

# TECHNICAL SUPPORT DOCUMENT

TECHNICAL INFORMATION PRESENTED IN REVIEW OF AN  
APPLICATION FOR A PART 70 OPERATING PERMIT

SUBMITTED BY:

Broadbent & Associates, Inc.  
8 West Pacific Avenue  
Henderson, Nevada 89015

FOR:

GEORGIA-PACIFIC GYPSUM LLC

LOCATION:

P.O. Box 337350,  
Las Vegas, Nevada 89033

**Part 70 Operating Permit Number: 593**  
**Initial Permit Issued: October 27, 1998**  
**Renewal Permit Issued: November 3, 2009**  
**Revision Permit Issued: December 9, 2011**  
**Permit Expiration: November 2, 2014**

SIC Code 3275: Gypsum Manufacturing



Clark County  
Department of Air Quality Management  
Permitting Section

**12/09/2011**

***This Technical Support Document (TSD) accompanies the proposed Revision to the Part 70 Operating Permit for Georgia-Pacific Gypsum LLC.***

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## I. ACRONYMS

**Table I-1: List of Acronyms**

Acronym	Term
AQIA	Air Quality Impact Analysis
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
ATC/OP	Authority to Construct/Operating Permit
BCC	Clark County Board of County Commissioners
BHP	Brake Horse Power
CAO	Field Corrective Action Order
CE	Control Efficiency
CF	Control Factor
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CPI	Urban Consumer Price Index
DAQEM	Clark County Department of Air Quality & Environmental Management
EF	Emission Factor
EPA	United States Environmental Protection Agency
EU	Emission Unit
g/dscm	Grams/dry standard cubic meter
gr/dscf	Grains/dry standard cubic foot
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
HP	Horse Power
MMcf	Million cubic feet
MPH	Miles per hour
Msf	Thousand square feet
NAC	Nevada Administrative Code
NAICS	North American Industry Classification System
NCA #1	Nevada Cogeneration Associates #1
NEI	Net Emission Increase
NO <sub>x</sub>	Nitrogen Oxides
NOV	Notice of Violation
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standards
NSR	New Source Review
OP	Operating Permit
PM <sub>2.5</sub>	Particulate Matter less than 2.5 microns
PM <sub>10</sub>	Particulate Matter less than 10 microns
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
scf	Standard Cubic Feet
SCC	Source Classification Codes
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO <sub>x</sub>	Sulfur Oxides
TCS	Toxic Chemical Substance
TSD	Technical Support Document
VE	Visible Emissions
VOC	Volatile Organic Compound
Δp	Pressure Differential

## II. EXECUTIVE SUMMARY

Georgia-Pacific Gypsum LLC (G-P) operates a gypsum wallboard and plaster manufacturing facility. All manufacturing and support processes at the site are grouped under the Standard Industrial Classification (SIC) Code 3275: Gypsum Products and North American Industry Classification System (NAICS) Code 327420: Gypsum Product Manufacturing. G-P is located in Apex, twenty miles north of the City of Las Vegas, Nevada. The legal description of the source's location is: T18S, R63E, Sections 34 and 35 in Apex Valley, Clark County, Apex, Nevada. G-P is situated in Hydrographic Area 216 (Apex Valley – Garnet Valley). Apex Valley is designated as an unclassified nonattainment area for 8-hours ozone (regulated through NO<sub>x</sub> and VOC) and is PSD for PM<sub>10</sub>, PM<sub>2.5</sub>, CO, and SO<sub>2</sub>.

G-P has calculated the emission of their greenhouse gases (GHG) by using the maximum potential fuel usage at the facility. Using EPA's "Applicability Tool Calculator" G-P calculated that their maximum GHG emissions for their facility are 85,915 metric tons per year which is under the regulatory threshold of 100,000 metric tons per year.

G-P is a major source for NO<sub>x</sub> and CO and a minor source for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, and VOC. G-P processes gypsum ore and manufactures wallboard and alpha and beta plaster.

The following table summarizes the source PTE for each regulated air pollutant for all emission units addressed by this revision to the Part 70 Operating permit:

<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>VOC</b>
<b>61.20</b>	<b>9.94</b>	<b>99.87</b>	<b>256.37</b>	<b>2.52</b>	<b>30.72</b>

DAQEM received the Title V revision application on April 6, 2011. The application requested a Title V revision to update the throughputs of VOC additives and inks, to remove HAP emissions from the Operating Permit, to incorporate ATC Modification 8 to the Operating Permit, to install rates, make, model numbers, and serial numbers, to remove AQR Section 49 performance testing for the Alpha boiler, to change performance testing protocol review language, and to change the language related to dust suppression logging. Based on the information submitted by the applicant and a technical review performed by the DAQEM staff, the DAQEM proposes the issuance of a revision to the Part 70 Operating Permit for Georgia-Pacific Gypsum LLC.

### III. SOURCE INFORMATION

#### A. General

Permittee	Georgia-Pacific Gypsum LLC
Mailing Address	P.O Box 337350, Las Vegas, Nevada 89033
Contacts	Mark A. Warren, Plant Manager John Wilkes, Environmental Coordinator
Phone Number	(702) 643-8100 X 302
Fax Number	(702) 643-2049
Source Location	Twenty miles North of the City of Las Vegas, Nevada
Hydrographic Area	216
Township, Range, Section	T18S, R63E, Sections 34 & 35
SIC Code	3275 – Gypsum Products
NAICS Code	327420 – Gypsum Products Manufacturing

#### B. Description of Process

The major raw material for gypsum wallboard and plaster production is gypsum rock. The rock is transported to the source and is stored in stockpiles prior to being loaded into feed hoppers. Detailed process description is included in the TSD for renewed Part 70 OP issued on November 3, 2009.

#### C. Permitting History

DAQEM received the Title V revision application on April 6, 2011. The application requested:

- Revision of VOC and HAP additives and inks throughputs and update the VOC and HAP PTE to reflect the current operating scenario;
- Removal of HAP Source PTE and regulating conditions from the Operating Permit, because the HAP falls below the HAP Major Source Thresholds;
- Incorporation of ATC Modification 8 to the Title V Operating Permit;
- Installation of maximum production rates, makes, model numbers, and serial numbers for crushers, screens, Imp Mills, Board Dryer, Roller Mills, Kettles, Mixers, boilers and IC engines, where available;
- Removal of AQR 49 reference for performance test requirements for the Alpha Boiler (EU: E145). The Alpha Boiler will be subject to AQR 12.5.2.8 and DAQEM's "Guidelines for Source Testing".
- Change to permitting language in Condition II(E)(2) of the Title V Operating Permit by adding "unless approved by the Control Officer". DAQEM will not change the current language because it is implied in the condition; and
- Change to permitting language in Condition III(B)(3)(g) of the Operating Permit by adding "on those days when the plant is operating". DAQEM will change the condition to the requested language.
- Add Greenhouse Gas emissions

DAQEM will also update the Operating Permit by including PM<sub>2.5</sub> emissions from all combustion units, install the Alpha Boiler (EU: E145) manufacturer's maximum emission rate in ppm of NO<sub>x</sub> and CO, and applicable 40 CFR 63 Subpart ZZZZ language for the generator and fire pump.

The revisions proposed in this permitting action do not directly affect emission units that emit particulates, therefore, the source is not being required to quantify PM<sub>2.5</sub> at this time. As the regulation of PM<sub>2.5</sub> emissions was promulgated since the current Title V Operating Permit was issued, DAQEM introduced these emissions to the permit based on the PM<sub>10</sub> emissions from combustion units. Future revisions affecting combustion units, or the next Title V renewal, whichever comes first, will necessitate more representative quantification of PM<sub>2.5</sub> emissions by the source.

#### D. Operating Scenario

All the emission units and control equipment except the Perkins emergency generator and the Caterpillar fire pump (EU: G33 and G34), are permitted for unlimited operations. Both the Perkins emergency generator and the Caterpillar fire pump are limited to 1 hour per day and 30 hours per years for testing and maintenance.

#### E. Proposed Exemptions

G-P has not proposed any exemptions in the Title V revision application.

### IV. EMISSIONS INFORMATION

#### A. Total Source Potential to Emit

Based upon the source-wide PTE, G-P is a major source of NO<sub>x</sub> and CO, and a minor source of PM<sub>10</sub>, PM<sub>2.5</sub> (presumably), SO<sub>x</sub>, and VOC. Additionally, the source emits HAP below the major source thresholds, precluding these emissions from regulation under the authority of the Title V Operating Permit.

**Table IV-A-1: Source Permit Allowables and HAP (tons per year)**

PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HAP
61.20	9.94	99.87	256.37	2.52	30.72	8.85

#### NEI Calculations:

G-P has requested the Modification 8 ATC be incorporated in this Part 70 Operating Permit, as well as, increasing the throughputs for the board additives, adhesives, silicone, paint, and ink used for the Forming Line (EU: E02). The increase to the throughputs of the Forming Line did not increase the VOC emissions, but did increase the HAP emissions. This is demonstrated in the NEI, though HAP emission continues to be a minor pollutant at G-P.

**Table VI-D-1: NEI for Modification 8 and Increased to Forming Line**

	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HAP
Part 70 OP: Issued 11/09 PTE	61.11	0.00	99.87	256.37	2.52	30.72	2.64
Modification 8	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Part 70 OP Revision	0.00	9.94	0.00	0.00	0.00	0.00	6.21
<b>Part 70 OP: Revised PTE</b>	<b>61.20</b>	<b>9.94</b>	<b>99.87</b>	<b>256.37</b>	<b>2.52</b>	<b>30.72</b>	<b>8.85</b>

## B. Equipment Description

G-P has installed a new ball mill (EU: E187) with a filter drum that controls emissions 99.0% and South and North Additive Feeder Belts (EU: E133 and E134) to the Plaster Plant.

All other equipment and control devices have not been affected by this revision.

## C. Emission Units and PTE

Table IV-C-1 and 2 identifies the emission units associated with the source.

**Table IV-C-1: List of Emission Units for the Wallboard Plant**

EU	Rate	Description	Make	Model	Serial	SCC
A03		Rock/Recycle Feeder System				30501509
B01		Crushing Area Conveyor				30501504
		Bucket Elevator - Cemco Feed				30501504
		Bucket Elevator - Rock Tank				30501504
		Bucket Elevator -Rock Supply				30501504
B02	80 tons/hr	Primary Crusher	Universal	N/A	N/A	30501505
B03		200 Ton Rock Bin				30501509
F01	80 tons/hr	End Trim/Bundler	N/A	N/A	N/A	30501521
F02	43 tons/hr	Re-cut Machine	N/A	N/A	N/A	30501521
F03	5 tons/hr	Riser Machine	N/A	N/A	N/A	30501521
D17		Milling Area Conveyors System				30501518
B04	80 tons/hr	Secondary Crusher	Cemco	N/A	N/A	30501506
C01	10 tons/hr	Imp Mill #1 - Gypsum Processing	Delta	N/A	N/A	30501513
	7.5 MMBtu/ hr	Imp Mill #1 - Heated by exhaust gas (NCA #1)				
C02	10 tons/hr	Imp Mill #2 - Gypsum Processing	Delta	N/A	N/A	30501513
	7.5 MMBtu/ hr	Imp Mill #2 - Heated by exhaust gas (NCA #1)				
C03	10 tons/hr	Imp Mill #3 - Gypsum Processing	Delta	N/A	N/A	30501513
	7.5 MMBtu/ hr	Imp Mill #3 - Heated by exhaust gas (NCA #1)				
C04	10 tons/hr	Imp Mill #4 - Gypsum Processing	Delta	N/A	N/A	30501513
	7.5 MMBtu/ hr	Imp Mill #4 - Heated by exhaust gas (NCA #1)				
C05	10 tons/hr	Imp Mill #5 - Gypsum Processing	Delta	N/A	N/A	30501513
	7.5 MMBtu/ hr	Imp Mill #5 - Heated by exhaust gas (NCA #1)				
D01a		Stucco Area Conveyor System				30501518
D01b		Stucco Area Conveyor System				30501518
D01c		Stucco Area Conveyor System				30501518
		Bucket Elevator - Stucco Transfer				30501504
D01d		Stucco Area Conveyor System				30501518

EU	Rate	Description	Make	Model	Serial	SCC
D01e		Stucco Area Conveyor System				30501518
		Bucket Elevator - Stucco Tank				30501504
		Bucket Elevator - Stucco Supply				30501504
		Bucket Elevator - Stucco Recirculating				30501504
D18	50 tons/hr	Hammermill	N/A	N/A	N/A	30501599
D06	50 tons/hr	Stucco Blender #2	N/A	N/A	N/A	30501518
D03		North Stucco Storage Bin				30501514
D04		South Stucco Storage Bin				30501514
D07	50 tons/hr	Pin Mixer	N/A	N/A	N/A	30501516
D08		Vermiculite Bin				30501599
		Bucket Elevator - Vermiculite				30501504
D09		Landplaster Bin #1				30501510
D10		Landplaster Bin #2				30501510
		Bucket Elevator - Land Plaster				30501504
D11	5 tons/hr	Ball Mill #1	N/A	N/A	N/A	30501515
D12	5 tons/hr	Ball Mill #2	N/A	N/A	N/A	30501515
D13		Interior Baghouse Conveyors System				30501504
		Interior Baghouse Hopper				30501514
D14		Concrete Basin				30501599
		Fiberglass Feed Hopper				30501599
E01	1.75 MMBtu/hr	Paper Heaters	N/A	N/A	N/A	30501599
E02		Forming Line				30501519
E03	Zone 1: 30.0 MMBtu/hr, Zone 2: 30.0 MMBtu/hr, Zone 3: 15.0 MMBtu/hr	Board Dryer: Natural Gas Heaters and/or Heat supplied by NCA #1: [includes emissions from EU: E02]	COE	N/A	N/A	30501520

**Table IV-C-2: List of Emission Units for the Plaster Plant**

EU	Rate	Description	Make	Model	Serial	SCC
E101	50 tons/hr	Roll Crusher	Williams	N/A	20047	30501506
E102		Rock Conveyor System				30501504
E164	50 tons/hr	Alpha Rock Screen	Simplicity	N/A	238-nuz6s-ss13	30501507
E174	50 tons/hr	North Beta Rock Grizzly Feed Screen	N/A	N/A	N/A	30501599

EU	Rate	Description	Make	Model	Serial	SCC
E175	50 tons/hr	South Beta Rock Grizzly Feed Screen	N/A	N/A	N/A	30501599
E103		West Beta Rock Bin				30501509
E104		East Beta Rock Bin				30501509
E108		West LP Bin				30501599
E109		East LP Bin				30501599
E105	25.0 tons/hr	West Roller Mill - Gypsum Processing	Williams	N/A	20030	30501502
	5.7 MMBtu/hr	West Roller Mill - Combustion				
E106	25.0 tons/hr	East Roller Mill - Gypsum Processing	Williams	N/A	20023	30501502
	5.7 MMBtu/hr	East Roller Mill - Combustion				
E110	15 tons/hr	West Kettle - Gypsum Processing	ABB Alstom	N/A	N/A	30501511
	20.0 MMBtu/hr	West Kettle - Combustion				
E111	15 tons/hr	East Kettle - Gypsum Processing	ABB Alstom	N/A	N/A	30501511
	20.0 MMBtu/hr	East Kettle - Combustion				
E142		Alpha Rock Conveyors				30501504
		Bucket Elevator - Alpha Basket				
E143	50 tons/hr	South Alpha Rock Bin				30501509
E144	50 tons/hr	North Alpha Rock Bin				30501509
E176	50 tons/hr	South Alpha Rock Bin Grizzly Feed Screen	N/A	N/A	N/A	30501599
E177	50 tons/hr	North Alpha Rock Bin Grizzly Feed Screen	N/A	N/A	N/A	30501599
E178	50 tons/hr	Alpha Rock Elevator Screen	N/A	N/A	N/A	30501599
E149	2 tons/hr	Pan Dryer #1	N/A	N/A	N/A	30501599
E150	2 tons/hr	Pan Dryer #2	N/A	N/A	N/A	30501599
E151	2 tons/hr	Pan Dryer #3	N/A	N/A	N/A	30501599
E179	1 tons/hr	Autoclave System #1 through #8	N/A	N/A	N/A	30501512
E152	N/A	Alpha IMPACT Mill #1	N/A	N/A	N/A	30501514
		Alpha Air Separator	Raymond			30501599
		Bucket Elevator - Alpha Reheater Feed				30501504

EU	Rate	Description	Make	Model	Serial	SCC
		Bucket Elevator - Alpha Reheater Disch.				
E161	6 tons/hr	Alpha Crusher #1	Cemco	N/A	N/A	30501515
E162	6 tons/hr	Alpha Crusher #2	Cemco	N/A	N/A	30501515
E160	6 tons/hr	Alpha Hammermill	Jeffery	30ABF	10034404	30501599
E154	6 tons/hr	Alpha Hummer Screen	Tycan	N/A	N/A	30501599
E157		South Alpha Storage Bin				30501514
E158		North Alpha Storage Bin				30501514
G11		Alpha Surge Bin				30501514
G25		Bucket Elevator - Alpha Surge Bin				30501514
G28		Bucket Elevator - Alpha Storage Bin				30501514
E156	6 tons/hr	Alpha Reject Screens	Sweeco	N/A	N/A	30501599
E107		LP Bulk Loadout Bin w/ Enclosed Screw Conveyor				30501510
		LP Bulk Loadout				30501517
		Ag Gyp Packer				
E173		LP Bin Airvey System				30501599
G13		LP Bulk Bagging				30501517
E113		Reject Bin				30501514
E166	20 tons/hr	Stucco Sweeco Screen	Sweeco	N/A	N/A	30501599
E114		Stucco Bulk Loadout Bin				30501514
		Stucco Bulk Loadout				30501517
E115	25 tons/hr	West Hummer Screen	Tycan	4X15	17577	30501599
E117		West Stucco Bin				30501514
		West Air Separator				30501599
E119	10 tons/hr	West Beta IMPACT Mill #1	Entoleter	533	N/A	30501515
G14	10 tons/hr	West Beta IMPACT Mill #2	Entoleter	533	N/A	30501515
		Bucket Elevator - East Finish Stucco				30501504
E118		East Stucco Bin				30501514
E116	25 tons/hr	East Hummer Screen	Tycan	4X15	17576	30501599
E120	10 tons/hr	East Beta IMPACT Mill #1	Entoleter	533	N/A	30501515
G16	10 tons/hr	East Beta IMPACT Mill #2	Entoleter	533	N/A	30501515

EU	Rate	Description	Make	Model	Serial	SCC
		Bucket Elevator - West Finish Stucco				30501514
E122		Split Finish Bin #1 South				30501514
E123		Split Finish Bin #1 North				30501514
E124		Split Finish Bin #2 South				30501514
E125		Split Finish Bin #2 North				30501514
E126		Split Finish Bin #3 South				30501514
E127		Split Finish Bin #3 North				30501514
E128		South Alpha Bin				30501514
E130		Cement Bin				30501599
E129		North Alpha Bin				30501514
E172		HiVAC Vacuum System				30501599
E140		MP Bulk Bagging				30501517
		MP Bulk Load Out Bin				30501514
E139		FP Bulk Load Out Bin				30501514
E168		FP Bulk Bagging				30501517
E112		Stucco Conveyors System				30501518
		Bucket Elevator - West Hot Pit				30501504
		Bucket Elevator - East Hot Pit				30501504
G15	15 tons/hr	West Beta IMPACT Mill #3	Entoleter	N/A	N/A	30501515
G17	15 tons/hr	East Beta IMPACT Mill #3	Entoleter	N/A	N/A	30501515
E187	0.05 tons/hr	Ball Mill	N/A	N/A	N/A	30501515
E133		South Bag Packer				30501517
		South Weigh Hopper				30501599
		South Additive Feeder Belt <sup>N</sup>				30501504
	30 tons/hr	South Mixer	Scott	STPPDG969S S	1019	30501516
		South MP Bulk Loadout				30501599
		South Bag Packer Feed Hopper				30501514
E134		North Bag Packer				30501517

EU	Rate	Description	Make	Model	Serial	SCC
		North Weigh Hopper				30501599
		North Additive Feeder Belt				30501504
	30 tons/hr	North Mixer	Scott	STPPDG969S S	1018	30501516
		North MP Bulk Loadout				30501599
		North Bag Packer Feed Hopper				30501514
		Bucket Elevator - Mixed Product				30501514
G18		Hamilton Surge Bin				30501514
G19		Hamilton Bulk Loadout Bin				30501514
		Hamilton Bulk Loadout				30501599
G21	30 tons/hr	Hamilton Rotary Screens	Kemtec	N/A	N/A	30501599
E145	12.0 MMBtu/hr	Alpha Boiler	Cleaver Brooks	CB1700500150	OL09977 6	20200202
E146	1.2 MMBtu/hr	Boiler #1	Paratherm	FT-0120-C	3103-C	20200202
E147	1.2 MMBtu/hr	Boiler #2	Paratherm	FT-0120-C	3105-C	20200202
E148	1.2 MMBtu/hr	Boiler #3	Paratherm	FT-0120-C	3104-C	20200202
E153	1.2 MMBtu/hr	Alpha Multiscrew Heater	N/A	N/A	N/A	20200202
E159	1.0 MMBtu/hr	Alpha Duct Burner	N/A	N/A	N/A	20200202
G32		Plaster Mill Ink				30501599

**Table IV-C-3: Emergency IC Engines Emission List**

EU	Rate (hp)	Description	Make	Model	Serial	SCC
G33	59	Perkins - Emergency	Perkins	9182454	26434001 T	20200102
G34	660	Caterpillar - Fire Pump	Caterpillar	3412	28S20760	20200102

**Table IV-C-4: Fugitive Emission List**

EU	Rate	Description	Make	Model	Serial	SCC
A01		Wallboard Trucks				30501503
FE100		Rock Trucks (weighted)				30501503

EU	Rate	Description	Make	Model	Serial	SCC
		Rock Trucks (South Route)				
		Bulk Plaster Trucks (Plaster Loop)				
		Bulk Plaster Trucks (North Road)				
		Plaster Trucks (Flatbed)				
		Rock Trucks (Unpaved Road)				
FE200		Loaders				30501503
EU	Rate (tons/day)	Description	Moisture	Wind Speed (mph)	SCC	
FE300	720	Batch Dumping Beta Rock	0.50%	4.5	30501599	
FE141	175	Batch Dumping Alpha Rock	0.50%	4.5	30501599	
FE200a	1,890	Truck Dumping	0.50%	4.5	30501599	
FE200b	1,200	Batch Dumping Board Rock	0.50%	4.5	30501599	
A02	2.5 acres	Stockpile Area				30501508

**Table IV-C-5: Emission Units and PM<sub>10</sub> PTE (tons per year)**

Wallboard Plant					
EU	PM <sub>10</sub>	EU	PM <sub>10</sub>	EU	PM <sub>10</sub>
A03	0.01	C03	4.38	D04	0.35
B01	0.77	C04	4.38	D07	0.02
B02	0.46	C05	4.38	D08	0.01
B03	0.14	D01a	0.11	D09	0.01
F01	1.41	D01b	0.11	D10	0.01
F02	0.16	D01c	0.13	D11	0.03
F03	0.16	D01d	0.11	D12	0.03
D17	0.44	D01e	0.18	D13	0.44
B04	0.46	D18	0.28	D14	0.00
C01	4.38	D06	0.02		
C02	4.38	D03	0.35		
Plaster Plant					
EU	PM <sub>10</sub>	EU	PM <sub>10</sub>	EU	PM <sub>10</sub>
E101	0.28	E161	0.03	E122	0.35
E102	0.22	E162	0.03	E123	0.35
E164	0.18	E160	0.03	E124	0.35
E174	0.18	E154	0.02	E125	0.35
E175	0.18	E157	0.04	E126	0.35
E103	0.35	E158	0.04	E127	0.35
E104	0.35	G11	0.04	E128	0.14
E108	0.18	G25	0.01	E130	0.14
E109	0.18	G28	0.01	E129	0.14
E105	1.42	E156	0.02	E172	0.18
E106	1.42	E107	0.46	E140	0.23
E110	1.71	E173	0.21	E139	0.14
E111	1.71	G13	0.02	E168	0.02
E142	0.12	E113	0.14	E112	0.48
E143	0.35	E166	0.07	G15	0.09

E144	0.35	E114	0.35	G17	0.09
E176	0.18	E115	0.09	E187	0.01
E177	0.18	E117	0.23	E133	0.42
E178	0.18	E119	0.06	E134	0.43
E149	0.01	G14	0.07	G18	0.21
E150	0.01	E118	0.18	G19	0.21
E151	0.01	E116	0.09	G21	0.32
E179	0.00	E120	0.06		
E152	0.06	G16	0.07		
Fugitive Emissions					
EU	PM <sub>10</sub>	EU	PM <sub>10</sub>	EU	PM <sub>10</sub>
A01	0.11	FE300	0.13	FE200b	0.22
FE100	2.23	FE141	0.03	A02	0.76
FE200	0.70	FE200a	2.35		

<sup>1</sup>Efficiency factors are based on AP-42 emission rates from Chapter 11.16 – Gypsum Manufacturing.

<sup>2</sup>Control Factors were based on 0.01 equate to 99.0 percent, 0.005 equate to 99.5 percent, 0.001 equaling 99.9 percent control from baghouse use and enclosed batch process (EU: E179) has 100 percent control.

**Table IV-C-6: Combustion Emission Units and PTE (tons per year)**

Wallboard Plant						
EU	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC
C01	0.18	0.18	4.17	15.54	0.10	0.30
C02	0.18	0.18	4.17	15.54	0.10	0.30
C03	0.18	0.18	4.17	15.54	0.10	0.30
C04	0.18	0.18	4.17	15.54	0.10	0.30
C05	0.18	0.18	4.17	15.54	0.10	0.30
E01	0.04	0.04	0.73	0.61	0.01	0.04
E03	7.57	7.57	49.20	153.70	1.89	4.56
Plaster Plant						
EU	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC
E105	0.01	0.01	2.38	2.00	0.01	0.13
E106	0.01	0.01	2.38	2.00	0.01	0.13
E110	0.48	0.48	8.34	7.01	0.05	0.46
E111	0.48	0.48	8.34	7.01	0.05	0.46
E145	0.29	0.29	5.01	4.20	0.03	0.28
E146	0.03	0.03	0.50	0.42	0.01	0.03
E147	0.03	0.03	0.50	0.42	0.01	0.03
E148	0.03	0.03	0.50	0.42	0.01	0.03
E153	0.03	0.03	0.50	0.42	0.01	0.03
E159	0.02	0.02	0.42	0.35	0.01	0.02
IC Engines						
EU	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC
G33	0.01	0.01	0.03	0.01	0.01	0.01
G34	0.01	0.01	0.24	0.05	0.01	0.06

Combustion emission factors for the Imp Mills (EU: C01-C05) are based on worse-case scenario utilizing 50% heat from natural gas and 50% heat from NCA#1 exhaust gas, emission factors for the Paper Heater (EU: E01), Roller Mills (EU: E105 and E106), Kettles (EU: E110 and E111), Alpha Boiler (EU: E145), Paratherm Boilers (EU: E146, E147, & E148), Alpha Multiscrew Heater (EU: E153), and the Alpha Duct Burner (EU: E159) are based on AP-42: 1.4-1, 1.4-2, and 1.4-3, and the emission factors for the Board Dryer (EU: E03) is based on 1993 and 1999 dryer source testing for PM factors and natural gas burning.

**Table IV-C-7: Emission Unit - E02 and PTE Calculations for Board Additives and Inks**

Raw Materials	Throughput (lbs/hr)	Throughput (lbs/yr)	VOC%	HAP%	VOC PTE (tons/yr)	HAP PTE (tons/yr)
Other VOC Board Additives	431	1,344,824	2.00%	0.90%	13.45	6.05
Edge Adhesive (TR)	96	300,000	0.10%	0.10%	0.15	0.15
Edge Adhesive (DAP/DGG)	96	300,000	0.10%	0.10%	0.15	0.15
Silicone	147	460,000	3.50%	0.10%	8.05	0.23
Gold Paint	3	10,000	1.00%	0.10%	0.05	0.01
Wallboard Plant Ink	3	10,000	21.6%	20.00%	1.08	1.00
					<b>22.93</b>	<b>7.59</b>

**Table IV-C-8: Emission Unit - G32 and PTE Calculations for Ink**

EU	Description	SCC	Throughput		Pollutant	EF (lbs/tons)	PTE	
			lbs/hour	lbs/year			lbs/hour	tons/year
G32	Plaster Mill Ink	30501599	1	158	VOC	low VOC	0.22	0.02
					HAP	none	0.04	0.04

**D. Testing**

In Modification 8 ATC, G-P proposed a ball mill (EU: E187) and two additive feeder belts to the Plaster Plant. An update has been made to Table IV-D-1 to reflect new emission units and applicable performance testing, as well as, to correctly identify emission units with baghouses.

AQR Section 34 was applicable to the source and used to establish opacity and concentration standards for various baghouses. The standards of AQR Section 34 mirrored those of 40 CFR 60, Subpart OOO at the time of the initial analysis. As revisions to 40 CFR 60, Subpart OOO in 2008 made these standards more stringent than those listed in AQR Section 34, reference to AQR Section 34 was removed from the table below for streamlining purposes.

Rule applicability, opacity and concentrations standards in Table III-D-1 of the permit were removed as these requirements are specified elsewhere. This table should summarize the testing requirements for each applicable emission unit.

An analysis to the baghouses was not triggered by this permitting action, therefore, the applicability of AQR Section 34 was not re-evaluated based on its repeal as a local regulation. Additionally, the applicability of federal requirements, such as NSPS, were not re-evaluated in this permitting action.

Performance testing for the Wallboard and Plaster Plants shall be conducted annually and within 60 days of the anniversary date of the previous performance test. The performance testing is subject to DAQEM's "Guideline on Performance Testing" (Revised 09/05/03). The required performance testing will be performed using the methods listed in Table IV-D-1:

**Table IV-D-1: Performance Testing Protocol Requirements**

EU	Description	NSPS/AQR Applicability	Compliance Standard	Performance Test	Frequency
A03, B01-B04, D17, & F01-F03	Baghouse: BH-W01	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
C01	Baghouse: BH-W02	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
C02	Baghouse: BH-W03	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
C03	Baghouse: BH-W04	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
C04	Baghouse: BH-W05	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
C05	Baghouse: BH-W06	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
D01a	Baghouse: BH-W07	Section 34	No visible emissions	Method 22	Annual
D01b	Baghouse: BH-W08	Section 34	No visible emissions	Method 22	Annual
D01c	Baghouse: BH-W09	Subpart 000	No visible emissions	Method 22	Annual
D01d	Baghouse: BH-W10 & BH-W33	Section 34	No visible emissions	Method 22	Annual
D03	Baghouse: BH-W11	Subpart 000	No visible emissions	Method 22	Annual
D04	Baghouse: BH-W12	Subpart 000	No visible emissions	Method 22	Annual
D01e, D06, & D18	Baghouse: BH-W13	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
D07-D14	Baghouse: BH-W14	Subpart 000	No visible emissions	Method 22	Annual
E101, E102, E164, E174, & E175	Baghouse: BH-01	Subpart 000	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E103	Baghouse: BH-02	Subpart 000	7 percent opacity	Method 9	Annual
E104	Baghouse:	Subpart 000	7 percent	Method 9	Annual

EU	Description	NSPS/AQR Applicability	Compliance Standard	Performance Test	Frequency
	BH-03		opacity		
E105	Baghouse: BH-04	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E106	Baghouse: BH-05	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E108	Baghouse: BH-06	Subpart OOO	No visible emissions	Method 22	Annual
E109	Baghouse: BH-07	Subpart OOO	No visible emissions	Method 22	Annual
E110	Baghouse: BH-08	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
		Subpart UUU	10 percent opacity	Method 9	Annual
			0.092 g/dscm (0.040 gr/dscf)	Method 5 or Method 17	Every 5 years
E111	Baghouse: BH-09	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
		Subpart UUU	10 percent opacity	Method 9	Annual
			0.092 g/dscm (0.040 gr/dscf)	Method 5 or Method 17	Every 5 years
E107, E156, & E173	Baghouse: BH-10 & BH-33	Subpart OOO	No visible emissions	Method 22	Annual
E113 & G13	Baghouse: BH-11	Subpart OOO	No visible emissions	Method 22	Annual
E114 & E166	Baghouse: BH-12	Subpart OOO	No visible emissions	Method 22	Annual
E142-E144, E149-151, & E176-E178	Baghouse: BH-13	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
		Subpart UUU	10 percent opacity	Method 9	Annual
			0.092 g/dscm (0.040 gr/dscf)	Method 5 or Method 17	Every 5 years
E152, E154, E157, E158, E160-E162, G11, & G25-G28	Baghouse: BH-14	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E115, E117, E119, & G14	Baghouse: BH-15	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm	Method 5 or	Every 5 years

EU	Description	NSPS/AQR Applicability	Compliance Standard	Performance Test	Frequency
			(0.022 gr/dscf)	Method 17	
E116, E118, E120, & G16	Baghouse: BH-16	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E122	Baghouse: BH-17	Subpart OOO	No visible emissions	Method 22	Annual
E123	Baghouse: BH-18	Subpart OOO	No visible emissions	Method 22	Annual
E124	Baghouse: BH-19	Subpart OOO	No visible emissions	Method 22	Annual
E125	Baghouse: BH-20	Subpart OOO	No visible emissions	Method 22	Annual
E126	Baghouse: BH-21	Subpart OOO	No visible emissions	Method 22	Annual
E127	Baghouse: BH-22	Subpart OOO	No visible emissions	Method 22	Annual
E128	Baghouse: BH-23	Subpart OOO	No visible emissions	Method 22	Annual
E130	Baghouse: BH-24	Subpart OOO	No visible emissions	Method 22	Annual
E129	Baghouse: BH-25	Subpart OOO	No visible emissions	Method 22	Annual
E140	Baghouse: BH-28	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E139	Baghouse: BH-29	Subpart OOO	No visible emissions	Method 22	Annual
E112, E168, G15, & G17	Baghouse: BH-30	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E133 & E134	Baghouse: BH-31	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E172	Baghouse: BH-32	Subpart OOO	No visible emissions	Method 22	Annual
G18, G19, & G21	Baghouse: BH-34	Subpart OOO	7 percent opacity	Method 9	Annual
			0.05 g/dscm (0.022 gr/dscf)	Method 5 or Method 17	Every 5 years
E179	Enclosed Batch Process	Subpart UUU	10 percent opacity	Method 9	Annual
E187	Enclosed/Filter Drum	Subpart OOO	No visible emissions	Method 22	Annual

## **E. Emissions Monitoring**

1. The Permittee shall operate the emergency generator (EU: G33) and the emergency fire pump (EU: G34) with a non-resettable hour meter and monitor the duration of operation for testing and maintenance, and separately for emergencies. [40 CFR 63.6625(f)]
2. All emissions monitoring has been retained from the Title V Operating Permit issued November 2009.

## **V. REGULATORY REVIEW**

### **A. Local Regulatory Requirements**

1. A regulatory review of the local regulatory requirements is not required by this Title V revision. The analysis performed in the Title V renewal issued on November 3, 2009, remains valid.

### **B. Federally Applicable Regulations**

#### **Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

##### **40 CFR 63.6590 – Applicability**

**Discussion:** Subpart ZZZZ applies to the two emergency IC engines at the source (EU: G33 and G34).

##### **40 CFR 63.6595 – Date of Compliance**

**Discussion:** The Permittee must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.

##### **40 CFR 63.6503 – Emission Limitations and Operating Limitations**

**Discussion:** The requirements are stipulated in the revised Part 70 Operating Permit.

##### **40 CFR 63.6625 – Monitoring, Installation, Collection, Operation, and Maintenance Requirements**

**Discussion:** The Permittee must install a non-resettable hour meter if one is not already installed.

##### **40 CFR 63.6640 – Compliance**

**Discussion:** The Permittee is not limited by time during an emergency situation and is limited to 100 hours per year for all testing and maintenance.

##### **40 CFR 63.6655 – Records**

**Discussion:** The Permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the Permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to the maintenance plan, and record must be kept of the hours of operation of each engine that is recorded through the non-resettable hour meter.

## VI. COMPLIANCE

### A. Compliance Certification

12.5.2.8 Requirements for compliance certification:

- a. Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to the DAQEM Compliance Reporting Supervisor shall be as follows:

Required Report	Applicable Period	Due Date <sup>1</sup>
Quarterly Report for 1 <sup>st</sup> Calendar Quarter	January, February, March	April 30 each year
Quarterly Report for 2 <sup>nd</sup> Calendar Quarter	April, May, June	July 30 each year
Quarterly Report for 3 <sup>rd</sup> Calendar Quarter	July, August, September	October 30 each year
Quarterly Report for 4 <sup>th</sup> Calendar Quarter, any additional annual records required	October, November, December	January 30 each year
Annual Compliance Certification Report	12 Months	January 30 each year
Annual Emission Inventory Report	Calendar Year	March 31 each year
Notification of Malfunctions, Startup, Shutdowns or Deviations with Excess Emission	As Required	Within 24 hours of the Permittee learns of the event
Report of Malfunctions, Startup, Shutdowns or Deviations with Excess Emission	As Required	Within 72 hours of the notification
Deviation Report without Excess Emissions	As Required	Along with quarterly reports
Performance Testing	As Required	Within 60 days from the end of the test

<sup>1</sup>Each report shall be received by DAQEM on or before the due date listed. If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day.

- b. A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.
- c. A schedule for submission of compliance certifications during the permit term.
- d. A statement indicating the source's compliance status with any applicable enhanced monitoring and compliance certification requirement of the Act.

## VII. EMISSION REDUCTION CREDITS (OFFSETS)

The source is subject to offset requirements in accordance with AQR Section 59. Offset requirements and associated mitigation are pollutant-specific.

## VIII. ADMINISTRATIVE REQUIREMENTS

AQR Section 19 requires that DAQEM identify the original authority for each term or condition in the Part 70 Operating Permit. Such reference of origin or citation is denoted by [italic text in brackets] after each Part 70 Permit condition.

DAQEM proposes to issue the Part 70 Operating Permit conditions on the following basis:

**Legal:**

On December 5, 2001 in Federal Register Volume 66, Number 234 FR30097 the EPA fully approved the Title V Operating Permit Program submitted for the purpose of complying with the Title V requirements of the 1990 CAAA and implementing 40 CFR 70.

**Factual:**

G-P has supplied all the necessary information for DAQEM to draft Part 70 Operating Permit conditions encompassing all applicable requirements and corresponding compliance.

**Conclusion:**

DAQEM has determined that G-P will continue to determine compliance through the use of performance testing, quarterly reporting, daily recordkeeping, coupled with annual certifications of compliance. DAQEM proceeds with the preliminary decision that a Part 70 Operating Permit should be issued as drafted to G-P for a period not to exceed five years.