

ATTACHMENT E

SMAQMD Rule 201 Authority to Construct

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 20520 **ISSUED BY:** CARLA J. PRASETYO JO
DATE ISSUED: SEPTEMBER 12, 2007
DATE EXPIRES: SEPTEMBER 12, 2009
ISSUED TO: GRAFIL INC.
LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

DESCRIPTION:**GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 CONSISTING OF:**

1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)
2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 400 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)
3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)
4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)
5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER
6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE
7. SURFACE TREATED FIBER DRYER
8. SIZE BATH
9. SIZED FIBER DRYER
10. SIZED MAKE-UP FACILITY
11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN
12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #3 (P/O 11426)
13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 – 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (A/C 20519) AND LINE 32 (A/C 20520)]
14. WASTE HEAT RECOVERY BOILER, 2.4 MMBTU/HR, VENTED TO APC BAGHOUSE (P/O 19659)

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AUTHORITY TO CONSTRUCT CONDITIONS

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSIONS LIMITATIONS

5. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.71	N/A	21.71

- (A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

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7. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	46,894	47,415	47,936	47,936

8. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

9. NO AIR CONTAMINANT SHALL BE RELEASED INTO THE ATMOSPHERE THAT CAUSES A PUBLIC NUISANCE.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

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13. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTERBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840)
15. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTERBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (A/C 19659)

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: <ol style="list-style-type: none"> 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

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REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.
20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY TO DEMONSTRATE COMPLIANCE WITH THE EMISSION LIMITS. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

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24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

START-UP

25. UPON COMMENCING OPERATION UNDER THE MODIFICATIONS AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
26. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- A. THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
401	RINGELMANN CHART
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

GRAFIL INC.

EQUIPMENT LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

PERMIT NO.	EQUIPMENT DESCRIPTION
20520	<p><u>GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 CONSISTING OF:</u></p> <ol style="list-style-type: none">1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 400 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE7. SURFACE TREATED FIBER DRYER8. SIZE BATH9. SIZED FIBER DRYER10. SIZED MAKE-UP FACILITY11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #3 (P/O 11426)13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 - 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (P/O 20519) AND LINE 32 (P/O 20520)]14. WASTE HEAT RECOVERY BOILER, 2.4 MMBTU/HR, VENTED TO APC BAGHOUSE (P/O 19659)

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

DATE ISSUED: 10-15-2007
DATE EXPIRES: 10-24-2008 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSIONS LIMITATIONS

5. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x ^A	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.71	N/A	21.71

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

7. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
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NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
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CO	46,894	47,415	47,936	47,936

8. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

9. NO AIR CONTAMINANT SHALL BE RELEASED INTO THE ATMOSPHERE THAT CAUSES A PUBLIC NUISANCE.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 6 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840).
15. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTERBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659).

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.
20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
 - A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.

22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVES ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 20519 **ISSUED BY:** CARLA J. PRASETYO JO
DATE ISSUED: SEPTEMBER 12, 2007
DATE EXPIRES: SEPTEMBER 12, 2009
ISSUED TO: GRAFIL INC.
LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

DESCRIPTION:**GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 CONSISTING OF:**

1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)
2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 500 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)
3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)
4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)
5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER
6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE
7. SURFACE TREATED FIBER DRYER
8. SIZE BATH
9. SIZED FIBER DRYER
10. SIZED MAKE-UP FACILITY
11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN
12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #1 (P/O 11425)
13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 – 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (A/C 20519) AND LINE 32 (A/C 20520)]

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 20519

AUTHORITY TO CONSTRUCT CONDITIONS

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSIONS LIMITATIONS

5. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.71	N/A	21.71

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 20519

7. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	46,894	47,415	47,936	47,936

8. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

9. NO AIR CONTAMINANT SHALL BE RELEASED INTO THE ATMOSPHERE THAT CAUSES A PUBLIC NUISANCE.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER **ATTACHMENT 'A'**, APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 20519

13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTERBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840)
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTERBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (A/C 19659)

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: <ol style="list-style-type: none"> 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 20519

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.
20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY TO DEMONSTRATE COMPLIANCE WITH THE EMISSION LIMITS. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
 - A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 20519

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

START-UP

25. UPON COMMENCING OPERATION UNDER THE MODIFICATIONS AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
26. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
401	RINGELMANN CHART
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

GRAFIL INC.

EQUIPMENT LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

PERMIT NO.	EQUIPMENT DESCRIPTION
20519	<p>GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 CONSISTING OF:</p> <ol style="list-style-type: none">1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 500 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE7. SURFACE TREATED FIBER DRYER8. SIZE BATH9. SIZED FIBER DRYER10. SIZED MAKE-UP FACILITY11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #1 (P/O 11425)13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 - 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (P/O 20519) AND LINE 32 (P/O 20520)]

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.

LARRY GREENE

AIR POLLUTION CONTROL OFFICER

DATE ISSUED: 10-15-2007

DATE EXPIRES: 10-24-2008 (UNLESS RENEWED)

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSIONS LIMITATIONS

5. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x ^A	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.71	N/A	21.71

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

7. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	46,894	47,415	47,936	47,936

8. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

9. NO AIR CONTAMINANT SHALL BE RELEASED INTO THE ATMOSPHERE THAT CAUSES A PUBLIC NUISANCE.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 6 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840).

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTERBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659).

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.
20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM10 AND CO SHALL BE CONDUCTED ANNUALLY. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVES ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

**AIR QUALITY
MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

A/C NO.: 20835**ISSUED BY:** _____
CARLA J PRASETYO JO**DATE ISSUED:** AUGUST 12, 2008**DATE EXPIRES:** AUGUST 12, 2010**ISSUED TO:** GRAFIL INC.**LOCATION:** 5900 88TH STREET, SACRAMENTO, CA 95828**DESCRIPTION:** BOILER, CLEAVER BROOKS, MODEL: PROMETHEAN 4WI-NT-100, SERIAL NO. TO BE DETERMINED, NATURAL GAS-FIRED, 4.8 MMBTU/HR HEAT INPUT RATING, LOW-NOx BURNER, USAGE: INDUSTRIAL PROCESS.**AUTHORITY TO CONSTRUCT CONDITIONS****GENERAL**

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSION LIMITATIONS

5. THE EQUIPMENT SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.

AIR QUALITY MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 20835

6. THE BOILER SHALL NOT EMIT:
- A. NITROGEN OXIDES (NO_x) IN EXCESS OF 9 PPMDV,
 - B. CARBON MONOXIDE (CO) IN EXCESS OF 100 PPMDV,
- AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES, CORRECTED TO 3% O₂.
7. THE EMISSIONS FROM THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	EMISSION FACTOR(A) LB/MMCF	MAXIMUM ALLOWABLE EMISSION (B) LB/QUARTER
ROC	5.5	10
NO _x	10.9	21
SO _x	0.6	1
PM ₁₀	7.6	14
CO	74	141

(A) EMISSION FACTORS FOR ROC, SO_x AND PM₁₀ ARE FROM AP-42, TABLES 1.4-1 ~ 1.4-2, *EMISSION FACTORS FOR CRITERIA POLLUTANTS FROM NATURAL GAS COMBUSTION*, PG 1.4-5 ~ 1.4-6 (2/98). EMISSION FACTORS FOR NO_x AND CO ARE BASED ON THE 9 PPMVD AND 100 PPMVD @ 3% O₂, RESPECTIVELY, AS PROPOSED BY THE APPLICANT/MANUFACTURER.

(B) EMISSIONS ARE BASED ON A MAXIMUM FUEL USAGE OF 4,800 FT³/HOUR, 24 HOURS/DAY, AND 92 DAYS/QUARTER.

EQUIPMENT OPERATION

8. THE BOILER SHALL ONLY BE FIRED BY PIPELINE-QUALITY NATURAL GAS.
9. THE BOILER SHALL BE EQUIPPED WITH A NON-RESETTING TOTALIZING FUEL METER TO ENSURE COMPLIANCE WITH CONDITION NUMBERS 7 AND 10. THE TOTALIZING FUNCTION OF THE METER SHALL HAVE THE ABILITY TO READ UP TO AT LEAST 100 MILLION CUBIC FEET OF GAS BEFORE ROLLING OVER.
10. THE NATURAL GAS FUEL USAGE FOR THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMIT ONCE THE MONITORING EQUIPMENT (THAT IS REQUIRED PURSUANT TO CONDITION NO. 9) IS INSTALLED.

FUEL TYPE	FUEL METER TYPE	MAXIMUM QUARTERLY ALLOWABLE FUEL USAGE (CF/QUARTER)
NATURAL GAS	PRESSURE AND TEMPERATURE- COMPENSATED	1,907,000

(A) THIS LIMIT IS BASED ON A PRESSURE AND TEMPERATURE-COMPENSATED FUEL METER HOWEVER, IF THE ACTUAL FUEL METER INSTALLED IS DIFFERENT FROM PROPOSED, THE SOURCE MUST SUBMIT TO THE DISTRICT THE NATURAL GAS DELIVERY LINE PRESSURE (IN INCHES H₂O OR PSIG) FROM PG&E IN ORDER TO DETERMINE THE APPROPRIATE METER ADJUSTMENT FACTOR.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 20835

RECORDKEEPING

11. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY RECORDS SHALL BE MADE AVAILABLE WITHIN 30 DAYS OF END OF REPORTING PERIOD.

FREQUENCY	INFORMATION TO BE RECORDED
AT ALL TIME	SOURCE TEST REPORTS
QUARTERLY	TOTAL FUEL USAGE FOR THE BOILER (CU.FT NATURAL GAS/QUARTER).

EMISSION TESTING

12. A SOURCE TEST FOR NO_x AND CO SHALL BE CONDUCTED INITIALLY WITHIN 60 DAYS FROM START-UP WHEN USING NATURAL GAS AS FUEL TO DETERMINE COMPLIANCE WITH THE EMISSION LIMITS OF CONDITION 6. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - B. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - C. OPERATE THE BOILER AS CLOSE AS PHYSICALLY POSSIBLE TO THE RATED CAPACITY DURING THE SOURCE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
13. SOURCE TEST METHODS USED SHALL BE THOSE SPECIFIED IN SECTION 501 OF RULE 411, BOILER NOX:
- A. OXIDES OF NITROGEN – ARB METHOD 100 OR EPA METHOD 7E.
 - B. CARBON MONOXIDE – ARB METHOD 100 OR EPA METHOD 10.
 - C. STACK GAS OXYGEN – ARB METHOD 100 OR EPA METHOD 3A.
 - D. CARBON DIOXIDE – ARB METHOD 100 OR EPA METHOD 3A.
14. AS AN ALTERNATIVE TO SOURCE TESTING, AN APPROVED PORTABLE ANALYZER MAY BE USED TO DETERMINE COMPLIANCE WITH THE EMISSION LIMITS OF CONDITION 6 WITHIN 60 DAYS FROM START-UP. THE PORTABLE ANALYZER SHALL MEET THE SPECIFICATION STANDARDS IN RULE 411, ATTACHMENT B. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A. THE DISTRICT SHALL BE GIVEN AT LEAST 30 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
15. PORTABLE ANALYZER SOURCE TEST METHODS USED SHALL BE THOSE SPECIFIED IN SECTION 404.2 OF RULE 411, BOILER NOx:
- A. EMISSION READINGS SHALL BE AVERAGED OVER A 15 CONSECUTIVE-MINUTE PERIOD BY EITHER TAKING A CUMULATIVE 15-CONSECUTIVE-MINUTE SAMPLE READING; OR
 - B. BY TAKING AT LEAST FIVE (5) READINGS EVENLY SPACED OVER THE 15-CONSECUTIVE-MINUTE PERIOD.
 - C. IF THE RESULTS OF THE PORTABLE ANALYZER SHOW THAT THE NO_x EMISSIONS FROM THE UNIT EXCEED THE ALLOWABLE LIMITS OF CONDITION 6, THEN THE UNIT WILL BE REQUIRED TO BE SOURCE TESTED NO LATER THAN 60 DAYS FROM THE DATE OF DISCOVERING SUCH EXCEEDANCE.

EMISSION REDUCTION CREDITS (ERCS)

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 20835

16. PRIOR TO BEGINNING OF CONSTRUCTION/INSTALLATION, GRAFIL SHALL SURRENDER TO THE AIR POLLUTION CONTROL OFFICER SUFFICIENT NO_x EMISSION REDUCTION CREDITS AT THE APPROPRIATE OFFSET RATIO PURSUANT TO RULE 202 TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

PERMIT UNIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
20835	67	67	67	67	268

START-UP

17. AFTER INSTALLATION OF THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD) AT 916/874-4858 TO ARRANGE FOR A START-UP INSPECTION.
18. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- A. THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION,
 - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT,
 - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
411	BOILER NOX

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: GRAFIL INC.

EQUIPMENT LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

PERMIT NO.	EQUIPMENT DESCRIPTION
20835	BOILER, CLEAVER BROOKS, MODEL: 4WI-700-100-150, SERIAL NO.: 0L106305, NATURAL GAS-FIRED, 4.8 MMBTU/HR HEAT INPUT RATING, LOW-NO _x BURNER, USAGE: INDUSTRIAL PROCESS.

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

LARRY GREENE

AIR POLLUTION CONTROL OFFICER

DATE ISSUED: 02-20-2008

DATE EXPIRES: 10-24-2009 (UNLESS RENEWED)

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSIONS LIMITATIONS

5. THE BOILER SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE BOILER SHALL NOT EMIT:
 - A. NITROGEN OXIDES (NO_x) IN EXCESS OF 30 PPMDV, CORRECTED TO 3% O₂.
 - B. CARBON MONOXIDE (CO) IN EXCESS OF 400 PPMDV, CORRECTED TO 3% O₂.
7. THE EMISSIONS FROM THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	EMISSION FACTOR(A) LB/MMCF	MAXIMUM ALLOWABLE EMISSION (B) LB/QUARTER
ROC	5.5	10
NO _x	10.9	21
SO _x	0.6	1
PM ₁₀	7.6	14
CO	74	141

(A) EMISSION FACTORS FOR ROC, SO_x AND PM₁₀ ARE FROM AP-42, TABLES 1.4-1 ~ 1.4-2, *EMISSION FACTORS FOR CRITERIA POLLUTANTS FROM NATURAL GAS COMBUSTION*, PG 1.4-5 ~ 1.4-6 (7/98). EMISSION FACTORS FOR NO_x AND CO ARE BASED ON THE 9 PPMVD AND 100 PPMVD @ 3% O₂, RESPECTIVELY, AS PROPOSED BY THE APPLICANT/MANUFACTURER.

(B) EMISSIONS ARE BASED ON THE FUEL USAGE LIMIT OUTLINED IN CONDITION NO. 10 AND THE EMISSION FACTORS IN TGIS TABLE.

EQUIPMENT OPERATION

8. THE BOILER SHALL ONLY BE FIRED BY PIPELINE-QUALITY NATURAL GAS.
9. THE BOILER SHALL BE EQUIPPED WITH A NON-RESETTING TOTALIZING FUEL METER TO ENSURE COMPLIANCE WITH CONDITION NUMBERS 7 AND 10. THE TOTALIZING FUNCTION OF THE METER SHALL HAVE THE ABILITY TO READ UP TO AT LEAST 100 MILLION CUBIC FEET OF GAS BEFORE ROLLING OVER.
10. THE NATURAL GAS FUEL USAGE FOR THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMIT:

FUEL TYPE	FUEL METER TYPE	MAXIMUM QUARTERLY ALLOWABLE FUEL USAGE (CF/QUARTER)
NATURAL GAS	PRESSURE AND TEMPERATURE- COMPENSATED	1,907,000

(A) THIS LIMIT IS BASED ON A PRESSURE AND TEMPERATURE-COMPENSATED FUEL METER HOWEVER, IF THE ACTUAL FUEL METER INSTALLED IS DIFFERENT FROM PROPOSED, THE SOURCE MUST SUBMIT TO THE DISTRICT THE NATURAL GAS DELIVERY LINE PRESSURE (IN INCHES H₂O OR PSIG) FROM PG&E IN ORDER TO DETERMINE THE APPROPRIATE METER ADJUSTMENT FACTOR.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

RECORDKEEPING

11. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY RECORDS SHALL BE MADE AVAILABLE WITHIN 30 DAYS OF END OF REPORTING PERIOD.

FREQUENCY	INFORMATION TO BE RECORDED
AT ALL TIME	SOURCE TEST REPORTS
QUARTERLY	TOTAL FUEL USAGE FOR THE BOILER (CU.FT NATURAL GAS/QUARTER).

EMISSION REDUCTION CREDITS (ERCS)

12. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD FROM P/O 20149 & 20835:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #08-01044 (GRAFIL INC., BOILER SHUTDOWN)	67	67	67	67	268

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
411	BOILER NO _x
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21252 **ISSUED BY:** CARLA J. PRASETYO JO
DATE ISSUED: JULY 3, 2008
DATE EXPIRES: JULY 3, 2010
ISSUED TO: GRAFIL INC.
LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

DESCRIPTION:**GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 CONSISTING OF:**

1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)
2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 500 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)
3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)
4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)
5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER
6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE
7. SURFACE TREATED FIBER DRYER
8. SIZE BATH
9. SIZED FIBER DRYER
10. SIZED MAKE-UP FACILITY
11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN
12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #1 (P/O 11425)
13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 – 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (A/C 21252) AND LINE 32 (A/C 21253)]

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21252

AUTHORITY TO CONSTRUCT CONDITIONS**GENERAL**

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSIONS LIMITATIONS

5. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21252

7. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

8. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

9. NO AIR CONTAMINANT SHALL BE RELEASED INTO THE ATMOSPHERE THAT CAUSES A PUBLIC NUISANCE.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER **ATTACHMENT 'A'**, APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21252

13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTERBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840)
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTERBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659)

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21252**REPORTING**

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.
20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY TO DEMONSTRATE COMPLIANCE WITH THE EMISSION LIMITS. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21252

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

START-UP

25. UPON COMMENCING OPERATION UNDER THE MODIFICATIONS AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
26. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
301	STATIONARY SOURCE PERMIT FEES
202	NEW SOURCE REVIEW
401	RINGELMANN CHART
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: **GRAFIL INC.**
EQUIPMENT LOCATION: **5900 88TH STREET, SACRAMENTO, CA 95828**

PERMIT NO.	EQUIPMENT DESCRIPTION
21252	<p><u>GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 CONSISTING OF:</u></p> <ul style="list-style-type: none">A. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)B. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 500 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)C. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)D. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)E. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTERF. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHEREG. SURFACE TREATED FIBER DRYERH. SIZE BATHI. SIZED FIBER DRYERJ. SIZED MAKE-UP FACILITYK. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FANL. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #1 (P/O 11425)M. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 – 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (P/O 21252) AND LINE 32 (P/O 21253)]

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

DATE ISSUED: 09-19-2008
DATE EXPIRES: 10-24-2009 (UNLESS RENEWED)

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.+
5. THIS SOURCE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY AIR CONTAMINANT THAT CONSTITUTES A PUBLIC NUISANCE.

EMISSIONS LIMITATIONS

6. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
7. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x (A)	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

8. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

9. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDERKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840).
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTEBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659).

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT TE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.

20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 - BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVES ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21253 **ISSUED BY:** CARLA J. PRASETYO JO
DATE ISSUED: JULY 3, 2008
DATE EXPIRES: JULY 3, 2010
ISSUED TO: GRAFIL INC.
LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

DESCRIPTION:**GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 CONSISTING OF:**

1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)
2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 400 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)
3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)
4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)
5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER
6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE
7. SURFACE TREATED FIBER DRYER
8. SIZE BATH
9. SIZED FIBER DRYER
10. SIZED MAKE-UP FACILITY
11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN
12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #3 (P/O 11426)
13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 – 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (A/C 21252) AND LINE 32 (A/C 21253)]
14. WASTE HEAT RECOVERY BOILER, 2.4 MMBTU/HR, VENTED TO APC BAGHOUSE (P/O 19659)

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21253

AUTHORITY TO CONSTRUCT CONDITIONS

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSIONS LIMITATIONS

5. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21253

7. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

8. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

9. NO AIR CONTAMINANT SHALL BE RELEASED INTO THE ATMOSPHERE THAT CAUSES A PUBLIC NUISANCE.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

**AIR QUALITY
MANAGEMENT DISTRICT**

**AUTHORITY TO CONSTRUCT
(CONTINUED)**

A/C NO.: 21253

13. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTERBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840)
15. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTERBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659)

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21253

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.
20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY TO DEMONSTRATE COMPLIANCE WITH THE EMISSION LIMITS. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
 - A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21253

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

START-UP

25. UPON COMMENCING OPERATION UNDER THE MODIFICATIONS AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
26. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: **GRAFIL INC.**
EQUIPMENT LOCATION: **5900 88TH STREET, SACRAMENTO, CA 95828**

PERMIT NO.	EQUIPMENT DESCRIPTION
21253	<p><u>GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 CONSISTING OF:</u></p> <ul style="list-style-type: none">A. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)B. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 400 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)C. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)D. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)E. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTERF. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHEREG. SURFACE TREATED FIBER DRYERH. SIZE BATHI. SIZED FIBER DRYERJ. SIZED MAKE-UP FACILITYK. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FANL. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #3 (P/O 11426)M. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, INTERSCAN CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL NO. LD28, RANGE: 0 - 100 PPM HCN, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING [ONE HCN MONITOR SERVING BOTH LINE 31 (P/O 21252) AND LINE 32 (P/O 21253)]N. WASTE HEAT RECOVERY BOILER, 2.4 MMBTU/HR, VENTED TO APC BAGHOUSE (P/O 19659)]

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

- 1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.

DATE ISSUED: 09-19-2008
DATE EXPIRES: 10-24-2009 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.
5. THIS SOURCE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY AIR CONTAMINANT THAT CONSTITUTES A PUBLIC NUISANCE.

EMISSIONS LIMITATIONS

6. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
7. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x (A)	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

8. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

9. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 6 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840).
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTEBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659).

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT TE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.

20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:

- A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
- B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
- C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
- D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.

22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVES ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

A/C NO.: 21254**ISSUED BY:** _____
CARLA J PRASETYO JO**DATE ISSUED:** JULY 3, 2008**DATE EXPIRES:** JULY 3, 2010**ISSUED TO:** GRAFIL INC.**LOCATION:** 5900 88TH STREET, SACRAMENTO, CA 95828**DESCRIPTION:** BOILER, CLEAVER BROOKS, MODEL: PROMETHEAN CBI 200-150-150, SERIAL NO. OL103578, NATURAL GAS-FIRED, 6.124 MMBTU/HR HEAT INPUT RATING, LOW-NO_x BURNER, USAGE: INDUSTRIAL PROCESS.**AUTHORITY TO CONSTRUCT CONDITIONS****GENERAL**

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSION LIMITATIONS

5. THE EQUIPMENT SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE BOILER SHALL NOT EMIT:
 - A. NITROGEN OXIDES (NO_x) IN EXCESS OF 9 PPMDV,
 - B. CARBON MONOXIDE (CO) IN EXCESS OF 400 PPMDV,AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES, CORRECTED TO 3% O₂.

AIR QUALITY

MANAGEMENT DISTRICT

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A/C NO.: 21254

7. THE EMISSIONS FROM THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	EMISSION FACTOR(A) LB/MMCF	MAXIMUM ALLOWABLE EMISSION (B) LB/QUARTER
ROC	5.5	23
NO _x	10.9	46
SO _x	0.6	3
PM ₁₀	7.6	32
CO	295	1,242

(A) EMISSION FACTORS FOR ROC, SO_x AND PM₁₀ ARE FROM AP-42, TABLES 1.4-1 ~ 1.4-2, *EMISSION FACTORS FOR CRITERIA POLLUTANTS FROM NATURAL GAS COMBUSTION*, PG 1.4-5 ~ 1.4-6 (2/98). EMISSION FACTORS FOR NO_x AND CO ARE BASED ON THE 9 PPMVD AND 400 PPMVD @ 3% O₂, RESPECTIVELY, AS PROPOSED BY THE APPLICANT/MANUFACTURER.

(B) EMISSIONS ARE BASED ON A MAXIMUM FUEL USAGE OF 6,124 FT³/HOUR, 24 HOURS/DAY, AND 4,211,000 FT³/QUARTER.

EQUIPMENT OPERATION

8. THE BOILER SHALL ONLY BE FIRED BY PIPELINE-QUALITY NATURAL GAS.
9. THE BOILER SHALL BE EQUIPPED WITH A NON-RESETTING TOTALIZING FUEL METER TO ENSURE COMPLIANCE WITH CONDITION NUMBERS 7 AND 10. THE TOTALIZING FUNCTION OF THE METER SHALL HAVE THE ABILITY TO READ UP TO AT LEAST 100 MILLION CUBIC FEET OF GAS BEFORE ROLLING OVER.
10. THE NATURAL GAS FUEL USAGE FOR THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMIT ONCE THE MONITORING EQUIPMENT (THAT IS REQUIRED PURSUANT TO CONDITION NO. 9) IS INSTALLED.

FUEL TYPE	FUEL METER TYPE	MAXIMUM QUARTERLY ALLOWABLE FUEL USAGE (CF/QUARTER)
NATURAL GAS	PRESSURE AND TEMPERATURE- COMPENSATED	4,211,000

(A) THIS LIMIT IS BASED ON A PRESSURE AND TEMPERATURE-COMPENSATED FUEL METER HOWEVER, IF THE ACTUAL FUEL METER INSTALLED IS DIFFERENT FROM PROPOSED, THE SOURCE MUST SUBMIT TO THE DISTRICT THE NATURAL GAS DELIVERY LINE PRESSURE (IN INCHES H₂O OR PSIG) FROM PG&E IN ORDER TO DETERMINE THE APPROPRIATE METER ADJUSTMENT FACTOR.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21254

RECORDKEEPING

12. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY RECORDS SHALL BE MADE AVAILABLE WITHIN 30 DAYS OF END OF REPORTING PERIOD.

FREQUENCY	INFORMATION TO BE RECORDED
QUARTERLY	TOTAL FUEL USAGE FOR THE BOILER (CU.FT NATURAL GAS/QUARTER).

EMISSION TESTING

13. A SOURCE TEST FOR NO_x AND CO SHALL BE CONDUCTED ONCE EVERY SECOND CALENDAR YEAR, WHEN USING NATURAL GAS AS FUEL, TO DETERMINE COMPLIANCE WITH THE EMISSION LIMITS OF CONDITION 6. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - B. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - C. OPERATE THE BOILER AS CLOSE AS PHYSICALLY POSSIBLE TO THE RATED CAPACITY DURING THE SOURCE TEST.
 - D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
14. SOURCE TEST METHODS USED SHALL BE THOSE SPECIFIED IN SECTION 501 OF RULE 411, BOILER NOX:
- A. OXIDES OF NITROGEN – ARB METHOD 100 OR EPA METHOD 7E.
 - B. CARBON MONOXIDE – ARB METHOD 100 OR EPA METHOD 10.
 - C. STACK GAS OXYGEN – ARB METHOD 100 OR EPA METHOD 3A.
 - D. CARBON DIOXIDE – ARB METHOD 100 OR EPA METHOD 3A.

START-UP

15. AFTER INSTALLATION OF THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD) AT 916/874-4858 TO ARRANGE FOR A START-UP INSPECTION.
16. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- A. THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION,
 - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT,
 - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

**AIR QUALITY
MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT****A/C NO.:** 21254

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
411	BOILER NOX

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: **GRAFIL INC.**
EQUIPMENT LOCATION: **5900 88TH STREET, SACRAMENTO, CA 95828**

PERMIT NO.	EQUIPMENT DESCRIPTION
21254	BOILER, CLEAVER BROOKS, MODEL: PROMETHEAN CBI 200-150-150, SERIAL NO. OL103578, NATURAL GAS-FIRED, 6.124 MMBTU/HR HEAT INPUT RATING, LOW-NOx BURNER, USAGE: INDUSTRIAL PROCESS.

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

DATE ISSUED: 09-18-2008
DATE EXPIRES: 10-24-2009 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSIONS LIMITATIONS

5. THE BOILER SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. THE BOILER SHALL NOT EMIT:
 - A. NITROGEN OXIDES (NO_x) IN EXCESS OF 9 PPMVD,
 - B. CARBON MONOXIDE (CO) IN EXCESS OF 400 PPMVD,
AVERAGED OVER A PERIOD OF 15 CONSECUTIVE MINUTES, CORRECTED TO 3% O₂.
7. THE EMISSIONS FROM THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	EMISSION FACTOR(A) LB/MMCF	MAXIMUM ALLOWABLE EMISSION (B) LB/QUARTER
ROC	5.5	23
NO _x	10.9	46
SO _x	0.6	3
PM ₁₀	7.6	32
CO	295	1,242

(A) EMISSION FACTORS FOR ROC, SO_x AND PM₁₀ ARE FROM AP-42, TABLES 1.4-1 ~ 1.4-2, *EMISSION FACTORS FOR CRITERIA POLLUTANTS FROM NATURAL GAS COMBUSTION*, PG 1.4-5 ~ 1.4-6 (2/98). EMISSION FACTORS FOR NO_x AND CO ARE BASED ON THE 9 PPMVD AND 400 PPMVD @ 3% O₂, RESPECTIVELY, AS PROPOSED BY THE APPLICANT/MANUFACTURER.

(B) EMISSIONS ARE BASED ON A MAXIMUM FUEL USAGE OF 6,124 FT³/HOUR AND 4,211,000 FT³/QUARTER.

EQUIPMENT OPERATION

8. THE BOILER SHALL ONLY BE FIRED BY PIPELINE-QUALITY NATURAL GAS.
9. THE BOILER SHALL BE EQUIPPED WITH A NON-RESETTING TOTALIZING FUEL METER TO ENSURE COMPLIANCE WITH CONDITION NUMBERS 7 AND 10. THE TOTALIZING FUNCTION OF THE METER SHALL HAVE THE ABILITY TO READ UP TO AT LEAST 100 MILLION CUBIC FEET OF GAS BEFORE ROLLING OVER.
10. THE NATURAL GAS FUEL USAGE FOR THE BOILER SHALL NOT EXCEED THE FOLLOWING LIMIT ONCE THE MONITORING EQUIPMENT (THAT IS REQUIRED PURSUANT TO CONDITION NO. 10) IS INSTALLED.

FUEL TYPE	FUEL METER TYPE	MAXIMUM QUARTERLY ALLOWABLE FUEL USAGE (CF/QUARTER)
NATURAL GAS	PRESSURE AND TEMPERATURE- COMPENSATED	4,211,000

(A) THIS LIMIT IS BASED ON A PRESSURE AND TEMPERATURE-COMPENSATED FUEL METER. HOWEVER, IF THE ACTUAL FUEL METER INSTALLED IS DIFFERENT FROM PROPOSED, THE SOURCE MUST SUBMIT TO THE DISTRICT THE NATURAL GAS DELIVERY LINE PRESSURE (IN INCHES H₂O OR PSIG) FROM PG&E IN ORDER TO DETERMINE THE APPROPRIATE METER ADJUSTMENT FACTOR.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

RECORDKEEPING

11. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY RECORDS SHALL BE MADE AVAILABLE WITHIN 30 DAYS OF END OF REPORTING PERIOD.

FREQUENCY	INFORMATION TO BE RECORDED
QUARTERLY	TOTAL FUEL USAGE FOR THE BOILER (CU.FT NATURAL GAS/QUARTER).

EMISSION TESTING

12. A SOURCE TEST FOR NO_x AND CO SHALL BE CONDUCTED ONCE EVERY SECOND CALENDAR YEAR, WHEN USING NATURAL GAS AS FUEL, TO DETERMINE COMPLIANCE WITH THE EMISSION LIMITS OF CONDITION 6. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - OPERATE THE BOILER AS CLOSE AS PHYSICALLY POSSIBLE TO THE RATED CAPACITY DURING THE SOURCE TEST.
 - THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
13. SOURCE TEST METHODS USED SHALL BE THOSE SPECIFIED IN SECTION 501 OF RULE 411, BOILER NOX:
- OXIDES OF NITROGEN – ARB METHOD 100 OR EPA METHOD 7E.
 - CARBON MONOXIDE – ARB METHOD 100 OR EPA METHOD 10.
 - STACK GAS OXYGEN – ARB METHOD 100 OR EPA METHOD 3A.
 - CARBON DIOXIDE – ARB METHOD 100 OR EPA METHOD 3A.

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEE
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
411	BOILER NO _x
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21607 **ISSUED BY:** CARLA J. PRASETYO JO
DATE ISSUED: JANUARY 27, 2009
DATE EXPIRES: JANUARY 27, 2011
ISSUED TO: GRAFIL INC.
LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

DESCRIPTION:**GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 CONSISTING OF:**

1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)
2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 500 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)
3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)
4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)
5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER
6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE
7. SURFACE TREATED FIBER DRYER
8. SIZE BATH
9. SIZED FIBER DRYER
10. SIZED MAKE-UP FACILITY
11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN
12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #1 (P/O 11425)
13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, BOREAL LASER, INC., CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL GAS FINDER, SERIAL NOS.: HCNFC 2001 AND HCNFC 2003, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING (ONE HCN MONITOR SERVING BOTH LINE 31 [A/C 21607] AND LINE 32 [A/C 21608])

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21607

AUTHORITY TO CONSTRUCT CONDITIONS**GENERAL**

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.
5. THIS SOURCE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY AIR CONTAMINANT THAT CONSTITUTES A PUBLIC NUISANCE.

EMISSIONS LIMITATIONS

6. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
7. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

**AIR QUALITY
MANAGEMENT DISTRICT**

**AUTHORITY TO CONSTRUCT
(CONTINUED)**

A/C NO.: 21607

8. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

9. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 1 HOUR AS SHOWN ON THE MONITOR'S STRIP CHART.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.

12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425)

AIR QUALITY

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(CONTINUED)

A/C NO.: 21607

AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840)
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTEBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659)

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED, CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: <ol style="list-style-type: none"> 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT TE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21607

20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY TO DEMONSTRATE COMPLIANCE WITH THE EMISSION LIMITS. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21607**START-UP**

25. UPON COMMENCING OPERATION UNDER THE MODIFICATIONS AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
26. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- A. THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
301	STATIONARY SOURCE PERMIT FEES
202	NEW SOURCE REVIEW
401	RINGELMANN CHART
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: **GRAFIL INC.**

EQUIPMENT LOCATION: **5900 88TH STREET, SACRAMENTO, CA 95828**

PERMIT NO.	EQUIPMENT DESCRIPTION
21607	<p>GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 CONSISTING OF:</p> <ul style="list-style-type: none">A. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)B. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 500 KW EACH, VENTED TO APC AFTERBURNER #1 (P/O 11425)C. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)D. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #2 (P/O 15841)E. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTERF. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHEREG. SURFACE TREATED FIBER DRYERH. SIZE BATHI. SIZED FIBER DRYERJ. SIZED MAKE-UP FACILITYK. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FANL. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #1 (P/O 11425)M. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, BOREAL LASER, INC., CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL GAS FINDER, SERIAL NOS.: HCNFC 2001 AND HCNFC 2003, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING (ONE HCN MONITOR SERVING BOTH LINE 31 [P/O 21607] AND LINE 32 [P/O 21608])

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.

DATE ISSUED: 02-26-2009
DATE EXPIRES: 10-24-2009 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.
5. THIS SOURCE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY AIR CONTAMINANT THAT CONSTITUTES A PUBLIC NUISANCE.

EMISSIONS LIMITATIONS

6. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
7. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x (A)	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

8. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

9. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER **ATTACHMENT 'A'**, APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840).
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTEBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659).

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT TE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF ONE HOUR AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.

20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM10 AND CO SHALL BE CONDUCTED ANNUALLY. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:

- A. THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
- B. A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
- C. THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
- D. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.

22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVES ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21608 **ISSUED BY:** _____
CARLA J. PRASETYO JO

DATE ISSUED: JANUARY 27, 2009

DATE EXPIRES: JANUARY 27, 2011

ISSUED TO: GRAFIL INC.

LOCATION: 5900 88TH STREET, SACRAMENTO, CA 95828

DESCRIPTION:**GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 CONSISTING OF:**

1. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)
2. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 400 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)
3. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)
4. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)
5. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTER
6. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHERE
7. SURFACE TREATED FIBER DRYER
8. SIZE BATH
9. SIZED FIBER DRYER
10. SIZED MAKE-UP FACILITY
11. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FAN
12. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #3 (P/O 11426)
13. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, BOREAL LASER, INC., CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL GAS FINDER, SERIAL NOS.: HCNFC 2001 AND HCNFC 2003, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING (ONE HCN MONITOR SERVING BOTH LINE 31 [A/C 21607] AND LINE 32 [A/C 21608])
14. WASTE HEAT RECOVERY BOILER, 2.4 MMBTU/HR, VENTED TO APC BAGHOUSE (P/O 19659)

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21608

AUTHORITY TO CONSTRUCT CONDITIONS

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.
5. THIS SOURCE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY AIR CONTAMINANT THAT CONSTITUTES A PUBLIC NUISANCE.

EMISSIONS LIMITATIONS

6. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
7. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21608

8. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

9. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

- (A) CONCENTRATION AVERAGED OVER A PERIOD OF 1 HOUR AS SHOWN ON THE MONITOR'S STRIP CHART.

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 7 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21608

(P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840)
15. THE OXIDATION OVENS, LT FURNACE, AND HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTEBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS
16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659)

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED, CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: <ol style="list-style-type: none"> 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT TE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE AND CALIBRATION ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

(CONTINUED)

A/C NO.: 21608

20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY TO DEMONSTRATE COMPLIANCE WITH THE EMISSION LIMITS. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

(CONTINUED)

A/C NO.: 21608
START-UP

25. UPON COMMENCING OPERATION UNDER THE MODIFICATIONS AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
26. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
 - A. THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
404	PARTICULATE MATTER
406	SPECIFIC CONTAMINANTS

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: **GRAFIL INC.**
EQUIPMENT LOCATION: **5900 88TH STREET, SACRAMENTO, CA 95828**

PERMIT NO.	EQUIPMENT DESCRIPTION
21608	<p><u>GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 CONSISTING OF:</u></p> <ul style="list-style-type: none">A. FOUR (4) OXIDATION OVENS, ELECTRICALLY-HEATED, 235 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)B. TWO (2) OXIDATION OVENS, ELECTRICALLY-HEATED, 400 KW EACH, VENTED TO APC AFTERBURNER #3 (P/O 11426)C. LOW TEMPERATURE FURNACE, 252 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)D. HIGH TEMPERATURE FURNACE, 400 KW, ELECTRICALLY-HEATED, VENTED TO APC AFTERBURNER #4 (P/O 18279)E. HIGH TEMPERATURE FURNACE END-CAP EXTRACTION FILTERF. ELECTROLYTE SURFACE TREATMENT BATH, VENTED TO ATMOSPHEREG. SURFACE TREATED FIBER DRYERH. SIZE BATHI. SIZED FIBER DRYERJ. SIZED MAKE-UP FACILITYK. TWO (2) LOW TEMPERATURE FURNACE END-CAP HOODS, LOW TEMPERATURE RODDING EXHAUST, TWO (2) RODDING POINT HOODS, TWO (2) HIGH TEMPERATURE END-CAP HOODS, VENTED TO PROCESS EXHAUST FANL. PROCESS EXHAUST FAN, ONE (1) PRIMARY AND ONE (1) STANDBY, VENTED TO APC AFTERBURNER #3 (P/O 11426)M. CONTINUOUS EMISSION MONITOR, ONE (1) PRIMARY AND ONE (1) STANDBY, BOREAL LASER, INC., CONTINUOUS HYDROGEN CYANIDE (HCN) MONITOR, MODEL GAS FINDER, SERIAL NOS.: HCNFC 2001 AND HCNFC 2003, LOCATED IN PLANT EXHAUST STACK FOR AFTERBURNER EXHAUST AND PLANT AIR DUCTING (ONE HCN MONITOR SERVING BOTH LINE 31 [P/O 21607] AND LINE 32 [P/O 21608])N. WASTE HEAT RECOVERY BOILER, 2.4 MMBTU/HR, VENTED TO APC BAGHOUSE (P/O 19659)]

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.

DATE ISSUED: 02-26-2009
DATE EXPIRES: 10-24-2009 (UNLESS RENEWED)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.
5. THIS SOURCE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY AIR CONTAMINANT THAT CONSTITUTES A PUBLIC NUISANCE.

EMISSIONS LIMITATIONS

6. THE GRAPHITE FIBER MANUFACTURING PROCESS SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANTS OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH ARE AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
7. THE COMBINED TOTAL HOURLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE-HOUR PERIOD:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/HOUR (BASED ON 3-HOUR AVERAGE)		
	MAIN STACK	FUGITIVE EXHAUST	TOTAL
ROC	3.32	0.02	3.34
NO _x	5.74	N/A	5.74
SO _x (A)	5.994	N/A	5.994
PM ₁₀	5.2	N/A	5.2
CO	21.0	N/A	21.0

(A) THE SO_x EMISSION FACTOR IS BASED ON THE COMBINED SO_x EMISSIONS GENERATED FROM THE COMBUSTION PRODUCT OF THE FOUR AFTERBURNERS, WHICH IS BASED ON A COMBINED HEAT INPUT RATE OF 23.16 MMBTU/HR AND NATURAL GAS SO_x EMISSION FACTOR OF 0.0006 LB/MMBTU, TABLE 1.4-1 OF AP-42, AND THE MANUFACTURING PROCESS, WHICH IS BASED ON 20 PPMV AND 31,000 SCFM.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

8. THE COMBINED TOTAL QUARTERLY EMISSIONS FROM THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	PROCESS LINES 31 & 32 COMBINED MAXIMUM ALLOWABLE EMISSIONS LB/QUARTER			
	1 ST QUARTER	2 ND QUARTER	3 RD QUARTER	4 TH QUARTER
ROC	7,214	7,295	7,375	7,375
NO _x	12,398	12,536	12,674	12,674
SO _x	12,947	13,091	13,235	13,235
PM ₁₀	11,232	11,357	11,482	11,482
CO	45,360	45,864	46,368	46,368

9. HYDROGEN CYANIDE (HCN) EMISSION CONCENTRATION FROM THE PLANT EXHAUST, AS MEASURED BY THE PRIMARY CONTINUOUS HCN EMISSION MONITOR, SHALL NOT EXCEED THE FOLLOWING LIMIT:

POLLUTANT	MAXIMUM ALLOWABLE EMISSION CONCENTRATION, PPM (A)
HCN	95

(A) CONCENTRATION AVERAGED OVER A PERIOD OF 15 MINUTES AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HOUR OR GREATER).

EQUIPMENT OPERATION

10. THE PRECURSOR PROCESSING RATE FOR THE GRAPHITE FIBER MANUFACTURING PROCESS LINES 31 AND 32 SHALL BE LIMITED TO THE PRECURSOR PROCESSING RATE DIVIDED BY 0.9 THAT THE GRAPHIC FIBER MANUFACTURING PROCESS LINES WERE OPERATING AT DURING THE MOST RECENT COMPLIANCE SOURCE TEST WHERE COMPLIANCE WITH THE ROC, NO_x, PM₁₀ AND CO EMISSION RATES OUTLINED IN CONDITION NO. 6 WAS DEMONSTRATED. THE PRECURSOR PROCESSING RATE SHALL BE DETERMINED AS FOLLOWS:

$$\text{PRECURSOR PROCESS RATE} = \text{LINE SPEED} * \Sigma [\text{NUMBER OF FILAMENTS} * \text{DECITEX} * \text{NUMBER OF ENDS}] * E-07$$

11. THE LINE SPEED METER AND ASSOCIATED CHART RECORDER SHALL BE MAINTAINED TO MONITOR AND RECORD PRECURSOR PROCESS RATES WHEN THE PROCESS IS IN OPERATION. IN THE EVENT OF A CHART RECORDER FAILURE, MANUAL HOURLY LINE SPEED RECORDKEEPING IS ALLOWED. MANUAL RECORDERKEEPING SHALL NOT EXCEED 5 TIME PERIODS PER CALENDAR YEAR AND EACH PERIOD SHALL NOT EXCEED 24 HOURS.
12. THE PRIMARY CONTINUOUS HCN EMISSION MONITOR SHALL BE OPERATED WHENEVER THE PROCESS IS IN OPERATION. THE HCN MONITOR SHALL BE MAINTAINED AND CALIBRATED. GRAFIL SHALL FOLLOW THE HCN MONITOR MAINTENANCE AND CALIBRATION SCHEDULE, AS PER ATTACHMENT 'A', APPROVED BY THE AIR POLLUTION CONTROL OFFICER.
13. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 31 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #1 (P/O 11425) AND APC AFTEBURNER #2 (P/O 15841), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.
14. THE EXHAUST FROM APC AFTERBURNER #2 (P/O 15841) SHALL BE VENTED TO APC BAGHOUSE #1 (P/O 15840).
15. THE OXIDATION OVENS, LT FURNACE, HT FURNACE IN THE GRAPHITE FIBER MANUFACTURING PROCESS LINE 32 SHALL NOT PROCESS FIBER UNLESS THE EXHAUST AND THE FUGITIVE EMISSION GENERATED DURING PROCESS UPSET, INCLUDING START UP, ARE VENTED TO APC AFTERBURNER #3 (P/O 11426) AND APC AFTEBURNER #4 (P/O 18279), RESPECTIVELY, WHICH ARE IN COMPLIANCE WITH ALL LISTED PERMIT CONDITIONS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

16. THE EXHAUST FROM APC AFTERBURNER #4 (P/O 18279) SHALL BE VENTED TO APC BAGHOUSE #2 (P/O 19659).

RECORDKEEPING

17. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY RECORDS AS SPECIFIED IN THE TABLE BELOW SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS FOLLOWING THE MONTH.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. THE MAXIMUM PRECURSOR PROCESS RATE ALLOWED CALCULATED PURSUANT TO CONDITION NO. 10. B. THE PRODUCTION DATA FOR EACH PRODUCTION RUN SHALL INCLUDE THE FOLLOWING: 1) WEIGHT OF PRECURSOR PROCESSED (KG/HR) 2) LINE SPEED (M/HR) 3) NUMBER AND TYPE (DECITEX OF ENDS PROCESSED) 4) NUMBER OF FILAMENTS 5) START AND END DATES AND TIME 6) CONTINUOUS HCN CONCENTRATION AT THE PLANT EXHAUST STACK (PPM) C. HCN MONITOR MAINTENANCE ACTIVITY LOG.
MONTHLY	MONTHLY FACILITY NATURAL GAS USAGE (THERMS/MONTH)

NOTE: GRAFIL SHALL FOLLOW A RECORDKEEPING FORMAT APPROVED BY THE AIR POLLUTION CONTROL OFFICER.

18. ALL SOURCE TEST REPORTS SHALL BE CONTINUOUSLY MAINTAINED ON-SITE FOR THE MOST RECENT FIVE-YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST.

REPORTING

19. THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED WITHIN 8 HOURS OF DETERMINING THAT THE PRIMARY CONTINUOUS HCN EMISSION MONITOR INDICATES HCN CONCENTRATIONS IN EXCESS OF 95 PPM, AVERAGED OVER A PERIOD OF ONE HOUR AS SHOWN ON THE MONITOR'S STRIP CHART (OPERATING AT A STRIP CHART SPEED OF 20 MM/HR OR GREATER). A WRITTEN FOLLOW-UP REPORT SHALL BE SUBMITTED WITHIN 7 DAYS TO THE AIR POLLUTION CONTROL OFFICER. THE REPORT SHALL INCLUDE THE DATE, TIME AND PPM READING OF THE EXCESS HCN CONCENTRATION AND ANY SHUT DOWN PROCEDURES IMPLEMENTED.

20. NOTIFY THE AIR POLLUTION CONTROL OFFICER OF ANY MALFUNCTIONS OR BREAKDOWN OF THE AIR POLLUTION CONTROL EQUIPMENT AS REQUIRED BY RULE 602 – BREAKDOWN CONDITIONS: EMERGENCY VARIANCE.

EMISSIONS TESTING

21. AN EMISSION TEST FOR HCN, ROC, NO_x, SO_x, PM₁₀ AND CO SHALL BE CONDUCTED ANNUALLY. THE TEST SHALL CONFORM TO THE FOLLOWING TEST CONDITION AND TIME SCHEDULE:
- THE PRECURSOR PROCESS RATE STATED IN CONDITION NO. 10 WILL NOT BE IN EFFECT FOR THE ANNUAL EMISSION TEST. HOWEVER, THE PRECURSOR PROCESS RATE UTILIZED DURING THE ANNUAL EMISSION TEST WILL ESTABLISH THE MAXIMUM ALLOWABLE PRECURSOR PROCESS RATE FOR THE FOLLOWING YEAR AS STATED IN CONDITION NO. 10.
 - A PRE-TEST PLAN OUTLINING THE TEST METHODS AND OPERATING PARAMETERS SHALL BE SUBMITTED FOR DISTRICT APPROVAL AT LEAST 30 DAYS PRIOR TO THE PROPOSED TEST DATE.
 - THE DISTRICT SHALL BE GIVEN AT LEAST 7 DAYS NOTICE OF THE ACTUAL TIME AND DATE OF EACH TEST SO THAT A DISTRICT REPRESENTATIVE MAY OBSERVE THE TEST.
 - THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE DISTRICT NO LATER THAN 60 DAYS FOLLOWING EACH TEST.
22. THE AIR POLLUTION CONTROL OFFICER MAY WAIVE ALL OR ANY PORTION OF THE ANNUAL SOURCE TEST REQUIREMENT IF, IN THE AIR POLLUTION CONTROL OFFICER'S SOLE JUDGEMENT, PRIOR TEST RESULTS INDICATE AN ADEQUATE MARGIN OF COMPLIANCE HAS BEEN MAINTAINED.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

EMISSION REDUCTION CREDITS

23. GRAFIL HAS SUBMITTED THE FOLLOWING NO_x EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE NO_x OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #00-00661 (BLUE DIAMOND BIOMASS BOILER SHUTDOWN)	6,718	6,631	6,536	7,187	27,072

24. GRAFIL HAS SUBMITTED THE FOLLOWING PM₁₀ EMISSION REDUCTION CREDITS TO OFFSET EMISSIONS INCREASES EXCEEDING THE PM₁₀ OFFSET THRESHOLD:

EMISSION REDUCTION CREDIT	1 ST QUARTER LB/QUARTER	2 ND QUARTER LB/QUARTER	3 RD QUARTER LB/QUARTER	4 TH QUARTER LB/QUARTER	TOTAL LB/YEAR
ERC #93-2-03BT (FEATHER RIVER AQMD)	5,090	5,200	5,100	5,160	20,550
ERC #94-4-03BT (FEATHER RIVER AQMD)	1,560	1,520	1,610	1,640	6,330

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>AQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	STATIONARY SOURCE PERMIT FEES
401	RINGELMANN CHART
402	NUISANCE
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21750

ISSUED BY: _____
BRIAN F. KREBS

DATE ISSUED: FEBRUARY 11, 2009
APRIL 10, 2009 (REISSUED)

DATE EXPIRES: FEBRUARY 11, 2011

ISSUED TO: GRAFIL INC.

LOCATION: 5900 88TH STREET, SACRAMENTO, 95828

DESCRIPTION: IC ENGINE STANDBY, MAKE: CLARK/JOHN DEERE, MODEL: JU6H-UFADN0/6068HFC28D, SERIAL NO.: TBD, 197 BHP @ 1,760 RPM, 414 IN³ DISPLACEMENT, DIESEL FIRED, DRIVING A DIRECT DRIVE FIRE PUMP.

AUTHORITY TO CONSTRUCT CONDITIONS

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSION LIMITATIONS

5. THE IC ENGINE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.

AIR QUALITY MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21750

6. THE EMISSIONS FROM THE IC ENGINE SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	EMISSION FACTOR(A) G/HP-HR	MAXIMUM ALLOWABLE EMISSIONS (B)	
		LB/QUARTER	LB/YEAR
ROC	1.0	87	87
NOX	3.0	261	261
ROC + NOx	3.0	261	261
SOX	0.0048	0	0
PM10	0.15	13	13
CO	2.6	226	226

(A) EMISSION FACTORS FOR ROC, NOx, AND CO ARE BASED ON THE DISTRICT BACT LIMITS. PM IS BASED ON T-BACT LIMITS. SOx EMISSION FACTOR IS BASED UPON FUEL WITH 15 PPM SULFUR BY WEIGHT.

(B) EMISSIONS ARE BASED ON 197 BHP, 200 HOURS/QUARTER AND 200 HOURS/YEAR OF OPERATION.

EQUIPMENT OPERATION

7. THE IC ENGINE SHALL OPERATE ONLY FOR THE FOLLOWING PURPOSES AND SHALL NOT OPERATE MORE THAN THE FOLLOWING HOURS:

TYPE OF OPERATIONAL HOURS	MAXIMUM ALLOWABLE OPERATION	
	HOURS/QUARTER	HOURS/YEAR
MAINTENANCE PURPOSES (A)	50	50
ALL OPERATION - MAINTENANCE AND EMERGENCY (B)	200	200

(A) MAINTENANCE PURPOSES IS DEFINED AS: THE OPERATION OF AN IC ENGINE IN ORDER TO PRESERVE THE INTEGRITY OF THE IC ENGINE AND ITS ASSOCIATED PUMP, THE FACILITY'S FIRE SUPPRESSION SYSTEM OR WHEN REQUIRED BY THE DISTRICT TO VERIFY COMPLIANCE WITH THE APPLICABLE RULES AND REGULATIONS

(B) EMERGENCY IS DEFINED AS: WHEN A FIRE IS DETECTED AND THE FIRE PUMP IS OPERATED TO SUPPLY WATER FOR FIRE SUPPRESSION OR WHEN THERE IS AN UNFORESEEN LOSS OF PRESSURE IN THE FIRE SUPPRESSION SYSTEM SUCH THAT THE FIRE PUMP IS REQUIRED TO OPERATE IN ORDER TO MAINTAIN SUFFICIENT PRESSURE.

8. THE IC ENGINE SHALL BE EQUIPPED WITH A NON-RESETTING HOUR METER, WITH A MINIMUM DISPLAY CAPABILITY OF 9,999 HOURS, TO ENSURE COMPLIANCE WITH CONDITION NUMBERS 6 AND 7.
9. UPON REQUEST OF THE AIR POLLUTION CONTROL OFFICER OR DESIGNEE, ONCE EACH YEAR, DURING DAYLIGHT HOURS, THE IC ENGINE SHALL BE RUN AT MAXIMUM ANTICIPATED LOAD, FROM A COLD START CONDITION, FOR OBSERVATION OF COMPLIANCE WITH OPACITY LIMITATIONS.
10. THE IC ENGINE SHALL BE FUELED WITH CARB DIESEL FUEL, OR AN ALTERNATIVE DIESEL FUEL THAT MEETS THE REQUIREMENTS OF THE VERIFICATION PROCEDURE (AS CODIFIED IN TITLE 13, CCR, SECTIONS 2700-2710), OR AN ALTERNATIVE FUEL, OR CARB DIESEL FUEL USED WITH FUEL ADDITIVES THAT MEETS THE REQUIREMENTS OF THE VERIFICATION PROCEDURE, OR ANY COMBINATION OF FUELS LISTED IN THIS CONDITION.

AIR QUALITY**MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT****A/C NO.:** 21750**RECORD KEEPING**

11. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT THREE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY, QUARTERLY, AND YEARLY RECORDS SHALL BE MADE AVAILABLE WITHIN 30 DAYS OF END OF REPORTING PERIOD.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. DATE. B. PURPOSE – EITHER MAINTENANCE (M), EMERGENCY POWER (E). C. NUMBER OF HOURS OF OPERATION.
MONTHLY	D. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/MONTH).
QUARTERLY	E. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/QUARTER).
YEARLY	F. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/YEAR).
ALL FUEL DELIVERIES	G. RETAIN FUEL PURCHASE RECORDS THAT ACCOUNT FOR ALL FUEL PURCHASED FOR USE IN THE ENGINE. FUEL PURCHASE RECORDS SHALL INCLUDE: 1. IDENTIFICATION OF TYPE OF FUEL (CARB DIESEL, ALTERNATE DIESEL, ETC.) 2. QUANTITY OF FUEL PURCHASED. 3. DATE OF FUEL PURCHASE. 4. SIGNATURE OF PERSON RECEIVING FUEL. 5. SIGNATURE OF FUEL PROVIDER INDICATING THAT FUEL WAS DELIVERED.

START-UP

12. UPON INSTALLATION OF THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
13. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21750

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

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412	STATIONARY IC ENGINES LOCATED AT MAJOR STATIONARY SOURCES OF NO _x
904	AIR TOXICS CONTROL MEASURES – STATIONARY COMPRESSION IGNITION ENGINES
NESHAP Subpart ZZZZ	NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES
NSPS Subpart IIII	STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21750

ISSUED BY: _____

DATE ISSUED: FEBRUARY 11, 2009

BRIAN F. KREBS

DATE EXPIRES: FEBRUARY 11, 2011 SEE APRIL 10, 2009 REVISION

ISSUED TO: GRAFIL INC.

LOCATION: 5900 88TH STREET, SACRAMENTO, 95828

DESCRIPTION: IC ENGINE STANDBY, MAKE: CLARK/JOHN DEERE, MODEL: JU6H-UFADN/6068HFC28D, SERIAL NO.: TBD, 197 BHP @ 2,100 RPM, 414 IN³ DISPLACEMENT, DIESEL FIRED, DRIVING A DIRECT DRIVE FIRE PUMP.

AUTHORITY TO CONSTRUCT CONDITIONS

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
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 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER TERMS AND CONDITIONS OF THIS AUTHORITY TO CONSTRUCT, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS AUTHORITY TO CONSTRUCT, AND
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3. THIS AUTHORITY TO CONSTRUCT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS AUTHORITY TO CONSTRUCT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

EMISSION LIMITATIONS

5. THE IC ENGINE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.

AIR QUALITY

MANAGEMENT DISTRICT

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6. THE EMISSIONS FROM THE IC ENGINE SHALL NOT EXCEED THE FOLLOWING LIMITS:

POLLUTANT	EMISSION FACTOR(A) G/HP-HR	MAXIMUM ALLOWABLE EMISSIONS (B)	
		LB/QUARTER	LB/YEAR
ROC	1.0	87	87
NOX	3.0	261	261
ROC + NOx	3.0	261	261
SOX	0.0048	0	0
PM10	0.15	13	13
CO	2.6	226	226

(A) EMISSION FACTORS FOR ROC, NOx, AND CO ARE BASED ON THE DISTRICT BACT LIMITS. PM IS BASED ON T-BACT LIMITS. SOx EMISSION FACTOR IS BASED UPON FUEL WITH 15 PPM SULFUR BY WEIGHT.

(B) EMISSIONS ARE BASED ON 197 BHP, 200 HOURS/QUARTER AND 200 HOURS/YEAR OF OPERATION.

EQUIPMENT OPERATION

7. THE IC ENGINE SHALL OPERATE ONLY FOR THE FOLLOWING PURPOSES AND SHALL NOT OPERATE MORE THAN THE FOLLOWING HOURS:

TYPE OF OPERATIONAL HOURS	MAXIMUM ALLOWABLE OPERATION	
	HOURS/QUARTER	HOURS/YEAR
MAINTENANCE PURPOSES (A)	50	50
ALL OPERATION - MAINTENANCE AND EMERGENCY (B)	200	200

(A) MAINTENANCE PURPOSES IS DEFINED AS: THE OPERATION OF AN IC ENGINE IN ORDER TO PRESERVE THE INTEGRITY OF THE IC ENGINE AND ITS ASSOCIATED PUMP, THE FACILITY'S FIRE SUPPRESSION SYSTEM OR WHEN REQUIRED BY THE DISTRICT TO VERIFY COMPLIANCE WITH THE APPLICABLE RULES AND REGULATIONS

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8. THE IC ENGINE SHALL BE EQUIPPED WITH A NON-RESETTING HOUR METER, WITH A MINIMUM DISPLAY CAPABILITY OF 9,999 HOURS, TO ENSURE COMPLIANCE WITH CONDITION NUMBERS 6 AND 7.

9. UPON REQUEST OF THE AIR POLLUTION CONTROL OFFICER OR DESIGNEE, ONCE EACH YEAR, DURING DAYLIGHT HOURS, THE IC ENGINE SHALL BE RUN AT MAXIMUM ANTICIPATED LOAD, FROM A COLD START CONDITION, FOR OBSERVATION OF COMPLIANCE WITH OPACITY LIMITATIONS.

10. THE IC ENGINE SHALL BE FUELED WITH CARB DIESEL FUEL, OR AN ALTERNATIVE DIESEL FUEL THAT MEETS THE REQUIREMENTS OF THE VERIFICATION PROCEDURE (AS CODIFIED IN TITLE 13, CCR, SECTIONS 2700-2710), OR AN ALTERNATIVE FUEL, OR CARB DIESEL FUEL USED WITH FUEL ADDITIVES THAT MEETS THE REQUIREMENTS OF THE VERIFICATION PROCEDURE, OR ANY COMBINATION OF FUELS LISTED IN THIS CONDITION.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21750

RECORD KEEPING

11. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ONSITE FOR THE MOST RECENT THREE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY, QUARTERLY, AND YEARLY RECORDS SHALL BE MADE AVAILABLE WITHIN 30 DAYS OF END OF REPORTING PERIOD.

FREQUENCY	INFORMATION TO BE RECORDED
WHEN OPERATED	A. DATE. B. PURPOSE – EITHER MAINTENANCE (M), EMERGENCY POWER (E). C. NUMBER OF HOURS OF OPERATION.
MONTHLY	D. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/MONTH).
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START-UP

12. UPON INSTALLATION OF THE EQUIPMENT AUTHORIZED IN THIS AUTHORITY TO CONSTRUCT, THE OWNER/OPERATOR SHALL CONTACT THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT AT (916) 874-4800 TO ARRANGE FOR A START-UP INSPECTION.
13. THIS AUTHORITY TO CONSTRUCT SHALL SERVE AS A TEMPORARY PERMIT TO OPERATE PROVIDED THAT:
- A. THE SMAQMD HAS BEEN NOTIFIED FOR A START-UP INSPECTION.
 - B. THE EQUIPMENT INSTALLED MATCHES THE EQUIPMENT AUTHORIZED IN THE AUTHORITY TO CONSTRUCT.
 - C. THE EQUIPMENT IS OPERATED IN COMPLIANCE WITH ALL CONDITIONS LISTED WITHIN THE AUTHORITY TO CONSTRUCT.

AIR QUALITY

MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 21750

YOUR APPLICATION FOR THIS AIR QUALITY AUTHORITY TO CONSTRUCT WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

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IN ADDITION, THE CONDITIONS ON THIS AUTHORITY TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.