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3726

MODIFICATION F PERMIT TO INSTALL APPLICATION NO. 14-2459 FOR THE LAUNDRY FACILITY - CONTAMINATED AND NON-CONTAMINATED GAS-FIRED DRYING OPERATIONS - FEMP NOS.

08/26/92

WEMCO:EC&QA:92-368
WEMCO/SW OHIO AIR POLL.
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LETTER

[redacted]

3726

Westinghouse
Environmental Management
Company of Ohio

PO Box 398704
Cincinnati, Ohio 45239-8704

(513) 738 6200

WEMCO:EC&QA:92-368

August 26, 1992

Ms. Monica Friedl
Environmental Scientist II
Southwestern Ohio Air Pollution
Control Agency
1632 Central Parkway
Cincinnati, Ohio 45210

Dear Ms. Friedl:

MODIFICATION OF PERMIT TO INSTALL APPLICATION NO. 14-2459 FOR THE LAUNDRY FACILITY - CONTAMINATED AND NON-CONTAMINATED GAS-FIRED DRYING OPERATIONS - FEMP ID NOS. 11-002 AND 11-003

Enclosed is a modification of the Ohio Environmental Protection Agency Permit To Install (PTI) Application for the Laundry Facility - Contaminated and Non-Contaminated Gas-Fired Dryer Operations. This revision reflects the addition of information on natural gas combustion that was omitted in the original application. No new emissions will be added by this modification.

If you have any questions concerning this application, please contact Ervin Fisher of my staff at 738-6053

Very truly yours,

Ellery D. Savage

Ellery D. Savage, Manager
Environmental Compliance

EF

Enclosure

c: S. M. Beckman - w/o encl.
B. Shroff, FN
P. B. Spotts

AR Files
Central Files
SC Files

For Official Use Only

Premise No.__/__/__/__
Source No.__/__
Application No.__/__

APPENDIX A, PROCESS

3726 A-1

PROCESS DATA

1. Name of process Laundry Facilities- Gas-fired dryer Operations System

2. End product of this process Dried Contaminated Clothing
3. Primary process equipment Three Cissell Dryers

Your identification FEMP ID No. 11-002 Year Installed 1989

4. Manufacturer Cissell Make or Model N/A

5. Capacity of equipment (lbs./hr): Rated 150 #/batch/dryer Max. 150#/batch/dryer

6. Method of exhaust ventilation: [X] Stack [ ] Window fan [ ] Roof vent
[ ] Other, describe_____

Are there multiple exhausts? [ ] Yes [X] No

OPERATING DATA

7. Normal operating schedule: 24 hrs./day, 7 days/wk., 52 wks./year.

8. Percent annual production (finished units) by season:
Winter 25 Spring 25 Summer 25 Fall 25

9. Hourly production rates (lbs.): Average 104 #/hr/system Maximum 450 #/hr/system

10. Annual production (indicate units) Average: 456 tons/yr; Maximum: 1971 tons/yr
projected percent annual increase in production N/A

11. Type of operation: [ ] Continuous [X] Batch

12. If batch, indicate Minutes per cycle 60 Minutes between cycles Varies

13. Materials used in process:

List of Raw Materials	Principle Use	Amount (lbs./hr.)
WASHED CONTAMINATED CLOTHING	DRY CONTAMINATED CLOTHING	450 #/HR

14. A PROCESS FLOW DIAGRAM MUST BE INCLUDED WITH THIS APPENDIX. Show entry and exit points of all raw materials, intermediate products, by products and finished products. Label all materials including airborne contaminants and other waste materials. Label the process equipment. See attached Process Flow Diagram

CONTROL EQUIPMENT

Control Equipment Code:

(A) Settling Chamber
(B) Cyclone
(C) Multiple Cyclone
(D) Electrostatic Precipitator
(E) Fabric Filter
(F) Spray Chamber
(G) Cyclonic Scrubber
(H) Impingement Scrubber
(I) Orifice Scrubber
(J) Venturi Scrubber
(K) Plate or Tray Tower
(L) Packing Tower
(M) Adsorber
(N) Condenser
(O) Afterburner - Catalytic
(P) Afterburner - Thermal
(Q) Other, Describe LINT FILTER

15. Control Equipment Data:

Item	Primary Collector	Secondary Collector
(a) Type (See above Code)	Q	
(b) Manufacturer	American Air Filter	
(c) Model No.	Not Available	
(d) Year Installed	Projected 1992	
(e) Your Identification	Not Assigned	
(f) Pollutant Controlled	Particulate	
(g) Controlled pollutant emission rate (if known)	Not known	
(h) Pressure Drop	Not Available	
(i) Design efficiency	Not Available	
(j) Operating efficiency	Not Available	

STACK DATA

16. Your Stack Identification EP11-002

17. Are other sources vented to this stack? [ ] Yes [X] No
If yes, identify sources _____

18. Type: [X] Round, top inside diameter dimension 23 inch
[ ] Rectangular, top inside dimensions (L)_____ X (W)_____

19. Height: Above roof_____ ft., above ground 21 ft.

20. Exit gas: Temp. Ambient °F, Volume 7200 ACFM, Velocity 2500 ft./min.

21. Continuous monitoring equipment: [X] Yes [ ] No
If yes, indicate : Type Single Point , Manufacturer Ludlum
Make or Model 177-62-1, Pollutant(s) monitored Radionuclides

22. Emission data: Emissions from this source have been determined and such data is included with this appendix: [X] Yes [ ] No
If yes, check method: [ ] Stack Test [ ] Emission Factor [X] Material Balance
Completed by E. Fisher , Date 8/19/92

CONTROL EQUIPMENT

Control Equipment Code:

(A) Settling Chamber
(B) Cyclone
(C) Multiple Cyclone
(D) Electrostatic Precipitator
(E) Fabric Filter
(F) Spray Chamber
(G) Cyclonic Scrubber
(H) Impingement Scrubber
(I) Orifice Scrubber
(J) Venturi Scrubber
(K) Plate or Tray Tower
(L) Packing Tower
(M) Adsorber
(N) Condenser
(O) Afterburner - Catalytic
(P) Afterburner - Thermal
(Q) Other, Describe Q1 MEPA Q2 HEPA Filter Module

15. Control Equipment Data:

Item	Primary Collector	Secondary Collector
(a) Type (See above Code)	Q1	Q2
(b) Manufacturer	TMI	Charcoal Service Co.
(c) Model No.	3000 CY-10-18-89	1H3W-012-1NB-35
(d) Year Installed	Projected 1992	Projected 1992
(e) Your Identification	Not Assigned	Not Assigned
(f) Pollutant Controlled	Particulate/Radionuclides	Particulate/Radionuclides
(g) Controlled pollutant emission rate (if known)	See emission calculations	See emission calculations
(h) Pressure Drop	1" - 5" W.G.	1" - 5"
(i) Design efficiency	99.5 % @ 1.0 micron	99.97 % @ 0.3 microns
(j) Operating efficiency	99.0 % @ 1.0 micron	99.9 % @ 0.3 microns

STACK DATA

16. Your Stack Identification See A-2 for stack data

17. Are other sources vented to this stack? [ ] Yes [ ] No
If yes, identify sources _____

18. Type: [ ] Round, top inside diameter dimension _____
[ ] Rectangular, top inside dimensions (L)_____ X (W)_____

19. Height: Above roof_____ ft., above ground_____ ft.

20. Exit gas: Temp._____ °F, Volume _____ ACFM, Velocity _____ ft./min.

21. Continuous monitoring equipment: [ ] Yes [ ] No
If yes, indicate : Type _____, Manufacturer _____
Make or Model _____, Pollutant(s) monitored _____

22. Emission data: Emissions from this source have been determined and such data is included with this appendix: [ ] Yes [ ] No
If yes, check method: [ ] Stack Test [ ] Emission Factor [ ] Material Balance
Completed by E. Fisher, Date 8/19/92

For Official Use Only

Premise No.__/__/__/__
Source No.__/__
Application No.__/__

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A-1

APPENDIX A, PROCESS

PROCESS DATA

1. Name of process Laundry Facilities- Gas-fired dryer Operations System

2. End product of this process Dried Non-Contaminated Clothing
3. Primary process equipment Three Milnor Dryers

Your identification FEMP ID No. 11-003 Year Installed 1989

4. Manufacturer Pellerin Milnor Corp Make or Model 58058TG2/A

5. Capacity of equipment (lbs./hr): Rated 220 #/batch/dryer Max. 220 #/batch/dryer

6. Method of exhaust ventilation: [X] Stack [ ] Window fan [ ] Roof vent
[ ] Other, describe_____

Are there multiple exhausts? [ ] Yes [X] No

OPERATING DATA

7. Normal operating schedule: 24 hrs./day, 7 days/wk., 52 wks./year.

8. Percent annual production (finished units) by season:
Winter 25 Spring 25 Summer 25 Fall 25

9. Hourly production rates (lbs.): Average 660 #/hr/system Maximum 660 #/hr/system

10. Annual production (indicate units) Average:2890.8 tons/yr; Maximum: 2890.8 tons/yr
projected percent annual increase in production N/A

11. Type of operation: [ ] Continuous [X] Batch

12. If batch, indicate Minutes per cycle 60 Minutes between cycles Varies

13. Materials used in process:

List of Raw Materials	Principle Use	Amount (lbs./hr.)
NON-CONTAMINATED CLOTHING	DRY NON-CONTAMINATED CLOTHING	660 #/HR

14. A PROCESS FLOW DIAGRAM MUST BE INCLUDED WITH THIS APPENDIX. Show entry and exit points of all raw materials, intermediate products, by products and finished products. Label all materials including airborne contaminants and other waste materials. Label the process equipment. See attached Process Flow Diagram

CONTROL EQUIPMENT

Control Equipment Code:

(A) Settling Chamber
(B) Cyclone
(C) Multiple Cyclone
(D) Electrostatic Precipitator
(E) Fabric Filter
(F) Spray Chamber
(G) Cyclonic Scrubber
(H) Impingement Scrubber
(I) Orifice Scrubber
(J) Venturi Scrubber
(K) Plate or Tray Tower
(L) Packing Tower
(M) Adsorber
(N) Condenser
(O) Afterburner - Catalytic
(P) Afterburner - Thermal
(Q) Other, Describe Q1 LINT FILTER

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15. Control Equipment Data:

Item	Primary Collector	Secondary Collector
(a) Type (See above Code)	Q1	
(b) Manufacturer	NA	
(c) Model No.	NA	
(d) Year Installed	1989	
(e) Your Identification	NONE	
(f) Pollutant Controlled	Particulate	
(g) Controlled pollutant emission rate (if known)	See emission calculations	
(h) Pressure Drop	1.5" W.G.	
(i) Design efficiency	est. 75 %	
(j) Operating efficiency	est. 75 %	

STACK DATA

16. Your Stack Identification EP11-003

17. Are other sources vented to this stack? [ ] Yes [X] No
If yes, identify sources _____

18. Type: [X] Round, top inside diameter dimension 16 inch
[ ] Rectangular, top inside dimensions (L)_____ X (W)_____

19. Height: Above roof 2 ft., above ground 21 ft.

20. Exit gas: Temp. Ambient °F, Volume 5200 ACFM, Velocity 2384 ft./min.

21. Continuous monitoring equipment: [ ] Yes [X] No
If yes, indicate : Type _____ , Manufacturer _____

Make or Model _____, Pollutant(s) monitored _____

22. Emission data: Emissions from this source have been determined and such data is included with this appendix: [X] Yes [ ] No
If yes, check method: [ ] Stack Test [ ] Emission Factor [X] Material Balance

Completed by E. Fisher , Date 7/25/91

Emission Calculations for: PERMIT TO INSTALL

Facility: Fernald Environmental Management Project
Source No: 1431110128 P274
Source ID: FEMP ID NO. 11-002

Computed by: Ervin Fisher
Date: August 19, 1992

I. Emission Estimates:
Heat input): 1.11 MMBtu/hour, (3 dryers @ 0.37 MMbtu/hr).
Annual operating hours: 8760 hours/year.
Emission factors: (given as lbs/MMcf gas burned)
particulate: 5.0, SOx: 0.6, NOx: 140.0, CO: 35.0
Emission factor reference: AP-42, table 1.4-1.

1. Actual emissions: (heat input basis)
Particulate: 5.0 (lbs/MMcf) / 1050.0 (btu/cf) = 0.0048 (lbs/MMbtu)
SOx: 0.6 (lbs/MMcf) / 1050.0 (btu/cf) = 0.0006 (lbs/MMbtu)

2. Annual actual and potential: 8760 (hrs/year) emission in (tons/year).

Particulates:
ACTUAL: 5.0 (lbs/MMcf) x 1.11 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.023 TPY

POTENTIAL: 5.0 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.023 TPY

Sox:
ACTUAL: 0.6 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.003 TPY

POTENTIAL: 0.6 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.003 TPY

Nox:
ACTUAL: 140.0 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.648 TPY

POTENTIAL: 140.0 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.648 TPY

CO:
ACTUAL: 35.0 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.162 TPY

POTENTIAL: 35.0 (lbs/Mmcf) x 1.11 (Mmbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.162 TPY

II. Allowable emissions:
allowable emissions = 0.02 lbs. particulate/Mmbtu heat input.
regulation: OAC 3745-17-10 (B) (1).

III. Comments:
1. Source is in compliance.

Emission Calculations for: PERMIT TO OPERATE

Facility: Fernald Environmental Management Project
Source No: 1431110128 P275
Source ID: FEMP ID NO. 11-003

Computed by: Ervin Fisher
Date: August 19, 1992

I. Emission Estimates:
Heat input): 6.00 MMBtu/hour, (3 dryers @ 2.00 MMbtu/hr).
Annual operating hours: 8760 hours/year.
Emission factors: (given as lbs/MMcf gas burned)
particulate: 5.0, SOx: 0.6, NOx: 140.0, CO: 35.0
Emission factor reference: AP-42, table 1.4-1.

1. Actual emissions: (heat input basis)
Particulate: 5.0 (lbs/MMcf) / 1050.0 (btu/cf) = 0.0048 (lbs/MMbtu)
SOx: 0.6 (lbs/MMcf) / 1050.0 (btu/cf) = 0.0006 (lbs/MMbtu)

2. Annual actual and potential: 8760 (hrs/year) emission in (tons/year).

Particulates:
ACTUAL: 5.0 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.125 TPY

POTENTIAL: 5.0 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.125 TPY

SOx:
ACTUAL: 0.6 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.015 TPY

POTENTIAL: 0.6 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.015 TPY

NOx:
ACTUAL: 140.0 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 3.50 TPY

POTENTIAL: 140.0 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 3.50 TPY

CO:
ACTUAL: 35.0 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.88 TPY

POTENTIAL: 35.0 (lbs/MMcf) x 6.0 (MMbtu/hr) x 8760 (hrs/year) / 1050 (btu/cf) / 2000 (lbs/ton) = 0.88 TPY

II. Allowable emissions:
allowable emissions = 0.02 lbs. particulate/MMbtu heat input.
regulation: OAC 3745-17-10 (B) (1).

III. Comments:
1. Source is in compliance.