great. This ammunition is principally now being furnished from surplus stores by the French, and this Office is advised by the French Commission that these stores will be depleted around the first of October, and after that date, it will be necessary for the United States to furnish its own seventy-five m/m ammunition.

3. The factor which is now restricting its output is the production of boosters and adapters. These items are among those being produced by the Worthington Pump and Machinery Corporation. It is believed that the placing of women on the night shift would bring about a very great increase in production, and will thus help out this serious situation.

4. Every effort has been made by the Worthington Pump and Machinery Corporation, by the Production Officer, Captain Soss, who is stationed at the plant, and by Captain Bryant, Army Inspector of Ordnance, to produce results without having women on the night shift, but they have found that it is impossible for them to maintain a good balance, and an even flow of material thruout the plant, without placing women on the night shift.

5. It is pointed out that a request was made for authority to work women on the night shift several months



PAND-230 Worthington  
District Chief

September 12

ago, and had the authority been granted at that time, the women would now have been all broken in on the work and trained, and it is believed that the plant would be on a very much larger production basis than at the present time.

6. A great deal of time and thought has been given this subject by the Worthington Pump and Machinery Corporation, and by the representatives of the Ordnance Department, on the ground, who know more about the situation than anyone else, and also by the Philadelphia District Office, and all are in absolute unit in the belief that it is essential that this plant be given authority to work the women on the night shift - otherwise, production will continue to be restricted, and will materially affect the shipment of seventy-five m/m ammunition to France.

THE PHILADELPHIA DISTRICT OFFICE.

*W.M. Schwartz*  
W.M. SCHWARTZ.

MAJOR ORD. DEPT. U.S.A.

INSPECTION MANAGER.