Iowa Department of Natural Resources
Title V Operating Permit

Name of Permitted Facility: Gable Corporation
Facility Location: 10420 Bunge Ave. Council Bluffs, IA 51503
Air Quality Operating Permit Number: 16-TV-002R1
Expiration Date: September 6, 2026
Permit Renewal Application Deadline: March 6, 2026

EIQ Number: 92-6982
Facility File Number: 78-01-121

Responsible Official
Name: Joe Sprowls
Title: Site Operations Manager
Mailing Address: 10410 Bunge Ave., Council Bluffs, IA 51503
Phone #: (712) 314-4624

Permit Contact Person for the Facility
Name: Michael Schauf
Title: Environmental, Health, & Safety Program Manager
Mailing Address: 10410 Bunge Ave., Council Bluffs, IA 51503
Phone #: (316) 680-9154

This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

Marnie Stein 09/07/2021

Marnie Stein, Supervisor of Air Operating Permits Section Date

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Abbreviations

acfm.....actual cubic feet per minute
CFR.....Code of Federal Regulation
CE .....control equipment
CEM.....continuous emission monitor
^{o}F .....degrees Fahrenheit
EIQ.....emissions inventory questionnaire

EP.....emission point

EU .....emission unit
gr./dscf .....grains per dry standard cubic foot
gr./100 cf.....grains per one hundred cubic feet
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
MVAC.....motor vehicle air conditioner

NAICS.....North American Industry Classification System
NSPS.....new source performance standard
ppmv .....parts per million by volume
lb./hr.....pounds per hour
lb./MMBtu .....pounds per million British thermal units

SCC.....Source Classification Codes
scfm.....standard cubic feet per minute
SIC Standard Industrial Classification
TPY .....tons per year
USEPA.....United States Environmental Protection Agency
GIP……. Group of Identical Air Permits

Pollutants
PM.....particulate matter
PM_{10} .....particulate matter ten microns or less in diameter
SO_2 .....sulfur dioxide
NO_x .....nitrogen oxides
VOC volatile organic compound
CO.....carbon monoxide
HAP.....hazardous air pollutant

I. Facility Description and Equipment List

Facility Name: Gable Corporation
Permit Number: 16-TV-002R1

Facility Description:
Computer processing and data preparation and processing services (SIC 7374)

Equipment List

The emission units at this facility have been issued DNR Construction Permits that are divided into Groups of Identical Permits (GIP). Each GIP contains similar emission units and each emission unit has a unique construction permit number. The Title V Permit assigns a number to each GIP for easy identification.

Emission Point Number	Emission Unit Number	Local ID Number	Emission Unit Description	DNR Construction Permit Number
GIP 1 (Group of Identical Air Permits)				
200001	200001	A-2-h	Emergency Diesel-fired IC Engine	12-A-215-S11
200002	200002	A-2-g	Emergency Diesel-fired IC Engine	12-A-216-S11
200003	200003	A-1-c	Emergency Diesel-fired IC Engine	12-A-217-S11
200004	200004	A-2-e	Emergency Diesel-fired IC Engine	12-A-218-S11
200005	200005	A-1-d	Emergency Diesel-fired IC Engine	12-A-219-S11
200006	200006	A-2-c	Emergency Diesel-fired IC Engine	12-A-220-S11
200007	200007	A-2-b	Emergency Diesel-fired IC Engine	12-A-221-S11
200008	200008	A-2-a	Emergency Diesel-fired IC Engine	12-A-222-S11
200009	200009	A-1-i	Emergency Diesel-fired IC Engine	12-A-223-S11
200010	200010	A-1-h	Emergency Diesel-fired IC Engine	12-A-224-S11
200011	200011	A-1-g	Emergency Diesel-fired IC Engine	12-A-225-S11
200012	200012	A-1-f	Emergency Diesel-fired IC Engine	12-A-226-S11
200013	200013	A-1-e	Emergency Diesel-fired IC Engine	12-A-227-S11
200014	200014	A-2-d	Emergency Diesel-fired IC Engine	12-A-228-S11
200015	200015	A-2-f	Emergency Diesel-fired IC Engine	12-A-229-S11
200016	200016	A-1-b	Emergency Diesel-fired IC Engine	12-A-230-S11
200017	200017	A-1-a	Emergency Diesel-fired IC Engine	12-A-231-S11
200018	200018	A-2-i	Emergency Diesel-fired IC Engine	12-A-232-S11
GIP 2				
175001	175001	A-2-k	Emergency Diesel-fired IC Engine	12-A-233-S11
175002	175002	A-2-j	Emergency Diesel-fired IC Engine	12-A-234-S11
175003	175003	A-1-k	Emergency Diesel-fired IC Engine	12-A-235-S11
175004	175004	A-1-j	Emergency Diesel-fired IC Engine	12-A-236-S11

GIP 3A				
225001	225001	A-4-g	Emergency Diesel-fired IC Engine	13-A-036-S9
225002	225002	A-4-f	Emergency Diesel-fired IC Engine	13-A-037-S9
225003	225003	A-4-e	Emergency Diesel-fired IC Engine	13-A-038-S9
225004	225004	A-4-d	Emergency Diesel-fired IC Engine	13-A-039-S9
225005	225005	A-4-c	Emergency Diesel-fired IC Engine	13-A-040-S9
225006	225006	A-4-b	Emergency Diesel-fired IC Engine	13-A-041-S9
225007	225007	A-4-a	Emergency Diesel-fired IC Engine	13-A-042-S9
225008	225008	A-3-h	Emergency Diesel-fired IC Engine	13-A-043-S9
225009	225009	A-3-g	Emergency Diesel-fired IC Engine	13-A-044-S9
225010	225010	A-3-f	Emergency Diesel-fired IC Engine	13-A-045-S9
225011	225011	A-3-i	Emergency Diesel-fired IC Engine	13-A-046-S9
225012	225012	A-3-e	Emergency Diesel-fired IC Engine	13-A-047-S9
225013	225013	A-3-d	Emergency Diesel-fired IC Engine	13-A-048-S9
225014	225014	A-3-c	Emergency Diesel-fired IC Engine	13-A-049-S9
225015	225015	A-3-b	Emergency Diesel-fired IC Engine	13-A-050-S9
225016	225016	A-3-a	Emergency Diesel-fired IC Engine	13-A-051-S9
GIP 4				
150001	150001	A-3-m	Emergency Diesel-fired IC Engine	13-A-052-S10
150002	150002	A-4-n	Emergency Diesel-fired IC Engine	13-A-053-S10
150003	150003	A-4-m	Emergency Diesel-fired IC Engine	13-A-054-S10
150004	150004	A-4-j	Emergency Diesel-fired IC Engine	13-A-055-S10
GIP 5				
125002	125002	B-1-h	Emergency Diesel-fired IC Engine	13-A-379-S10
225018	225018	B-1-g	Emergency Diesel-fired IC Engine	13-A-380-S9
225019	225019	B-1-f	Emergency Diesel-fired IC Engine	13-A-381-S9
225020	225020	B-1-e	Emergency Diesel-fired IC Engine	13-A-382-S9
225021	225021	A-5-i	Emergency Diesel-fired IC Engine	13-A-383-S9
225022	225022	B-1-d	Emergency Diesel-fired IC Engine	13-A-384-S9
225023	225023	B-1-c	Emergency Diesel-fired IC Engine	13-A-385-S9
225024	225024	B-1-b	Emergency Diesel-fired IC Engine	13-A-386-S9
225025	225025	B-1-a	Emergency Diesel-fired IC Engine	13-A-387-S9
225026	225026	A-5-g	Emergency Diesel-fired IC Engine	13-A-388-S9
225027	225027	A-5-f	Emergency Diesel-fired IC Engine	13-A-389-S9
225028	225028	A-5-e	Emergency Diesel-fired IC Engine	13-A-390-S9
225029	225029	A-5-d	Emergency Diesel-fired IC Engine	13-A-391-S9
225030	225030	A-5-c	Emergency Diesel-fired IC Engine	13-A-392-S9
225031	225031	A-5-b	Emergency Diesel-fired IC Engine	13-A-393-S9
225032	225032	A-5-a	Emergency Diesel-fired IC Engine	13-A-394-S9
GIP 6A				
150006	150006	B-1-m	Emergency Diesel-fired IC Engine	13-A-395-S9
150007	150007	B-1-n	Emergency Diesel-fired IC Engine	13-A-396-S9
150008	150008	A-5-m	Emergency Diesel-fired IC Engine	13-A-397-S9

GIP 7				
125001	125001	A-5-j	Emergency Diesel-fired IC Engine	13-A-399-S10
225017	225017	B-1-j	Emergency Diesel-fired IC Engine	13-A-398-S10
GIP 8				
250001	250001	C-1-a	Emergency Diesel-fired IC Engine	14-A-106-S8
250002	250002	C-1-b	Emergency Diesel-fired IC Engine	14-A-107-S8
250003	250003	C-1-c	Emergency Diesel-fired IC Engine	14-A-108-S8
250004	250004	C-1-d	Emergency Diesel-fired IC Engine	14-A-109-S8
250005	250005	C-1-e	Emergency Diesel-fired IC Engine	14-A-110-S8
250006	250006	C-1-f	Emergency Diesel-fired IC Engine	14-A-111-S8
250007	250007	C-1-g	Emergency Diesel-fired IC Engine	14-A-112-S8
250008	250008	C-1-i	Emergency Diesel-fired IC Engine	14-A-113-S8
250009	250009	D-1-a	Emergency Diesel-fired IC Engine	14-A-114-S8
250010	250010	D-1-b	Emergency Diesel-fired IC Engine	14-A-115-S8
250011	250011	D-1-c	Emergency Diesel-fired IC Engine	14-A-116-S8
250012	250012	D-1-d	Emergency Diesel-fired IC Engine	14-A-117-S8
250013	250013	D-1-e	Emergency Diesel-fired IC Engine	14-A-118-S8
250014	250014	D-1-f	Emergency Diesel-fired IC Engine	14-A-119-S8
250015	250015	D-1-g	Emergency Diesel-fired IC Engine	14-A-120-S8
250016	250016	D-1-h	Emergency Diesel-fired IC Engine	14-A-121-S8
250017	250017	C-3-a	Emergency Diesel-fired IC Engine	14-A-122-S8
250018	250018	C-3-b	Emergency Diesel-fired IC Engine	14-A-123-S8
250019	250019	C-3-c	Emergency Diesel-fired IC Engine	14-A-124-S8
250020	250020	C-3-d	Emergency Diesel-fired IC Engine	14-A-125-S8
250021	250021	C-3-e	Emergency Diesel-fired IC Engine	14-A-126-S8
250022	250022	C-3-f	Emergency Diesel-fired IC Engine	14-A-127-S8
250023	250023	C-3-g	Emergency Diesel-fired IC Engine	14-A-128-S8
250024	250024	C-3-i	Emergency Diesel-fired IC Engine	14-A-129-S8
250025	250025	C-4-a	Emergency Diesel-fired IC Engine	14-A-130-S8
250026	250026	C-4-b	Emergency Diesel-fired IC Engine	14-A-131-S8
250027	250027	C-4-c	Emergency Diesel-fired IC Engine	14-A-132-S8
250028	250028	C-4-d	Emergency Diesel-fired IC Engine	14-A-133-S8
250029	250029	C-4-e	Emergency Diesel-fired IC Engine	14-A-134-S8
250030	250030	C-4-f	Emergency Diesel-fired IC Engine	14-A-135-S8
250031	250031	C-4-g	Emergency Diesel-fired IC Engine	14-A-136-S8
250032	250032	C-4-h	Emergency Diesel-fired IC Engine	14-A-137-S8
GIP 10A				
EP_C_2_m	EP_C_2_m	C-2-m	Emergency Diesel-fired IC Engine	14-A-299-S7
EP_C_2_n	EP_C_2_n	C-2-n	Emergency Diesel-fired IC Engine	14-A-300-S7
EP_D_2_m	EP_D_2_m	D-2-m	Emergency Diesel-fired IC Engine	14-A-304-S7
EP_D_2_n	EP_D_2_n	D-2-n	Emergency Diesel-fired IC Engine	14-A-305-S7

GIP 9				
EP_C_2_o	EP_C_2_o	C-2-o	Emergency Diesel-fired IC Engine	14-A-301-S7
EP_C_2_p	EP_C_2_p	C-2-p	Emergency Diesel-fired IC Engine	14-A-302-S7
EP_D_2_o	EP_D_2_o	D-2-o	Emergency Diesel-fired IC Engine	14-A-306-S7
EP_D_2_p	EP_D_2_p	D-2-p	Emergency Diesel-fired IC Engine	14-A-307-S7
EP_D_2_q	EP_D_2_q	D-2-q	Emergency Diesel-fired IC Engine	14-A-308-S7
EP_D_2_r	EP_D_2_r	D-2-r	Emergency Diesel-fired IC Engine	14-A-309-S7
GIP 11				
EP_C_5_a	EP_C_5_a	C-5-a	Emergency Diesel-fired IC Engine	14-A-311-S7
EP_C_5_b	EP_C_5_b	C-5-b	Emergency Diesel-fired IC Engine	14-A-312-S7
EP_C_5_c	EP_C_5_c	C-5-c	Emergency Diesel-fired IC Engine	14-A-313-S7
EP_C_5_d	EP_C_5_d	C-5-d	Emergency Diesel-fired IC Engine	14-A-314-S7
EP_C_5_g	EP_C_5_g	C-5-g	Emergency Diesel-fired IC Engine	14-A-317-S7
EP_C_5_i	EP_C_5_i	C-5-i	Emergency Diesel-fired IC Engine	14-A-318-S7
EP_C_6_a	EP_C_6_a	C-6-a	Emergency Diesel-fired IC Engine	14-A-319-S7
EP_C_6_b	EP_C_6_b	C-6-b	Emergency Diesel-fired IC Engine	14-A-320-S7
EP_C_6_c	EP_C_6_c	C-6-c	Emergency Diesel-fired IC Engine	14-A-321-S7
EP_C_6_d	EP_C_6_d	C-6-d	Emergency Diesel-fired IC Engine	14-A-322-S7
EP_C_6_e	EP_C_6_e	C-6-e	Emergency Diesel-fired IC Engine	14-A-323-S7
EP_C_6_f	EP_C_6_f	C-6-f	Emergency Diesel-fired IC Engine	14-A-324-S7
EP_C_6_g	EP_C_6_g	C-6-g	Emergency Diesel-fired IC Engine	14-A-325-S7
EP_C_6_h	EP_C_6_h	C-6-h	Emergency Diesel-fired IC Engine	14-A-326-S7
EP_C_7_a	EP_C_7_a	C-7-a	Emergency Diesel-fired IC Engine	14-A-327-S7
EP_C_7_b	EP_C_7_b	C-7-b	Emergency Diesel-fired IC Engine	14-A-328-S7
EP_C_7_c	EP_C_7_c	C-7-c	Emergency Diesel-fired IC Engine	14-A-329-S7
EP_C_7_d	EP_C_7_d	C-7-d	Emergency Diesel-fired IC Engine	14-A-330-S7
EP_C_7_e	EP_C_7_e	C-7-e	Emergency Diesel-fired IC Engine	14-A-331-S7
EP_C_7_i	EP_C_7_i	C-7-i	Emergency Diesel-fired IC Engine	14-A-334-S7
EP_C_8_a	EP_C_8_a	C-8-a	Emergency Diesel-fired IC Engine	14-A-335-S7
EP_C_8_b	EP_C_8_b	C-8-b	Emergency Diesel-fired IC Engine	14-A-336-S7
EP_C_8_c	EP_C_8_c	C-8-c	Emergency Diesel-fired IC Engine	14-A-337-S7
EP_C_8_d	EP_C_8_d	C-8-d	Emergency Diesel-fired IC Engine	14-A-338-S7
EP_C_8_e	EP_C_8_e	C-8-e	Emergency Diesel-fired IC Engine	14-A-339-S7
EP_C_8_f	EP_C_8_f	C-8-f	Emergency Diesel-fired IC Engine	14-A-340-S7
EP_C_8_g	EP_C_8_g	C-8-g	Emergency Diesel-fired IC Engine	14-A-341-S7
EP_C_8_h	EP_C_8_h	C-8-h	Emergency Diesel-fired IC Engine	14-A-342-S7
EP_D_3_a	EP_D_3_a	D-3-a	Emergency Diesel-fired IC Engine	14-A-343-S7
EP_D_3_b	EP_D_3_b	D-3-b	Emergency Diesel-fired IC Engine	14-A-344-S7
EP_D_3_c	EP_D_3_c	D-3-c	Emergency Diesel-fired IC Engine	14-A-345-S7
EP_D_3_d	EP_D_3_d	D-3-d	Emergency Diesel-fired IC Engine	14-A-346-S7
EP_D_3_e	EP_D_3_e	D-3-e	Emergency Diesel-fired IC Engine	14-A-347-S7
EP_D_3_f	EP_D_3_f	D-3-f	Emergency Diesel-fired IC Engine	14-A-348-S7
EP_D_3_g	EP_D_3_g	D-3-g	Emergency Diesel-fired IC Engine	14-A-349-S7
EP_D_3_i	EP_D_3_i	D-3-i	Emergency Diesel-fired IC Engine	14-A-350-S7
EP_D_4_a	EP_D_4_a	D-4-a	Emergency Diesel-fired IC Engine	14-A-351-S7

EP_D_4_b	EP_D_4_b	D-4-b	Emergency Diesel-fired IC Engine	14-A-352-S7
EP_D_4_c	EP_D_4_c	D-4-c	Emergency Diesel-fired IC Engine	14-A-353-S7
EP_D_4_d	EP_D_4_d	D-4-d	Emergency Diesel-fired IC Engine	14-A-354-S7
EP_D_4_e	EP_D_4_e	D-4-e	Emergency Diesel-fired IC Engine	14-A-355-S7
EP_D_4_f	EP_D_4_f	D-4-f	Emergency Diesel-fired IC Engine	14-A-356-S7
EP_D_4_g	EP_D_4_g	D-4-g	Emergency Diesel-fired IC Engine	14-A-357-S7
EP_D_4_h	EP_D_4_h	D-4-h	Emergency Diesel-fired IC Engine	14-A-358-S7
GIP 12A				
EP_D_5_a	EP_D_5_a	D-5-a	Emergency Diesel-fired IC Engine	14-A-359-S7
EP_D_5_b	EP_D_5_b	D-5-b	Emergency Diesel-fired IC Engine	14-A-360-S7
EP_D_5_c	EP_D_5_c	D-5-c	Emergency Diesel-fired IC Engine	14-A-361-S7
EP_D_5_d	EP_D_5_d	D-5-d	Emergency Diesel-fired IC Engine	14-A-362-S7
EP_D_5_e	EP_D_5_e	D-5-e	Emergency Diesel-fired IC Engine	14-A-363-S7
EP_D_5_f	EP_D_5_f	D-5-f	Emergency Diesel-fired IC Engine	14-A-364-S7
EP_D_5_g	EP_D_5_g	D-5-g	Emergency Diesel-fired IC Engine	14-A-365-S7
EP_D_5_i	EP_D_5_i	D-5-i	Emergency Diesel-fired IC Engine	14-A-366-S7
EP_D_6_a	EP_D_6_a	D-6-a	Emergency Diesel-fired IC Engine	14-A-367-S7
EP_D_6_b	EP_D_6_b	D-6-b	Emergency Diesel-fired IC Engine	14-A-368-S7
EP_D_6_c	EP_D_6_c	D-6-c	Emergency Diesel-fired IC Engine	14-A-369-S7
EP_D_6_d	EP_D_6_d	D-6-d	Emergency Diesel-fired IC Engine	14-A-370-S7
EP_D_6_e	EP_D_6_e	D-6-e	Emergency Diesel-fired IC Engine	14-A-371-S7
EP_D_6_f	EP_D_6_f	D-6-f	Emergency Diesel-fired IC Engine	14-A-372-S7
EP_D_6_g	EP_D_6_g	D-6-g	Emergency Diesel-fired IC Engine	14-A-373-S7
EP_D_6_h	EP_D_6_h	D-6-h	Emergency Diesel-fired IC Engine	14-A-374-S7
EP_D_7_a	EP_D_7_a	D-7-a	Emergency Diesel-fired IC Engine	14-A-375-S7
EP_D_7_b	EP_D_7_b	D-7-b	Emergency Diesel-fired IC Engine	14-A-376-S7
EP_D_7_c	EP_D_7_c	D-7-c	Emergency Diesel-fired IC Engine	14-A-377-S7
EP_D_7_d	EP_D_7_d	D-7-d	Emergency Diesel-fired IC Engine	14-A-378-S7
EP_D_7_e	EP_D_7_e	D-7-e	Emergency Diesel-fired IC Engine	14-A-379-S7
EP_D_7_f	EP_D_7_f	D-7-f	Emergency Diesel-fired IC Engine	14-A-380-S7
EP_D_7_g	EP_D_7_g	D-7-g	Emergency Diesel-fired IC Engine	14-A-381-S7
EP_D_7_i	EP_D_7_i	D-7-i	Emergency Diesel-fired IC Engine	14-A-382-S7
EP_D_8_a	EP_D_8_a	D-8-a	Emergency Diesel-fired IC Engine	14-A-383-S7
EP_D_8_b	EP_D_8_b	D-8-b	Emergency Diesel-fired IC Engine	14-A-384-S7
EP_D_8_c	EP_D_8_c	D-8-c	Emergency Diesel-fired IC Engine	14-A-385-S7
EP_D_8_d	EP_D_8_d	D-8-d	Emergency Diesel-fired IC Engine	14-A-386-S7
EP_D_8_e	EP_D_8_e	D-8-e	Emergency Diesel-fired IC Engine	14-A-387-S7
EP_D_8_f	EP_D_8_f	D-8-f	Emergency Diesel-fired IC Engine	14-A-388-S7
EP_D_8_g	EP_D_8_g	D-8-g	Emergency Diesel-fired IC Engine	14-A-389-S7
EP_D_8_h	EP_D_8_h	D-8-h	Emergency Diesel-fired IC Engine	14-A-390-S7

GIP 3B				
01-1	01-1	CT1, Cell #1	Cooling Module	12-A-237-S1
01-2	01-2	CT1, Cell #2	Cooling Module	12-A-238-S1
02-1	02-1	CT2, Cell #1	Cooling Module	12-A-239-S1
02-2	02-2	CT2, Cell #2	Cooling Module	12-A-240-S1
03-1	03-1	CT3, Cell #1	Cooling Module	12-A-241-S1
03-2	03-2	CT3, Cell #2	Cooling Module	12-A-242-S1
04-1	04-1	CT4, Cell #1	Cooling Module	12-A-243-S1
04-2	04-2	CT4, Cell #2	Cooling Module	12-A-244-S1
GIP 6B				
05-1, 2	05-1, 2	CT5 Cell #1, #2	Cooling Module	13-A-057-S1
06-1, 2	06-1, 2	CT6 Cell #1, #2	Cooling Module	13-A-058-S1
07-1,2	07-1,2	CT7 Cell #1, #2	Cooling Module	13-A-059-S1
GIP 10B				
08-1	08-1	CT8 Cell #1	Cooling Module	13-A-400-S1
08-2	08-2	CT8 Cell #2	Cooling Module	13-A-401-S1
09-1	09-1	CT9 Cell #1	Cooling Module	13-A-402-S1
09-2	09-2	CT9 Cell #2	Cooling Module	13-A-403-S1
10-1	10-1	CT10 Cell #1	Cooling Module	13-A-404-S1
10-2	10-2	CT10 Cell #2	Cooling Module	13-A-405-S1
CT-29-1	CT-29	CT29 Cell #1	Cooling Module	19-A-117
CT-29-2	CT-29	CT29 Cell #2	Cooling Module	19-A-136
GIP 12B				
11_1,2	11_1,2	CT11 Cell #1, #2	Cooling Module	14-A-138-S1
12_,1,2	12_,1,2	CT12 Cell #1, #2	Cooling Module	14-A-139-S1
13_1,2	13_1,2	CT13 Cell #1, #2	Cooling Module	14-A-140-S1
14_1,2	14_1,2	CT14 Cell #1, #2	Cooling Module	14-A-141-S1
15_1,2	15_1,2	CT15 Cell #1, #2	Cooling Module	14-A-142-S1
16_1,2	16_1,2	CT16 Cell #1, #2	Cooling Module	14-A-143-S1
GIP 15A				
17_1,2	17_1,2	CT17 Cell #1, #2	Cooling Module	14-A-391-S1
18_1,2	18_1,2	CT18 Cell #1, #2	Cooling Module	14-A-392-S1
19_1,2	19_1,2	CT19 Cell #1, #2	Cooling Module	14-A-393-S1
20_1,2	20_1,2	CT20 Cell #1, #2	Cooling Module	14-A-394-S1
21_1,2	21_1,2	CT21 Cell #1, #2	Cooling Module	14-A-395-S1
22_1,2	22_1,2	CT22 Cell #1, #2	Cooling Module	14-A-396-S1
23_1,2	23_1,2	CT23 Cell #1, #2	Cooling Module	14-A-397-S1
24_1,2	24_1,2	CT24 Cell #1, #2	Cooling Module	14-A-398-S1
25_1,2	25_1,2	CT25 Cell #1, #2	Cooling Module	14-A-399-S1
26_1,2	26_1,2	CT26 Cell #1, #2	Cooling Module	14-A-400-S1
GIP 16				
EP_C_5_f	EP_C_5_f	C-5-f	Emergency Diesel-fired IC Engine	14-A-316-S7
EP_C_7_f	EP_C_7_f	C-7-f	Emergency Diesel-fired IC Engine	14-A-332-S7

GIP 17				
F-1-j	F-1-j	F-1-j	Emergency Diesel-fired IC Engine	17-A-637-S4
F-1-a	F-1-a	F-1-a	Emergency Diesel-fired IC Engine	17-A-638-S4
F-1-b	F-1-b	F-1-b	Emergency Diesel-fired IC Engine	17-A-639-S4
F-1-c	F-1-c	F-1-c	Emergency Diesel-fired IC Engine	17-A-640-S4
F-1-d	F-1-d	F-1-d	Emergency Diesel-fired IC Engine	17-A-641-S4
F-1-e	F-1-e	F-1-e	Emergency Diesel-fired IC Engine	17-A-642-S4
F-1-f	F-1-f	F-1-f	Emergency Diesel-fired IC Engine	17-A-643-S4
F-1-g	F-1-g	F-1-g	Emergency Diesel-fired IC Engine	17-A-644-S4
F-1-h	F-1-h	F-1-h	Emergency Diesel-fired IC Engine	17-A-645-S4
F-1-k	F-1-k	F-1-k	Emergency Diesel-fired IC Engine	17-A-646-S4
F-1-m	F-1-m	F-1-m	Emergency Diesel-fired IC Engine	17-A-647-S4
F-1-n	F-1-n	F-1-n	Emergency Diesel-fired IC Engine	17-A-648-S4
G-1-j	G-1-j	G-1-j	Emergency Diesel-fired IC Engine	17-A-649-S4
G-1-a	G-1-a	G-1-a	Emergency Diesel-fired IC Engine	17-A-650-S4
G-1-b	G-1-b	G-1-b	Emergency Diesel-fired IC Engine	17-A-651-S4
G-1-c	G-1-c	G-1-c	Emergency Diesel-fired IC Engine	17-A-652-S4
G-1-d	G-1-d	G-1-d	Emergency Diesel-fired IC Engine	17-A-653-S4
G-1-e	G-1-e	G-1-e	Emergency Diesel-fired IC Engine	17-A-654-S4
G-1-f	G-1-f	G-1-f	Emergency Diesel-fired IC Engine	17-A-655-S4
G-1-g	G-1-g	G-1-g	Emergency Diesel-fired IC Engine	17-A-656-S4
G-1-h	G-1-h	G-1-h	Emergency Diesel-fired IC Engine	17-A-657-S4
G-1-i	G-1-i	G-1-i	Emergency Diesel-fired IC Engine	17-A-658-S4
G-1-k	G-1-k	G-1-k	Emergency Diesel-fired IC Engine	17-A-659-S4
G-1-m	G-1-m	G-1-m	Emergency Diesel-fired IC Engine	17-A-660-S4
G-1-n	G-1-n	G-1-n	Emergency Diesel-fired IC Engine	17-A-661-S4
G-2-j	G-2-j	G-2-j	Emergency Diesel-fired IC Engine	17-A-662-S4
G-2-a	G-2-a	G-2-a	Emergency Diesel-fired IC Engine	17-A-663-S4
G-2-b	G-2-b	G-2-b	Emergency Diesel-fired IC Engine	17-A-664-S4
G-2-c	G-2-c	G-2-c	Emergency Diesel-fired IC Engine	17-A-665-S4
G-2-d	G-2-d	G-2-d	Emergency Diesel-fired IC Engine	17-A-666-S4
G-2-e	G-2-e	G-2-e	Emergency Diesel-fired IC Engine	17-A-667-S4
G-2-f	G-2-f	G-2-f	Emergency Diesel-fired IC Engine	17-A-668-S4
G-2-g	G-2-g	G-2-g	Emergency Diesel-fired IC Engine	17-A-669-S4
G-2-h	G-2-h	G-2-h	Emergency Diesel-fired IC Engine	17-A-670-S4
G-2-i	G-2-i	G-2-i	Emergency Diesel-fired IC Engine	17-A-671-S4
G-2-k	G-2-k	G-2-k	Emergency Diesel-fired IC Engine	17-A-672-S4
G-2-m	G-2-m	G-2-m	Emergency Diesel-fired IC Engine	17-A-673-S4
G-2-n	G-2-n	G-2-n	Emergency Diesel-fired IC Engine	17-A-674-S4
G-3-j	G-3-j	G-3-j	Emergency Diesel-fired IC Engine	17-A-675-S4
G-3-a	G-3-a	G-3-a	Emergency Diesel-fired IC Engine	17-A-676-S4
G-3-b	G-3-b	G-3-b	Emergency Diesel-fired IC Engine	17-A-677-S4
G-3-c	G-3-c	G-3-c	Emergency Diesel-fired IC Engine	17-A-678-S4
G-3-d	G-3-d	G-3-d	Emergency Diesel-fired IC Engine	17-A-679-S4
G-3-e	G-3-e	G-3-e	Emergency Diesel-fired IC Engine	17-A-680-S4

G-3-f	G-3-f	G-3-f	Emergency Diesel-fired IC Engine	17-A-681-S4
G-3-g	G-3-g	G-3-g	Emergency Diesel-fired IC Engine	17-A-682-S4
G-3-h	G-3-h	G-3-h	Emergency Diesel-fired IC Engine	17-A-683-S4
G-3-i	G-3-i	G-3-i	Emergency Diesel-fired IC Engine	17-A-684-S4
G-3-k	G-3-k	G-3-k	Emergency Diesel-fired IC Engine	17-A-685-S4
G-3-m	G-3-m	G-3-m	Emergency Diesel-fired IC Engine	17-A-686-S4
G-3-n	G-3-n	G-3-n	Emergency Diesel-fired IC Engine	17-A-687-S4
GIP 18				
F-3-j	F-3-j	F-3-j	Emergency Diesel-fired IC Engine	18-A-498-S2
F-3-a	F-3-a	F-3-a	Emergency Diesel-fired IC Engine	18-A-499-S2
F-3-b	F-3-b	F-3-b	Emergency Diesel-fired IC Engine	18-A-500-S2
F-3-c	F-3-c	F-3-c	Emergency Diesel-fired IC Engine	18-A-501-S2
F-3-d	F-3-d	F-3-d	Emergency Diesel-fired IC Engine	18-A-502-S2
F-3-i	F-3-i	F-3-i	Emergency Diesel-fired IC Engine	18-A-503-S2
F-3-e	F-3-e	F-3-e	Emergency Diesel-fired IC Engine	18-A-504-S2
F-3-f	F-3-f	F-3-f	Emergency Diesel-fired IC Engine	18-A-505-S2
F-3-g	F-3-g	F-3-g	Emergency Diesel-fired IC Engine	18-A-506-S2
F-3-h	F-3-h	F-3-h	Emergency Diesel-fired IC Engine	18-A-507-S2
F-3-k	F-3-k	F-3-k	Emergency Diesel-fired IC Engine	18-A-508-S2
F-3-m	F-3-m	F-3-m	Emergency Diesel-fired IC Engine	18-A-509-S2
F-3-n	F-3-n	F-3-n	Emergency Diesel-fired IC Engine	18-A-510-S2
E-2-j	E-2-j	E-2-j	Emergency Diesel-fired IC Engine	18-A-511-S2
E-2-a	E-2-a	E-2-a	Emergency Diesel-fired IC Engine	18-A-512-S2
E-2-b	E-2-b	E-2-b	Emergency Diesel-fired IC Engine	18-A-513-S2
E-2-c	E-2-c	E-2-c	Emergency Diesel-fired IC Engine	18-A-514-S2
E-2-d	E-2-d	E-2-d	Emergency Diesel-fired IC Engine	18-A-515-S2
E-2-i	E-2-i	E-2-i	Emergency Diesel-fired IC Engine	18-A-516-S2
E-2-e	E-2-e	E-2-e	Emergency Diesel-fired IC Engine	18-A-517-S2
E-2-f	E-2-f	E-2-f	Emergency Diesel-fired IC Engine	18-A-518-S2
E-2-g	E-2-g	E-2-g	Emergency Diesel-fired IC Engine	18-A-519-S2
E-2-h	E-2-h	E-2-h	Emergency Diesel-fired IC Engine	18-A-520-S2
E-2-k	E-2-k	E-2-k	Emergency Diesel-fired IC Engine	18-A-521-S2
E-2-m	E-2-m	E-2-m	Emergency Diesel-fired IC Engine	18-A-522-S2
E-2-n	E-2-n	E-2-n	Emergency Diesel-fired IC Engine	18-A-523-S2
F-2-j	F-2-j	F-2-j	Emergency Diesel-fired IC Engine	18-A-524-S2
F-2-a	F-2-a	F-2-a	Emergency Diesel-fired IC Engine	18-A-525-S2
F-2-b	F-2-b	F-2-b	Emergency Diesel-fired IC Engine	18-A-526-S2
F-2-c	F-2-c	F-2-c	Emergency Diesel-fired IC Engine	18-A-527-S2
F-2-d	F-2-d	F-2-d	Emergency Diesel-fired IC Engine	18-A-528-S2
F-2-i	F-2-i	F-2-i	Emergency Diesel-fired IC Engine	18-A-529-S2
F-2-e	F-2-e	F-2-e	Emergency Diesel-fired IC Engine	18-A-530-S2
F-2-f	F-2-f	F-2-f	Emergency Diesel-fired IC Engine	18-A-531-S2
F-2-g	F-2-g	F-2-g	Emergency Diesel-fired IC Engine	18-A-532-S2
F-2-h	F-2-h	F-2-h	Emergency Diesel-fired IC Engine	18-A-533-S2
F-2-k	F-2-k	F-2-k	Emergency Diesel-fired IC Engine	18-A-534-S2

F-2-m	F-2-m	F-2-m	Emergency Diesel-fired IC Engine	18-A-535-S2
F-2-n	F-2-n	F-2-n	Emergency Diesel-fired IC Engine	18-A-536-S2
E-1-j	E-1-j	E-1-j	Emergency Diesel-fired IC Engine	18-A-537-S2
E-1-a	E-1-a	E-1-a	Emergency Diesel-fired IC Engine	18-A-538-S2
E-1-b	E-1-b	E-1-b	Emergency Diesel-fired IC Engine	18-A-539-S2
E-1-c	E-1-c	E-1-c	Emergency Diesel-fired IC Engine	18-A-540-S2
E-1-d	E-1-d	E-1-d	Emergency Diesel-fired IC Engine	18-A-541-S2
E-1-e	E-1-e	E-1-e	Emergency Diesel-fired IC Engine	18-A-542-S2
E-1-f	E-1-f	E-1-f	Emergency Diesel-fired IC Engine	18-A-543-S2
E-1-g	E-1-g	E-1-g	Emergency Diesel-fired IC Engine	18-A-544-S2
E-1-h	E-1-h	E-1-h	Emergency Diesel-fired IC Engine	18-A-545-S2
E-1-k	E-1-k	E-1-k	Emergency Diesel-fired IC Engine	18-A-546-S2
E-1-m	E-1-m	E-1-m	Emergency Diesel-fired IC Engine	18-A-547-S2
E-1-n	E-1-n	E-1-n	Emergency Diesel-fired IC Engine	18-A-548-S2
J-4-j	J-4-j	J-4-j	Emergency Diesel-fired IC Engine	18-A-549-S2
J-4-a	J-4-a	J-4-a	Emergency Diesel-fired IC Engine	18-A-550-S2
J-4-b	J-4-b	J-4-b	Emergency Diesel-fired IC Engine	18-A-551-S2
J-4-c	J-4-c	J-4-c	Emergency Diesel-fired IC Engine	18-A-552-S2
J-4-d	J-4-d	J-4-d	Emergency Diesel-fired IC Engine	18-A-553-S2
J-4-i	J-4-i	J-1-I	Emergency Diesel-fired IC Engine	18-A-554-S2
J-4-e	J-4-e	J-4-e	Emergency Diesel-fired IC Engine	18-A-555-S2
J-4-f	J-4-f	J-4-f	Emergency Diesel-fired IC Engine	18-A-556-S2
J-4-g	J-4-g	J-4-g	Emergency Diesel-fired IC Engine	18-A-557-S2
J-4-h	J-4-h	J-4-h	Emergency Diesel-fired IC Engine	18-A-558-S2
J-4-k	J-4-k	J-4-k	Emergency Diesel-fired IC Engine	18-A-559-S2
J-4-m	J-4-m	J-4-m	Emergency Diesel-fired IC Engine	18-A-560-S2
J-4-n	J-4-n	J-4-n	Emergency Diesel-fired IC Engine	18-A-561-S2
J-3-j	J-3-j	J-3-j	Emergency Diesel-fired IC Engine	18-A-562-S2
J-3-a	J-3-a	J-3-a	Emergency Diesel-fired IC Engine	18-A-563-S2
J-3-b	J-3-b	J-3-b	Emergency Diesel-fired IC Engine	18-A-564-S2
J-3-c	J-3-c	J-3-c	Emergency Diesel-fired IC Engine	18-A-565-S2
J-3-d	J-3-d	J-3-d	Emergency Diesel-fired IC Engine	18-A-566-S2
J-3-i	J-3-i	J-3-i	Emergency Diesel-fired IC Engine	18-A-567-S2
J-3-e	J-3-e	J-3-e	Emergency Diesel-fired IC Engine	18-A-568-S2
J-3-f	J-3-f	J-3-f	Emergency Diesel-fired IC Engine	18-A-569-S2
J-3-g	J-3-g	J-3-g	Emergency Diesel-fired IC Engine	18-A-570-S2
J-3-h	J-3-h	J-3-h	Emergency Diesel-fired IC Engine	18-A-571-S2
J-3-k	J-3-k	J-3-k	Emergency Diesel-fired IC Engine	18-A-572-S2
J-3-m	J-3-m	J-3-m	Emergency Diesel-fired IC Engine	18-A-573-S2
J-3-n	J-3-n	J-3-n	Emergency Diesel-fired IC Engine	18-A-574-S2
J-2-j	J-2-j	J-2-j	Emergency Diesel-fired IC Engine	18-A-575-S2
J-2-a	J-2-a	J-2-a	Emergency Diesel-fired IC Engine	18-A-576-S2
J-2-b	J-2-b	J-2-b	Emergency Diesel-fired IC Engine	18-A-577-S2
J-2-c	J-2-c	J-2-c	Emergency Diesel-fired IC Engine	18-A-578-S2
J-2-d	J-2-d	J-2-d	Emergency Diesel-fired IC Engine	18-A-579-S2

J-2-i	J-2-i	J-2-i	Emergency Diesel-fired IC Engine	18-A-580-S2
J-2-e	J-2-e	J-2-e	Emergency Diesel-fired IC Engine	18-A-581-S2
J-2-f	J-2-f	J-2-f	Emergency Diesel-fired IC Engine	18-A-582-S2
J-2-g	J-2-g	J-2-g	Emergency Diesel-fired IC Engine	18-A-583-S2
J-2-h	J-2-h	J-2-h	Emergency Diesel-fired IC Engine	18-A-584-S2
J-2-k	J-2-k	J-2-k	Emergency Diesel-fired IC Engine	18-A-585-S2
J-2-m	J-2-m	J-2-m	Emergency Diesel-fired IC Engine	18-A-586-S2
J-2-n	J-2-n	J-2-n	Emergency Diesel-fired IC Engine	18-A-587-S2
J-1-j	J-1-j	J-1-j	Emergency Diesel-fired IC Engine	18-A-588-S2
J-1-a	J-1-a	J-1-a	Emergency Diesel-fired IC Engine	18-A-589-S2
J-1-b	J-1-b	J-1-b	Emergency Diesel-fired IC Engine	18-A-590-S2
J-1-c	J-1-c	J-1-c	Emergency Diesel-fired IC Engine	18-A-591-S2
J-1-d	J-1-d	J-1-d	Emergency Diesel-fired IC Engine	18-A-592-S2
J-1-e	J-1-e	J-1-e	Emergency Diesel-fired IC Engine	18-A-593-S2
J-1-f	J-1-f	J-1-f	Emergency Diesel-fired IC Engine	18-A-594-S2
J-1-g	J-1-g	J-1-g	Emergency Diesel-fired IC Engine	18-A-595-S2
J-1-h	J-1-h	J-1-h	Emergency Diesel-fired IC Engine	18-A-596-S2
J-1-k	J-1-k	J-1-k	Emergency Diesel-fired IC Engine	18-A-597-S2
J-1-m	J-1-m	J-1-m	Emergency Diesel-fired IC Engine	18-A-598-S2
J-1-n	J-1-n	J-1-n	Emergency Diesel-fired IC Engine	18-A-599-S2
GIP 19				
E-5-d	E-5-d	E-5-D	Emergency Diesel-fired IC Engine	18-A-490-S2
F-5-d	F-5-d	F-5-D	Emergency Diesel-fired IC Engine	18-A-491-S2
E-5-e	E-5-e	E-5-E	Emergency Diesel-fired IC Engine	18-A-492-S2
F-5-e	F-5-e	F-5-E	Emergency Diesel-fired IC Engine	18-A-493-S2
H-5-a	H-5-a	H-5-A	Emergency Diesel-fired IC Engine	18-A-494-S2
G-5-a	G-5-a	G-5-A	Emergency Diesel-fired IC Engine	18-A-495-S2
H-5-b	H-5-b	H-5-B	Emergency Diesel-fired IC Engine	18-A-496-S2
G-5-b	G-5-b	G-5-B	Emergency Diesel-fired IC Engine	18-A-497-S2
GIP 20				
J1-3-a	J1-3-a	J1-3-a	Emergency Diesel-fired IC Engine	19-A-111-S1
J1-3-b	J1-3-b	J1-3-b	Emergency Diesel-fired IC Engine	19-A-112-S1
J1-3-c	J1-3-c	J1-3-c	Emergency Diesel-fired IC Engine	19-A-113-S1
J1-3-d	J1-3-d	J1-3-d	Emergency Diesel-fired IC Engine	19-A-114-S1
J1-3-e	J1-3-e	J1-3-e	Emergency Diesel-fired IC Engine	19-A-115-S1
J1-3-i	J1-3-i	J1-3-i	Emergency Diesel-fired IC Engine	19-A-116-S1

GIP 21				
F-5-a	F-5-a	F-5-a	Emergency Diesel-fired IC Engine	17-A-630-S4
E-5-a	E-5-a	E-5-a	Emergency Diesel-fired IC Engine	17-A-631-S4
F-5-b	F-5-b	F-5-b	Emergency Diesel-fired IC Engine	17-A-632-S4
E-5-b	E-5-b	E-5-b	Emergency Diesel-fired IC Engine	17-A-633-S4
F-5-c	F-5-c	F-5-c	Emergency Diesel-fired IC Engine	17-A-634-S4
E-5-c	E-5-c	E-5-c	Emergency Diesel-fired IC Engine	17-A-635-S4
F-5-f	F-5-f	F-5-f	Emergency Diesel-fired IC Engine	17-A-636-S4
GIP 22				
CT-3M-1	CT-3M-1	CT-3M-1	Cooling Module	17-A-688-S1
CT-3M-2	CT-3M-2	CT-3M-2	Cooling Module	17-A-689-S1
CT-3M-3	CT-3M-3	CT-3M-3	Cooling Module	17-A-690-S1
CT-3M-4	CT-3M-4	CT-3M-4	Cooling Module	17-A-691-S1
CT-3M-5	CT-3M-5	CT-3M-5	Cooling Module	17-A-692-S1
CT-3M-6	CT-3M-6	CT-3M-6	Cooling Module	17-A-693-S1
GIP 23				
CT-3M-7	CT-3M-7	CT-3M-7	Cooling Module	18-A-600
CT-3M-8	CT-3M-8	CT-3M-8	Cooling Module	18-A-601
CT-3M-9	CT-3M-9	CT-3M-9	Cooling Module	18-A-602
CT-3M-10	CT-3M-10	CT-3M-10	Cooling Module	18-A-603
CT-3M-11	CT-3M-11	CT-3M-11	Cooling Module	18-A-604
CT-3M-12	CT-3M-12	CT-3M-12	Cooling Module	18-A-605
CT-3M-13	CT-3M-13	CT-3M-13	Cooling Module	18-A-606
CT-3M-14	CT-3M-14	CT-3M-14	Cooling Module	18-A-607
Not Associated with a GIP				
150005	150005	A-3-j	Emergency Diesel-fired IC Engine	13-A-056-S10
EP_C_5_e	EP_C_5_e	C-5-e	Emergency Diesel-fired IC Engine	14-A-315-S7
EP_C_7_g	EP_C_7_g	C-7-g	Emergency Diesel-fired IC Engine	14-A-333-S7
1001	1001	Guard House	Guard House	N/A
J1-3-f	J1-3-f	J1-3-f	Emergency Diesel-fired IC Engine	19-A-153
Fire Pump	Fire Pump	Fire Pump 1	Fire Pump	N/A
E-5-g-FP	E-5-g-FP	Fire Pump 2	Emergency Diesel Engine – Fire Pump	N/A

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
T1 thru T22	12,000 gal diesel storage tank – vapor pressure 0.06 kPa
T23 thru T33	50,000 gal diesel storage tank – vapor pressure 0 06 kPa
T34 thru T 37	60,000 gal diesel storage tank – vapor pressure 0.06 kPa
GH1 thru GH37	Natural Gas Fired Heating Units <0.3 MMBtu (Total of 3.215 MMBtu for 37 units combined)
GH38 thru GH71	Natural Gas Fired Heating Units >0.3 MMBtu (Total of 28.33 MMBtu for 34 units combined)
T-3CUB-1, T3CUB-2, and T3CUB-3	49,500 gallons - vapor pressure of 0.86 kPa
T3A-1 and T3A-2	145,000 gallons - vapor pressure of 0.86 kPa
T3B-1 and T3B-2	145,000 gallons - vapor pressure of 0.86 kPa
T3C-1 and T3C-2	145,000 gallons - vapor pressure of 0.86 kPa
TC 1-8 (8 belly tanks)	4000 gallons (per tank) - vapor pressure of 0.86 kPa

II. Plant-Wide Conditions

Facility Name: Gable Corporation
Permit Number: 16-TV-002R1

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: 5 years
Commencing on: September 7, 2021
Ending on: September 6, 2026

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Emission Limits
Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO_2): 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter:
No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed on or after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.
For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - A person shall take reasonable precautions to prevent particulate matter from becoming airborne in quantities sufficient to cause a nuisance as defined in Iowa Code section 657.1 when the person allows, causes or permits any materials to be handled, transported or stored or a building, its appurtenances or a construction haul road to be

used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved roads. Ordinary travel includes routine traffic and road maintenance activities such as scarifying, compacting, transporting road maintenance surfacing material, and scraping of the unpaved public road surface. (the preceding sentence is State Only) All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.
6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

Authority for Requirement: 567 IAC 23.3(2)"c"

III. Emission Point-Specific Conditions

Facility Name: Gable Corporation
Permit Number: **16-TV-002R1**

GIP 1:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
200001	200001	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-215-S11
200002	200002	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-216-S11
200003	200003	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-217-S11
200004	200004	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-218-S11
200005	200005	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-219-S11
200006	200006	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-220-S11
200007	200007	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-221-S11
200008	200008	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-222-S11
200009	200009	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-223-S11
200010	200010	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-224-S11
200011	200011	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-225-S11
200012	200012	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-226-S11
200013	200013	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-227-S11
200014	200014	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-228-S11
200015	200015	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-229-S11
200016	200016	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-230-S11

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
200017	200017	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-231-S11
200018	200018	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	12-A-232-S11

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 1

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.73 lb/hr

Pollutant: Particulate Matter - PM_{10}
Emission Limit(s): 0.73 lb/hr

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 42.73 lb/hr, 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.03 lb/hr, See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 12-A-215-S11 thru 12-A-232-S11
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(1)] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

[(2)] Limit applies to all NOx emission sources at this facility.

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 1	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

Emission Unit ID	**Subpart**	**Title**	**Type**	**State Reference (567 IAC)**	**Federal Reference (40 CFR)**
Each emission unit listed under GIP 1	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

      E = X(EF)/2000 lb/ton

      Where
      E = NOx emissions in tons

      X = gallons of fuel used in all engines subject to this GIP

      EF = 0.290 lb/gal (emission factor for this group of engines)

   vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
      E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
      E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);
   viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
      E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);
   ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
      E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);
   x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb

Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 5.6 g/kW-hr at 25% load, 5.5 g/kW-hr at 50% load, 6.7 g/kW-hr at 75% load, and 8.5 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1051.7x^6 + 4481.1x^5 – 7545.1x^4 + 6394.2x^3 - 2858.6x^2 + 639.98x -50.321) * 1.14$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb

Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 12-A-215-S11 through 12-A-232-S11

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 44
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 6300
Exhaust Temperature (°F): 895
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 12-A-215-S11 through 12-A-232-S11

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 2:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
175001	175001	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	12-A-233-S11
175002	175002	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	12-A-234-S11
175003	175003	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	12-A-235-S11
175004	175004	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	12-A-236-S11

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 2

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.88 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.88 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 35.80 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.48 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 12-A-233-S11 through 12-A-236-S11
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

Emission Unit ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 2	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1)Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 2	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
        b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred forty (240) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

      E = X(EF)/2000 lb/ton
      Where

      E = NOx emissions in tons

      X = gallons of fuel used in all engines subject to this GIP

      EF = 0.291 lb/gal (emission factor for this group of engines)

   vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
      E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
      E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);
   viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
      E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);
   ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
      E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);
   x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.7 g/kW-hr at 25% load, 5.8 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.5 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.M of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.M of this permit.

N. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 12-A-233-S11 through 12-A-236-S11

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 38.7
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 5200
Exhaust Temperature (°F): 870
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 12-A-233-S11 through 12-A-236-S11

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 3A:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
225001	225001	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-036-S10
225002	225002	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-037-S10
225003	225003	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-038-S10
225004	225004	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-039-S10
225005	225005	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-040-S10
225006	225006	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-041-S10
225007	225007	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-042-S10
225008	225008	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-043-S10
225009	225009	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-044-S10
225010	225010	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-045-S10
225011	225011	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-046-S10
225012	225012	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-047-S10
225013	225013	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-048-S10
225014	225014	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-049-S10
225015	225015	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-050-S10
225016	225016	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-051-S10

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 3A

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.74 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.74 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 44.08 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 7.16 lb/hr[(3)], See NSPS and NESHAP Applicability section below
Authority for Requirement: DNR Construction Permits 13-A-036-S10 through 13-A-051-S10
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(1)] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[(2)] Limit applies to all NOx emission sources at this facility.
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 3	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[1] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 3	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

E = X(EF)/2000 lb/ton

Where

E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.270 lb/gal (emission factor for this group of engines)

vii. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

xi. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.5 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.5 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-3240.5x^6 + 11959x^5 - 17691x^4 + 13360x^3 - 5404.9x^2 + 1111.4x - 85.355) * 1.111$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 13-A-036-S10 through 13-A-051-S10

Emission Point Characteristics

Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 44
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 6700
Exhaust Temperature (°F): 940
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 13-A-036-S10 through 13-A-051-S10

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 4:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
150001	150001	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-052-S10
150002	150002	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-053-S10
150003	150003	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-054-S10
150004	150004	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-055-S10

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 4

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.40 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.40 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 31.77 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 4.59 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 13-A-052-S10 through 13-A-055-S10
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 4	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[1] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 4	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
        b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
    i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
    ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
    iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
        a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
        b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
        c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.
E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.
F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).
G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.
H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).
I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:
   E = X(EF)/2000 lb/ton

   Where

   E = NOx emissions in tons

   X = gallons of fuel used in all engines subject to this GIP

   EF = 0.286 lb/gal (emission factor for this group of engines)

   iv. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   v. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);
   vi. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
   E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.7 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.1 g/kW-hr at 75% load, and 8.7 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-595.03x^6 + 1782.7x^5 – 1991.5x^4 + 995.31x^3 – 187.27x^2 - 3.55x + 8.6926) * 1.157$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 13-A-052-S10 through 13-A-055-S10

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 38.7
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 5000
Exhaust Temperature (°F): 815
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 13-A-052-S10 through 13-A-055-S10

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 5:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
125002	125002	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-379-S10
225018	225018	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-380-S9
225019	225019	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-381-S9
225020	225020	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-382-S9
225021	225021	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-383-S9
225022	225022	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-384-S9
225023	225023	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-385-S9
225024	225024	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-386-S9
225025	225025	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-387-S9
225026	225026	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-388-S9
225027	225027	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-389-S9
225028	225028	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-390-S9
225029	225029	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-391-S9
225030	225030	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-392-S9
225031	225031	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-393-S9
225032	225032	Emergency Diesel-fired IC Engine	3,351 bhp, 163 gal/hr	None	13-A-394-S9

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 5

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.74 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.74 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 44.08 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 7.16 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 13-A-379-S10 and 13-A-380-S9 thru 13-A-394-S9
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(1)] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[(2)] Limit applies to all NOx emission sources at this facility.
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 5	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[1] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 5	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
    i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
    ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
    iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
        a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
        b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
        c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:
   E = X(EF)/2000 lb/ton

   Where

   E = NOx emissions in tons

   X = gallons of fuel used in all engines subject to this GIP

   EF = 0.270 lb/gal (emission factor for this group of engines)

   vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

   vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

   viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
   E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.5 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.5 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-3240.5x^6 + 11959x^5 - 17691x^4 + 13360x^3 - 5404.9x^2 + 1111.4x - 85.355) * 1.111$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 13-A-379-S10, 13-A-380-S9 through 13-A-394-S9

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 44
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 6700
Exhaust Temperature (°F): 940
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 13-A-379-S10, 13-A-380-S9 through 13-A-394-S9

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 6A:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
150006	150006	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-395-S9
150007	150007	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-396-S9
150008	150008	Emergency Diesel-fired IC Engine	2,328 bhp, 111 gal/hr	None	13-A-397-S9

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 6A

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.40 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.40 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 31.77 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 4.59 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 13-A-395-S9 through 13-A-397-S9
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
(2) Limit applies to all NOx emission sources at this facility.
(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 6A	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 6A	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
        b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
    i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
    ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
    iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
        a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
        b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
        c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:
   E = X(EF)/2000 lb/ton

   Where

   E = NOx emissions in tons

   X = gallons of fuel used in all engines subject to this GIP

   EF = 0.286 lb/gal (emission factor for this group of engines)

   vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);
   viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
   E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.7 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.1 g/kW-hr at 75% load, and 8.7 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-595.03x^6 + 1782.7x^5 – 1991.5x^4 + 995.31x^3 – 187.27x^2 - 3.55x + 8.6926) * 1.157$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 13-A-395-S9 through 13-A-397-S9

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 38.7
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 5000
Exhaust Temperature (°F): 815
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 13-A-395-S9 through 13-A-397-S9

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 7:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
125001	125001	Emergency Diesel-fired IC Engine	1,940 bhp, 90 gal/hr	None	13-A-399-S10
225017	225017	Emergency Diesel-fired IC Engine	1,940 bhp, 90 gal/hr	None	13-A-398-S10

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 7

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.42 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.42 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 31.77 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 4.59 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 13-A-398-S6, 13-A-399-S6
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
(2) Limit applies to all NOx emission sources at this facility.
(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 7	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 7	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping
All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
        b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
    i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
    ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
    iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
        a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
        b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
        c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

   Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

E = X(EF)/2000 lb/ton

Where

E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.353 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb

Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.7 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.1 g/kW-hr at 75% load, and 8.7 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-595.03x^6 + 1782.7x^5 - 1991.5x^4 + 995.31x^3 - 187.27x^2 - 3.55x + 8.6926) * 1.157$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

$E = P * Time * EF/453.6\ g/lb$

Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 13-A-398-S10, 13-A-399-S10

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 44
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 5000
Exhaust Temperature (°F): 800
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 13-A-398-S10, 13-A-399-S10

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 8:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
250001	250001	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-106-S8
250002	250002	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-107-S8
250003	250003	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-108-S8
250004	250004	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-109-S8
250005	250005	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-110-S8
250006	250006	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-111-S8
250007	250007	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-112-S8
250008	250008	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-113-S8
250009	250009	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-114-S8
250010	250010	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-115-S8
250011	250011	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-116-S8
250012	250012	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-117-S8
250013	250013	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-118-S8
250014	250014	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-119-S8
250015	250015	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-120-S8
250016	250016	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-121-S8
250017	250017	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-122-S8
250018	250018	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-123-S8

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
250019	250019	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-124-S8
250020	250020	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-125-S8
250021	250021	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-126-S8
250022	250022	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-127-S8
250023	250023	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-128-S8
250024	250024	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-129-S8
250025	250025	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-130-S8
250026	250026	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-131-S8
250027	250027	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-132-S8
250028	250028	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-133-S8
250029	250029	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-134-S8
250030	250030	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-135-S8
250031	250031	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-136-S8
250032	250032	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-137-S8

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 8

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.63 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.63 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 41.98 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.45 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 14-A-106-S8 through 14-A-137-S8
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
(2) Limit applies to all emergency generators at this facility that include this 249.4 tpy limit in its construction permit.
(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 8	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 8	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
   iii. The owner or operator shall maintain the following annual records:
      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

E = X(EF)/2000 lb/ton

Where

E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.229 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.6 g/kW-hr at 25% load, 6.3 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.2 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1180.6x^6 + 4031.5x^5 - 5542x^4 + 3934.7x^3 - 1528.3x^2 + 314.38x - 21.15) * 1.098$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 14-A-106-S8 through 14-A-137-S8

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 79
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7900
Exhaust Temperature (°F): 960
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-106-S8 through 14-A-137-S8

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 10A:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_C_2_m	EP_C_2_m	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	14-A-299-S7
EP_C_2_n	EP_C_2_n	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	14-A-300-S7
EP_D_2_m	EP_D_2_m	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	14-A-304-S7
EP_D_2_n	EP_D_2_n	Emergency Diesel-fired IC Engine	3,058 bhp, 147.3 gal/hr	None	14-A-305-S7

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 10A

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.73 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.73 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 42.73 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.03 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 14-A-299-S7, 14-A-300-S7,
14-A-304-S7, 14-A-305-S7
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 10A	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 10A	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

$$E = X(EF)/2000 \text{ lb/ton}$$

Where
E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.290 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 5.6 g/kW-hr at 25% load, 5.5 g/kW-hr at 50% load, 6.7 g/kW-hr at 75% load, and 8.5 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1051.7x^6 + 4481.1x^5 – 7545.1x^4 + 6394.2x^3 - 2858.6x^2 +639.98x – 50.321) * 1.140$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb

Where:

E (lbs) = NOx emissions

P (ekW) = maximum measured power

Time (hrs) = Number of minutes that the engine is operated each hour divided by 60

EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 14-A-299-S7, 14-A-300-S7, 14-A-304-S7, 14-A-305-S7

Emission Point Characteristics

Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 39
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 6300
Exhaust Temperature (°F): 895
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-299-S7, 14-A-300-S7, 14-A-304-S7, 14-A-305-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 9:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_C_2_o	EP_C_2_o	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	14-A-301-S7
EP_C_2_p	EP_C_2_p	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	14-A-302-S7
EP_D_2_o	EP_D_2_o	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	14-A-306-S7
EP_D_2_p	EP_D_2_p	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	14-A-307-S7
EP_D_2_q	EP_D_2_q	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	14-A-308-S7
EP_D_2_r	EP_D_2_r	Emergency Diesel-fired IC Engine	2,561 bhp, 123 gal/hr	None	14-A-309-S7

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded by any of the listed emission points in GIP 9

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.88 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.88 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 35.80 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.48 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 14-A-301-S7, 14-A-302-S7,
14-A-306-S7 through 14-A-309-S7
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 9	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 9	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

E = X(EF)/2000 lb/ton

Where

E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.291 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.7 g/kW-hr at 25% load, 5.8 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.5 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = (165.24x6 - 441.85x5 + 240.06x4 + 276.98x3 - 357.46x2 + 136.94x - 11.028) * 1.093

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 14-A-301-S7, 14-A-302-S7, 14-A-306-S7 through 14-A-309-S7

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 39.0
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 5200
Exhaust Temperature (°F): 870
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-301-S7, 14-A-302-S7, 14-A-306-S7 through 14-A-309-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 11:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_C_5_a	EP_C_5_a	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-311-S7
EP_C_5_b	EP_C_5_b	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-312-S7
EP_C_5_c	EP_C_5_c	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-313-S7
EP_C_5_d	EP_C_5_d	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-314-S7
EP_C_5_g	EP_C_5_g	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-317-S7
EP_C_5_i	EP_C_5_i	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-318-S7
EP_C_6_a	EP_C_6_a	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-319-S7
EP_C_6_b	EP_C_6_b	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-320-S7
EP_C_6_c	EP_C_6_c	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-321-S7
EP_C_6_d	EP_C_6_d	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-322-S7
EP_C_6_e	EP_C_6_e	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-323-S7
EP_C_6_f	EP_C_6_f	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-324-S7
EP_C_6_g	EP_C_6_g	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-325-S7
EP_C_6_h	EP_C_6_h	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-326-S7
EP_C_7_a	EP_C_7_a	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-327-S7
EP_C_7_b	EP_C_7_b	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-328-S7
EP_C_7_c	EP_C_7_c	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-329-S7
EP_C_7_d	EP_C_7_d	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-330-S7
EP_C_7_e	EP_C_7_e	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-331-S7

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_C_7_i	EP_C_7_i	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-334-S7
EP_C_8_a	EP_C_8_a	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-335-S7
EP_C_8_b	EP_C_8_b	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-336-S7
EP_C_8_c	EP_C_8_c	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-337-S7
EP_C_8_d	EP_C_8_d	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-338-S7
EP_C_8_e	EP_C_8_e	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-339-S7
EP_C_8_f	EP_C_8_f	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-340-S7
EP_C_8_g	EP_C_8_g	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-341-S7
EP_C_8_h	EP_C_8_h	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-342-S7
EP_D_3_a	EP_D_3_a	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-343-S7
EP_D_3_b	EP_D_3_b	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-344-S7
EP_D_3_c	EP_D_3_c	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-345-S7
EP_D_3_d	EP_D_3_d	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-346-S7
EP_D_3_e	EP_D_3_e	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-347-S7
EP_D_3_f	EP_D_3_f	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-348-S7
EP_D_3_g	EP_D_3_g	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-349-S7
EP_D_3_i	EP_D_3_i	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-350-S7
EP_D_4_a	EP_D_4_a	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-351-S7
EP_D_4_b	EP_D_4_b	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-352-S7
EP_D_4_c	EP_D_4_c	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-353-S7
EP_D_4_d	EP_D_4_d	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-354-S7

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_D_4_e	EP_D_4_e	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-355-S7
EP_D_4_f	EP_D_4_f	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-356-S7
EP_D_4_g	EP_D_4_g	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-357-S7
EP_D_4_h	EP_D_4_h	Emergency Diesel-fired IC Engine	3,673 bhp, 183 gal/hr	None	14-A-358-S7

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 11

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.76 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.76 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 41.98 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.45 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 14-A-311-S7 through 14-A-314-S7, 14-A-317-S7 through 14-A-331-S7, 14-A-334-S7 through 14-A-358-S7
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 11	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 11	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

$$E = X(EF)/2000 \text{ lb/ton}$$

Where
E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.229 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.6 g/kW-hr at 25% load, 6.3 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.2 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1180.6x^6 + 4031.5x^5 - 5542x^4 + 3934.7x^3 - 1528.3x^2 + 314.38x - 21.15) * 1.098$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 14-A-311-S7 through 14-A-314-S7, 14-A-317-S7 through 14-A-331-S7, 14-A-334-S7 through 14-A-358-S7

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 79.0
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7900
Exhaust Temperature (°F): 960
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-311-S7 through 14-A-314-S7, 14-A-317-S7 through 14-A-331-S7, 14-A-334-S7 through 14-A-358-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 12A:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_D_5_a	EP_D_5_a	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-359-S7
EP_D_5_b	EP_D_5_b	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-360-S7
EP_D_5_c	EP_D_5_c	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-361-S7
EP_D_5_d	EP_D_5_d	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-362-S7
EP_D_5_e	EP_D_5_e	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-363-S7
EP_D_5_f	EP_D_5_f	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-364-S7
EP_D_5_g	EP_D_5_g	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-365-S7
EP_D_5_i	EP_D_5_i	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-366-S7
EP_D_6_a	EP_D_6_a	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-367-S7
EP_D_6_b	EP_D_6_b	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-368-S7
EP_D_6_c	EP_D_6_c	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-369-S7
EP_D_6_d	EP_D_6_d	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-370-S7
EP_D_6_e	EP_D_6_e	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-371-S7
EP_D_6_f	EP_D_6_f	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-372-S7
EP_D_6_g	EP_D_6_g	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-373-S7
EP_D_6_h	EP_D_6_h	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-374-S7
EP_D_7_a	EP_D_7_a	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-375-S7
EP_D_7_b	EP_D_7_b	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-376-S7
EP_D_7_c	EP_D_7_c	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-377-S7

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
EP_D_7_d	EP_D_7_d	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-378-S7
EP_D_7_e	EP_D_7_e	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-379-S7
EP_D_7_f	EP_D_7_f	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-380-S7
EP_D_7_g	EP_D_7_g	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-381-S7
EP_D_7_i	EP_D_7_i	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-382-S7
EP_D_8_a	EP_D_8_a	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-383-S7
EP_D_8_b	EP_D_8_b	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-384-S7
EP_D_8_c	EP_D_8_c	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-385-S7
EP_D_8_d	EP_D_8_d	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-386-S7
EP_D_8_e	EP_D_8_e	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-387-S7
EP_D_8_f	EP_D_8_f	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-388-S7
EP_D_8_g	EP_D_8_g	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-389-S7
EP_D_8_h	EP_D_8_h	Emergency Diesel-fired IC Engine	4,035 bhp, 186 gal/hr	None	14-A-390-S7

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 12A

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.28 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.28 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 62.4 lb/hr[3], 249.4 tons/yr[2], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 7.30 lb/hr[3], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 14-A-359-S7 through 14-A-390-S7
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[1] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[2] Limit applies to all NOx emission sources at this facility.
[3] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 12A	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 12A	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping
All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition 5.D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:
   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
   iii. The owner or operator shall maintain the following annual records:
      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

   Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition 5.H or 5.I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

$$E = X(EF)/2000 \text{ lb/ton}$$

Where
E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.335 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb

Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.9 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.0 g/kW-hr at 75% load, and 10.3 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K and 5L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-2310.3x^6 + 7854.6x^5 - 10548x^4 + 7128x^3 - 2540.5x^2 + 454.34x - 26.77) * 1.075$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb

Where:

E (lbs) = NOx emissions

P (ekW) = maximum measured power

Time (hrs) = Number of minutes that the engine is operated each hour divided by 60

EF (g/ekW-hr) = Emission factor for NOx calculated from condition 5.M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 14-A-359-S7 through 14-A-390-S7

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 79.0
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 8300
Exhaust Temperature (°F): 880
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-359-S7 through 14-A-390-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 3B:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
01-1	01	Cooling Module	4,608 gal.	CE-01: Drift Eliminator	12-A-237-S1
01-2	01	Cooling Module	4,608 gal.	CE-01: Drift Eliminator	12-A-238-S1
02-1	02	Cooling Module	4,608 gal.	CE-02: Drift Eliminator	12-A-239-S1
02-2	02	Cooling Module	4,608 gal.	CE-02: Drift Eliminator	12-A-240-S1
03-1	03	Cooling Module	4,608 gal.	CE-03: Drift Eliminator	12-A-241-S1
03-2	03	Cooling Module	4,608 gal.	CE-03: Drift Eliminator	12-A-242-S1
04-1	04	Cooling Module	4,608 gal.	CE-04: Drift Eliminator	12-A-243-S1
04-2	04	Cooling Module	4,608 gal.	CE-04: Drift Eliminator	12-A-244-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 3B

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.018 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1
567 IAC 23.3(2)"a"

[(1)] An exceedance of the indicator opacity of "no visible emissions (No VE)" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Operating Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for the emission units listed in GIP 3B shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
B. The drift eliminators in GIP 3B shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units in GIP 3B.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1

Reporting and Recordkeeping Requirements

All records as required by this document shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. A copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.
C. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
D. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 27.60
Stack Opening, (inches, dia.): 216
Exhaust Flow Rate (scfm): 354,300
Exhaust Temperature (°F): 85
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 12-A-237-S1 through 12-A-244-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 6B:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
05	05	Cooling Module	4,608 gal	CE-05: Drift Eliminator	13-A-057-S1
06	06	Cooling Module	4,608 gal	CE-06: Drift Eliminator	13-A-058-S1
07	07	Cooling Module	4,608 gal	CE-07: Drift Eliminator	13-A-059-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 6B

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 13-A-057-S1 throughg 13-A-059-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 13-A-057-S1 through 13-A-059-S1

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 13-A-057-S1 through 13-A-059-S1

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.018 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 13-A-057-S1 through 13-A-059-S1
567 IAC 23.3(2)"a"

[(1)] An exceedance of the indicator opacity of "no visible emissions (No VE)" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Operating Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for the emission units listed in GIP 6B shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
B. The drift eliminators in GIP 6B shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units in GIP 6B.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 13-A-057-S1 through 13-A-059-S1

Reporting and Recordkeeping Requirements

All records as required by this document shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. A copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.
C. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
D. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

Authority for Requirement: DNR Construction Permits 13-A-057-S1 through 13-A-059-S1

Emission Point Characteristics
Each listed emission point in this GIP shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 27.60
Stack Opening, (inches, dia.): two (2) cells @ 216 inches each
Exhaust Flow Rate (scfm): two (2) cells @ 354,300 scfm each
Exhaust Temperature (°F): 85
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 13-A-057-S1 through 13-A-059-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 10B:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
08-1	08	Cooling Module	4,608 gal/min	CE-08: Drift Eliminator, 0.0005%	13-A-400-S1
08-2	08	Cooling Module	4,608 gal/min	CE-08: Drift Eliminator, 0.0005%	13-A-401-S1
09-1	09	Cooling Module	4,608 gal/min	CE-09: Drift Eliminator, 0.0005%	13-A-402-S1
09-2	09	Cooling Module	4,608 gal/min	CE-09: Drift Eliminator, 0.0005%	13-A-403-S1
10-1	10	Cooling Module	4,608 gal/min	CE-10: Drift Eliminator, 0.0005%	13-A-404-S1
10-2	10	Cooling Module	4,608 gal/min	CE-10: Drift Eliminator, 0.0005%	13-A-405-S1
CT-29-1	CT-29	Cooling Module	4,608 gal/min	CE-CT-29-1: Drift Eliminator, 0.0005%	19-A-117
CT-29-2	CT-29	Cooling Module	4,608 gal/min	CE-CT-29-2: Drift Eliminator, 0.0005%	19-A-136

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 10B

Pollutant: Opacity
Emission Limit(s): 40%(1)
Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.018 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136
567 IAC 23.3(2)"a"

(1) An exceedance of the indicator opacity of "no visible emissions (No VE)" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
   i. Record the analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. The drift eliminators listed on page 2 of this document shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units listed on page 2 of this document.
   i. Retain a copy of the Safety Data Sheet (SDS) for each water treatment chemical used in this emission unit.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
   i. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
   ii. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136

Emission Point Characteristics

Each listed emission point in this document shall conform to the specifications listed below:

Emission Points	08-1, 08-2, 09-1, 09-2, 10-1, 10-2	CT-29-1, CT-29-2
Stack Height, (ft, from the ground)	27.60	44.6
Stack Opening, (inches, dia.)	216	216
Exhaust Flow Rate (scfm)	354,300	361,497
Exhaust Temperature (°F)	85	96.5
Discharge Style	Unobstructed vertical	Unobstructed vertical

Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Compliance Demonstration(s)

Emission Points	Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
08-1, 08-2, 09-1, 09-2, 10-1, 10-2, CT-29-1, CT-20-2	TDS[2]	Water sampling[3]	Quarterly[4]	NA	NA
	VOC	Recordkeeping[1]	12-month rolling	NA	NA

[1] See Conditions C., D., and E. for the recordkeeping requirements.
[2] TDS = Total Dissolved Solids.
[3] See Condition A. for the total dissolved solids (TDS) limits and testing requirements.
[4] A minimum of one (1) analysis shall be conducted each quarter. If more than one (1) analysis is conducted the average of the analyses shall be used to demonstrate compliance.

Authority for Requirement: DNR Construction Permits 13-A-400-S1 through 13-A-405-S1, 19-A-117, 19-A-136

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 12B:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
11	11	Cooling Module	4,608 gal	CE-11: Drift Eliminator	14-A-138-S1
12	12	Cooling Module	4,608 gal	CE-12: Drift Eliminator	14-A-139-S1
13	13	Cooling Module	4,608 gal	CE-13: Drift Eliminator	14-A-140-S1
14	14	Cooling Module	4,608 gal	CE-14: Drift Eliminator	14-A-141-S1
15	15	Cooling Module	4,608 gal	CE-15: Drift Eliminator	14-A-142-S1
16	16	Cooling Module	4,608 gal	CE-16: Drift Eliminator	14-A-143-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 12B

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.018 lb/hr
Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.018 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1
567 IAC 23.3(2)"a"

[(1)] An exceedance of the indicator opacity of "no visible emissions (No VE)" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Operating Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for the emission units listed in GIP 12B shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
B. The drift eliminators listed in GIP 12B shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units listed in GIP 12B.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1

Reporting and Recordkeeping Requirements

All records as required by this document shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. A copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.
C. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
D. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1

Emission Point Characteristics
Each listed emission point in this document shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 28.6
Stack Opening, (inches, dia.): Two (2) cells @ 192 inches each
Exhaust Flow Rate (scfm): Two (2) cells @ 333,000 scfm each
Exhaust Temperature (°F): 85
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-138-S1 through 14-A-143-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 15A:

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
17	17	Cooling Module	5160 gal/min	CE-17: Drift Eliminator	14-A-391-S1
18	18	Cooling Module	5160 gal/min	CE-18: Drift Eliminator	14-A-392-S1
19	19	Cooling Module	5160 gal/min	CE-19: Drift Eliminator	14-A-393-S1
20	20	Cooling Module	5160 gal/min	CE-20: Drift Eliminator	14-A-394-S1
21	21	Cooling Module	5160 gal/min	CE-21: Drift Eliminator	14-A-395-S1
22	22	Cooling Module	5160 gal/min	CE-22: Drift Eliminator	14-A-396-S1
23	23	Cooling Module	5160 gal/min	CE-23: Drift Eliminator	14-A-397-S1
24	24	Cooling Module	5160 gal/min	CE-24: Drift Eliminator	14-A-398-S1
25	25	Cooling Module	5160 gal/min	CE-25: Drift Eliminator	14-A-399-S1
26	26	Cooling Module	5160 gal/min	CE-26: Drift Eliminator	14-A-400-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded by any of the listed emission points in GIP 15A

Pollutant: Opacity
Emission Limit(s): 40%(1)
Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.04 lb/hr
Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.04 lb/hr
Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.04 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1
567 IAC 23.3(2)"a"

(1) An exceedance of the indicator opacity of "no visible emissions (No VE)" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing)

Operating Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for the emission units listed in GIP 15A shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
B. The drift eliminators listed in GIP 15A of this document shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units listed in GIP 15A.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1

Reporting and Recordkeeping Requirements

All records as required by this document shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. A copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.
C. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
D. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1

Emission Point Characteristics
Each listed emission point in this document shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 58
Stack Opening, (inches, dia.): Two (2) cells @ 216 inches each
Exhaust Flow Rate (scfm): Two (2) cells @ 416,429scfm each
Exhaust Temperature (°F): 86
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 14-A-391-S1 through 14-A-400-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 150005

Associated Equipment

Emission Unit vented through this Emission Point: EU 150005
Emission Unit Description: Emergency Diesel-fired IC Engine
Raw Material/Fuel: Diesel
Rated Capacity: 2,328 bhp

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.40 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.40 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 31.77 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 4.59 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permit 13-A-056-S10
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(1)] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[(2)] Limit applies to all NOx emission sources at this facility.
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
150005	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
150005	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping
All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in this engine, in gallons.

C. This engine is limited to the following operation:
   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of this engine for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, this engine is limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
   ii. This engine is also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. This engine is not allowed to operate as a peak shaving units.
   iii. The owner or operator shall maintain the following annual records:
      a. the number of hours that this engine is operated for maintenance checks and readiness testing; and
      b. the number of hours that this engine is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of this engine shall comply with the requirements of condition 5.D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), this engine shall be equipped with a non-resettable hour meter.
F. This engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).
G. In accordance with 40 CFR §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.
H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

   Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that this engine is operated for maintenance checks and readiness testing;
   ii. the number of hours that this engine is operated for allowed non-emergency operations;
   iii. the total number of hours that this engine is operated; and
   iv. the rolling 12-month total amount of the number of hours that this engine is operated.
   v. Calculate the NOx emissions from this engine using the following equation:

      E = X(EF)/2000 lb/ton

      Where

      E = NOx emissions in tons

      X = gallons of fuel used in this engine

      EF = 0.286 lb/gal (emission factor for this engine)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by this engine for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from this engine using the following equation:

E = Time*Load*EF/453.6 g/lb

Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for this engine are: 4.7 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.1 g/kW-hr at 75% load, and 8.7 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by this engine for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-595.03x^6 + 1782.7x^5 – 1991.5x^4 + 995.31x^3 – 187.27x^2 - 3.55x + 8.6926) * 1.157$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from this engine using the following equation:

E = P * Time * EF/453.6 g/lb

Where:

E (lbs) = NOx emissions

P (ekW) = maximum measured power

Time (hrs) = Number of minutes that the engine is operated each hour divided by 60

EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from this engine by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:

i. Date and time of startup for this engine;
ii. Date and time of shutdown for this engine;
iii. Total hours of operation for this engine on that date;
iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permit 13-A-056-S10

Emission Point Characteristics

The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 44
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 5000
Exhaust Temperature (°F): 815
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permit 13-A-056-S10

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP C_5_e

Associated Equipment

Emission Unit vented through this Emission Point: EU C_5_e
Emission Unit Description: Emergency Diesel-fired IC Engine
Raw Material/Fuel: Diesel
Rated Capacity: 3,673 bhp

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.50 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.50 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 41.98 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.45 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permit 14-A-315-S7
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
2 Limit applies to all NOx emission sources at this facility.
(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
C_5_e	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[1] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
C_5_e	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in this engine, in gallons.

C. This engine is limited to the following operation:
   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of this engine for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, this engine is limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
   ii. This engine is also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. This engine is not allowed to operate as a peak shaving units.
   iii. The owner or operator shall maintain the following annual records:
      a. the number of hours that this engine is operated for maintenance checks and readiness testing; and
      b. the number of hours that this engine is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of this engine shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), this engine shall be equipped with a non-resettable hour meter.

F. This engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that this engine is operated for maintenance checks and readiness testing;

ii. the number of hours that this engine is operated for allowed non-emergency operations;

iii. the total number of hours that this engine is operated; and

iv. the rolling 12-month total amount of the number of hours that this engine is operated.

v. Calculate the NOx emissions from this engine using the following equation:

E = X(EF)/2000 lb/ton

Where

E = NOx emissions in tons

X = gallons of fuel used in this engine

EF = 0.229 lb/gal (emission factor for this engine)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by this engine for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from this engine using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for this engine are: 4.6 g/kW-hr at 25% load, 6.3 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.2 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by this engine for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1180.6x^6 + 4031.5x^5 – 5542x^4 + 3934.7x^3 – 1528.3x^2 + 314.38x – 21.15) * 1.098$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from this engine using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from this engine by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition 5.N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for this engine;
   ii. Date and time of shutdown for this engine;
   iii. Total hours of operation for this engine on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permit 14-A-315-S7

Emission Point Characteristics
The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 79
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7900
Exhaust Temperature (°F): 960
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permit 14-A-315-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 16:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
C_5_f	C_5_f	Diesel-fired IC Engine	3,673 bhp	None	14-A-316-S7
C_7_f	C_7_f	Diesel-fired IC Engine	3,673 bhp	None	14-A-332-S7

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.19 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.19 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 41.98 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.45 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permit 14-A-316-S7, 14-A-332-S7
567 IAC 23.1(2)"yyy", 40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
(2) Limit applies to all NOx emission sources at this facility.
(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
C_5_f, C_7_f	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[1] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
C_5_f, C_7_f	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping
All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
        b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
    i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
    ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
    iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition D listed above by one of the following methods:
        a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
        b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
        c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

   Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

$$E = X(EF)/2000 \text{ lb/ton}$$

Where
E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.229 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.6 g/kW-hr at 25% load, 6.3 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.2 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1180.6x^6 + 4031.5x^5 – 5542x^4 + 3934.7x^3 – 1528.3x^2 + 314.38x – 21.15) * 1.098$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:

E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permit 14-A-316-S7, 14-A-332-S7

Emission Point Characteristics
The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 79
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7900
Exhaust Temperature (°F): 960
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permit 14-A-316-S7, 14-A-332-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP C_7_g

Associated Equipment

Emission Unit vented through this Emission Point: EU C_7_g
Emission Unit Description: Emergency Diesel-fired IC Engine
Raw Material/Fuel: Diesel
Rated Capacity: 3,673 bhp, 183 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.57 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.57 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 41.98 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 5.45 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permit 14-A-333-S7
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(1)] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[(2)] Limit applies to all NOx emission sources at this facility.
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
C_7_g	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
C_7_g	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping
All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
      a. The amount of fuel used in this engine, in gallons.

C. This engine is limited to the following operation:
   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of this engine for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, this engine is limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
   ii. This engine is also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. This engine is not allowed to operate as a peak shaving units.
   iii. The owner or operator shall maintain the following annual records:
      a. the number of hours that this engine is operated for maintenance checks and readiness testing; and
      b. the number of hours that this engine is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of this engine shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), this engine shall be equipped with a non-resettable hour meter.

F. This engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that this engine is operated for maintenance checks and readiness testing;

ii. the number of hours that this engine is operated for allowed non-emergency operations;

iii. the total number of hours that this engine is operated; and

iv. the rolling 12-month total amount of the number of hours that this engine is operated.

v. Calculate the NOx emissions from this engine using the following equation:

E = X(EF)/2000 lb/ton

Where
E = NOx emissions in tons

X = gallons of fuel used in this engine

EF = 0.229 lb/gal (emission factor for this engine)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by this engine for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from this engine using the following equation:

E = Time*Load*EF/453.6 g/lb

Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for this engine are: 4.6 g/kW-hr at 25% load, 6.3 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.2 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by this engine for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

EF (g/ekW-hr) = $(-1180.6x^6 + 4031.5x^5 – 5542x^4 + 3934.7x^3 – 1528.3x^2 + 314.38x – 21.15) * 1.098$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from this engine using the following equation:

E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from this engine by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for this engine;
   ii. Date and time of shutdown for this engine;
   iii. Total hours of operation for this engine on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permit 14-A-333-S7

Emission Point Characteristics
The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 79
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7900
Exhaust Temperature (°F): 960
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permit 14-A-333-S7

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 17:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
F-1-j	F-1-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-637-S4
F-1-a	F-1-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-638-S4
F-1-b	F-1-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-639-S4
F-1-c	F-1-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-640-S4
F-1-d	F-1-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-641-S4
F-1-e	F-1-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-642-S4
F-1-f	F-1-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-643-S4
F-1-g	F-1-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-644-S4
F-1-h	F-1-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-645-S4
F-1-k	F-1-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-646-S4
F-1-m	F-1-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-647-S4
F-1-n	F-1-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-648-S4
G-1-j	G-1-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-649-S4
G-1-a	G-1-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-650-S4
G-1-b	G-1-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-651-S4
G-1-c	G-1-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-652-S4
G-1-d	G-1-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-653-S4
G-1-e	G-1-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-654-S4
G-1-f	G-1-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-655-S4
G-1-g	G-1-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-656-S4
G-1-h	G-1-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-657-S4
G-1-i	G-1-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-658-S4
G-1-k	G-1-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-659-S4
G-1-m	G-1-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-660-S4
G-1-n	G-1-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-661-S4
G-2-j	G-2-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-662-S4
G-2-a	G-2-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-663-S4
G-2-b	G-2-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-664-S4
G-2-c	G-2-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-665-S4
G-2-d	G-2-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-666-S4
G-2-e	G-2-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-667-S4
G-2-f	G-2-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-668-S4
G-2-g	G-2-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-669-S4
G-2-h	G-2-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-670-S4
G-2-i	G-2-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-671-S4
G-2-k	G-2-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-672-S4
G-2-m	G-2-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-673-S4
G-2-n	G-2-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-674-S4
G-3-j	G-3-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-675-S4
G-3-a	G-3-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-676-S4

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
G-3-b	G-3-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-677-S4
G-3-c	G-3-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-678-S4
G-3-d	G-3-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-679-S4
G-3-e	G-3-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-680-S4
G-3-f	G-3-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-681-S4
G-3-g	G-3-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-682-S4
G-3-h	G-3-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-683-S4
G-3-i	G-3-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-684-S4
G-3-k	G-3-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-685-S4
G-3-m	G-3-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-686-S4
G-3-n	G-3-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	17-A-687-S4

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.28 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.28 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 67.70 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 8.12 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 17-A-637-S4 through 17-A-687-S4
567 IAC 23.1(2)"yyy", 40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 17	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 17	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
        b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations. Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;

ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;

iii. the total number of hours that each engine listed in this document is operated; and

iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.

v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

E = X(EF)/2000 lb/ton

Where

E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.364 lb/gal (emission factor for this group of engines)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.9 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.0 g/kW-hr at 75% load, and 10.3 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-2310.3x^6 + 7854.6x^5 - 10548x^4 + 7128x^3 - 2540.5x^2 + 454.34x - 26.77) * 1.075$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 17-A-637-S4 through 17-A-687-S4

Emission Point Characteristics
The emission points shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 114.75
Stack Opening, (inches, dia.): 37.4
Exhaust Flow Rate (scfm): 9528
Exhaust Temperature (°F): 785
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 17-A-637-S4 through 17-A-687-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 18:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
F-3-j	F-3-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-498-S2
F-3-a	F-3-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-499-S2
F-3-b	F-3-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-500-S2
F-3-c	F-3-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-501-S2
F-3-d	F-3-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-502-S2
F-3-i	F-3-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-503-S2
F-3-e	F-3-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-504-S2
F-3-f	F-3-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-505-S2
F-3-g	F-3-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-506-S2
F-3-h	F-3-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-507-S2
F-3-k	F-3-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-508-S2
F-3-m	F-3-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-509-S2
F-3-n	F-3-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-510-S2
E-2-j	E-2-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-511-S2
E-2-a	E-2-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-512-S2
E-2-b	E-2-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-513-S2
E-2-c	E-2-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-514-S2
E-2-d	E-2-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-515-S2
E-2-i	E-2-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-516-S2
E-2-e	E-2-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-517-S2
E-2-f	E-2-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-518-S2
E-2-g	E-2-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-519-S2
E-2-h	E-2-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-520-S2
E-2-k	E-2-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-521-S2
E-2-m	E-2-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-522-S2
E-2-n	E-2-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-523-S2
F-2-j	F-2-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-524-S2
F-2-a	F-2-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-525-S2
F-2-b	F-2-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-526-S2
F-2-c	F-2-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-527-S2
F-2-d	F-2-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-528-S2
F-2-i	F-2-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-529-S2
F-2-e	F-2-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-530-S2
F-2-f	F-2-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-531-S2
F-2-g	F-2-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-532-S2
F-2-h	F-2-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-533-S2
F-2-k	F-2-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-534-S2
F-2-m	F-2-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-535-S2
F-2-n	F-2-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-536-S2
E-1-j	E-1-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-537-S2

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
E-1-a	E-1-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-538-S2
E-1-b	E-1-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-539-S2
E-1-c	E-1-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-540-S2
E-1-d	E-1-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-541-S2
E-1-e	E-1-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-542-S2
E-1-f	E-1-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-543-S2
E-1-g	E-1-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-544-S2
E-1-h	E-1-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-545-S2
E-1-k	E-1-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-546-S2
E-1-m	E-1-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-547-S2
E-1-n	E-1-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-548-S2
J-4-j	J-4-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-549-S2
J-4-a	J-4-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-550-S2
J-4-b	J-4-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-551-S2
J-4-c	J-4-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-552-S2
J-4-d	J-4-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-553-S2
J-4-i	J-4-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-554-S2
J-4-e	J-4-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-555-S2
J-4-f	J-4-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-556-S2
J-4-g	J-4-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-557-S2
J-4-h	J-4-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-558-S2
J-4-k	J-4-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-559-S2
J-4-m	J-4-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-560-S2
J-4-n	J-4-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-561-S2
J-3-j	J-3-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-562-S2
J-3-a	J-3-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-563-S2
J-3-b	J-3-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-564-S2
J-3-c	J-3-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-565-S2
J-3-d	J-3-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-566-S2
J-3-i	J-3-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-567-S2
J-3-e	J-3-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-568-S2
J-3-f	J-3-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-569-S2
J-3-g	J-3-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-570-S2
J-3-h	J-3-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-571-S2
J-3-k	J-3-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-572-S2
J-3-m	J-3-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-573-S2
J-3-n	J-3-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-574-S2
J-2-j	J-2-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-575-S2
J-2-a	J-2-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-576-S2
J-2-b	J-2-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-577-S2
J-2-c	J-2-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-578-S2
J-2-d	J-2-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-579-S2
J-2-i	J-2-i	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-580-S2

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
J-2-e	J-2-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-581-S2
J-2-f	J-2-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-582-S2
J-2-g	J-2-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-583-S2
J-2-h	J-2-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-584-S2
J-2-k	J-2-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-585-S2
J-2-m	J-2-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-586-S2
J-2-n	J-2-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-587-S2
J-1-j	J-1-j	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-588-S2
J-1-a	J-1-a	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-589-S2
J-1-b	J-1-b	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-590-S2
J-1-c	J-1-c	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-591-S2
J-1-d	J-1-d	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-592-S2
J-1-e	J-1-e	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-593-S2
J-1-f	J-1-f	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-594-S2
J-1-g	J-1-g	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-595-S2
J-1-h	J-1-h	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-596-S2
J-1-k	J-1-k	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-597-S2
J-1-m	J-1-m	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-598-S2
J-1-n	J-1-n	Diesel-fired IC Engine	4036 bhp, 186 gal/hr	None	18-A-599-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.28 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.28 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 68.3 lb/hr[3], 249.4 tons/yr[2], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 8.62 lb/hr[3], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 18-A-498-S2 through 18-A-599-S2
567 IAC 23.1(2)"yyy", 40 CFR 60 Subpart IIII

[1] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[2] Limit applies to all NOx emission sources at this facility.
[3] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 18	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 18	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

iii. The owner or operator shall maintain the following annual records:
   a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
   b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

      E = X(EF)/2000 lb/ton

      Where

      E = NOx emissions in tons

      X = gallons of fuel used in all engines subject to this GIP

      EF = 0.367 lb/gal (emission factor for this group of engines)

   vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.9 g/kW-hr at 25% load, 5.7 g/kW-hr at 50% load, 7.0 g/kW-hr at 75% load, and 10.3 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-2310.3x^6 + 7854.6x^5 - 10548x^4 + 7128x^3 - 2540.5x^2 + 454.34x - 26.77) * 1.075$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:

vii. Date and time of startup for each engine listed in this document;

viii. Date and time of shutdown for each engine listed in this document;

ix. Total hours of operation for each engine listed in this document on that date;

x. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;

xi. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition I for the facility (plant number 78-01-121) for each calendar year; and

xii. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 18-A-498-S2 through 18-A-599-S2

Emission Point Characteristics

The emission points shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 114.75
Stack Opening, (inches, dia.): 37.2
Exhaust Flow Rate (scfm): 9535
Exhaust Temperature (°F): 785
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 18-A-498-S2 through 18-A-599-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 19:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
E-5-d	E-5-d	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-490-S2
F-5-d	F-5-d	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-491-S2
E-5-e	E-5-e	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-492-S2
F-5-e	F-5-e	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-493-S2
H-5-a	H-5-a	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-494-S2
G-5-a	G-5-a	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-495-S2
H-5-b	H-5-b	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-496-S2
G-5-b	G-5-b	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	18-A-497-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.42 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.42 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 67.0 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 10.0 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 18-A-490-S2 through 18-A-497-S2
567 IAC 23.1(2)"yyy", 40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 19	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 19	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.
C. Each engine listed in this document is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

iii. The owner or operator shall maintain the following annual records:
    a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and
    b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
    i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
    ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
    iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition D listed above by one of the following methods:
        a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
        b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
        c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.
E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.
F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).
G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.
H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).
I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

      E = X(EF)/2000 lb/ton

      Where

      E = NOx emissions in tons

      X = gallons of fuel used in all engines subject to this GIP

      EF = 0.30 lb/gal (emission factor for this group of engines)

   vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 6.2 g/kW-hr at 25% load, 6.0 g/kW-hr at 50% load, 7.0 g/kW-hr at 75% load, and 8.7 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-2460.5x^6 + 9362.4x^5 - 14411x^4 + 11451x^3 - 4927.9x^2 + 1083.1x - 87.7) * 1.074$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from conditionM.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 18-A-490-S2 through 18-A-497-S2

Emission Point Characteristics
The emission points shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 96.93
Stack Opening, (inches, dia.): 37.2
Exhaust Flow Rate (scfm): 10,523
Exhaust Temperature (°F): 872
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 18-A-490-S2 through 18-A-497-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 20:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
J1-3-a	J1-3-a	Diesel-fired IC Engine	3055 bhp, 147.3 gal/hr	None	19-A-111-S1
J1-3-b	J1-3-b	Diesel-fired IC Engine	3055 bhp, 147.3 gal/hr	None	19-A-112-S1
J1-3-c	J1-3-c	Diesel-fired IC Engine	3055 bhp, 147.3 gal/hr	None	19-A-113-S1
J1-3-d	J1-3-d	Diesel-fired IC Engine	3055 bhp, 147.3 gal/hr	None	19-A-114-S1
J1-3-e	J1-3-e	Diesel-fired IC Engine	3055 bhp, 147.3 gal/hr	None	19-A-115-S1
J1-3-i	J1-3-i	Diesel-fired IC Engine	3055 bhp, 147.3 gal/hr	None	19-A-116-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%(1), See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.91 lb/hr(3)

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.91 lb/hr(3)

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 44.7 lb/hr(3), 249.4 tons/yr(2), See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 7.03 lb/hr(3), See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 19-A-111-S1 through 19-A-116-S1
567 IAC 23.1(2)"yyy", 40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

Emission Unit ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 20	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

Emission Unit ID	**Subpart**	**Title**	**Type**	**State Reference (567 IAC)**	**Federal Reference (40 CFR)**
Each emission unit listed under GIP 20	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

$$E = X(EF)/2000 \text{ lb/ton}$$

Where

E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.303 lb/gal (emission factor for this group of engines)

   i. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   ii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);
   iii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
   E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

iv. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 4.7 g/kW-hr at 25% load, 5.5 g/kW-hr at 50% load, 7.4 g/kW-hr at 75% load, and 8.9 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition M of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition M of this permit.

N. The owner or operator shall maintain a log for showing the following:

i. Date and time of startup for each engine listed in this document;
ii. Date and time of shutdown for each engine listed in this document;
iii. Total hours of operation for each engine listed in this document on that date;
iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition I for the facility (plant number 78-01-121) for each calendar year; and
vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 19-A-111-S1 through 19-A-116-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 48.23
Stack Opening, (inches, dia.): 28
Exhaust Flow Rate (scfm): 6261
Exhaust Temperature (°F): 903
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 19-A-111-S1 through 19-A-116-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 21:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
F-5-a	F-5-a	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-630-S4
E-5-a	E-5-a	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-631-S4
F-5-b	F-5-b	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-632-S4
E-5-b	E-5-b	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-633-S4
F-5-c	F-5-c	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-634-S4
E-5-c	E-5-c	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-635-S4
F-5-f	F-5-f	Diesel-fired IC Engine	4680 bhp, 223 gal/hr	None	17-A-636-S4

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)], See NSPS and NESHAP Applicability section below

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 1.42 lb/hr[(3)]

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 1.42 lb/hr[(3)]

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Applicability section below

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): See Operating Limits section below

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 66.95 lb/hr[(3)], 249.4 tons/yr[(2)], See NSPS and NESHAP Applicability section below

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 10.0 lb/hr[(3)], See NSPS and NESHAP Applicability section below

Authority for Requirement: DNR Construction Permits 17-A-630-S4 through 17-A-636-S4
567 IAC 23.1(2)"yyy", 40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Limit applies to all NOx emission sources at this facility.

(3) Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 21	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC(1) + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

(1) Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Each emission unit listed under GIP 21	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Each engine listed in this document is limited to burning diesel fuel oil that meets the requirements of Condition D.

B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.

   i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.

   ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.

   iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:

      a. The amount of fuel used in each engine subject to this Group of Identical Permits (GIP), in gallons.

C. Each engine listed in this document is limited to the following operation:

   i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of any of the engines listed in this document for emergency situations provided that the annual fuel usage limit established in Condition B. is not exceeded. In accordance with §60.4211, the engines listed in this document are limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.

   ii. The engines listed in this document are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. The engines listed in this document are not allowed to operate as a peak shaving units.

   iii. The owner or operator shall maintain the following annual records:

      a. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing; and

      b. the number of hours that each engine listed in this document is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in each engine listed in this document shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of the engines listed in this document shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), the engines listed in this document shall be equipped with a non-resettable hour meter.

F. The engines listed in this document must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), the engines listed in this document shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:
   i. the number of hours that each engine listed in this document is operated for maintenance checks and readiness testing;
   ii. the number of hours that each engine listed in this document is operated for allowed non-emergency operations;
   iii. the total number of hours that each engine listed in this document is operated; and
   iv. the rolling 12-month total amount of the number of hours that each engine listed in this document is operated.
   v. Calculate the NOx emissions from all engines subject to this GIP using the following equation:

$$E = X(EF)/2000 \text{ lb/ton}$$

Where
E = NOx emissions in tons

X = gallons of fuel used in all engines subject to this GIP

EF = 0.30 lb/gal (emission factor for this group of engines)

   i. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
   E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);
   ii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
   E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);
   iii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
   E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

iv. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by each engine listed in this GIP for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from each engine subject to this GIP using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for the engines in this GIP are: 6.2 g/kW-hr at 25% load, 6.0 g/kW-hr at 50% load, 7.0 g/kW-hr at 75% load, and 8.7 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. As an alternative to the monthly emissions tracking methodology specified in Condition K and L, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum electrical percent load produced by each engine listed in this GIP for any 15 minute or more frequent period in which the engine operates;

ii. The emission factor for each 15 minute or more frequent period will be calculated using the following polynomial equation:

$EF\ (g/ekW\text{-}hr) = (-2460.5x^6 + 9362.4x^5 - 14411x^4 + 11451x^3 - 4927.9x^2 + 1083.1x - 87.7) * 1.074$

Where:

x = Load Percentage

iii. The calculated NOx emissions, in pounds, from each engine subject to this GIP using the following equation:
E = P * Time * EF/453.6 g/lb
Where:
E (lbs) = NOx emissions
P (ekW) = maximum measured power
Time (hrs) = Number of minutes that the engine is operated each hour divided by 60
EF (g/ekW-hr) = Emission factor for NOx calculated from condition M.ii.

iv. Calculate the total NOx emissions from each engine in the GIP by summing the emissions from each 15 minute period when the engines operated.

v. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals

N. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition N of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition N of this permit.

O. The owner or operator shall maintain a log for showing the following:
   i. Date and time of startup for each engine listed in this document;
   ii. Date and time of shutdown for each engine listed in this document;
   iii. Total hours of operation for each engine listed in this document on that date;
   iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
   v. The number of *"PM2.5 high activity days"* per Condition 5.H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
   vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permits 17-A-630-S4 through 17-A-636-S4

Emission Point Characteristics
The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 96.93
Stack Opening, (inches, dia.): 37.4
Exhaust Flow Rate (scfm): 10,523
Exhaust Temperature (°F): 872
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 17-A-630-S4 through 17-A-636-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 22:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
CT-3M-1	CT-3M-1	Cooling Module	11,000 gal/min	3M-1: Drift Eliminator, 0.0005%	17-A-688-S1
CT-3M-2	CT-3M-2	Cooling Module	11,000 gal/min	3M-2: Drift Eliminator, 0.0005%	17-A-689-S1
CT-3M-3	CT-3M-3	Cooling Module	11,000 gal/min	3M-3: Drift Eliminator, 0.0005%	17-A-690-S1
CT-3M-4	CT-3M-4	Cooling Module	11,000 gal/min	3M-4: Drift Eliminator, 0.0005%	17-A-691-S1
CT-3M-5	CT-3M-5	Cooling Module	11,000 gal/min	3M-5: Drift Eliminator, 0.0005%	17-A-692-S1
CT-3M-6	CT-3M-6	Cooling Module	11,000 gal/min	3M-6: Drift Eliminator, 0.0005%	17-A-693-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 17-A-688-S1 through 17-A-693-S1
567 IAC 23.3(2)"d"

[(1)] An exceedance of the indicator opacity of *"no visible emissions (No VE)"* will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.086 lb/hr[(2)(3)]
Authority for Requirement: DNR Construction Permits 17-A-688-S1 through 17-A-693-S1

[(2)] Emission rate used in order to limit the potential-to-emit (PTE) of the facility (plant number 78-01-121).
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 18-146 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.086 lb/hr[(2)(3)]
Authority for Requirement: DNR Construction Permits 17-A-688-S1 through 17-A-693-S1

[(2)] Emission rate used in order to limit the potential-to-emit (PTE) of the facility (plant number 78-01-121).
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 18-146 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.086 lb/hr[(2)], 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 17-A-688-S1 through 17-A-693-S1
567 IAC 23.3(2)"a"

[(2)] Emission rate used in order to limit the potential-to-emit (PTE) of the facility (plant number 78-01-121).

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
    i. Record the analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. The drift eliminators listed on page 2 of this document shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units listed on page 2 of this document.
    i. Retain a copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
    i. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
    ii. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 17-A-688-S1 through 17-A-693-S1

Emission Point Characteristics
The emission points shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 59.74
Stack Opening, (inches, dia.): 384
Exhaust Flow Rate (scfm): two cells @ 893,740 each
Exhaust Temperature (°F): 86
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 17-A-688-S1 through 17-A-693-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

GIP 23:
List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
CT-3M-7	CT-3M-7	Cooling Module	11,000 gal/min	3M-7: Drift Eliminator, 0.0005%	18-A-600
CT-3M-8	CT-3M-8	Cooling Module	11,000 gal/min	3M-8: Drift Eliminator, 0.0005%	18-A-601
CT-3M-9	CT-3M-9	Cooling Module	11,000 gal/min	3M-9: Drift Eliminator, 0.0005%	18-A-602
CT-3M-10	CT-3M-10	Cooling Module	11,000 gal/min	3M-10: Drift Eliminator, 0.0005%	18-A-603
CT-3M-11	CT-3M-11	Cooling Module	11,000 gal/min	3M11: Drift Eliminator, 0.0005%	18-A-604
CT-3M-12	CT-3M-12	Cooling Module	11,000 gal/min	3M-12: Drift Eliminator, 0.0005%	18-A-605
CT-3M-13	CT-3M-13	Cooling Module	11,000 gal/min	3M-13: Drift Eliminator, 0.0005%	18-A-606
CT-3M-14	CT-3M-14	Cooling Module	11,000 gal/min	3M-14: Drift Eliminator, 0.0005%	18-A-607

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 18-A-600 through 18-A-607
567 IAC 23.3(2)"d"

[(1)] An exceedance of the indicator opacity of *"no visible emissions (No VE)"* will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter - $PM_{2.5}$
Emission Limit(s): 0.086 lb/hr[(2)(3)]
Authority for Requirement: DNR Construction Permits 18-A-600 through 18-A-607

[(2)] Emission rate used in order to limit the potential-to-emit (PTE) of the facility (plant number 78-01-121).
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 18-146 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter – PM_{10}
Emission Limit(s): 0.086 lb/hr[(2)(3)]
Authority for Requirement: DNR Construction Permits 18-A-600 through 18-A-607

[(2)] Emission rate used in order to limit the potential-to-emit (PTE) of the facility (plant number 78-01-121).
[(3)] Emission rate used in facility-wide dispersion modeling for Project Number 18-146 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.086 lb/hr[(2)], 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 18-A-600 through 18-A-607
567 IAC 23.3(2)"a"

[(2)] Emission rate used in order to limit the potential-to-emit (PTE) of the facility (plant number 78-01-121).

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. The total dissolved solids (TDS) of the water used shall not exceed 3,100 ppm (quarterly average).
    i. Record the analysis of the TDS of the water used for each quarter this emission unit is in use and the quarterly average TDS of the water.
B. The drift eliminators listed on page 2 of this document shall be designed to meet a control efficiency of 0.0005% (gallons of drift per gallon of cooling water flow) or better.
C. Chromium based and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in the emission units listed on page 2 of this document.
    i. Retain a copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.
D. The facility-wide usage of VOC containing cooling module chemical additives shall not exceed 20,000 gallons per twelve (12) month rolling period.
    i. During the first twelve (12) months of operation determine the total amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) for each month of operation. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
    ii. After the first twelve (12) months of operation determine the annual amount of VOC containing cooling module chemical additive used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
E. The VOC content of any VOC containing cooling module chemical additive shall not exceed 5.0 pounds per gallon.

Authority for Requirement: DNR Construction Permits 18-A-600 through 18-A-607

Emission Point Characteristics
The emission points shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 59.74
Stack Opening, (inches, dia.): 384
Exhaust Flow Rate (scfm): two cells @ 893,740 each
Exhaust Temperature (°F): 86
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permits 18-A-600 through 18-A-607

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 1001

Associated Equipment
Emission Unit vented through this Emission Point: EU 1001
Emission Unit Description: Emergency Diesel Engine - Guardhouse
Raw Material/Fuel: Diesel
Rated Capacity: 324 bhp

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:
Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.20 g/kW-hr
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Sulfur Dioxide (SO2)
Emission Limit(s): see Operating Limits & Requirements Below
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Nitrogen Oxide (NMHC + NO_x)
Emission Limit(s): 4.0 g/kW-hr
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 3.5 g/kW-hr
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

NSPS and NESHAP Applicability:

The emergency engine is subject to 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). According to 40 CFR 63.6590(a)(1)(ii) this compression ignition emergency engine, located at a major source, is a new stationary RICE as it was constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), this emergency engine must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. No further requirements apply for this emergency engine under subpart ZZZZ.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Operating Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Fuel Requirements:

You must use diesel fuel that has a maximum sulfur content of 15 ppm (0.0015%) by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. 40 CFR 60.4207 and 40 CFR 80.510(b).

Compliance Requirements:

A. You must operate and maintain the engine to comply with the required emission standards over the entire life of the engine (40 CFR 60.4206) by doing all of the following (40 CFR 60.4211(a)).
   i. Operating and maintaining the engine and control device according to the manufacturer's emission-related written instructions;
   ii. Changing only those emission-related settings that are permitted by the manufacturer; and
   iii. Meeting the requirements of 40 CFR 89, 94 and/or 1068, as they apply to you.

B. You must demonstrate compliance with the applicable emission standards by purchasing an engine certified to the applicable emission standards. The engine must be installed and configured according to the manufacturer's emission-related specifications. 40 CFR 60.4211(c).

C. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct the following performance testing in accordance with 40 CFR 60.4212 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 60.4211(g) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
100 ≤ HP ≤ 500	Within 1 year of engine startup, or non-permitted action [(1)]	Not required

[(1)] Non-permitted action means that you do not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer.

Operating and Recordkeeping Requirements:

A. If your emergency engine does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine (40 CFR 40.4209(a)) and, starting with the model years in the following table, you must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. 40 CFR 40.4214(b).

Engine power	Starting model year
19 ≤ KW < 56 (25 ≤ HP < 75)	2013
56 ≤ KW < 130 (75 ≤ HP < 175)	2012
130 ≤ KW (175 ≤ HP)	2011

B. There is no time limit on use for emergency situations. 40 CFR 60.4211(f)(1).
C. The engine may be operated for the purpose of maintenance checks and readiness testing, emergency demand response, and deviation of voltage or frequency for a maximum of 100 hours/year. See 40 CFR 60.4211(f)(2) for more information.
D. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used for peak shaving or non-emergency demand response or to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing. See 40 CFR 60.4211(f)(3) for more information.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: J1-3-f

Associated Equipment
Emission Unit vented through this Emission Point: J1-3-f
Emission Unit Description: Emergency Diesel Engine
Raw Material/Fuel: Diesel
Rated Capacity: 1838 hp

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The following emission limits shall not be exceeded:
Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.3(2)"d"

[(1)] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM) 2.5
Emission Limit(s): 0.42 lb/hr[(2)]
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(2)] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter (PM) 10
Emission Limit(s): 0.42 lb/hr[(2)]
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

[(2)] Emission rate used in facility-wide dispersion modeling for Project Number 19-241 to demonstrate no exceedances of the National Ambient Air Quality Standards (NAAQS).

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): See NSPS and NESHAP Information Below
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Sulfur Dioxide (SO2)
Emission Limit(s): See Operating Requirements Information Below
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Nitrogen Oxide (NMHC + NO_x)
Emission Limit(s): 24.8 lb/hr, 249.4 ton/yr, See NSPS and NESHAP Information Below
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 2.19 lb/hr, See NSPS and NESHAP Information Below
Authority for Requirement: DNR Construction Permit 19-A-153-S1, 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in these permits:

Emission Unit	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
J1-3-f	A	General Conditions		23.1(2)	§60.1 – §60.19
	IIII	*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	Emergency engine	23.1(2)"yyy"	§60.4200 – §60.4219

A. In accordance with §60.4211(c), the engines must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

[(1)] Non-methane hydrocarbon

B. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to the emission unit(s) in these permits:

Emission Unit	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
J1-3-f	A	General Conditions		23.1(4)	§63.1 – §63.15
	ZZZZ	*National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	Emergency engine	23.1(4)"cz"	§63.6580 - §63.6675

In accordance with 40 CFR §63.6590(c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS Subpart IIII. No further requirements apply to this engine under Subpart ZZZZ

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

Operating Requirements and Associated Recordkeeping

All records as required by these permits shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This facility (plant number 78-01-121) shall not combust more than 8,804,000 gallons of diesel fuel per rolling twelve (12) month period.
    i. During the first twelve (12) months of operation determine the total amount of diesel fuel used by the facility (plant number 78-01-121) for each month of operation.
    ii. After the first twelve (12) months of operation determine the annual amount of diesel fuel used by the facility (plant number 78-01-121) on a rolling twelve (12) month basis for each month of operation.
    iii. The or owner or operator shall maintain the following daily records which shall be available by the end of the following day:
        a. The amount of fuel used in this engine, in gallons.
C. This engine is limited to the following operation:
    i. As an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211 there is no time limit on the use of this engine for emergency situations provided that the annual fuel usage limit established in Condition 5.B. is not exceeded. In accordance with §60.4211, this engine is limited to operate a maximum of 100 hours per year (each) for maintenance checks and readiness testing.
    ii. This engine is also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. This engine is not allowed to operate as a peak shaving units.
    iii. The owner or operator shall maintain the following annual records:
        a. the number of hours that this engine is operated for maintenance checks and readiness testing; and
        b. the number of hours that this engine is operated for allowed non-emergency operations.

D. In accordance with 40 CFR §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
   i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
   iii. The owner or operator of this engine shall comply with the requirements of condition D listed above by one of the following methods:
      a. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
      b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
      c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

E. In accordance with 40 CFR §60.4209(a), this engine shall be equipped with a non-resettable hour meter.

F. This engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).

G. In accordance with 40 CFR §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

H. The facility (plant number 78-01-121) shall be allowed seven (7) *"PM2.5 high activity days"* per calendar year. A *"PM2.5 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of two hundred sixteen (216) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST).

I. The facility (plant number 78-01-121) shall be allowed three (3) *"PM10 high activity days"* per rolling three year period. A *"PM10 high activity day"* is defined as any calendar day in which any combination of engines at the facility (plant number 78-01-121) is operated for more than a combined total of one thousand six hundred eight (1608) hours per calendar day. A *"calendar day"* is defined as the twenty-four (24) hour period that begins at 12:00 AM (CST) and ends at 11:59 PM (CST). Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f; and their associated central utility buildings are operated is not a *"PM10 high activity day"*.

J. The owner or operator shall be allowed to install, operate and maintain an onsite meteorological data collection station. If a meteorological data station is installed for the purposes of this permit condition, the owner or operator shall submit a plan for prior approval by the Department describing the station attributes, location, installation procedures, maintenance, and data validation, as well as how data obtained by the station will be processed in accordance with the procedures outlined in 40 CFR Part 51 Appendix W (November 2005) for use in air dispersion modeling evaluations.

Provided that the meteorological station has been installed, maintained, and operated in a manner that is consistent with the Department approved plan, and provided that the data collected by this station has been processed according to the Department approved plan, the data may be used in an air dispersion modeling evaluation to demonstrate that off-site air quality impacts higher than any applicable air quality standard pursuant to Title 567 of the Iowa Department of Natural Resources Environmental Protection Commission regulations did not occur. If the owner or operator is able to demonstrate that such air quality standards were not exceeded, then a *"PM2.5 high activity day"* and/or a *"PM10 high activity day"* will not be attributed to the modeled day in which hourly engine runtime exceeded the values listed in Condition H or I.

K. The owner or operator shall maintain the following monthly records which shall be available by the end of the seventh day of the following month:

i. the number of hours that this engine is operated for maintenance checks and readiness testing;

ii. the number of hours that this engine is operated for allowed non-emergency operations;

iii. the total number of hours that this engine is operated; and

iv. the rolling 12-month total amount of the number of hours that this engine is operated.

v. Calculate the NOx emissions from this engine using the following equation:

E = X(EF)/2000 lb/ton

Where
E = NOx emissions in tons

X = gallons of fuel used in this engine

EF = 0.275 lb/gal (emission factor for this engine)

vi. Calculate the monthly NOx emissions from the operation of natural gas-fired equipment using the following equation:
E = (monthly natural gas usage in MMcf)*(100 lbs NOx/MMcf)/(2000 lbs/ton);

vii. Calculate the monthly NOx emissions from the operation of the guard house emergency engine (EU GRDSHACK) using the following equation:
E = (monthly hours of operation)*(2.3 lbs NOx/hr)/(2000 lbs/ton);

viii. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU FIREPUMP) using the following equation:
E = (monthly hours of operation)*(1.55 lbs NOx/hr)/(2000 lbs/ton);

ix. Calculate the monthly NOx emissions from the operation of the fire pump emergency engine (EU 3AFIRE) using the following equation:
E = (monthly hours of operation)*(3.27 lbs NOx/hr)/(2000 lbs/ton);

x. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

L. As an alternative to the monthly emissions tracking methodology specified in Condition 5.K, the owner or operator may utilize the following emissions calculation methodology for any month in which the required data has been obtained and recorded. These records shall be available by the end of the seventh day of the following month:

i. The owner or operator shall measure and electronically record the maximum hourly electrical load produced by this engine for any hour in which the engine operates;

ii. The maximum load measured within each hour of operation shall be rounded up to the next highest load bracket to establish the emission factor for that hour;

iii. The calculated hourly NO_x emissions, in pounds, from this engine using the following equation:

E = Time*Load*EF/453.6 g/lb
Where

E = NOx emissions in pounds

Time = Number of minutes that the engine is operated each hour divided by 60

Load = The next quartile (25%, 50%, 75% or 100%) greater than the measured maximum load of the engine (kW-hr) as determined in condition 5.L.ii.

EF = The NOx emission factor (EF) for the next quartile greater than the measured maximum load of the engine (g/kW-hr). The NOx emission factors (EF) for this engine are: 8.6 g/kW-hr at 25% load, 6.4 g/kW-hr at 50% load, 6.6 g/kW-hr at 75% load, and 8.2 g/kW-hr at 100% load.

iv. Calculate the total NOx emissions from all NOx sources at this facility by summing the NOx emissions from each group of engines, exempt engines and natural gas-fired equipment. Calculate and record monthly and 12-month rolling totals.

M. If the 12-month rolling total of the NOx emissions exceeds 200 tons, the owner or operator shall immediately begin keeping the following daily records which shall be available by the end of the following day:

i. The 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility, in tons.

ii. Daily calculations for NOx emissions shall continue until the 365-day rolling total of the amount of NOx emissions from all NOx sources at this facility drops below 200 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of NOx emissions will cease per Condition M of this permit. If the emissions once again exceed 200 tons, daily recordkeeping will be required per Condition 5.M of this permit.

N. The owner or operator shall maintain a log for showing the following:

i. Date and time of startup for this engine;
ii. Date and time of shutdown for this engine;
iii. Total hours of operation for this engine on that date;
iv. Combined total hours of operation for all engines at the facility (plant number 78-01-121) for that date;
v. The number of *"PM2.5 high activity days"* per Condition H and the number of *"PM10 high activity days"* per Condition 5.I for the facility (plant number 78-01-121) for each calendar year; and
vi. Any calendar day in which only engines associated with buildings 1a, 1b, 1c, 2a, 2b, 2c, 2d, 2e, and 2f and their associated central utility buildings are operated a combined total of 1608 hours or more.

Authority for Requirement: DNR Construction Permit J1-3-f

Emission Point Characteristics

The emission point shall conform to the specifications listed below:

Stack Height, (ft, from the ground): 48.3
Stack Opening, (inches, dia.): 28
Exhaust Flow Rate (scfm): 3527
Exhaust Temperature (°F): 876
Discharge Style: Unobstructed vertical
Authority for Requirement: DNR Construction Permit J1-3-f

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

EP Fire Pump, EP E-5-g-FP (Fire Pump 2):

List of Emission Points, Emission Units, Control Equipment, & DNR Construction Permits

Emission Point ID	Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment	Permit Number
Fire Pump	Fire Pump	Fire Pump Diesel Engine	237 bhp	None	NA
E-5-g-FP (Fire Pump 2)	E-5-g-FP (Fire Pump 2)	Fire Pump Diesel Engine	315 bhp	None	NA

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The following emission limits shall not be exceeded:

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.20 g/kW-hr
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Sulfur Dioxide (SO2)
Emission Limit(s): See Operating Limits & Requirements Below
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Nitrogen Oxide (NMHC + NO_x)
Emission Limit(s): 4.0 g/kW-hr
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 3.5 g/kW-hr
Authority for Requirement: 567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

NSPS and NESHAP Applicability:

The emergency engine is subject to 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). According to 40 CFR 63.6590(a)(1)(ii) this compression ignition emergency engine, located at a major source, is a new stationary RICE as it was constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), this emergency engine must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. No further requirements apply for this emergency engine under subpart ZZZZ.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Operating Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Fuel Requirements:

You must use diesel fuel that has a maximum sulfur content of 15 ppm (0.0015%) by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. 40 CFR 60.4207 and 40 CFR 80.510(b).

Compliance Requirements:

A. You must operate and maintain the engine to comply with the required emission standards over the entire life of the engine (40 CFR 60.4206) by doing all of the following (40 CFR 60.4211(a)).
   i. Operating and maintaining the engine and control device according to the manufacturer's emission-related written instructions;
   ii. Changing only those emission-related settings that are permitted by the manufacturer; and
   iii. Meeting the requirements of 40 CFR 89, 94 and/or 1068, as they apply to you.

B. You must demonstrate compliance with the applicable emission standards by purchasing an engine certified to the applicable emission standards. The engine must be installed and configured according to the manufacturer's emission-related specifications. 40 CFR 60.4211(c).

C. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct the following performance testing in accordance with 40 CFR 60.4212 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 60.4211(g) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
100 ≤ HP ≤ 500	Within 1 year of engine startup, or non-permitted action [(1)]	Not required

[(1)] Non-permitted action means that you do not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer.

Operating and Recordkeeping Requirements:

A. If your emergency engine does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine (40 CFR 40.4209(a)) and, starting with the model years in the following table, you must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. 40 CFR 40.4214(b).

Engine power	Starting model year
19 ≤ KW < 56 (25 ≤ HP < 75)	2013
56 ≤ KW < 130 (75 ≤ HP < 175)	2012
130 ≤ KW (175 ≤ HP)	2011

B. There is no time limit on use for emergency situations. 40 CFR 60.4211(f)(1).
C. The engine may be operated for the purpose of maintenance checks and readiness testing, emergency demand response, and deviation of voltage or frequency for a maximum of 100 hours/year. See 40 CFR 60.4211(f)(2) for more information.
D. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used for peak shaving or non-emergency demand response or to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing. See 40 CFR 60.4211(f)(3) for more information.

Authority for Requirement: 40 CFR 60 Subpart IIII

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*
6. For applicable requirements with which the permittee is in compliance, the permittee shall continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. *567 IAC 22.108(15)"c"*

G2. Permit Expiration

1. Except as provided in rule 567—22.104(455B), permit expiration terminates a source's right to operate unless a timely and complete application for renewal has been submitted in accordance with rule 567—22.105(455B). *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall submit on forms or electronic format specified by the Department to the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, Wallace State Office Building, 502 E 9th St., Des Moines, IA 50319-0034, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to U.S. EPA Region VII, Attention: Chief of Air Permitting & Standards Branch, 11201 Renner Blvd., Lenexa, KS 66219. Additional copies to local programs or EPA are not required for application materials submitted through the electronic format specified by the Department. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The emissions inventory shall be submitted annually by March 31 with forms specified by the department documenting actual emissions for the previous calendar year.
4. The fee shall be submitted annually by July 1 with forms specified by the department.
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges
Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:
1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information
The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties
The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring
1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.

b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;

b. Compliance test methods specified in 567 Chapter 25; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 725-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The initial report may be made by electronic mail (E-mail), in person, or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and expected duration of the excess emission.

iv. The cause of the excess emission.

v. The steps being taken to remedy the excess emission.

vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required initial reports to the department

within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and duration of the excess emission.

iv. The cause of the excess emission.

v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

vi. The steps that were taken to limit the excess emission.

vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The facility at the time was being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and

d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice fulfills the requirement of paragraph 22.108(5)"b." – See G15. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or upset provision contained in any applicable requirement. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);

c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);

d. The changes are not subject to any requirement under Title IV of the Act (revisions affecting Title IV permitting are addressed in rules 567—22.140(455B) through 567 - 22.144(455B));.

e. The changes comply with all applicable requirements.

f. For each such change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,

ii. The date on which the change will occur,

iii. Any change in emission as a result of that change,

iv. The pollutants emitted subject to the emissions trade

v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.

vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and

vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 22.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test

methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that does any of the following:

i. Correct typographical errors

ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Title V Permit Modification.

a. Minor Title V permit modification procedures may be used only for those permit modifications that satisfy all of the following:

i. Do not violate any applicable requirement;

ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit;

iii. Do not require or change a case by case determination of an emission limitation or other standard, or an increment analysis;

iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative

emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act;

v. Are not modifications under any provision of Title I of the Act; and

vi. Are not required to be processed as significant modification under rule 567 - 22.113(455B).

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;

ii. The permittee's suggested draft permit;

iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against the facility.

3. Significant Title V Permit Modification.

Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, as those requirements that apply to Title V issuance and renewal.

The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.111-567 IAC 22.113*

G19. Duty to Obtain Construction Permits

Unless exempted in 567 IAC 22.1(2) or to meet the parameters established in 567 IAC 22.1(1)"c", the permittee shall not construct, install, reconstruct or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, or conditional permit, or permit pursuant to rule 567 IAC 22.8, or permits required pursuant to rules 567 IAC 22.4, 567 IAC 22.5, 567 IAC 31.3, and 567 IAC 33.3 as required in 567 IAC 22.1(1). A permit shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source or anaerobic lagoon. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations (*567 IAC 23.1(3)"a");* training fires and controlled burning of a demolished building *(567 IAC 23.2).*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as provided in 567 IAC 23.2. *567 IAC 23.2 except 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
    a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
    c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
    b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
    c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,

5. The permittee shall be allowed to switch from any ozone-depleting or greenhouse gas generating substances to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*

3. A permit shall be reopened and revised under any of the following circumstances:

a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;

b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 22.114(3)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

a. Such applicable requirements are included and are specifically identified in the permit; or

b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:
a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;
b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability
The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights
The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability
This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought consistent with the requirements of 567 IAC 22.111(1). *567 IAC 22.111 (1)"d"*

G29. Disclaimer
No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification
The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of 567 – Chapter 23 or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. If the owner or operator does not provide timely notice to the department, the department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Upon written request, the department may allow a notification period of less than 30 days. At the department's request, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. A testing protocol shall be submitted to the department no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.
Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
Wallace State Office Building
502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-9545

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.
567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes
The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.
567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Iowa Compliance Officer
Air Branch
Enforcement and Compliance Assurance Division
U.S. EPA Region 7
11201 Renner Blvd.
Lenexa, KS 66219
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
Wallace State Office Building

502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-8200

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
1101 Commercial Court, Suite 10
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
Wallace State Office Building

502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-0268

Field Office 6

1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health
Air Quality Branch
1020 6th Street SE
Cedar Rapids, IA 52401
(319) 892-6000

V. Appendices

- 40 CFR 60 Subpart A – General Provisions
  http://www.ecfr.gov/cgi-bin/text-idx?SID=3c80f117bee6d726f070066adc019ffc&mc=true&node=pt40.7.60&rgn=div5#sp40.7.60.a

- 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
  http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.7.60.iiii

- 40 CFR 63 Subpart A – General Provisions
  http://www.ecfr.gov/cgi-bin/text-idx?SID=4d9366efa7ce9b0aab02f333ba4c4c39&mc=true&node=sp40.10.63.a&rgn=div6

- 40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
  http://www.ecfr.gov/cgi-bin/text-idx?rgn=div6;node=40%3A14.0.1.1.1.1