

State of Utah

SPENCER J. COX Governor

DEIDRE HENDERSON Lieutenant Governor Department of Environmental Quality

> Kimberly D. Shelley Executive Director

DIVISION OF AIR QUALITY Bryce C. Bird Director

DAQE-AN146030003-24

January 6, 2025

Brandon Burton BMCA Cedar City LLC 5080 West Highway 56 Cedar City, UT 84720 brandon.burton@gaf.com

Dear Mr. Burton:

Re: Approval Order: Modification of Approval Order DAQE-AN146030002-15 to Add a Fluidized Sand Bath and an Off-line Custom Cut Saw Project Number: N146030003

The attached Approval Order (AO) is issued pursuant to the Notice of Intent (NOI) received on September 25, 2024. BMCA Cedar City LLC must comply with the requirements of this AO, all applicable state requirements (R307), and Federal Standards.

The project engineer for this action is **Christine Bodell**, who can be contacted at (385) 290-2690 or cbodell@utah.gov. Future correspondence on this AO should include the engineer's name as well as the DAQE number shown on the upper right-hand corner of this letter. No public comments were received on this action.

Sincerely,

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Bryce C. Bird Director

BCB:CB:jg

cc: Southwest Utah Public Health Department

STATE OF UTAH Department of Environmental Quality Division of Air Quality

APPROVAL ORDER DAQE-AN146030003-24 Modification of Approval Order DAQE-AN146030002-15 to Add a Fluidized Sand Bath and an Off-line Custom Cut Saw

Prepared By Christine Bodell, Engineer (385) 290-2690 cbodell@utah.gov

Issued to BMCA Cedar City LLC - Insulation Board and Roofing Membrane Production Plant

> Issued On January 6, 2025

> > **Issued By**

Sach

Bryce C. Bird Director Division of Air Quality

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GENERAL INFORMATION

CONTACT/LOCATION INFORMATION

Owner Name BMCA Cedar City LLC **Source Name** BMCA Cedar City LLC - Insulation Board and Roofing Membrane Production Plant

Mailing Address 5080 West Highway 56 Cedar City, UT 84720 **Physical Address** 5080 West Highway 56 Cedar City, UT 84720

Source Contact Name: Brandon Burton Phone: (435) 216-6546 Email: brandon.burton@gaf.com **UTM Coordinates**

310,102 m Easting 4,173,443 m Northing Datum NAD83 UTM Zone 12

SIC code 3086 (Plastics Foam Products)

SOURCE INFORMATION

General Description

BMCA Cedar City LLC (BMCA) is the owner and operator of an insulation board and roofing membrane production plant in Cedar City, Iron County. The facility operates three separate manufacturing lines for the production of polyisocyanurate (ISO) insulation board, thermoplastic polyolefin (TPO) roofing membranes, and polyvinyl chloride (PVC) roofing membranes.

The ISO insulation board production line utilizes methylene diphenyl diisocyanate (MDI), polyol, and a blowing agent (e.g., pentane). The MDI and blended polyol/blowing agent material is transferred onto a bottom facer material. Upon contact, the materials exothermically react, polymerize, and cross-link to rapidly form rigid closed-cell foam. The foam board is ultimately transferred to a series of enclosures to be cut to final dimensions. Emissions generated from the ISO foam board production line are captured and routed first through a baghouse for particulate control and then to a regenerative thermal oxidizer (RTO) to control VOCs.

The TPO and PVC roofing membrane production lines utilize a pneumatic conveyance system to convey the raw materials to feeder bins that meter the raw materials into the extruders. In the extruders, polymers and additives are blended and heated. The core extrudate passes through a die and is applied directly to a scrim reinforcement sheet, typically woven polyester material. After application of the core (bottom of the roofing membrane) onto the scrim, the sheet passes through a series of calendar rolls that press the core onto the scrim. The sheet then passes to the cap extruder die, where the cap (top of the roofing membrane) extrudate is applied to the other side of the scrim. Additional calendar rolls are employed to assist with bonding the cap to the scrim. DAQE-AN146030003-24 Page 4

<u>NSR Classification</u> Minor Modification at Minor Source

Source Classification Located in Attainment Area Iron County Airs Source Size: B

Applicable Federal Standards None

Project Description

BMCA has requested to install one (1) new fluidized sand bath for maintenance purposes in the TPO plant and one (1) new off-line CNC custom cut saw (off-line CNC cut saw) for supplementing its operations in the ISO plant. The new equipment will generate emissions of particulate matter, volatile organic compounds (VOCs), and hazardous air pollutants (HAPs).

SUMMARY OF EMISSIONS

The emissions listed below are an estimate of the total potential emissions from the source. Some rounding of emissions is possible.

Criteria Pollutant	Change (TPY)	Total (TPY)
CO ₂ Equivalent	0	7725.00
Carbon Monoxide	0	5.41
Nitrogen Oxides	0	6.44
Particulate Matter - PM ₁₀	0.37	12.77
Particulate Matter - PM _{2.5}	0.37	4.96
Sulfur Dioxide	0	0.04
Volatile Organic Compounds	1.02	30.78

Hazardous Air Pollutant	Change (lbs/yr)	Total (lbs/yr)
1,4-Dioxane (1,4-Diethyleneoxide) (CAS #123911)	0	5489
Ethylene Glycol (CAS #107211)	2	5510
Generic HAPs (CAS #GHAPS)	23	323
Hexane (CAS #110543)	59	1759
Vinyl Chloride (CAS #75014)	0	320
	Change (TPY)	Total (TPY)
Total HAPs	0.03	6.70

SECTION I: GENERAL PROVISIONS

I.1	All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]
I.2	The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
I.3	Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
I.4	All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
1.5	At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]
I.6	The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]
I.7	The owner/operator shall comply with UAC R307-150 Series. Emission Inventories. [R307-150]
1.8	The owner/operator shall submit documentation of the status of construction or modification to the Director within 18 months from the date of this AO. This AO may become invalid if construction is not commenced within 18 months from the date of this AO or if construction is discontinued for 18 months or more. To ensure proper credit when notifying the Director, send the documentation to the Director, attn.: NSR Section. [R307-401-18]

SECTION II: PERMITTED EQUIPMENT

II.A <u>THE APPROVED EQUIPMENT</u>

II.A.1	Insulation Board & Roofing Membrane Production Plant
II.A.2	RTO Rating: 10 MMBtu/hr Fuel: Natural gas
II.A.3	ISO Foam Line

II.A.4	ISO Foam Line Baghouse
	Rating: 27.300 cfm
	Controls: ISO foam line PM emissions
II.A.5	Steam Generator
	Electric steam generator
	Listed for informational purposes only
II A 6	Thermal Heaters
11.1 1.0	Rating: Less than 5.0 MMBtu/hr each
	Fuel: Natural gas
	i uol. raturui gus
ΠΔ7	ISO Off-Line CNC Cut Saw (New)
11.7 1. /	150 On-Emic Cite Cat Baw (itew)
ΠΔ8	TPO Line
11.7 1.0	
ΠΑΘ	One (1) TPO Fluidized Sand Bath (New)
11.7 1.7	
II A 10	PVC Line
11.1 1.10	Max extruder rating: 7 500 lbs/br
	Number of extruders' Two (2)
II A 11	TPO and PVC Lines Baghouse
11.1.1.1.1	Max rating: 3 550 cfm
	Filter efficiency: Equal to or greater than 98%
	Thereficiely. Equal to of greater than 50%
II A 12	Silo Bin Vent
	Rating: 1 300 cfm each
	Number: Four (4) per silo
	Controls: Silo PM emissions
II.A.13	Polypropylene Silo
	Rating: 10 cfm
	Number: Three (3)
	Control: Bin vent filters
II.A.14	PVC Silos
	Number: Two (2)
	Control: Bin vent filter
II.A.15	One (1) Storage Tank
	35,000-gallon Pentane Tank
	Control: RTO
II.A.16	Indoor Storage Tanks
	Three (3) 20,000-gallon MDI tanks
	Three (3) 20,000-gallon Polyol tanks
	One (1) 7,500-gallon K-Oct tank
	One (1) 7,500-gallon TCPP tank
	Listed for informational purposes only. All above tanks vent internally.

SECTION II: SPECIAL PROVISIONS

II.B <u>REQUIREMENTS AND LIMITATIONS</u>

II.B.1	Insulation Board and Roofing Membrane Production Plant
II.B.1.a	The owner/operator shall not allow visible emissions from any stationary source on site to exceed 10% opacity. [R307-401-8]
II.B.1.a.1	Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]
II.B.1.b	The owner/operator shall use only natural gas as fuel in the stationary equipment on site. [R307-401-8]
II.B.2	Storage Tank Requirements
II.B.2.a	The owner/operator shall equip each MDI storage tank with coalescing or equivalent-type filters. [R307-401-8]
II.B.2.b	The owner/operator shall control VOC emissions during tank loading operations at all times by using a vapor recovery system or equivalent filter-type system. [R307-401-8]
II.B.3	Baghouse/Bin Vent Requirements
II.B.3.a	The owner/operator shall route all emissions from the TPO and PVC lines raw material handling sources and the offline CNC cut saw through their designated operating baghouse prior to emitting to the atmosphere. [R307-401-8]
II.B.3.b	The owner/operator shall route all emissions from the polypropylene and PVC silos through an operating bin vent prior to emitting to the atmosphere. [R307-401-8]
II.B.4	RTO Requirements
II.B.4.a	The owner/operator shall control emissions from the ISO Foam Line with a unit RTO. All emissions from the ISO Foam Line shall be routed through the RTO before being vented to the atmosphere. [R307-401-8]
II.B.4.b	The owner/operator shall install an RTO that is equipped to handle no less than 29,182 standard cubic feet per minute (SCFM). [R307-401-8]
II.B.4.c	At all times while operating the RTO, the owner/operator shall maintain a temperature at or above 1,500°F in the RTO. [R307-401-8]
II.B.4.c.1	The owner/operator shall monitor the operating temperature with equipment located such that an inspector/operator can safely read the output at any time. [R307-401-8]
II.B.4.c.2	The owner/operator shall continuously monitor the operating temperature with a thermocouple located in the oxidizer chamber. [R307-401-8]
II.B.4.c.3	The minimum temperature reading of the thermocouple shall not be less than 1,488.75°F. The minimum electronic data historian sensitivity (minor division) is 20°F or as approved by the Director. [R307-401-8]
II.B.4.d	At least once every 12 months, the owner/operator shall have a third party calibrate the thermocouple in accordance with the manufacturer's recommendation. [R307-401-8]
II.B.4.e	The owner/operator shall operate and maintain the data acquisition system in accordance to the manufacturer's recommendations. [R307-401-8]

II.B.4.f	The owner/operator shall:
	A. Inspect the electronic data historian on a daily basis
	B. Inspect the RTO on a weekly basis.
	[R307-401-8]
II.B.4.f.1	The owner/operator shall:
	A. Maintain records of the inspections
	B. Keep the inspection records for all periods the plant is in operation.
	[R307-401-8]
II.B.5	ISO Line Off-Line CNC Cut Saw Baghouse Requirements
II.B.5.a	The owner/operator shall use a baghouse to control particulate emissions from the ISO offline CNC cut saw. All exhaust air from the sawing operations shall be vented to the baghouse prior to being vented to the atmosphere. [R307-401-8]
II.B.5.b	The owner/operator shall install a baghouse that is certified to meet a particulate matter control efficiency of no less than 95%. [R307-401-8]
II.B.5.b.1	To demonstrate compliance with the above condition, the owner/operator shall maintain records of the manufacturer's emissions guarantee for the installed baghouse. [R307-401-8]
II.B.5.c	The owner/operator shall install a manometer or magnehelic pressure gauge to measure the static pressure differential across the baghouse. [R307-401-8]
II.B.5.c.1	The pressure gauge shall be located such that an inspector/operator can safely read the indicator at any time. [R307-401-8]
II.B.5.d	During operation of the baghouse, the owner/operator shall maintain the static pressure differential within the range recommended by the manufacturer for normal operations. [R307-401-8]
II.B.5.d.1	The owner/operator shall record the static pressure differential at least once per operating day while the baghouse is operating. [R307-401-8]
II.B.5.d.2	The owner/operator shall maintain the following records of the static pressure differential:
	A. Unit identification;
	B. Manufacturer recommended static pressure differential for the unit;
	C. Daily static pressure differential readings;
	D. Date of reading.
	[R307-401-8]
II.B.5.e	At least once every 12 months, the owner/operator shall calibrate the pressure gauge in accordance with the manufacturer's instructions or replace the pressure gauge. [R307-401-8]
II.B.5.e.1	The owner/operator shall maintain records of the pressure gauge calibrations and replacements. [R307-401-8]

II.B.6	Fugitive Dust Requirements
II.B.6.a	The owner/operator shall pave all hauls roads, parking lots, and loading/unloading areas on site. [R307-401-8]

PERMIT HISTORY

This Approval Order shall supersede (if a modification) or will be based on the following documents:

Supersedes Is Derived From AO DAQE-AN146030002-15 dated November 18, 2015 NOI dated September 25, 2024

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by Environmental Protection Agency to classify
	sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
0	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - Title 40 of the Code of Federal Regulations Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ/UDAQ	Division of Air Quality
DAQE	This is a document tracking code for internal Division of Air Quality use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - Title 40 of the Code of Federal Regulations 52.21 (b)(49)(i)
GWP	Global Warming Potential - Title 40 of the Code of Federal Regulations Part 86.1818- 12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/YR	Pounds per year
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO _x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
PM _{2.5}	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
VOC	Volatile organic compounds