

From: [Air.Pollution Control](#)
To: [APC Permitting](#)
Subject: FW: [EXTERNAL] imi Cookeville - Const/Op Air Permit Application
Date: Friday, August 25, 2023 9:38:18 AM
Attachments: [2023.08.25 - Cookeville - Const Op Permit Application.pdf](#)
[image001.png](#)

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Donna F. Brown | Administrative Services Assistant
Air Pollution Control
William R. Snodgrass Tennessee Tower/15th Floor
312 Rosa L Parks Avenue
Nashville, Tennessee 37243
p. 615-532-0532
Donna.f.brown@tn.gov

From: Art Fisher <art.fisher@irvmat.com>
Sent: Friday, August 25, 2023 9:14 AM
To: Air.Pollution Control <Air.Pollution.Control@tn.gov>; Tracy Kefauver <Tracy.Kefauver@tn.gov>
Subject: [EXTERNAL] imi Cookeville - Const/Op Air Permit Application

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. *****

APC Team,

Please see attached Construction/Operating Permit Application for our Cookeville plant.

Sincerely,

Art Fisher, PG - Environmental Manager - **imi**
5209 Linbar Dr, Nashville, TN 37211
art.fisher@irvmat.com (615) 574-3114



August 25, 2023

Ms. Tracy Kefauver
TDEC-Environmental Protection Specialist 3
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue,
Nashville, TN 37243

RE: Air Construction/Operating Permit Application
imi TN, LLC. - Cookeville (Emission Source No.: 71-0213-01)

Dear Ms. Kefauver,

Enclosed please find a completed Construction/Operating Permit application package for our facility located at 2800 Dacco Quarry Rd, Cookeville, TN 38506. The purpose of the application is to replace the current baghouses on the silos with new Stephens 1020 pulsating baghouses (PBs).

A hard copy check for \$100 will be mailed to the 312 Rosa L Parks Ave address on the APC 100 form with a reference to the facility's address.

Please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Art Fisher' in a cursive style.

Art Fisher, Environmental Manager

Attachments: Cookeville Air Construction/Operating Permit Application

- APC 100 & 111
- Flow Diagram
- Emissions Calculations
- Emission Control Equipment Specification Sheets

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5209 Linbar Dr., Nashville, TN 37211 Tel. 615.884.4935 Fax. 615.872.0467 www.irvmat.com



**NON-TITLE V PERMIT APPLICATION
 FACILITY IDENTIFICATION**

Type or print and submit. Attach appropriate source description forms.

SITE INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]

2. Site name (if different from legal name)

3. Is a construction permit application fee being submitted? Yes No
 (see instructions for appropriate fee to submit)

4. Site address (St./Rd./Hwy.) County name

City	Zip code	5. NAICS or SIC code
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6. Site location (in lat. /long.)	Latitude	Longitude
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CONTACT INFORMATION (RESPONSIBLE PERSON)

7. Responsible person/Authorized contact	Phone number with area code
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Mailing address (St./Rd./Hwy.)	Fax number with area code
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City	State	Zip code	Email address
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CONTACT INFORMATION (TECHNICAL)

8. Principal technical contact	Phone number with area code
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Mailing address (St./Rd./Hwy.)	Fax number with area code
--------------------------------	---------------------------

City	State	Zip code	Email address
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CONTACT INFORMATION (BILLING)

9. Billing contact	Phone number with area code
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Mailing address (St./Rd./Hwy.)	Fax number with area code
--------------------------------	---------------------------

City	State	Zip code	Email address
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AIR CONTAMINANT SOURCE(S) INFORMATION

10. Description of air contaminant source(s) and Unique Source ID(s). List, identify, and briefly describe process emission sources, fuel burning installations, and incinerators that are contained in this application and include a Unique Source ID for each source. The Unique Source ID is a name/number/letter, which uniquely identifies the air contaminant source(s), like Boiler #1, Paint Line #1, Engine #1, etc. (see instructions for more details)

11. Is the air contaminant source(s) in a nonattainment area? If "Yes", then minor source BACT must be addressed. Yes No

12. Normal operation:	Hours/Day	Days/Week	Weeks/Year	Days/Year
13. Percent annual throughput	Dec. – Feb.	March – May	June – August	Sept. – Nov.

TYPE OF PERMIT REQUESTED (check appropriate box)

14. Operating permit	Date construction started	Date completed	Date of ownership change (if applicable)
	Last permit number(s)		Emission Source Reference Number(s)
Construction permit	Last permit number(s)		Emission Source Reference Number(s)

If you chose Construction permit above, then choose either New Construction, Modification, or Location Transfer

New Construction	Starting date	Completion date
Modification	Date modification started or will start	Date completed or will complete
Location Transfer	Transfer date	Address of last location

15. Describe changes that have been made to this equipment or operation(s) since the last construction or operating permit application:

16. Comments

SIGNATURE

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

17. Signature (application must be signed before it will be processed)

Art Fisher

Date

Signer's name (type or print)

Title

Phone number with area code



**NON-TITLE V PERMIT APPLICATION
 CONCRETE BATCH PLANT SOURCE DESCRIPTION**

Type or print. Submit for each concrete batch plant. Submit with the APC 100. Submit a Plant Diagram according to the instructions given below.						
GENERAL IDENTIFICATION AND DESCRIPTION						
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]				2. Emission Source Reference Number		
3. Is this air contaminant source subject to an NSPS or NESHAP rule? Yes No If Yes, list rule citation, including Part, Subpart, and applicable Sections:						
4. Unique Source ID (name/number that uniquely identifies this source, like Plant 1)				5. Date constructed		
6. Maximum annual production: (Yards)		Transit mix	Central mix	Dry mix		
CEMENT RECEIVING AND STORAGE						
7. Cement receiving equipment		Is conveyor enclosed? Yes No	Is elevator enclosed? Yes No	Compressed air flow (Ft. ³ /Min.)	Average load size (Tons)	Normal loading time (Min.)
8. Cement storage silos:		Number of silos	Total capacity (Units: barrels or tons)	<u>Silo vent controls</u> Discharges to (check one) Fabric filter Another silo Other None		
WEIGH-BATCHER INFORMATION						
9. Weigh batcher:		Capacity (Yards)	Batching rate (Yards/Hour)	Batch dumping rate (Yards/Minute)		
Silo - to - weigh - batcher vent controls		Hood	Fabric filter	Discharges to silo	None	
10. Weigh - batcher: (Check or complete as appropriate)		Discharges to: (In yards/year)				
		Trucks	Tilt	Products mixer		
		Weigh-batcher discharge chute controls:				
		Adjustable gathering hopper	Hood	Fabric filter	Discharges to silo	None

11. Air contaminants. Emission estimates for each air contaminant emitted from this point should be based on stack sampling results or engineering calculations. Calculations should be attached on a separate sheet. (see instructions for more details)

SILO #1 EMISSION INFORMATION

12. Emission point data for:	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Height above grade (Ft.)			
B. Diameter (Ft.)			
C. Emission exit direction (Up, down, or horizontal)			
D. Air flow rate (Ft. ³ /Minute)			
13. Particulate matter (PM)	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Average emissions (Pounds/Hour)			
B. Maximum emissions (Pounds/hour)			
C. Average emissions (Tons/Year)			
D. Potential emissions (Tons/Year)			
E. Emissions estimation method*			
F. Control devices*			
G. Control efficiency %			

SILO #2 EMISSION INFORMATION

14. Emission point data for:	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Height above grade (Ft.)			
B. Diameter (Ft.)			
C. Emission exit direction (Up, down, or horizontal)			
D. Air flow rate (Ft. ³ /Minute)			
15. Particulate matter (PM)	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Average emissions (Pounds/Hour)			
B. Maximum emissions (Pounds/hour)			
C. Average emissions (Tons/Year)			
D. Potential emissions (Tons/Year)			
E. Emissions estimation method*			
F. Control devices*			
G. Control efficiency %			

16. Control device. Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.).

ROAD DUST AND STOCKPILE INFORMATION

17. Road dust control:	None	Paved	Oiled	Watered frequently	
Plant yard:					
Access roads:					
18. Stockpiles:	Estimated annual tonnage	Number of sides enclosed	Turnover rate (Tons/Month)	Received damp	Wetted as received
Gravel:					
Sand:					

19. Comments

SIGNATURE

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

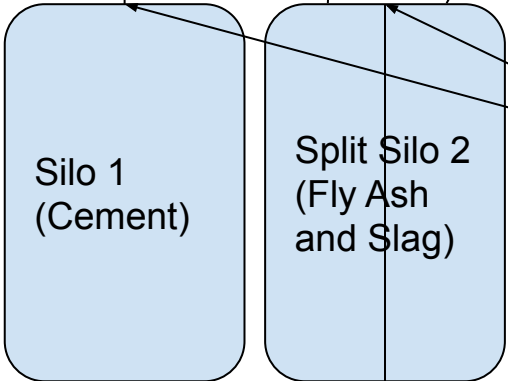
20. Signature <i>Art Fisher</i>		Date
Signer's name (type or print)	Title	Phone number with area code

Concrete batch plant diagram instructions: Show general plant layout and air pollution control devices. Indicate the following: storage pile areas, conveyor systems, method of receiving cement, elevators, silos, silo vents, silo-to-weigh-batcher vent, weigh-batcher discharge chute, and product receiving equipment such as trucks and tilt or product mixers. Indicate air pollution control devices such as fabric filters, wet suppressions, hoods, canvas coverings, enclosures, etc.

* Refer to the instructions for the estimation method and control device codes. If the code is "Other" specify in comments.

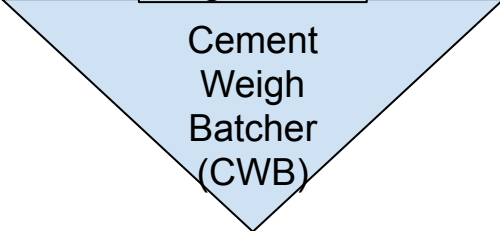
Stephens
1020 PB

Stephens
1020x2 PB



Cementitious
Materials
(Pneumatic
Tanker Blowoff)

Baghouse



CWB
Discharge
Chute (w/
hood)

Dust
Collector

Conveyor belt

Gravel
and Sand
Weigh
Batcher

Gravel and
Sand
overhead
bins

Gravel and Sand
storage piles
(watered)

Truck

Cookeville Emission Source Ref. 71-0213-01

New Point	Process	EF	Hourly Rate	Daily Rate	12-Month Rate	lb/hr	lb/day	lb/12 Months	ton/12 Months
	Weigh Hopper	0.0028 lb/ton	164.7 tons	3,951.6 tons	192,850 tons	0.46	11.1	522	0.27
	Truck Loading (truck mix)	0.0263 lb/ton	193 tons	4,628.4 tons	192,850 tons	0.74	17.8	741.7	2.54
	Cement Silo Unloading	0.00034 lb/ton	24.55 tons	589.2 tons	24,550 tons	0.01	0.20	9.5	0.0042
	Fly Ash Silo Unloading	0.0049 lb/ton	3.65 tons	87.6 tons	3,650 tons	0.02	0.43	20.3	0.0089
	Agg. Transfer/Mat'l Handling/Piles	0.0033 lb/ton	93.3 tons	2,238.0 tons	8,350 tons	0.31	7.4	349	0.0138
	Sand Transfer/Mat'l Handling/Piles	0.00099 lb/ton	71.4 tons	1,713.6 tons	71,400 tons	0.07	1.70	80	0.0353
	Vehicle Traffic	1.438 lb/VMT	10.5 miles	252 miles	7,000 miles	1.1	28	10,066.0	5.03
Totals:						2.76	66.2	11,789	7.90

AP-42 Average Concrete Composition	
Aggregate	1,865 lb/cu yd
Sand	1,428 lb/cu yd
Cement	491 lb/cu yd
Fly Ash	73 lb/cu yd
Water	167 lb/cu yd
Total:	4,024 lb/cu yd

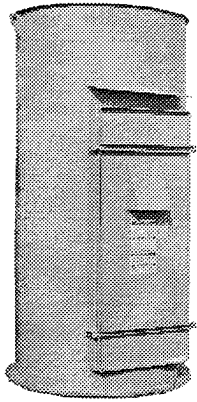
- Emission factors: AP-42, Section 11.12
 - Emission factors for Vehicle Traffic: AP-42, Section 13.2
 1.438 lb/VMT from current Operating Permit
 Based on 0.07 mile/cu yd batched

Max Production Rates	
100	cu yd/hr
2,400	cu yd/day
100,000	cu yd/12 Mo.

Truck Loading (truck mix)	
0.0263 lb/ton x ((491 lb./cy + 73 lb.cy)/2000 ton) x	100 cy per hour = 0.74 lb. PM10/hr
0.0263 lb/ton x ((491 lb./cy + 73 lb.cy)/2000 ton) x	2,400 cy per day = 17.8 lb. PM10/day
0.0263 lb/ton x ((491 lb./cy + 73 lb.cy)/2000 ton) x	100,000 cy per 12 Mo. = 741.7 lb. PM10/12 Mo.

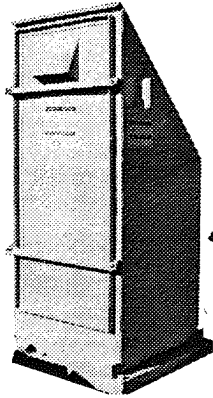
	SOS 1020	SV-20	RA120
Is the baghouse insulated?	NO	NO	
Serial Number:	10499-20	10499-20	
Number of Bags per compartment	3 CARTRIDGES	14	48
Design minimum operating temperature:	220°F - 270°F	220°F	
Are temperature controls provided?	NO	No	
Air flow through baghouse (induced, forced or other)	Induced	forced	
Maximum inlet volumetric gas flow rate (acfm at °F)	2250 ACFM	20 ACFM	
Dew point at maximum moisture content of gas:	N/A DRY	N/A DRY	
Clean fabric permeability: xxscfm/ft ² at change of pressure of xx inches (example 28 scfm/ft ² at 0.5 psi)	99.990 EFFICIENT MICRON	99.6 EFFICIENT MICRON	
Minimum effective air to cloth ratio (feet/min)	5 to 1	5 to 1	
Maximum effective air to cloth ratio (feet/min)	8 to 1 AT CARTRIDGES	8 to 1 AT BAGS	
Design pressure drop across baghouse	.5 H ₂ O	.5 H ₂ O	
Describe the determining factor fabric filter changing/replacement? (I'm assuming pressure drop value below or above design value)?	18 TO 36 MONTHS USAGE	18 TO 36 MONTHS USAGE	Pressure drop
What is the air pressure (psi) used to clean the bags?	120 PSI	AMBIENT AIR	
Is the hopper heated?	No	NO	
Is there a hopper vibrator?	NO	NO	
Is the baghouse downward venting or horizontal?	DOWNWARD VENTING	DOWNWARD VENTING	
Are there any additional alarms provided regarding baghouse operation?	OVERFILL PROTECTIONS ON FILL LINES	OVERFILL PROTECTIONS ON FILL LINES	

Silo Filter Vents



Cement Silo

Weight Batcher



52"

31"

Silo Filter Vent Specification

Model SFV 170

Bag Area	170 Sq. Ft.
Number of Bags	16
Bag Diameter	7"
Bag Length	72"
Bag Material	9.5 Oz. Spun Polyester
Material Weave	Sateen
Air Permeability	18-25 CFM/Sq. Ft.
Cleaning Mechanism	Electric Or Mechanical Shaker
Flow Rate	650 CFM
Air/Cloth Ratio	3.83
Outlet Size	6" X 8"
Outlet Velocity	1950 Ft/Min.

Model SFV 270

Bag Area	270 Sq. Ft.
Number of Bags	35
Bag Diameter	4-7/8"
Bag Length	72"
Bag Material	9.5 Oz. Spun Polyester
Material Weave	Sateen
Air Permeability	18-25 CFM/Sq. Ft.
Cleaning Mechanism	Electric Or Mechanical Shaker
Flow Rate	650 CFM
Air/Cloth Ratio	2.40
Outlet Size	6" X 8"
Outlet Velocity	1950 Ft/Min.

Batcher Filter Vent Specifications

Model BFV 15

Bag Area	15 Sq. Ft.
Number of Bags	4
Bag Diameter	7"
Bag Length	24"
Bag Material	9.5 Oz. Spun Polyester
Material Weave	Sateen
Air Permeability	18-25 CFM/Sq. Ft.
Cleaning Mechanism	Electric Mechanical Shaker
Flow Rate	64 CFM
Air/Cloth Ratio	4.4
Outlet Size	6" X 8"
Outlet Velocity	198 Ft/Min.

91035

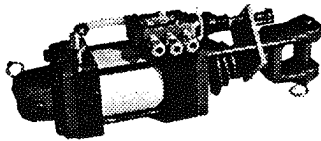
Silo Filter Vent

SFV170 Air	740.40170
SFV170 Electric	740.40170EL
SFV270 Air	740.140210
SFV270 Electric	740.140210EL

Batch Filter Vent

BFV15	740.140040
<i>* Bags</i>	<i>740.115019</i>
SFV170 (Snap Band)	740.115018
SFV170 (Clamp)	740.115015
SFV270	740.145815
MS1000	740.145815
MS1500	740.145816
RA1000	740.145817
RA1500	740.145818
RA975	740.145819
RA1450	740.145819

Spring Assembly
740-108033

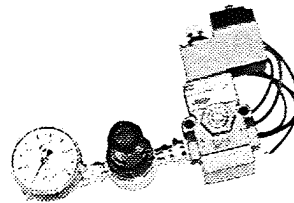


Shaker Cylinder
SFV 170 & 270 740.145825
MS1000 and MS1500

740-108034
valve only



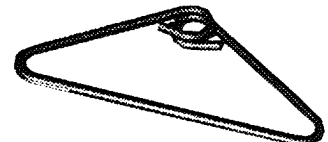
Filter Vent Door Hinge
740.100615



Air Valve - Filter Vent
Shaker
740.145831



J-Bolt Dust Collector Bag
020.100620



Dust Collector Bag Hanger
020.115017

MTM Central Dust Collectors Specification

ELPC 8000

Filter Area (Sq. Ft.)	969
No. of Cartridges	60
Filter Diameter	19.5" Envelope
Filter Length	59.3"
Filter Material	Singed Polyester
Efficiency	99.9 by weight
Max Flow Rate (CFM)	8000
Air/Cloth Ratio	8.3 : 1

CLPC 8000

Filter Area (Sq. Ft.)	1424
No. of Cartridges	16
Filter Diameter	11.4" x 14.4" Oval Cartridge
Filter Length	26"
Filter Material	Synthetic Fiber
Efficiency	99.999 to 1 Micron
Max Flow Rate (CFM)	8000
Air/Cloth Ratio	5.6 : 1

ELPC 4000

Filter Area (Sq. Ft.)	485
No. of Cartridges	30
Filter Diameter	19.5" Envelope
Filter Length	59.3"
Filter Material	Singed Polyester
Efficiency	99.9 by Weight
Max Flow Rate (CFM)	4000
Air/Cloth Ratio	8.3 : 1

CLPC 4000

Filter Area (Sq. Ft.)	712
No. of Cartridges	8
Filter Diameter	11.4" x 14.4" Oval Cartridge
Filter Length	26"
Filter Material	Synthetic Fiber
Efficiency	99.9 to 1 Micron
Max Flow Rate (CFM)	4000
Air/Cloth Ratio	5.6 : 1
Cleaning Mechanism	Vibratory
Flow Rate (CFM)	650
Air/Cloth Ratio	2.40
Outlet Size	6" x 8"
Outlet Velocity (Ft./Min.)	1950

RA 1000

Filter Area (Sq. Ft.)	1000
No. of Bags	104
Bag Diameter	4 7/8"
Bag Length	72"
Bag Material	Spun Polyester
Material Weave	Sateen
Air Permeability (CFM/Sq. Ft.)	20
Efficiency	99.6% to 1 Micron
Cleaning Mechanism	Reverse Air
CFM	6000
Air/Cloth Ratio	5
Pressure Drop	6"

Silo to weigh batcher vent

MTM Batcher Filter Vents Specification

MBV-1

Filter Area (Sq. Ft.)	43
No. of Cartridges	1
Cartridge Diameter	7.875"
Cartridge Length	16
Cartridge Material	Synthetic Fiber
Efficiency	99.999
Max Flow Rate (CFM)	64
Air/Cloth Ratio	1.5 : 1

CJP 50

Filter Area (Sq. Ft.)	50
No. of Cartridges	1
Cartridge Diameter	12.75"
Cartridge Length	13"
Cartridge Material	Spun Bond Polyester
Efficiency	99.995
Flow Rate (CFM)	64
Air/Cloth Ratio	1.28
Outlet Size	3" x 4"
Outlet Velocity (Ft./Min.)	792

BFV 15

Bag Area (Sq. Ft.)	15
No. of Bags	4
Bag Diameter	7"
Bag Length	24"
Bag Material	9.1 oz. Spun Polyester
Material Weave	Sateen
Air Permeability (CFM/Sq. Ft)	20
Efficiency	99.6% to One Micron
Cleaning Mechanism	Vibratory
Flow Rate (CFM)	64
Air/Cloth Ratio	4.4
Outlet Size	6" x 8"
Outlet Velocity (Ft./Min.)	396

BATCHER VENT INTO BAGS

LB/ HR	.00144 LB/YD ³ * ___YD ³ /HR
GR / FT ³	1.823 GR HR/LB FT ³ * ___LB/HR